

Inequality and Party Capture

- *Evidence from South India*

First draft

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Abstract

This paper investigates the phenomenon termed "party capture", defined as a bias in public policy in favor of members of the governing political party. An augmented version of Grossman and Helpman's (1996) theory of special interests and electoral competition is developed. It highlights the intra-party interaction between candidates for political office and rank-and-file party members. This distinguishes the present paper from most of the political economy literature, which usually treats political parties as monolithic actors. Model predictions are tested on data from South India, and it is shown that party capture exists. Members of the local political leader's party are more likely than others to benefit from an important poverty alleviation program. Moreover, capture is much stronger in unequal than in equal communities. These results have important implications for our understanding of the preconditions for successful, decentralized government in developing countries. Favoritism along lines of party affiliation is a phenomenon to be reckoned with, and economic inequality reinforces party capture.

1 Introduction¹

This paper studies the phenomenon termed "party capture", defined as a bias of public policy in favor of members of the governing political party. The main contributions of the paper are (i) to investigate party capture theoretically, (ii) to show that it is empirically important in the context of local governments in India, and (iii) demonstrate that party capture is strongly affected by economic inequality - more unequal communities are more prone to capture.

The theoretical part of the paper looks inside political parties and studies the interaction between candidates for political office and rank-and-file party members. I augment the model of interest groups and electoral competition developed by Baron (1994) and Grossman and Helpman (1996) to describe this interaction, and show how it affects candidates' policy-choice. Essentially, non-candidate party members offer support for the candidate's election campaign in return for policy favors. This leads equilibrium policy to be biased away from the utilitarian optimum to the private benefit of members of the winning candidate's party. In other words, "party capture" exists. The strength of party capture depends on how susceptible the electorate is to the influence of campaign activities. I argue that this susceptibility is higher in more unequal societies and derive the model prediction that party capture will be more prevalent in more unequal areas.

The implications of the model are tested on data from a survey of local governments and households in four South Indian states (Besley, Pande and Rao 2005, Besley et. al. 2005).² This context is particularly relevant for several reasons. First, it is easy to imagine that the relative weakness of institutional checks and balances at the local level in developing countries increases the scope for allocating public resources according to non-official criteria, such as party affiliation. Second, the prevalence of democratically elected local governments in the developing world has increased rapidly in the past few decades (Manor 1999, Bardhan 2002), and a great number of development projects and poverty reduction programs are now channeled through these units of government. It is

¹I am grateful for comments from Finn Tarp, Eva Rytter Sunesen and seminar participants at the University of Copenhagen. All remaining errors are my own.

²The collection of these data was funded by the World Bank and DFID and directed by Tim Besley, Rohini Pande and Vijayendra Rao. I am extremely grateful to these authors for giving me access to the data.

therefore important to understand how they work, and what explains the wide differences in performance levels between them.

Anecdotal evidence suggests that party capture is important in South India (Abraham and Platteau 2002, Harriss 2001). The present paper carries out a systematic analysis by investigating whether, how and when the benefits from an important poverty alleviation program are affected by party capture. It shows that members of the party of the local government leader (the *Pradhan*) are more likely to benefit from the program than others, and this effect is more important than other forms of nepotism (such as nepotism based on shared language, religion or place of living). Furthermore, the presence of a strong interaction effect between economic inequality and party affiliation is demonstrated. In relatively equal communities, the bias stemming from party capture is small. In unequal communities, on the other hand, it is strong and quantitatively important. This is in accordance with the theory presented, and adds to the literature on the effects of social and economic structure on the effectiveness of local governments (Bardhan and Mookherjee, 2000, 2006a). The robustness of these results to different measures of inequality and policy is tested, and their implications for policy and for research on the political economy of local government and political parties is discussed. The main lesson is that favoritism along lines of party affiliation is a phenomenon to be reckoned with and it is strongly affected by economic inequality.

The paper is organized as follows: Section 2 reviews existing literature and section 3 presents the theory of party capture. Section 4 describes the background for the empirical analysis and presents the dataset, while section 5 sets up an econometric model and defines key variables. Section 6 provides descriptive statistics, and section 7 presents estimation results. This section first provides evidence on the existence of party capture (7.1) and how it is affected by inequality and economic development (7.2). It then deals with endogeneity problems through instrumental variables methods (7.3), and explores the scope of my paper's findings by analyzing taxation instead of the poverty alleviation program (7.4). Section 8 concludes.

