

# When do legislators pass on “pork”?

## The Role of Political Parties and Affirmative Action in Determining Legislator Effort

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**Abstract:** A central issue in many political economy analyses of public policy is the degree to which legislators have incentives to be responsive to their individual constituents, to “bring home the pork”. Because those incentives are often very high, several developing countries have recently instituted constituency- specific development funds (CDFs) that explicitly finance legislator-delivered pork. We use data from a specific CDF in India, the Member of Parliament Local Area Development Scheme (MPLADS), to examine the constraints imposed by parties and affirmative action on legislator efforts to deliver pork. We find that legislator effort is significantly lower in constituencies that are party strongholds. They are also lower in constituencies that are reserved for members of socially disadvantaged groups (lower castes), specifically in those reserved constituencies that are candidate strongholds. We argue that this pattern of variation implies that legislators pass on pork when voters are more attached to or influenced by political parties and identity issues. This interpretation is robust to tests for a large number of alternative explanations. Our results point to a possible negative consequence of instituting CDFs: that they may weaken political incentives to organize programmatic parties around credible, broad public good agendas, an aspect of political development that could be essential for economic development.

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## 1. Introduction

A large political economy literature dwells on the importance of “pork-barrel” politics, the incentives of individual politicians or legislators to target public spending to specific projects in their constituencies to win elections or to gain rents (Ferejohn, 1974; Weingast et al, 1981; Cain, Ferejohn and Fiorina, 1987; Baron and Ferejohn, 1987; Ames 1995; Lizzeri and Persico, 2001; Persson and Tabellini, 2000). Analysts in the US blame pork barrel politics for inefficiently large government and inequality in regional distribution of national resources. A similar phenomenon is thought to be even more pronounced in poor countries, where individual legislators pursue the politics of “patronage” or “clientelism” by targeting public spending to powerful elites in their constituencies in exchange for local vote mobilization (Kitschelt and Wilkinson).<sup>1</sup> It is generally believed that the phenomenon is more entrenched in poor countries because of the weakness of institutions – such as political parties – that compel individual politicians to internalize the public costs of their clientelist decisions. Indeed, the proliferation of constituency development funds (CDFs) in countries like Kenya, India, and the Philippines, which allocate budgetary resources uniformly across individual legislators to spend on public works in their constituencies, has been viewed as a symptom of the depth of clientelist political incentives, but also as a second-best strategy to improve the services that citizens receive from governments in clientelist environments (The World Bank, XXX).

We use data from one such CDF in India, the Member of Parliament Local Area Development Scheme (MPLADS), that uniquely permit us to assess the role of political parties and affirmative action on legislator incentives to exert effort on the provision of “pork” and patronage spending. Although India’s parties have been characterized as weak and non-programmatic, we find strong evidence that they curb the incentives of legislators to bring public spending to their constituencies. First, over time spending increased when voter attachment to political parties declined. All legislators spent only a fraction of their entitlement when the program was introduced, but dramatically increased their spending when electoral performance revealed that parties had weakened and when media began to scrutinize individual legislator performance. Second, even after a general increase in spending across constituencies, spending remained low in those constituencies that remained party strongholds, where the same party won successive elections during a period of great electoral volatility. The party stronghold effect is robust to controls for numerous alternative explanations. For example, the party stronghold effect cannot be attributed to weaker electoral competition *per se* since results are robust to the inclusion of other measures of electoral competitiveness, which themselves have no independent effect on spending.

This is the first direct evidence that strong parties reduce legislator incentives to cultivate a personal vote– that in the presence of strong parties, even legislators in single member constituencies that give legislators strong incentives to attract a personal vote often “pass on pork.” Our findings also support a more nuanced characterization of the extent of clientelist behavior by legislators in poor democracies. Inconsistent with the view that clientelism explains most legislator activity in India, utilization of MPLADS allocations varies significantly across legislators; dominant (repeatedly re-elected) individual legislators, who might reasonably be considered the most successful at nurturing their clientelist networks,

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<sup>1</sup> Vote mobilization by local elite may include coercion, or activities to keep some citizens away from the polls.

spend no more on MPLADS implementation than other legislators; and legislator behavior is significantly different in the presence of dominant parties.

Our research also sheds light on the effects of political affirmative action on legislator incentives. Some electoral constituencies for the national legislature in India are “reserved” exclusively for candidates belonging to lower castes in the Indian caste system. Such seat reservations are among a broad set of electoral remedies, including the Voting Rights Act in the United States, intended to offset the historic and social disadvantages of particular groups in society. However, the extent to which reservations improve welfare of scheduled castes or the constituency as a whole, or whether they increase targeted services at the expense of overall public good provision because of reduced responsiveness, is unclear.

To the extent that legislator behavior is influenced by their affinity for their own social group, seat reservations might increase the government benefits that flow to this group. In fact, research suggests that seat reservations in India may shift government spending towards goods that particularly benefit scheduled castes (Pande, 2003). However, seat reservations may limit electoral competition and interact with voter attachments to party or candidate identity in ways that reduce legislator incentives to exert effort on behalf of local constituencies. To the degree that this is true, reservations reduce efforts on behalf of local constituencies.

Gay (2007), using evidence from California, shows that the correspondence between citizen policy preferences and legislator votes is the same in electoral districts that are drawn to encompass majority non-white populations as in electoral districts that are majority white. In contrast, the evidence presented below shows that in India, legislator utilization of MPLADS allocations is generally lower in constituencies represented by reserved seat legislators, and especially in those that are candidate strongholds.

Further evidence for our conclusion that parties influence legislator effort to attract a personal vote is that we can identify plausible explanations for two puzzles. First, how do parties or legislators maintain dominance in constituencies in which legislators exert average or below average effort to disburse MPLADS resources? Second, do legislators in party strongholds reallocate their efforts or exhibit characteristics that are consistent with our central argument that party strength influences legislator effort or type?

With regard to the first puzzle, four sources of party or legislator dominance can be found in Indian constituencies; all are consistent with low incentives to build local public infrastructure. One is identity, for example, parties that can credibly claim to defend the interests of a social class of voters (say, Hindus, or low-caste voters). Individual legislators can achieve dominance through this same effect.<sup>2</sup> Parties that can stake out credible ideological positions (e.g., to serve the interests of the poor), can also achieve dominance, independent of effort exerted on behalf of local constituents. The Communist Party in West Bengal or in Kerala has such appeal. Parties and individual candidates can also benefit from charisma: parties may have individual leaders and prominent candidates (e.g., movie stars) whose individual charisma attracts votes independent of the services they deliver. Finally, fourth, parties can be dominant, even when MPLADS disbursements are low, if they have a

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<sup>2</sup> There is, for example, evidence that identity drives legislator decision making: Pande (2003) finds that greater representation of low caste legislators in state assemblies in India leads to greater job quotas for their caste group.

party machine that reliably provides individual favors for party supporters (jobs, favorable treatment by the bureaucracy, etc.). We cannot definitively distinguish which of these matters across party strongholds in India. However, the effects of party dominance in reducing legislator effort are particularly strong in, for example, West Bengal, where the dominance of the Communist Party can be explained by both its ideological appeal and its internal, "machine-like" organization.<sup>3</sup>

What, though, do legislators do in dominant party constituencies if they are not exerting effort on MPLADS? Here again we have some evidence for three possibilities that are consistent with our conclusion. The first is to shirk -- why bother to exert effort if the nomination of the dominant party is sufficient to ensure election? This option obviously depends on weak party monitoring of nominated candidate actions. Bardhan and Mookherjee (2005) argue that greater voter loyalty to a dominant party in the Indian state of West Bengal is associated with greater shirking by village governments in implementing the party's policy of land reforms.

The second is to provide constituency services that deliver greater electoral payoffs than MPLADS disbursements, but for the same effort. We have found no evidence, however, that the effort required to deliver MPLADS relative to other types of constituency services is systematically and coincidentally higher in constituencies with dominant parties. For example, legislators might have used other kinds of public works programs instead of the CDF to win dominance for themselves or their party in specific constituencies. However, the CDF program is unique in allowing national legislators access to local public works for which they can take credit. Beyond the CDF program, national legislators in India have to work through their party to access large public works programs that spread benefits across constituencies.<sup>4</sup>

The third possible answer to the question of what legislators do if they do not exert effort on MPLADS disbursement is that they support the party. For example, in constituencies where they are already dominant and local public infrastructure provision has less of an electoral payoff, dominant parties could nominate individuals with broad appeal outside of the constituency (eg. veteran party leaders, or heirs of deceased party luminaries) even if they have no comparative advantage in disbursing MPLADS (e.g., because their patron-client ties within the constituency are few). Such candidates strengthen voter attachment to the party within and outside the constituency, at the expense of less MPLADS disbursement inside the constituency.<sup>5</sup> Alternately, the dominant party could use less well known candidates to perform party-building activities such as door-to-door campaigns or advertisement of the party's policy positions in the legislature.

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<sup>3</sup> Parties might also be dominant precisely because they have succeeded in providing large, national infrastructure projects. However, we control for measures of the total district stock of public infrastructure, such as schools, roads, power projects, and find these are not significantly correlated with spending under the CDF program.