2 Literature review

The present paper plays into several different strands of literature. First, the political economy literature has usually viewed political parties as monolithic actors, treating candidates for political office as more or less synonymous with the parties they represent. For example, the theoretical and empirical literature on capture of government by special interests has usually focussed on the influence of interest groups external to the political parties, such as labor unions, farmer groups and business lobbies (see Grossman and Helpman, 2001). The present paper deviates from this pattern by studying the intra-party interactions between candidates for political office and rank-and-file party members, and it shows that this interaction potentially leads to favoritism along lines of party affiliation. A few other papers have studied intra-party interactions, but they differ from the present paper in several respects. For example, Caillaud and Tirole (1999) assume, as is done in this paper, that candidates are "office seekers" (they only care about being elected). However, these authors also assume that the rank-and-file are motivated by ideological values. Based on this, they argue that radical parties have higher credibility than centrist ones in an environment where the quality of policy platforms is not observed by voters. In contrast, I assume that the rank-and-file are classical "economic men" who are mainly concerned about maximizing their own welfare. Fleck (2001) and Roemer (2005) are also of interest, but they both study the rivalry between different factions within parties instead of the candidate-non candidate dimension, which is the focus of this study.

Second, there is a large literature on capture of local government in developing countries, summarized by Bardhan and Mookherjee (2005, 2006). An important theoretical contribution is delivered by Bardhan and Mookherjee (2000, 2002), who compare national and local governments in a theoretical model. They find that the relative proneness of local government to elite capture as compared with national governments depends on a number of institutional and socioeconomic factors, such as electoral systems and relative levels of inequality.

A number of recent, empirical studies have in different ways focussed on capture of local government in India. Foster and Rosenzweig (2001) study local government provision of infrastructure in an India-wide sample of rural communities (*Gram Panchayats*, or *GPs*). Some are democratically governed and some are not. Foster and Rosenzweig argue that the principal economic classes

in rural India are the landowners and the landless, and they find that the introduction of local democracy reduces "elite capture", in the sense that it leads to more pro-landless public investment. In a similar vein, Bardhan and Mookherjee (2003) find that effective, political competition leads to pro-poor policies. They show in a study of local governments in West Bengal (a state in North-eastern India) that more equal vote shares between the two major political blocs (Congress and the Left Front) leads to higher levels of pro-poor land reform. Another indication of the potential for openness and democracy to improve targeting of public resources is provided by Besley and Burgess (2002). They show that government responsiveness to natural disasters is highest in those states of India that have the most well-developed news media. Bardhan and Mookherjee (2006b) study the inter-GP and intra-village targeting of public resources to the poor in West Bengal, and find that intra-village targeting of resources is only weakly affected by poverty, land inequality or caste composition. This leads them to conclude that there are few signs of elite capture within villages. On the other hand, they find that inter-GP allocation patterns are negatively correlated with poverty and inequality. This indicates that central- rather than local government is captured by elites. They also investigate whether political favoritism affects inter-community allocations, but find no evidence in favor of this hypothesis. Bardhan and Mookherjee's findings on intra- and inter-village targeting echo the results of the Galasso and Ravallion (2005) study of a poverty reduction program in Bangladesh, which demonstrates that although intra-community targeting at the local level is not perfect, it is significantly better than the inter-community targeting achieved by central authorities (which amounts to virtually nothing). Moreover, Galasso and Ravallion also show that intra-village, pro-poor targeting is negatively affected by inequality.

Several studies have investigated the effects of political reservation in the Gram Panchayats. For example, Chattopadhyay and Duflo (2001) find that GPs in West Bengal and Rajasthan, where the Pradhan position is reserved for women prioritize resources differently than other GPs. Besley et. al. (2005) find (in the dataset used in the present paper) that programs are better targeted to scheduled castes and scheduled tribes in GPs reserved for these groups. We can interpret this as indicating that gender- and caste based capture can be reduced through institutional design.