<sup>4</sup> Indeed, Banerjee and Somanathan (2007) interpret evidence of convergence in public infrastructure across electoral districts in India over time as arising from the presence of a strong national political party that was successfully able to make a broad appeal across districts to deliver basic infrastructure everywhere.

<sup>5</sup> Such a tradeoff is less worthwhile as a constituency becomes more hotly contested, since the extra-constituency appeal of a candidate would come at the expense of within-constituency electability.

The next section of the paper describes the specific CDF program in India and explain why disbursements under the program should accurately represent legislator effort on behalf of their local constituency, improving upon all other approaches used in the literature to measure legislator effort. Section 3 lists the conditions under which legislators have weak incentives to exert such effort, yielding tests for the influence of political parties and identity-based affirmative action policy. We then perform these tests using available data on spending under the CDF program. Section 4 is a case study of the large upsurge in spending over time, from under 40 percent from December 1993 to March 1999 to over 80 percent after 1999. Section 5 describes the data and specifications we use to examine cross-constituency variation in spending from 1999 onwards, and section 6 presents the results. Section 7 concludes by describing the implications of the analysis for the spread of CDF schemes and directions for future research.

## 2. The MPLADS Program

The CDF program in India, the Member of Parliament Local Area Development Scheme (MPLADS), was inaugurated in December 1993 by a dominant national party, the Congress Party. The scheme allocated 10 million rupees annually (about \$250,000) to each single-member parliamentary constituency for use on local public works recommended by the MP. In fiscal year 1998, the Bharatiya Janata Party (BJP)-controlled national government doubled the annual entitlement of each constituency to 20 million rupees.<sup>6</sup> Unspent money accumulates over time, such that when an MP leaves office the unspent balance remains at the disposal of the successor MP. By March 2004, the end of fiscal year 2003 in India, each parliamentary constituency had thus been entitled to spend 165 million rupees on local public works over the preceding ten years.<sup>7</sup>

The program design makes spending by legislators of their MPLADS allocation a more precise indicator of legislator effort on behalf of constituents than other measures commonly employed in the literature. Shiller (1995) and Wawro (2002) consider the number and relevance of bills that American legislators sponsor. Padro' i Miguel and Snyder (2004) rely on subjective assessments of legislator performance by third parties (journalists, for example). The number of bills introduced and subjective evaluations are both useful measures of legislator activity, but unlike MPLADS they do not directly identify the beneficiaries or the benefits of legislator effort.<sup>8</sup>

Other studies have used correlations between legislator voting behavior and own-constituency spending to argue that this is evidence of legislator incentives for pork-barrel

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<sup>6</sup> Current, purchasing power parity-adjusted income per capita in 2004 was 7.2 times higher in the United States than in India. In the U.S. context, therefore, these allocations would be equivalent to approximately \$1.4 million annually before 1998 and \$2.8 million annually after 1998.

<sup>7</sup> Again, in terms of purchasing power parity in 2004, this money per district would amount to about \$23 million in the US.

<sup>8</sup> Besley and Larcinese (2005) investigate the submission of expense claims by MPs in the British House of Commons. These are, like MPLADS, under the direct control of the MPs. The question is whether these expenses can be explained by MP efforts to increase their private remuneration or to better enable them to serve constituency interests. The evidence rejects neither explanation. For example, "marginality" (where the vote share of the winner of the candidate was less than 10 percentage points greater than the vote share of the runner-up) has no effect on expenditures, but distance from London to the MP's constituency, a measure of the cost of constituent service, does.

spending (Knight, 2004; Ames, 1995; Baqir, 2002). However, even in the apparently most straightforward case, omnibus pork barrel legislation with constituency-specific benefits in a country with single member electoral districts, while benefits can be precisely measured, a wide array of unobserved factors make it difficult to attribute differences in benefits to the actions of an individual legislator. For example, apparent budget shortfalls to a constituency in one piece of legislation may have been compensated in other, unobserved legislation. Unobserved factors also influence executive implementation of legislative priorities.

The MPLADS program, in contrast, is unique in the degree to which it can isolate the contribution of a legislator's own efforts to constituency-specific benefits. First, spending on public works under the program must be initiated by the legislator and is identified with the legislator's name through information placards located at the project site. Second, successful initiation of such public works by legislators requires considerable effort on their part, owing to the implementation procedures associated with the program.<sup>9</sup> Legislators must identify multiple small or mid-size projects because of size limits on any one project; they also need to negotiate implementation with local bureaucrats, who have considerable power either to reject the project on grounds of non-conformity with project guidelines or to stall its implementation.<sup>10</sup> That this effort is non-trivial is revealed by the report of the MPLADS audit conducted by the Comptroller and Auditor General, covering the period 1997-2000. Only 40 percent of projects recommended by MPs were subsequently sanctioned by District Commissioners (the top public officials in every district, an administrative unit in India that does not necessarily correspond to electoral constituencies), taken up by implementing agencies and completed.<sup>11</sup> Actual spending under MPLADS is a close approximation of project execution, or at least MP effort in obtaining bureaucratic approval of implementation, because the money is released against the issuance of completion certificates by the implementing agents.<sup>12</sup>

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<sup>9</sup> The implementation procedures are available at the following web-site: <http://mplads.nic.in/dpguid.htm>

<sup>10</sup> Up to 1998, no single project financed out of MPLADS could cost more than one million rupees (10 percent of the yearly allocation), so MPs were required to manage at least 10 projects in order to fully disburse their yearly allocation. Since then, the ceiling has been 2.5 million rupees, requiring at least eight projects to be undertaken in a year to disburse the annual allocation of 20 million rupees.

A telling anecdote on the challenges of getting projects implemented through local bureaucracies is provided in a study of MPLADS undertaken by the Planning Commission of India (2001). An MP from the state of Kerala recommended construction of additional classrooms to a rural high school on November 11, 1996. The concerned District Collector (DC) took 38 days to review and forward this proposal for estimate preparation to the relevant Block Development Officer (BDO). The BDO took 46 days to prepare the estimate and forward it to the District Rural Development Agency (DRDA) for approval. The DRDA provided its approval after 130 days. It then took the DC 250 days to formally provide administrative sanction to the work. The Block Level Beneficiary Committee which had to execute the work (because the Guidelines prohibit using professional contractors for MPLADS works) was constituted 220 days after the DC had sanctioned the work, by which time they declared the work could not be undertaken because the funds allotted were insufficient.

<sup>11</sup> MPLADS expenditures were last audited in 2000, covering the period 1997-2000 and 241 out of 786 constituencies. The audit was critical and has not been repeated. See [http://cag.nic.in/html/reports/civil/2001\\_book3a/index.htm](http://cag.nic.in/html/reports/civil/2001_book3a/index.htm)

<sup>12</sup> Although the audit report points to some irregularities in this, with money being released without proper collection of completion certificates, and even with such certificates it is possible that the money was diverted to things other than the intended works, getting their allocations recorded as "spent" requires considerable

### 3. Conditions under which legislators pass on pork

The electoral incentives to exert effort to implement projects in a constituency depend on a host of political characteristics—the degree of electoral competition, the extent of electoral volatility, voter attachment to candidates on the basis of charisma or social identity, voter attachment to political parties on the basis of sheer loyalty or party-driven policies, and on the ability of parties to control legislator incentives to build a personal vote in order to compel parties to continue to nominate them as candidates. Our focus is on the last of these. We hypothesize that where voter attachment to parties is high, parties exercise more influence over candidate effort and type; and where voters in a constituency are predominantly attached to one particular party, parties exercise that influence to reduce legislator efforts to implement local spending projects. In addition, we explore the effects of a legislator affirmative action program that could simultaneously affect several of these variables, such as electoral competitiveness and ascriptive appeals to voters. Political parties can influence legislator behavior to the extent that the party label is valuable to the legislator. Party labels are valuable under several circumstances. They may convey information about the policies that parties will implement that individual candidates cannot convey (Aldrich and Bianco, 1992; Keefer and Vlaicu, forthcoming), or about the policy preferences of candidates (Snyder and Ting, 2002). Voters may be attracted to charismatic party leaders, to the party's religious, ethnic, demographic, caste or regional makeup, or to a party machine capable of delivering private benefits to supporters across constituencies.

Regardless of the motivation, though, voter attachment to a party means that parties care correspondingly more about the contribution that candidates make to the party and correspondingly less about the personal vote that individual candidates can attract. Where voter attachment to a party is great, parties have greater scope to choose candidates whose presence on the party's ticket increases the popularity of the party broadly (e.g., movie stars, or candidates who best represent the ideological stance of the party, or candidates whom they seek to groom for a larger statewide or nationwide political career). Compared to candidates with large personal constituencies, such candidates are less likely to have a comparative advantage in delivering benefits to their particular district. This matters less to party leaders in constituencies where a large fraction of voters are attached to the party anyway.

Candidates, in turn, are more likely to accept direction from party leaders because of the votes that the party label confers on them. For example, they are more likely to acquiesce to leader insistence that they exert more effort on party-building activities (e.g., in candidate and membership recruitment or disseminating broad accomplishments of the party) and less on building their personal vote. As in Aldrich (1995), they have a greater incentive to agree to provide public goods that benefit broader groups of citizens to strengthen the party's reputation.

While voter attachment to parties gives party leaders leverage over candidates, it does not *necessarily* imply less legislator effort in the provision of local public goods. In constituencies where voters are evenly divided in their attachment to parties, for example, there are strong electoral incentives for parties to encourage candidate effort on behalf of constituency voters. However, when a majority of voters are attached to one party, it is unambiguously the case that the party places a low value on constituency effort. The

additional votes that legislators can earn by exerting effort to bring public goods to the constituency have little effect on the probability of winning. Under these circumstances, either the party will conserve on its monitoring resources and the candidate will shirk; or the party will choose candidate types or allocate candidate effort in a way that boosts the party's electoral chances outside of the constituency. This is the central hypothesis we examine below: MPLADS disbursements are lower in constituencies in which voters are predominantly attached to one party.

How can voter attachment to parties be measured? One of the simplest measures is the degree to which parties can win repeated elections in a constituency, irrespective of which candidate they nominate to the party's ticket. If the same party wins in a constituency in several successive elections, irrespective of whether they field the same candidate or switch to a new candidate, it must be because voters in the constituency are more strongly attached to the party compared to voters in other constituencies where the party is less successful. This is true regardless of the source of the attachment—whether due to the attraction of charismatic party leaders, to the party's religious, ethnic, demographic, caste or regional makeup, to a party machine capable of delivering private benefits to supporters across electoral districts, or to a party's policy platform.

Of course, parties could be strongholds because of their clever choice of a popular candidate to nominate to the ticket. If, in turn, the candidate's popularity is built on ascriptive (e.g., religious, ethnic or caste) or other appeals that are unrelated to local public works provision, low MPLADS disbursements would be unrelated to party influence. However, we control for candidate dominance in the estimations below.

Party strongholds may also be the product of weak electoral competition rather than strong voter attachment to the dominant party. In this case, non-competitive elections, rather than party influence, would explain low disbursements of MPLADS resources. We are also able to control for this possibility, however, by including measures of electoral competitiveness such as margins of victory, the number of candidates standing in elections, and electoral volatility. If the party stronghold effect is robust to the inclusion of these controls, then low electoral competition can explain lower spending only insofar as it is the consequence of overwhelming voter attachment to a single party. Indeed, we find below that legislators in party stronghold districts spend significantly less out of their MPLADS allocation, even after controlling for candidate dominance and electoral competitiveness, indicating that political parties exercise a significant influence over the decisions of individual candidates to build a personal vote through pork projects.

The data also allow the investigation of the effect on legislator effort of seat reservations in India. This is a type of political affirmative action in which some parliamentary constituencies are reserved for members of scheduled castes and tribes. Seat reservations can affect legislator effort on behalf of their constituencies through several channels that operate in different directions. First, reservations, by definition, shrink the pool of potential candidates and could thereby lower the degree of electoral competition. This effect would reduce legislator incentives to exert effort on behalf of their constituents. To the extent that this effect operates, however, it should show up most in constituencies that are candidate strongholds, where, from the limited pool of potential scheduled caste candidates, one repeatedly wins. That is, in this case the *interaction* of candidate strongholds and reserved seats would be associated with lower MPLADS spending.

Second, because scheduled castes have endured a long history of inequitable treatment and exclusion, it is possible that MPs from scheduled castes are simply less able to push through MPLADS projects. This effect would reduce MPLADS spending across all reserved constituencies, stronghold or not.

Third, reservations bring to the legislature candidates from disadvantaged social groups who otherwise are not represented in legislative decision-making and who may be strongly motivated to use their legislative authority on behalf of group members throughout the country.<sup>13</sup> If legislators from reserved districts dedicate their efforts to obtaining public benefits to members of their groups in all constituencies (such as job quotas, as found by Pande, 2003), this might come at the expense of efforts to bring public works to their own districts. Strong candidates would be more likely to make this tradeoff, since the electoral risks to them of exerting less effort on their constituency would be less. In this case, once again, the *interaction* of candidate strongholds and reserved seats would be associated with lower MPLADS spending.

Fourth, candidates in reserved districts might be more dependent on political parties because they have less extensive social networks and smaller personal constituencies. Compared to candidates from non-reserved districts, they would be more likely to agree to exert effort on behalf of party objectives at the expense of MPLADS spending. This effect would be greatest when parties are strong: in constituencies that are both party strongholds and reserved seats.

The findings below indicate that, among the many possible effects of reservations on legislators' efforts on behalf of their constituencies, the most robust and substantial effect of reservations is to *reduce* MPLADS spending in dominant candidate constituencies. Reserved constituencies with a candidate who has won repeated elections exhibit substantially lower spending on MPLADS than other constituencies – even less than in party strongholds. This result is consistent either with the possibility that reservations reduce electoral competitiveness or that when voters and candidates are most influenced by identity issues, legislators have weak incentives to exert effort on local public works.

The next section of the paper looks at the pattern of MPLADS disbursements over time and suggests that the shifting attachment of voters to political parties is an important element of the explanation for the rapid increase in disbursements in the late 1990s. Cross-constituency comparisons in the section following then permit more complete tests of the hypotheses related to party dominance and seat reservations.

#### **4. Variation in MPLADS spending over time**

Between the time of the initiation of the MPLADS program in December 1993 and 1999, MPs left most of their allocation unutilized. MPLADS disbursements in the average and median districts amounted to approximately 31 million rupees, out of a total allocation of 85 million, or only 36 percent of the available funds.<sup>14</sup> The highest ranking district in

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<sup>13</sup> Pande (2003) provides evidence that few, if any, candidates from scheduled castes and tribes win or compete in districts that are not reserved.

<sup>14</sup> The allocation up to March 2000 (end of fiscal year 1999) was Rs. 5 million in FY 1993 (through March 31, 1994); 10 million rupees each in 1994-95, 1995-96, 1996-97 and 1997-98; and 20 million rupees each in 1998-99 and 1999-2000.

utilization spent 78 percent, while the second highest ranked district spent only 57 percent. Such low spending was entirely unexpected in an institutional environment that the literature suggests should drive legislators to cultivate a personal vote.

In a dramatic shift, by the end of the period 1999 – 2003, the median MP office had disbursed 85 percent of accumulated funds. Almost all districts (except 32 out of 543) increased their utilization of MPLADS by at least 20 percentage points, and the majority of districts increased it by more than 45 percentage points. Several districts spent 100 percent of their accumulated funds. Even then, however, 30 percent of districts still had spent less than 75 percent of accumulated allocations by 2004, leaving at least \$500,000 of their entitlement unspent. There was also much more variation across the 543 districts after 1999: the standard deviation of utilization rates of accumulated funds across districts increased from 9 percentage points before 1999 to 16 percentage points afterwards. In the state of West Bengal, MPs left 40 percent unspent; in Tamil Nadu, only 6 percent. We argue that the over-time variation in MPLADS spending, including the timing of the program introduction, can be explained by variation in the strength of voter attachment to political parties.

MPLADS was introduced by a dominant national party at a time when it faced declining voter attachment to its label, as was made evident in its loss of control of state governments, a critical tier of government that the party had been using to deliver goods to voters to win their support.<sup>15</sup> MPLADS provided a vehicle for the national party to channel funds to its MPs in the growing number of states controlled by the opposition.<sup>16</sup> MPLADS was approved almost surreptitiously, without parliamentary debate, as a supplementary demand for grants to pay for additional expenditures out of a Contingency Fund in the union budget (*The Times of India*, 30th November, 1997). Only legislators from the communist parties of the Left Front, a strong coalition of programmatic parties dominating the state of West Bengal, raised objections to the program, on the grounds that MPLADS would be used by national parties to encroach upon the policy domain of lower tier governments (*Inter Press Service Global Information Network*, February 1, 1994)

Our arguments in the previous section suggest that party support for programs such as MPLADS should be lowest when voter attachment to the party is high and the party is dominant. Available evidence suggests that the Congress Party was beginning to lose both of these attributes at the time it approved MPLADS. Congress losses at the state level were occurring largely because of the emergence of new political parties that sought to gain control of broad policy instruments of the state executive to target benefits to their supporters across electoral districts. Chhibber and Nooruddin (2004) for example argue that the multiple political parties emerging in some states did so on the basis of identity politics, whereby they used the state policy instruments to target benefits to the social groups they

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<sup>15</sup> Khemani (2007a, 2007b) provides evidence that the national government targets significant fiscal resources to states controlled by the same political party. Other authors have also emphasized the importance to the Congress Party of control of state governments as a key vehicle for reaching voters (Sinha, 2004; Saez, 2002; Chhibber, 1995).