Besley, Pande and Rao (2005), again using the dataset also used here, find

that GP politicians favor themselves and their fellow villagers in the allocation of public resources. For example, politician households are more likely than other households to benefit from the poverty alleviation program also studied in this paper (the *BPL* scheme). However, more educated politicians are less prone to nepotism. They also find that households affiliated with the local political leaders party are more likely than others to benefit from the program. However, this result is reported only in a footnote (p.24), without further discussion. I follow up on that result by (i) offering a theoretical discussion of party favoritism, (ii) including a number of additional, relevant control variables, and (iii) exploring interaction effects.

In sum, the literature on local government in India has in different ways dealt with government capture along lines of caste, class, gender and political position. However, apart from the footnote in Besley, Pande and Rao (2005b) capture along lines of party affiliation is unexplored.

Third, the focus on the effects of economic distribution places the paper in the large literature on the effects of inequality on economic development, which has recently been summarized in the 2006 World Development Report (World Bank, 2005b). With the exception of Bardhan and Mookherjee (2006b) and Galasso and Ravallion (2005), none of the empirical studies of local government capture described above have investigated how capture is affected by inequality. However, in studies of irrigation management and other collective action problems on the local commons (see Bardhan, 1999, Dayton-Johnson, 2000 and Khwaja, 2002) and on the management of agricultural cooperatives (Banerjee et. al. 2001), it has been shown that inequality has an important effect on performance levels. This paper builds on these studies in its attempt to investigate the influence of inequality on good governance in the Gram Panchayats.

At the macro level, a large body of research has focussed on the effects of economic inequality on economic growth. The majority of studies find a negative effect (Perotti 1996, Aghion, Caroli and Penalose 1999, Easterly 2002). The literature has suggested a number of mechanisms through which inequality affects growth, such as human capital accumulation (Galor and Zeira 1993), fertility (Perotti 1996), taxation (Persson and Tabellini, 1994, Alesina and Rodrik, 1994) and insecure property rights (Knack and Keefer, 2000). The present paper supports those who emphasize the political economy-links between in-

equality and growth: If inequality leads to "bad governance", as demonstrated in what follows, then this helps explain why inequality also leads to slow growth.

3 A Theory of Party Capture

The theory of party capture developed here is a version of the model of electoral competition and special interests developed by Grossman and Helpman (1996).³ Bardhan and Mookherjee (2000, 2002) augmented this model in order to study local governments, and I follow their version of the theory quite closely. The main innovation is to interpret the model in terms of interaction between candidates and rank-and-file party members, rather than interaction between candidates and external interest groups. In other words, I suggest we regard party organizations as a type of interest group.

3.1 Candidates

Consider a political jurisdiction in which two candidates, a and b , compete to win an election. The candidates simply maximize their probability of winning. The winning candidate sets a vector of policies, π , chosen from a space of feasible policies. Parties are able to commit credibly to a policy vector before the election.

3.2 Voters

There are N voters, indexed $i = 1, \dots, N$. Voters are divided into three groups, indexed $g = A, B, C$. Groups A and B are organized in political parties that supports candidates a and b , respectively. To simplify the analysis, we assume that all members of groups A and B are members of their respective political parties, denoted party A and B . Group C is not organized. The decision to join a party is not modelled, but we can imagine that there are fixed economic and non-economic costs attached to being a party member, which explain why some people choose not to join a party. Alternatively, parties may restrict entry and allow only people with certain ethnic or economic characteristics to join, for example for reasons of trust. The population weight of group g is β_g . A representative voter in group g derives utility $U_g(\pi)$ from the policy vector π . In each group, a fraction of voters, α_g , is *politically aware*. They know the

³An important precursor to this paper is Baron (1994).

political platforms of the parties, and vote according to how these platforms, if implemented, are likely to affect their welfare. The complementary fraction, $1 - \alpha_g$, is *impressionable*. Impressionable voters either do not know the party platforms, or are unable to evaluate the potential impact of these platforms on their own well-being. They are therefore easily impressed by the electoral campaigns they are exposed to.