<sup>16</sup> The MPLADS program appears to have been modeled after a similar program initiated by various state governments to provide constituency-specific allocations to state legislative assembly members (MLAs). The MLALADS can similarly have been a political response to declining control of political parties in state elections—coalition governments of multiple political parties had become a constant feature of the state-level political landscape.

represent across electoral districts. In addition, Linden (2004) reports evidence that it was only after the 1991 elections that candidates in Indian national elections began to suffer from an incumbency *disadvantage*, and argues that the source of this disadvantage was the declining importance of political parties. Nevertheless, the political landscape had only just begun to shift when MPLADS was introduced and most MPs had few incentives to exert effort on the program, both because the full extent of declining voter attachment to parties was yet to be revealed (party-based electoral strategies continued to dominate) and because the program was not yet visible to voters.

There was almost no coverage of the program in the media, perhaps because it was not the subject of vigorous political debate. A search on the media database News Plus/Factiva for newspaper coverage of the MPLADS program yields only 6 articles in the four and a half year period between October 1993, just before MPLADS was introduced in the parliament, and June 1998. Only one article, written in February 1994, discussed the program itself in any significant detail, with the others mentioning it only in passing as part of other stories. Even this single article was published in a less visible media, the Inter Press Service Global Information Network, rather than in a leading newspaper. In sum, the program was not widely politically salient for the first years after its initiation.

Only in 1996, with the first elections after the passage of MPLADS, did MPs receive confirmation of the extent to which voter attachment to parties had declined. The major political parties experienced dramatic seat losses, with the Congress party winning only 26 percent of national assembly seats. The government that formed after the 1996 elections was a large coalition of small parties, no one of which controlled more than 10 percent of seats in the parliament. The coalition excluded the two largest parties. Not surprisingly, this government collapsed within two years and fresh elections took place in 1998. The main opposition party to Congress, the BJP, won 34 percent of districts. Although still far from a majority, this was sufficient to form a government with support from minority parties. However, just one year later, in 1999, a successful “no-confidence” parliamentary vote against the BJP government led to new elections. This time the BJP, though still with only 35 percent of seats, returned to form a government that lasted four years, with more steady support from minority parties, and a diminished threat from the Congress Party, whose seat share had fallen to 22 percent.

After the 1998 election, which marked the end of the three year period of intense electoral turmoil, politicians and public officials settled into a changed political landscape in which voter attachment to parties had substantially dissipated and in which coalition governments became the norm. This is also the time in which individual politician effort towards MPLADS disbursements became politically salient, perhaps because declining voter attachment to parties became common knowledge. The dramatic decline in the control exercised by single parties over the national government facilitated scrutiny of politician spending by the Comptroller and Auditor General (CAG) and it published a pilot audit of the MPLADS program in a few states (Government of India, 1998). The CAG report revealed both lack of utilization of funds and some inconsistencies in the way funds were used. It concluded that guidelines needed to be revised for “proper implementation” and prevention of funds misuse.

These findings, and the dramatic evidence of the decline of political parties in the elections after 1996, fed a critical – and newsworthy – view of politician behavior. A search on News Plus/Factiva for the period July 1998 to December 1999 yields 60 articles: ten

times as many articles were written in the 1.5 years following the CAG report than in the 4.5 years following the introduction of the program. Most of the articles were published in leading newspapers, focused on the issues raised in the CAG report, and made politician accountability the key story.<sup>17</sup> In response to the CAG report and possibly to the media coverage as well, the BJP-led government in 1999 instituted more stringent program implementation guidelines, including provisions for review and scrutiny by ministry authorities if funds are severely under-utilized (Business Line, 18 November, 1999).

By 1999, then, two forces had converged to dramatically increase MP incentives to utilize their MPLADS allocations. First, the decline in voter attachment to parties had raised the electoral payoff to MP efforts to cultivate a personal constituency. Second, the publicity surrounding MPLADS, triggered by the CAG audit, significantly raised the political salience of MPLADS disbursements.<sup>18</sup> The national elections of December 1999 ushered in a new cohort of MPs precisely during this period of increasing media coverage and political salience of MPLADS.<sup>19</sup> Over the four years in office of this 1999-elected cohort, until the elections of June 2004, media coverage intensified, with the same News Plus/Factiva search producing 244 articles mentioning MPLADS. The utilization and non-utilization of allocations was a major theme of this news coverage.<sup>20</sup>

We cannot discount the possibility that the CAG report alone, and its attendant publicity, would have triggered an upswing in MPLADS utilization, regardless of changes in voter attachment to parties. However, CAG audits, even when they criticize public service delivery, do not typically receive publicity or change political behavior, and part of what we want to explain is why the MPLADS audit and its media coverage were different. We suggest the declining dominance of political parties as the most plausible explanation for the wave of publicity and the strong political response to this report.

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<sup>17</sup> The news coverage in this period also reports that several questions had been raised in Parliament during this period about the lack of utilization of the funds, and the need to revise and strengthen implementation guidelines. At the time of writing of this paper, the web-link to the "Questions" page of the Indian Parliament was not working, so we could not directly verify this.

<sup>18</sup> In private communication with us, Adam Ziegfeld observed that an MP in one district, a movie star who, according to the earlier analysis was likely chosen to serve broad party interests, had spent little or none of his MPLADS allocation. After his low spending was publicized, though, he dramatically increased his MPLADS disbursements.

<sup>19</sup> News reports suggest that the 1998-elected cohort of MPs, the first cohort after the publication of the CAG report and the initial explosion in media coverage, could not increase spending in 1998 or 1999 because the Election Commission (EC) prohibited them from doing so in election years. The EC argued in its ruling that MPLADS were not viable development projects but rather personal largesse of politicians that provide unfair advantage to candidates. Soon after their election in 1999, the new cohort of MPs criticized the EC ruling and successfully achieved rights to spend MPLADS during the next election year of 2003.

<sup>20</sup> MPLADS has attracted significant controversy more recently. In mid-December 2005, a "sting" operation conducted by a group of journalists, showing seven MPs demanding bribes in exchange for MPLADS contracts, was broadcast on TV. This triggered a wide public debate in the Indian media on whether or not MPLADS should be abolished. An all-party meeting convened by the speaker of the lower house of Parliament to debate the continuation of MPLADS decided in favor of continuing the program. However, the courts of India might have the final word: in a July 2006 ruling on public interest litigation related to the issue, the Supreme Court of India referred MPLADS to the Constitutional Bench to determine its constitutional validity.

Another alternative explanation of the jump in utilization is that legislators had a long learning curve that slowed implementation from 1993-1999. In the case of MPLADS this explanation is implausible. First, a learning curve would imply a gradual increase in utilization, not the drastic upsurge observed in 1999, from 36 percent to 85 percent of allocations. Second, the evidence we report in the next section shows no significant association between individual legislator experience, continuous tenure in a district, and MPLADS utilization.

The discussion in the next section is made possible by the fact that some 1999-elected MPs continued to spend far below the average of their cohort, despite the sudden and specific limelight placed on MPLADS utilization. The results demonstrate that the single most significant variable that explains which constituencies have lower spending is party dominance, to the exclusion of a broad array of political and socio-economic variables emphasized in the literature as determinants of district-specific public goods.

### 5. Cross-constituency variation in MPLADS spending: Data and specifications

The MPLADS spending data is available from the relevant central ministry responsible for overseeing its implementation. The first available data point is for cumulative spending incurred in each parliamentary district since the inception of the program in 1993 until March 31<sup>st</sup>, 2000, the end of fiscal year 1999.<sup>21</sup> Three different cohorts of MPs had access to MPLADS during this period, owing to the political instability described earlier: MPs elected in 1991 who faced elections again in 1996; MPs elected in 1996 who faced elections in 1998; and MPs elected in 1998 who faced elections in 1999. It is not possible to analyze the influence of specific legislator characteristics on MPLADS spending over the period 1993-1999 because we cannot disaggregate constituency spending between the 3 cohorts. However, the fourth cohort of MPs with access to MPLADS was elected in 1999; its term in office lasted until the next elections of April 2004, or four fiscal years. For this cohort we have constituency-level data on spending incurred by individual MPs over their term in office from 1999-2004. We therefore analyze the determinants of variation in MPLADS spending by this 1999-elected cohort of legislators across 483 electoral districts.<sup>22</sup>

We first estimate the following basic specification to test our hypotheses of the role of political parties and affirmative action policies in determining legislator effort to bring public works to their constituencies:

$$\begin{aligned}
 UtilizationMPLADS_{ds} = & \beta_1 * PartyStronghold_{ds} + \beta_2 * CandidateStronghold_{ds} \\
 & + \beta_3 * Reserved_{ds} + \beta_4 * MarginVictory_{ds} + \beta_5 * 1993-99Spending_{ds} \\
 & + \eta_d + \lambda_s + \varepsilon_{ds}
 \end{aligned} \tag{1}$$

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<sup>21</sup> The ministry informed us that annual data on spending during this period is not available because of lack of proper reporting procedures at that time. This was rectified in 1999 under the new implementation guidelines.

<sup>22</sup> The total number of national electoral districts in India is 543. We drop 39 districts from our analysis because the Election Commission of India does not provide 1999 electoral data for these districts. We also omit 20 districts which held by-elections between 1999 and 2004, usually due to the death of the 1999-elected incumbent, thereby changing the identity of the politician in the middle of the term in office. One last district was dropped because of an apparent data error in which total MPLADS spending was reported as negative.

The left-hand side variable, *UtilizationMPLADS*, is the actual spending incurred by the MP in constituency  $d$  in state  $s$  as a percentage of what the MP was entitled to spend on public works in his/her constituency. The entitlement includes the legacy of unspent allocations that MPs had at their disposal in 1999 and additional yearly allocations from 1999 on. As discussed in previous sections, this is our measure of the effort exerted by MPs to bring local infrastructure to their constituents.

The variable *PartyStronghold* equals one if the party won every election in constituency  $d$  in state  $s$  in the 1990s (in the 1991, 1996, 1998, and 1999 elections) and zero otherwise. This was a period of substantial electoral volatility and emerging incumbency disadvantage, supporting our interpretation of the *PartyStronghold* indicator variable as identifying those constituencies where voters are particularly attached to political parties.

The variable *CandidateStronghold* equals 1 if the same person has been elected into office in constituency  $d$  in state  $s$  in every election between, and including, 1991 and 1999, irrespective of his/her party affiliation. We include this variable to test whether a party could have an electoral lock on a constituency for reasons other than the citizens' intrinsic preference for the party. The most important is that parties might be dominant because they have been fortunate in finding a candidate whose personal characteristics are highly valued by voters.<sup>23</sup>

Of the 483 constituencies in our analysis, 97 (20 percent) are party strongholds, and of these the party switched the nominated candidate in 61 districts, retaining the same candidate in the remaining 36 districts. We test whether the effect of party stronghold is different in constituencies where a party switched its candidate than in constituencies where there was no such switch. That is, we estimate the following specification:

(2)

$$\begin{aligned} UtilizationMPLADS_{ds} = & \phi_1 * PartyStronghold * (CandidateSwitched)_{ds} + \phi_2 * PartyStronghold * (NotSwi \\ & + \phi_3 * Reserved_{ds} + \phi_4 * MarginVictory_{ds} + \phi_5 * 1993 - 99Spending_{ds} \\ & + \eta_d + \lambda_s + \varepsilon_{ds} \end{aligned}$$

The first interaction term equals 1 for those party stronghold constituencies where the party switched its candidate, and the second those constituencies where the party retained the same candidate on its ticket. We test for the equality of coefficients  $\phi_1$  and  $\phi_2$  to ensure that the effect of party strongholds is driven by voter attachment to parties rather than candidates.

Specifications (1) and (2) are obviously susceptible to reverse causality. Incumbents who spent more of their allocation before 1999 to maintain their dominance would have relatively smaller accumulated entitlements by the time they were re-elected in 1999. It would therefore require less effort for them to disburse a given fraction of their remaining allocation than it would have for incumbents whose predecessors had left them a larger

<sup>23</sup> There are very few candidate strongholds that are not also party strongholds (though the reverse is not the case). The total number of candidate stronghold constituencies in our sample is 42, of which only 6 are candidate strongholds without being party strongholds, where the dominant candidate switched his/her party affiliation. The Indian data therefore do not suggest that candidates can maintain dominance without a dominant party.

legacy of unspent MPLADS funds. However, this reverse causality argument predicts exactly the *opposite* sign (positive instead of negative) for the coefficients of *PartyStronghold* and *CandidateStronghold* than the one predicted by our argument that strong parties reduce legislator incentives to spend. We control for previous spending under MPLADS from 1993 to 1999 by including the variable *1993–99Spending* which measures the total MPLADS spending undertaken in constituency *d* since the inception of the program until the 1999 elected cohort took office. This variable also captures other constituency-specific characteristics related to administrative effectiveness or opportunities for rent-seeking using MPLADS.

To ensure that party stronghold effects are not simply reflective of non-competitive elections, we control for the closeness of electoral races in constituencies, *Margin Victory*.<sup>24</sup> This is the average margin of victory in constituency *d* of the winning candidate (over the runner-up candidate, under a simple plurality electoral law in single-member constituencies) over the three elections of 1996, 1998, and 1999.<sup>25</sup>

To test the impact of affirmative action policy in India, we include an indicator variable for whether a constituency is reserved for candidates belonging to the scheduled castes and tribes as per the Constitution of India: *Reserved* equals 1 if constituency *d* is so reserved, and 0 otherwise. Of the 483 electoral districts in the sample, 108 are reserved and have had that status since the last electoral delimitation law of 1977, which was fully implemented by 1982 (Pande, 2003).<sup>26</sup> The following specification allows a more subtle examination of the channels through which reservations affect legislator effort. It includes terms interacting reservations with party and candidate strongholds.

(3)

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<sup>24</sup> Candidates and parties are expected to target closely-contested districts with greater resources and effort (Dixit and Londregan, 1996; Lindbeck and Weibull, 1987; and Snyder, 1989). Consequently, all studies of legislator responsiveness take into account some measure of the electoral competitiveness of a district at the time a policy decision is made. In Albania, districts where the President received more votes in the past election and those where he received close to 50 percent of the votes (required to win a district in Albania's presidential elections) received greater block grants (Case 2001). Schady (2000) finds similar evidence for the targeting of a Presidential poverty alleviation program in Peru. In the first-past-the-post electoral regime in India, state governments supply greater subsidized agriculture loans in election years to those electoral districts where the ruling party had a narrow margin of victory or loss (Cole 2004). Other studies, though, find district marginality to be a weak predictor of incumbent behavior (Bardhan and Mookherjee, 2005, using vote share of the left; and Besley and Larcinese, 2005, using the closeness of the vote).

<sup>25</sup> We test robustness of estimates to calculating the average over different periods of elections, including just the most recent election of 1999. There is no difference in the sign or significance of any of the estimated coefficients relating to changes in how the average margin of victory is calculated.

<sup>26</sup> The reservations indicator variable not only substantially pre-dates the initiation of the MPLADS program, but is also likely to be exogenous to any changes in voter attachment to political parties. The 1980s were a period in which the existing dominance of the Congress party was consolidated by a new leader, Rajeev Gandhi, riding a sympathy wave upon the assassination of his mother Indira Gandhi, who used to be the party's "strong-woman".

$$\begin{aligned}
UtilizationMPLADS_{ds} = & \gamma_1 * PartyStronghold_{ds} + \gamma_2 * CandidateStronghold_{ds} + \gamma_3 * Reserved_{ds} + \\
& + \gamma_4 * Reserved * PartyStronghold_{ds} + \gamma_5 * Reserved * CandidateStronghold_{ds} + \\
& + \gamma_6 * MarginVictory_{ds} + \gamma_7 * 1993-99Spending_{ds} + \eta_d + \lambda_s + \varepsilon_{ds}
\end{aligned}$$

The unobserved error in our specification consists of a constituency-specific term,  $\eta_d$ , a state-specific term,  $\lambda_s$ , and noise,  $\varepsilon_{ds}$ . We are relying on the variable *1993-99Spending* to account for unobserved constituency-specific characteristics that could explain MPLADS spending and be correlated with *PartyStronghold* or *Reserved*, the central variables in our tests. That is, we assume that the expected value of  $\eta_d$  is zero, conditional upon the inclusion of previous years' MPLADS spending in the constituency. In the results below we will show that including other constituency-specific variables, such as the constituency's stock of public infrastructure, electoral volatility, and social fragmentation, does not change our estimates of the impact of party strongholds and reservations. While we cannot definitively exclude the possibility that omitted variables drive our results, these specifications do account for the most obvious alternative explanations for our findings. Finally, we report estimates both with and without state fixed effects  $\lambda_s$ . The estimates of  $\lambda_s$ , which are most negative for states that are known to have strong parties, provide further independent support for the hypothesis that voter attachment to political parties reduces legislator incentives to exert effort on spending their MPLADS allocation.

## 6. Cross-constituency variation in MPLADS spending: Results

The summary statistics of all the variables used in the basic specification are listed in Table 1. Table 2 presents the results of three estimates of specification (1) that vary the assumptions about the distribution of errors across constituencies within a state. All three uniformly demonstrate the importance of the party stronghold variable. The coefficient estimates in columns (1) and (2) are identical (although standard errors are bigger in the second case, because of clustering at the state level) and indicate that MPLADS disbursements in constituencies with a dominant party are ten percentage points less, more than one-half of a standard deviation. The size of the coefficient falls slightly when we include state fixed effects in column (3), to seven percentage points. This estimate measures the deviation of party stronghold constituencies *within* each state from the state average.

The state fixed effects themselves, listed in Table 3, also support the argument that voter attachment to a single party reduces incumbent incentives to disburse MPLADS. States with dominant parties have significantly lower spending than other states. West Bengal, the only state where a single political party, the Communist Party of India (Marxist) has dominated state politics and leadership since 1977, stands out as a state with significantly and substantially lower MPLADS spending than other states. Average spending in constituencies in West Bengal is 18 percentage points lower than average spending in other states. In contrast, in those states where voters exhibit more even attachment to rival political parties, as in the state of Tamil Nadu in India, legislators exert significantly greater effort. When parties are neck-to-neck in electoral contests they use any additional instruments available to them to demonstrate the superiority of individual candidates they nominate.