Aware voters base their vote on an evaluation of the candidates' policies, and on their preferences for exogenous characteristics of the candidates. These characteristics could either be policy positions that candidates are unable or unwilling to change, for example because of strong ideological attachment, or it could be personal characteristics of the candidates. Thus, aware voter i in group g votes for candidate a if:

$$U_g(\pi^a) + \varepsilon_i + \lambda \geq U_g(\pi^b)$$

ε_i is a voter-specific, fixed preference parameter. The candidates observe only the distribution of ε_i , not the individual values. Assume that ε_i is uniformly distributed on the interval $\left[-\frac{1}{2f}, \frac{1}{2f}\right]$. Then, the density of the distribution is everywhere f . ε_i is uncorrelated with group membership and awareness-status. λ is a general preference parameter, the value of which is realized only after candidates announce policies, but before the election.⁴ It is the unpredictable swing in relative candidate popularity that might take place in the run-up to an election, for example as a result of news-reports or rumors about the private lives of the candidates. Let $G(-\lambda)$ be the cumulated distribution function of $-\lambda$. The shape of this distribution is known to candidates at the time they set policy. Note that candidate a receives votes from both group A and group B . Hence, even though members of group B cannot join party A , some of them still vote for candidate a . This could result from the rule of the secret ballot. While party membership might be subject to severe social sanctions, voting is not, because it cannot be observed.⁵

⁴Hence, the theory applies a "probabilistic voting model". However, the distinction between aware and impressionable voters, and the role played by campaign activities, sets it apart from the "standard probabilistic voting model" referred to in section 2.

⁵We can allow members of party A to be biased in favor of candidate a without changing the flavour of the result, for example by letting ε_i be distributed on $[m - \frac{1}{2f}, m + \frac{1}{2f}]$, $m > 0$ in party A (we could do the same for party B with $m < 0$). What matters is that the density of the distribution around the critical point that separates voters for candidate a from voters for candidate b is the same in the different groups, and that there is an "internal solution". In other words, at least *some* members of party A will vote for candidate b , and vice versa.

Impressionable voters, on the other hand, base their vote only on preferences for the exogenous characteristics of candidates. These preferences, in turn, can be affected by campaign activity. Impressionable voter j votes for candidate a if:

$$h(C^a - C^b) + \varepsilon_j + \lambda \geq 0$$

Where C^k denotes campaign activity per member of the electorate in favor of candidate $k = a, b$, and h is a scalar representing the effectiveness of campaign activities. Note that h is a technological parameter. It measures, for example, how many voters one campaign worker can reach with the candidate's message (and bribes) in one day. It has nothing to do with the susceptibility in the electorate to the influence of this message.

3.3 Parties

We make a crucial distinction in this model between those members of a political party who run for political office (the candidates) and the rank and file members who do not. In essence, the party functions as a marketplace where these two types of agents can trade campaign contributions for policy favors.

Each party can offer campaign contributions, but only to the candidate affiliated with their own party. In the model by Grossman and Helpman, campaign contributions are offered by external interest groups, and each interest group may contribute to both of the parties, and will in general do so. In the context of parties, however, it seems natural to assume that party members can only support the campaigns of candidates affiliated with their own party. However, if agents' motives for offering campaign contributions are purely instrumental, it is natural to ask why they should constrain themselves to supporting only one of the candidates. We can explain this either by assuming, as in Baron (1994), that each candidate is constrained in his choice of policies, and can only bias policy away from the campaign free outcome in the direction that his own party-members desire, and not in the direction desired by members of the competing candidate's party. For example, for reasons of ideology, reputation or credibility, it may not be possible for a working class party to offer extremely business-friendly policies. Alternatively, we can argue from the premise that candidates will only respond to promises of campaign support if they believe them. The credibility of promises may rely on social or economic ties between the candidate and the contributors. Therefore, it may not be possible for po-

tential contributors to give credible promises of campaign contributions to all candidates (for example, members of party A might not be able to offer credible promises to candidate b).

Members of party g coordinate their actions to maximize the common utility function

$$G^k U_g(\pi^k) + (1 - G^k) U_g(\pi^{-k}) - \frac{C^k}{\beta_g}$$

where G^k is the probability that candidate k wins the election (this probability may or may not be affected by campaign activities, see below), and the last term is the per-member level of campaign activity.

Party members offer to their candidate a *contribution schedule*, $C^k(\pi^k)$, which relates the level of campaign activity that party members are willing to supply to the policy vector chosen by the candidate. $C^k(\cdot)$ is assumed to be a continuous and differentiable function.