Candidate dominance (*CandidateStronghold*), in contrast, exhibits no significant correlation with MPLADS spending. Moreover, column (4) results indicate no statistical difference in spending between party stronghold constituencies that switched their nominated candidate and those in which they did not (in which the candidate was dominant as well). These results support the argument that lower spending in party stronghold constituencies is driven by voter attachment to parties rather than to individual candidates.

The *CandidateStronghold* results are also notable because the variable captures legislator experience, which others have found to be significant in the US context. Shiller (1995), Wawro (2002) and Padro' i Miguel and Snyder (2004) all conclude that the experience or seniority of legislators significantly affects legislator effort, in contrast to the findings here. The difference in results could be due to country context, but it could also be due to the distinct measures of effort. Shiller and Wawro employ a measure of bills introduced; Padro' i Miguel and Snyder use subjective assessments of legislator performance by third parties (journalists, for example). Compared to these, MPLADS is a potentially more precise measure of legislator effort that is less susceptible to alternative interpretations.

Prior spending on MPLADS is a robustly significant and positive determinant of utilization after 1999, not surprisingly. More importantly, prior spending captures unobserved constituency characteristics, such as opportunities for rent-seeking or administrative capacity, that affect tendencies to utilize MPLADS allocations. If these characteristics influenced both voter attachment to a dominant party and MPLADS spending, party stronghold would be insignificant. Instead, party stronghold is significant in all regressions with the control for prior spending.

A constituency's average margin of victory is significant at the 10 percent level, but only in specifications without state fixed effects. Its sign is positive, suggesting that closeness of electoral competition as measured by lower margins of victory is associated with *lower* MP effort in disbursing their entitlement. However, this correlation could well be due to reverse association—MPs that exert greater effort in spending their MPLADS allocation are able to achieve higher margins of victory. Our concern is the robustness of the party stronghold effect when we control for the margin of victory; the results here amply support the argument that the party stronghold effect is primarily driven by voter attachment to a party rather than lower electoral competition *per se*.

There is little difference, on average, in MPLADS spending between reserved and unreserved constituencies. Although the point estimates of the coefficient on the indicator variable *Reserved* is negative, it is small in size and imprecisely estimated. The results in column (3) of Table 2 suggests that reserved constituencies within states tend to reduce MPLADS utilization by three percentage points compared to the average spending in the state. This argues against the hypothesis that a history of discrimination has uniformly undermined the ability of reserved seat holders to navigate the bureaucracy.

Instead, the largest and most robust effect of reserved constituencies appears when strong incumbents also have reserved seats. These results are presented in Table 4, where all specifications include state fixed effects. Column (1) of Table 4 shows no difference in spending between reserved and unreserved constituencies, even with state fixed effects, and no difference in the negative effect of party dominance. Columns (2) and (3), however, show that a dominant candidate (one who has repeatedly won elections) in a reserved constituency

uses 9 percentage points less of his/her MPLADS allocations than dominant candidates in other districts.

This result is consistent with only one interpretation, that dominant candidates in reserved constituencies achieve their dominance by means other than exerting effort to bring public works to their constituents. These other means are either greater effort in providing identity-based services or greater attachment of voters to the identity of the dominant candidate (which allows the candidate to shirk). It is not likely to be the greater influence of political parties on candidates in reserved districts because we find no evidence of additional influence of dominant parties in reserved districts.<sup>27</sup> In sum, Tables 2 and 4 support the hypotheses that when voters are attached to political parties or legislator identity, legislators exert lower effort in bringing public works to their constituents.

### ***Robustness of estimates to alternate measures and omitted variables***

In several cases, theoretical considerations led us to construct dichotomous variables even though more continuous information is available. Our results are insensitive to the use of alternative variables, however. For example, dichotomous measures are arguably the best way to identify constituencies as strongholds, but one could also employ a more continuous measure, one that sums the number of elections, 1991 – 1998 (maximum equaling three) that the 2000 incumbent party or legislator had won. Substituting these variables for the candidate and party stronghold indicator variables, we find a significant negative association between the number of elections won and MPLADS utilization, consistent with the results we report.

The party stronghold results are also robust to including alternative measures of electoral competitiveness. For example, using the incumbent vote share in the 1999 elections in place of the margin of victory has no effect on the results; the coefficient on incumbent vote share is also small and insignificant. We also replace the candidate stronghold indicator variable, with the number of years prior to 1999 that the 1999 incumbent had served in the legislature, as a measure of legislator experience. This has no effect on results: the variable is insignificant and party strongholds and dominant candidates in reserved constituencies continue to have a strong negative impact on MPLADS implementation.<sup>28</sup>

A number of omitted effects could affect the estimated coefficients on party stronghold and dominant candidates in reserved constituencies in Tables 2 and 4 if they are correlated with constituency-specific characteristics that also affect MPLADS spending,  $\eta_d$ . We consider several candidates for such omitted variables and find that our estimated effects for party and candidate dominance are robust to these alternate explanations. We report these results in Tables 5 and 6 where the basic specification (1) with state fixed effects is augmented with *Reserved\*CandidateStronghold* and each of the potential omitted variables.<sup>29</sup>

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<sup>27</sup> Column 3 includes both interaction terms. This is a somewhat artificial exercise since of 14 constituencies with both reserved seats and dominant candidates, 12 also have dominant parties, so we can't really estimate the impact of being a candidate stronghold without being a party stronghold.

<sup>28</sup> These results are available upon request. We don't include them here in the interests of brevity.

<sup>29</sup> The results of estimation without state fixed effects for *PartyStronghold*, *Reserved*, and

### *Political fragmentation*

Banerjee and Somanathan (2007) argue that political fragmentation may reflect greater electoral competitiveness in a district and therefore be correlated both with a lower likelihood of a constituency being a party stronghold and a higher likelihood of legislator effort towards MPLADS. Column 1 of Table 5 includes a variable measuring political fragmentation of a constituency in terms of distribution of votes across the major political parties that compete in national and state elections. The fragmentation variable for each constituency  $d$  in any given election year is defined as in Banerjee and Somanathan (2007) as:

$$\text{PoliticalFragmentation}_d = 1 - \sum_{i=1}^n \mu_{id}^2 \quad \text{where } \mu_i \text{ is the vote share of the } i^{\text{th}} \text{ political}$$

party contesting elections from the constituency. We include the average of this measure of political fragmentation across the four elections of 1991, 1996, 1998, and 1999 in our specification. The results in column (1) of Table 5 show that including this variable has no effect on the size and significance of our chief variables of interest—*PartyStronghold* and *Reserved\*CandidateStronghold*. Political fragmentation is itself not associated with MPLADS spending.

### *Social fragmentation*

Research (e.g., Banerjee and Somanathan 2007) has shown that social fragmentation reduces the provision and changes the composition of local public goods in electoral constituencies. If it were the case that social fragmentation increased political incentives to utilize MPLADS and at the same time reduced the likelihood that a constituency was a party stronghold, its omission would bias the political stronghold coefficient in a negative direction, in the same direction that we predict. We test the effects of social fragmentation directly by including a variable received from Banerjee and Somanathan (2008), which measures caste and religion-based fragmentation using population data from the Census of 1991. Column (2) of Table 5 reports these results. Social fragmentation has a negative, though not precisely estimated effect on MPLADS spending. The coefficients on *PartyStronghold* and *Reserved\*CandidateStronghold* remain significant and large, though with slightly reduced magnitudes.

### *Electoral volatility*

Where voter behavior is subject to greater shocks or for some other reason is expected to have a larger random component, any given effort by politicians to satisfy constituent interests has a lower payoff. Political incentives to satisfy constituent interests, for example through full utilization of MPLADS, are therefore reduced. Greater volatility is also likely to be negatively correlated with being a party stronghold, so it may be that the estimated negative correlation between party strongholds and MPLADS spending is driven by the exclusion of electoral volatility from our previous specifications. To address this possibility, the specification in column 3 of Table 5 includes a variable measuring volatility of elections in a constituency. The measure comes from Chhibber and Nooruddin (2008):

$$\text{Volatility}_d = \frac{1}{2} \sum_{i=1}^n |\mu_{i,t} - \mu_{i,t-1}| \quad \text{where volatility in constituency } d \text{ between two}$$

consecutive elections at times  $t$  and  $t-1$  is measured as the sum of change in vote shares of  $n$

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*Reserved\*CandidateStronghold* are identical to those reported in Tables 5 and 6 with state fixed effects.

political parties.<sup>30</sup> We average this measure of volatility across the elections of 1991, 1996, 1998, and 1999. The results in column (3) of Table 5 show that including electoral volatility has little effect on the magnitude and no effect on the significance of our *PartyStronghold* and *Reserved\*CandidateStronghold*. Electoral volatility is itself insignificantly correlated with MPLADS spending.

*Political affiliation with state government*

As discussed earlier, a party's control of the state government allows it considerable leverage over broader spending instruments under the state, and perhaps even over district bureaucrats who play a key role in implementing the MP's proposed works. A constituency in which the 1999-elected legislator belongs to the same party as that at the helm of the state government may therefore exhibit MPLADS spending either because it is easier for the legislator to push through his proposed public works, or because the party is more likely to see MPLADS as "fungible" and use it to supplement state budgets towards the general provision of infrastructure. Although we cannot think of a straightforward way in which party or candidate stronghold constituencies would be correlated with their legislator's affiliation with the state government, the condition under which affiliation would give rise to a spurious negative correlation between party strongholds and MPLADS spending, we include an indicator for political affiliation to examine its influence.

The specification in column (4) of Table 5 includes an indicator variable which equals 1 when the constituency's incumbent legislator belongs to the same political party as the state chief minister, and zero otherwise. For only this specification we report results without state fixed effects, but with standard errors clustered by state, because several states experienced state elections in the middle of the 1999-elected MP's term in office which resulted in all MPs in these states being affiliated with the state government for at least some years of their term in office. Indeed, the four states with large positive fixed effects on MPLADS spending—Madhya Pradesh, Rajasthan, Tamil Nadu, and Uttar Pradesh—were the only large states which both experienced elections in the middle of the 1999-elected MP's term in office, and experienced a turnover in state political leadership, resulting in all MPs within these states being affiliated for some period with the state leadership.

The constituency-level results reported in column (4), Table 5, indicate that legislators who are affiliated with the state chief minister spend four percentage points more from their MPLADS allocation than legislators who belong to rival political parties. This is consistent with the argument that affiliation reduces the effort associated with MPLADS disbursements. However, the size and sign of the coefficients on party and candidate strongholds remain largely unaffected by the inclusion of the affiliation variable.

The large size of state fixed effects for Madhya Pradesh, Rajasthan, Tamil Nadu, and Uttar Pradesh on the one hand, and West Bengal on the other hand, suggest that state-level politics has a significant and substantial influence on national legislator incentives to exert effort on constituency-specific public works. This is once again indicative of the importance of parties in Indian elections, perhaps because of party-based control of most spending instruments through a party's control of the state executive government. Including fixed effects for these 5 states alone (in our basic specification without state fixed effects) doubles

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<sup>30</sup> This sum is divided by 2 to avoid double counting those vote shares that shifted from one party to another. This is explained in Chhibber and Noorudding (2008).

the explanatory power of our regressions of MPLADS utilization from 15 percent to 31 percent.

#### *Party-specific effects*

It is possible that unobserved constituency characteristics lead voters both to prefer one party overwhelmingly relative to the others, giving rise to party strongholds, *and* to prefer policies other than MPLADS. The omission of these characteristics in our specifications would then bias the *party stronghold* coefficient downwards, in the direction that we predict. This bias is not spurious, however. Parties are only able to implement policies that voters prefer over MPLADS to the extent that they have leverage over MPs, who might prefer to exert effort on MPLADS. Our argument predicts that this leverage is greatest in party strongholds.

In any case, we can directly examine whether partisan differences in policy preferences drive the *party stronghold* effects. To do this, we control for the party identity of individual legislators by including indicator variables for legislators belonging to the Congress or BJP, to one of the Communist parties, or to one of the major state-based regional parties (where a “major” party is defined as one that has formed a state government, with Chief Ministers belonging to the party, and “state-based” defined as a party that has not contributed a Prime Minister at the helm of the national government). These results are reported in column 1 of Table 6. In column 2 we include average vote shares accruing to these parties in successive elections in the 1990s. The party identity of legislators and party vote shares have no independent effect and do not alter the estimated impact of *party stronghold*.

#### *Party access to other infrastructure projects*

Party stronghold districts might have a greater stock of public infrastructure because of a party’s efforts to cultivate strongholds through targeted provision of national infrastructure projects to their favored districts. This would reduce the attractiveness of using MPLADS as an instrument to provide local public works. We address this possibility by including measures of a constituency’s stock of public infrastructure, particularly those provided through national projects. We obtain the data from Banerjee and Somantahan (2007) who have matched electoral constituencies to administrative districts at which level the Census of India provides data on availability of public infrastructure. Banerjee and Somanthan (2007) have further identified some key public infrastructure that proliferated across all national electoral districts between 1971 and 1991, when a strong national party committed itself to universal coverage. We include the following variables drawn from Banerjee and Somanathan (2007) for which they find strong evidence of convergence across national electoral districts over time: proportion of villages in an electoral constituency that have a middle school, tap water, electricity, post and telegraph facilities, and paved roads, as measured by the 1991 Census. We also include population density as measured by the Census, as yet another district characteristic that might contribute to omitted variable bias. These results are reported in the final three columns of Table 6.

In the third and fourth specifications reported in Table 6, the size and significance of the coefficients on *PartyStronghold* and *Reserved\*CandidateStronghold* remain unchanged. In the third specification with state fixed effects, the size of the coefficients falls slightly, suggesting that there is some correlation between a district being a party stronghold and its available public infrastructure from past public investments by state and national governments.

### *Other unobserved constituency characteristics*

Two other unobserved constituency characteristics that might be important are opportunities for MP rent-seeking; and the extent to which constituency voters are informed about MP actions. The scope for these to bias our results is limited, though, by controls for state fixed effects and the inclusion of MPLADS spending prior to 1999. In addition, the most plausible arguments suggest that these omitted characteristics would exert no bias or a bias in favor of rejecting our hypothesis that party strongholds exhibit lower MPLADS spending. With regard to rent-seeking, the most plausible argument is that, insulated from competitive pressures by party dominance and only weakly supervised by party leaders, incumbent MPs have greater scope for channeling MPLADS disbursements to related contractors. However, this would imply *higher* MPLADS disbursements in party strongholds, not lower, as we find.

It could also be the case that MPLADS allocations are higher in some constituencies because of greater unobserved citizen information about MPLADS disbursements and MP performance. Our own evidence underlines the role that information played in triggering a large upsurge in MPLADS disbursements. Citizen information may be, in turn, inversely related to party dominance: in party strongholds, the media are more likely to be controlled by a single party, which suppresses information about MP shirking. This argument is implausible, however, since media (newspapers, radios) are organized at the state level, or at least supra-constituency level; state fixed effects therefore capture unobserved media influence on MPLADS disbursements. In addition, the argument is essentially one of electoral competitiveness: when elections are non-competitive, citizens are more poorly informed and MP shirking is greater. However, other measures of electoral competitiveness (candidate dominance or electoral margin of victory) are generally not significant in our estimations.

## **7. Conclusion**

Most explanations of large inter-jurisdictional variations in policy outcomes in democracies are institutional (e.g., the electoral rules of the game); informational (what citizens know about the effects of politician actions on their welfare); and societal (e.g., the extent of social polarization). Our evidence underlines the importance of a generally neglected factor: variations in voter attachment to political parties. Similarly, our evidence for the effect of seat reservations on legislator effort suggests a countervailing effect of political affirmative action that has also not been previously observed: while reservations may improve the targeting of public policy benefits to specific social groups, such targeting may come at the cost of political effort towards public good provision generally. These results have numerous implications for future research and policy.

First, the results are direct evidence of the large policy effects of voter attachment to candidates and parties; not only do these effects merit more investigation, so also do the sources of voter attachment.

Second, a growing body of influential research points to the large impact that citizen information has on government policy performance. Donor organizations have taken this to heart and have begun to emphasize citizen information in their projects. The qualitative evidence that we present for MPLADS also identifies a catalytic role for information: MP disbursements of their MPLADS allocations surged with a dramatic increase in media focus on those disbursements. However, the evidence suggests that a complementary factor was

critical for media influence to have this impact: voter attachment to parties in India needed to decline. Indeed, it is likely that the increased political salience of MPLADS, because of declining voter attachment to parties, was itself a precondition for increased media attention. The general lesson for research and policy on the role of information is clear: if policies are not politically salient, more information about them is neither likely to emerge spontaneously nor likely to influence political decision making.

Third, research on the effect of electoral rules that privilege particular social groups to compensate for generations or centuries of discrimination and oppression has yielded mixed evidence of their efficacy. Our analysis of seat reservations in India suggests why this might be the case: the legislator incentives generated by these rules are significantly affected by unobserved voter attachment to candidates and parties. The evidence presented earlier indicates that reservations can have a substantial negative effect on the effort that legislators expend on behalf of local constituencies, depending on voter attachment to candidates. We cannot say, however, whether less effort overall is offset to some degree by greater effort on behalf of disadvantaged social groups (scheduled castes).

Finally, these results are important for understanding the interaction of political and economic development, and in particular the role of political parties in supporting economic development. Political parties are the central institution for organizing collective action by politicians, but are effective only if voters base their electoral choices on party and not only on candidate characteristics. In this context, for example, researchers have emphasized the programmatic character of parties, which allow voters to evaluate parties on the basis of performance in delivering broad public goods as opposed to evaluating individual candidates on the basis of clientelist promises to a few (Keefer 2006; Kitschelt and Wilkinson 2007). Keefer (2006) finds substantial evidence that countries governed by programmatic parties (e.g., parties in which policy labels are informative to voters) adopt systematically different policies towards public and private goods.