The assumption that party members can coordinate on maximizing a common utility function and offering a common contribution schedule to the candidate is not trivial, but also not entirely unrealistic. Most political parties elect high-ranking party-officials who do not hold, or attempt to be elected to, any government office, and whom we can therefore imagine will represent party members in negotiations with candidates. It is possibly more realistic to assume that candidates bargain separately with each local branch of the party. This assumption would lead to a more complicated model, where each candidate faces multiple groups of potential contributors, in the form of party branches, and each of these branches will have to take into account not only the candidate's response to a contribution schedule, but also the response of the other branches. Fortunately, Grossman and Helpman (1996) show that the extension of the model to accommodate this assumption is relatively straightforward. Furthermore, it leads to results that are qualitatively similar to the ones obtained in the model where each candidate faces only one group of potential contributors. I will therefore not pursue this strand of the argument further here.

3.4 Equilibrium

The timing of the model is as follows: First, party members present contribution schedules. Then candidates set policy, and subsequently campaign activity and

the swing factor are realized, and elections held. Finally, the winning candidate implements policy.

The candidate faces a trade-off between pleasing aware voter, on the one hand, and attracting campaign contributions that will allow him to capture votes from impressionable voters on the other. In other words, when the party offers a contribution schedule to the candidate, it needs to take into account the candidate's *participation constraint*. The candidate's expected vote share must be at least as high if he accepts the contribution schedule as if he instead chose to ignore the party and target only aware voters. Essentially, the party determines the candidate's policy platform, subject to the candidate's participation constraint. When the participation constraint is fulfilled with equality, party A induces candidate a to announce a policy vector, π^a , that maximizes the following expression:

$$\beta_A(\alpha_A + \chi\bar{G}^a)U_A(\pi^a) + \alpha_B\beta_B U_B(\pi^a) + \alpha_C\beta_C U_C(\pi^a) \quad (1)$$

where $\bar{G}^a$ is the probability that candidate a wins the election. The proof of (1) follows standard techniques and is given in appendix A. The expression shows that in equilibrium, party A induces candidate a to announce a policy vector which maximizes a weighted welfare function, with greater weight attached to the welfare of members of party A than to other citizens. π^a is obviously only implemented if candidate a wins the election. Hence, (1) leads to the prediction that the allocation of public resources will be biased in favor of members of the governing party. Equally important, expression (1) implies that the size of this bias depends on the parameter χ . That is, it depends on the effectiveness of campaign activity and on the fraction of the electorate that is impressionable. These results are summarized in Proposition 1.

Proposition 1 *In a democratic political jurisdiction, where candidates can commit credibly to policies before an election, and where a part of the electorate is susceptible to the influence of election campaigns, policy is biased in favor of members of the winning party. This bias increases with the share of impressionable voters in the electorate and with the technological effectiveness of campaign activity.*

3.5 Determinants of awareness and campaign effectivity

There may be many determinants of χ . Here we shall focus on two fundamental, structural factors that are potentially important, namely inequality and economic development.

Assume that the probability that a voter is politically aware is an upward-sloping, concave function of her wealth. The positive slope is explained by the fact that more well-off individuals are more likely to be educated, and to have access to media and other sources of information about politics, and less likely to be affected by the small gifts and the bullying techniques often applied in political campaigns. The concavity of the function relies on the assumption that the likelihood that a person possesses the prerequisites for being aware increases more rapidly with income among the poor than among the rich - for example that literacy rates or radio ownership are concave functions of wealth.⁶ It follows from these assumptions that a mean preserving increase in inequality will lead to a lower, overall fraction of voters being politically aware. Hence, the fraction α of all voters that is politically aware depends negatively on the level of wealth inequality.

The assumptions also imply that awareness is a positive function of economic development, as measured by average wealth in the community. The total effect of economic development on χ is unclear, however, because h , the effectiveness of campaign activities, might be higher in more developed regions, because access to mass communication and transport are more widespread. Hence, as communities develop, two countervailing forces are at work. On the one hand, increasing education and access to information decreases susceptibility to propaganda. On the other hand, better roads, radios and so on also make it easier to spread this propaganda.

In sum, we expect χ , and therefore party capture, to be increasing in inequality, while the expected effect of economic development is ambiguous.

⁶As a somewhat casual test of this assumption, I take the dataset presented below and regress the education of the household head in years on an index of durable goods ownership (a proxy for wealth), and its square. In a model with village fixed effects, I find a positive coefficient on the linear term, and a negative coefficient on the squared term, both very statistically significant. If political awareness is an increasing function of education, this supports the assumption that political awareness is a concave function of wealth. For more evidence on the validity of the assumption, see Bardhan and Mookherjee (2002).

4 Empirical setting and data

4.1 Background

The theory of party capture set out above is tested on data from a survey of local governments, villages and households in rural areas of the four southernmost states of India: Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. The constitutional basis for decentralized government in India has existed almost since the country gained independence. Yet in most states local governments were extremely weak, or did not exist until 1993 when the constitution was amended in order to reinforce the importance of local level democracy. States were required to set up three layers of democratically elected councils at the District, *Block* and *Gram* levels, and to divert substantial amounts of tasks and funds to these new entities. Furthermore, one third of seats on these councils is reserved for women, and seats are reserved for members of traditionally backward groups (i.e. the *scheduled castes and scheduled tribes*) according to their population shares. In some of the states in our sample, most notably Kerala, local government has a much longer history, dating at least back to the creation of the state in 1956.

The data cover the lowest level of government, the Gram Panchayat (GP). A GP typically covers between one and five villages, and has a few thousand inhabitants. The functions of the GPs vary between states, but in all states they serve at least two functions. First, they provide public goods such as roads, street lights and water supply. Second, they select individual beneficiaries for state and federal welfare schemes (Besley et. al. 2005). It is this second function that we utilize to investigate the effects of party capture. GPs also have limited taxation power.

The GP is subdivided into wards, and elections for the GP council are held at the ward level. The leader of the GP is called the *Pradhan*. In Andhra Pradesh and Tamil Nadu the Pradhan is elected directly, while the elected ward representatives in Karnataka and Kerala nominate the Pradhans. A council is elected for a fixed term of five years. Council members and Pradhans can seek reelection, but the same seat cannot be reserved for the same group in two consecutive elections.

A genuinely competitive multiparty democracy is functioning in all four states, at state as well as local levels. In no state is one party so dominant

as to be able to effectively ignore competition from other parties. The Indian National Congress (INC) is an important player in at least three of the sampled states. The only possible exception is Tamil Nadu, where the INC has not controlled the state government for several decades and has few members in our sample. Apart from that, the politics of the four states are dominated by different parties. In Andhra Pradesh, the regional Telugu Desam Party is the major player, challenged only by the INC. In Karnataka, the main competitors of the INC are two other, national (as opposed to regional) parties, namely the Janata Party, and the Bharatiya Janata Party (BJP). In Kerala, the main parties are the INC and the Communist Party of India (Marxist). In Tamil Nadu, several regional parties compete for power, the principal ones being the Dravida Munnetra Kazhagam (DMK) and the All India Anna Dravida Munnetra Kazhagam (AIADMK).

Anecdotal evidence suggests that party capture is an important phenomenon in South India. Kerala is famous for its successful, participatory development strategy, but Platteau and Abraham (2002) report that the local government program in Kerala "suffers from an important weakness in that it has become a platform for political favouritism in a country plagued by excessive party politicisation down to the local level" (Abraham and Platteau 2002, p. 126). In Tamil Nadu, the regional parties that dominate the state's politics are reported to have governed through "populist clientelism" (Subramaniam 1999, p. 69, quoted in Harriss, 2001, p. 19).

4.2 Dataset

Sampling took place in several stages. Districts were selected in pairs on either side of state borders, so that district pairs with similar historical and socio-economic characteristics were selected. In particular, pairs of districts from two states were chosen so that each were part of the same political entity before the restructuring of state borders in 1956. Hence, the sample is not representative at the state level. Rather, the strength of the sampling strategy is that it builds in controls for historical and other factors that might influence current outcomes. Nine districts were sampled (one district entered the sample twice) and subsequently a total of 201 GPs were sampled from these districts. In each of the GPs, all villages were sampled if the GP had no more than three villages. If there were more than three villages, the Pradhan's village and two randomly