The results here, showing a negative correlation between the extent to which individual legislators exert effort on behalf of personal constituencies and the strength of political parties, hint that the establishment of CDFs in nascent democracies of Africa and East Asia may slow the development of programmatic political parties. CDFs provide an instrument to individual legislators that lowers the costs to them of cultivating a personal vote and raises the costs to parties of persuading them to acquiesce to and advocate on behalf of a party platform. Of course, party development in clientelist democracies may be based not on the provision of broad public goods, but rather on social (caste, linguistic, religious) cleavages, as has been argued to be the case in India (Chhibber, 1995). Would CDFs have the potential of diluting the importance of identity and emphasizing politician effort in providing constituency services? Once again, our evidence suggests the contrary—we find that dominant candidates in constituencies where the identity issue had been addressed through reservations are significantly *less* likely to utilize their CDF allocations on behalf of their constituents.

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<b>Table 1: Summary statistics for 483 constituencies</b>					
<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Min</b>	<b>Max</b>	<b>Std Dev.</b>
MPLADS cumulative disbursements/entitlements, 1999-2004 (minimum = .19, maximum = 1.06).	.82	.85	.19	1.06	.15
Party stronghold (winning party in 1999 also won elections of 1991, 1996, 1998)	.20	0	0	1	.40
Candidate stronghold (winning candidate in 1999 also won elections of 1991, 1996, 1998)	.09	0	0	1	.28
Reserved	.22	0	0	1	.42
Margin of victory (avg. over 1996, 1998, and 1999 elections of vote share of winning candidate – runner up vote share)	.11	.09	.01	.53	.07
MPLADS cumulative disbursements, 1993-end 1999 (rupees, millions)	31.1	31	8.6	48.5	7.3

<b>Table 2: Effect of Party Dominance and Reservations on Legislator Effort</b>				
Dependent variable: MPLADS cumulative disbursements/ allocations, 1999- 2004	(1)	(2)	(3)	(4)
	OLS, robust standard errors	OLS, state- clustered robust standard errors	State-fixed effects, robust standard errors	Distinguishing between party strongholds that switched and retained candidates
Party stronghold (1-0)	-.10*** (.02)	-.10* (.06)	-.07*** (.02)	
Candidate stronghold (1-0)	-.01 (.03)	-.01 (.03)	.02 (.03)	
MPLADS cumulative disbursements, 1993- end 1999	.001*** (.0001)	.001*** (.0001)	.0003*** (.0001)	.001*** (.0001)
Margin of victory (avg)	.19* (.10)	.19* (.11)	.11 (.12)	.19* (.11)
Reserved seat (1-0)	-.02 (.02)	-.02 (.02)	-.03* (.02)	-.02 (.02)
$N, R^2$	483, .15	483, .15	483, .36	483, .15
Party stronghold constituencies where candidate was switched	F-test for equality of coefficients: F(1, 26) = 1.01 Prob>F = 0.33			-0.09* (0.05)
Party stronghold constituencies that are also an incumbent stronghold				-0.12*** (0.05)
<i>N.B.</i> Robust standard errors in parentheses. In columns 2 and 4, these are clustered by state (27 states or clusters). Column 3 includes state fixed effects. All regressions include a constant (not reported). * indicated a p-value of .10, ** a p-value of .05, and *** a p-value of .01.				

**Table 3: State fixed effects ( $\lambda_s$ )**

<i>State</i>	<i>Estimated effect</i>	<i>t-statistic</i>
Andaman and Nicobar Islands	.13	5.81
Arunachal Pradesh	.11	2.03
Bihar	-.03	-1.20
Chandigarh	.05	2.27
Dadra and Nagar Haveli	.11	2.71
Delhi	-.13	-2.99
Goa	-.04	-0.86
Gujarat	.02	0.56
Haryana	.09	2.75
Himachal	.10	2.53
Karnataka	.05	1.32
Kerala	-.05	-1.48
Lakshadweep	-.22	-6.04
Maharashtra	-.03	-1.00
Madhya Pradesh	.07	2.28
Manipur	.06	0.61
Meghalaya	.18	5.05
Nagaland	.03	0.64
Orissa	-.08	-2.02
Pondicherry	-.08	-3.50
Rajasthan	.11	3.97
Sikkim	.15	6.67
Tamil Nadu	.12	3.76
Tripura	.03	1.02
Uttar Pradesh	.07	2.70
West Bengal	-.18	-4.61

*N.B.* State dummies, with the exception of Andhra Pradesh, were added to the specification in Table 2, column 1. The resulting coefficient estimates are reproduced in Table 4. *t*-statistics are in parentheses.

<b>Table 4: Impact of Reservations</b>			
Dependent variable: MPLADS cumulative disbursements/allocations, 1999-2003	(1) State-fixed effects, robust standard errors	(2) State-fixed effects, robust standard errors	(3) State-fixed effects, robust standard errors
Party stronghold (1-0)	-.06*** (.02)	-.07*** (.02)	-.07*** (.02)
Candidate stronghold (1-0)	.02 (.03)	.06* (.03)	.06* (.03)
Reserved seat (1-0)	-.01 (.02)	-.01 (.02)	-.01 (.02)
PartyStronghold*Reserved	-.06 (.04)		.002 (.05)
CandidateStronghold*Reserved		-.14*** (.06)	-.14** (.07)
MPLADS cumulative disbursements, 1993-end 1999	.0003*** (.0001)	.0003*** (.0001)	.0003*** (.0001)
Margin of victory (avg)	.11 (.12)	.09 (.12)	.09 (.12)
<i>N, R<sup>2</sup></i>	483, .37	483, .38	483, .38
<i>N.B.</i> Specifications and estimation strategy are the same as in Table 2, column 3, including state fixed effects. Robust standard errors in parentheses. * indicated a p-value of .10, ** a p-value of .05, and *** a p-value of .01.			

<b>Table 5: Including Omitted Variables</b>				
Dependent variable: MPLADS cumulative disbursements/ allocations, 1999-2003	(1) Political Fragmentation	(2) Caste and Religion Fragmentation	(3) Electoral Volatility	(4) Political Affiliation (without state-fixed effects)
Omitted Variable	-.05 (.11)	-.11 (.11)	.12 (.09)	.04*** (.01)
Party stronghold (1-0)	-.07*** (.02)	-.05*** (.02)	-.06*** (.02)	-.11*** (.06)
Candidate stronghold (1-0)	.06* (.03)	.03 (.03)	.06* (.03)	.04 (.03)
Reserved seat (1-0)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
CandidateStronghold*Reserved	-.14*** (.06)	-.12** (.05)	-.14*** (.06)	-.13*** (.05)
MPLADS cumulative disbursements, 1993-end 1999	.0003*** (.0001)	.0003*** (.0001)	.0003*** (.0001)	.001*** (.0001)
Margin of victory (avg)	.09 (.12)	.13 (.11)	.08 (.12)	.19* (.11)
<i>N, R<sup>2</sup></i>	483, .38	441, .40	483, .38	483, .18
<i>N.B.</i> Specifications and estimation strategy are the same as in Table 2, column 3, including state fixed effects. Robust standard errors in parentheses. * indicated a p-value of .10, ** a p-value of .05, and *** a p-value of .01.				

**Table 6: Constituency party preferences and district public good endowments**

Dependent variable: MPLADS cumulative disbursements/allocations, 1999-2003	(1)	(2)	(3)	(4)	(5)
	Controlling for party affiliation of 1999-elected MPs (Congress, BJP, CPI-CPM, State regional party)	Controlling for average vote shares received by Congress, BJP, CPI, CPM, State regional party in the district over 1991, 1996, 1998, 1999 elections	Controlling for constituency population density and proportion of villages with various public goods		
			Robust standard errors	State-clustered standard errors	State fixed effects
Party stronghold (1-0)	-.06*** (.002)	-.06*** (.002)	-.087*** (.00)	-.09 (.10)	-.05*** (.01)
Candidate stronghold (1-0)	.05 (.09)	.06 (.05)	.04 (.24)	.04* (.37)	.03 (.29)
Reserved seat (1-0)	-.01 (.42)	-.01 (.51)	-.007 (.70)	-.007 (.74)	-.01 (.45)
CandidateStronghold*Reserved	-.14*** (.01)	-.15*** (.01)	-.15*** (.02)	-.15*** (.02)	-.11*** (.03)
MPLADS cumulative disbursements, 1993-end 1999	.00025*** (.01)	.00027*** (.01)	.0006*** (.000)	.0006*** (.000)	.0003*** (.01)
Margin of victory (avg)	.07 (.55)	.10 (.44)	.06 (.58)	.06 (.67)	.13* (.23)
<i>N</i> , <i>R</i> <sup>2</sup>	483, .38	483, .38	441, .24	441, .24	441, .40
<i>N.B.</i> Column headings indicate additional controls; these coefficients are not reported. * indicated a p-value of .10, ** a p-value of .05, and *** a p-value of .01.					