selected villages were sampled. In each village a survey was administered to about three local politicians: the Pradhan, the Vice Pradhan and an ordinary council member. Village surveys were conducted to obtain data on local, public infrastructure, land and caste distribution, and a focus group’s assessment of problems in the village and the GP council’s response to them. In a random sample of 101 GPs, household interviews were conducted in all the sampled villages. In total, 544 politician households and 5,180 ordinary households were interviewed. At least four scheduled caste or scheduled tribe households were sampled in each village. For further information on the sampling strategy, see World Bank (2005a). For the purposes of this study, data on households, as well as Pradhans and villages are needed. Therefore, only those villages where household surveys were conducted are included in the analysis. I use the sample of politicians to construct variables such as whether respondents belong to the same party as the Pradhan, but I do not include the politician households in the sample used for estimation. The reasons are, first, that the sample is not representative of the GP population when the politician households are included - politicians are overrepresented (politician households are allowed to enter the sample of ordinary households, if they happen to be sampled). Second, the theory to be tested concerns the distribution of public resources among citizens who are not candidates for political office. It therefore seems appropriate not to include the sample of elected politicians.

5 Econometric model and key variable definitions

To test the implications of the theory presented in section 3, several versions of the following regression model are estimated:

$$y_{ijh} = \gamma_1 P_{ijh} + \gamma_2 K_{jh} + \gamma_3 (P_{ijh} * K_{jh}) + \beta' x_{ijh} + \theta + \theta_h + \epsilon_{ijh} \quad (2)$$

y_{ijh} is an indicator for household i in GP j in district h being a beneficiary of a public welfare program, which is described in detail below. P_{ijh} is an indicator for being a member of the same party as the GP Pradhan and K_{jh} is a proxy for the parameter χ in the model above. x_{ijh} is a vector of household characteristics thought to affect beneficiary status, such as official eligibility criteria, and proxies for α_g in the model above. θ is a constant, θ_h is a district fixed

effect, γ_1 , γ_2 , γ_3 and β are coefficients to be estimated, and ϵ_{ijh} is a household specific random error term. ϵ_{ijh} is allowed to be correlated across households within the same village, but assumed to be uncorrelated across villages. In some specifications, some of the parameters are set to zero. The model is in most cases estimated by OLS or 2SLS, even though the dependent variable is binary. First, it is easier and requires fewer assumptions to take account of endogeneity problems in a linear model, as is done in section 7.3, than in non-linear models (Wooldridge 2002, chapter 15). Second, the estimated coefficients are more intuitive to interpret. As robustness checks, results from using a logit estimator are also presented.

I follow Besley, Pande and Rao (2005) and use the allocation of *Below Poverty Line (BPL) cards* as the main dependent variable. BPL-card holders gain access to a number of state and GP welfare schemes, such as the right to buy subsidized food from the federal *public food distribution system*, and access to GP administered housing and employment programs. Having a BPL card is estimated to increase the income of an agricultural laborer household by about 5 percent in the four sampled states (Besley, Pande and Rao, 2005). Hence, choosing BPL card holders is one of the most important tasks of the GP. The GP is allocated a fixed quota of BPL cards from higher level authorities. It is subsequently supposed to carry out a household survey to determine who is eligible for the program, and produce a preliminary list of eligible households. The list is then officially required to be finalized in a village meeting open to all citizens, a so-called *Gram Sabha*. However, these meetings are often not held, and only about 22 percent of the respondents in the survey have ever attended one. In practice the GP council members and officials, in particular the Pradhan, have considerable discretion in choosing BPL beneficiaries. In sum, the dependent variable y_{ijh} is an indicator variable taking the value one if the household has a BPL card.

A household is defined as belonging to "the winning candidate's party", in the terminology of the theoretical model, if the household head is a member of the same party as the Pradhan.

An important implication of the theoretical model presented above is that the amount of party capture depends on electorate susceptibility to electoral campaigns, $(1 - \alpha)$, and on the effectiveness of campaign efforts, h , summarized in the parameter $\chi = h(1 - \alpha)$. The main proxy for χ used in the analysis is the

level of land inequality in the GP. As argued in the theoretical section, $(1 - \alpha)$ is likely to increase with inequality. Furthermore, high quality data on land inequality is available, since the village survey asked respondents to record the entire land distribution of their village. More precisely, they were asked to report how many households fall into each of the following brackets: no land, between 0 and 1 acres, between 1.1 and 5 acres, between 5.1 and 10 acres, between 10.1 and 25 acres, and above 25 acres. I estimate the GP landlessness rate and land gini coefficients by pooling the data from the sampled villages in each GP. Clearly this procedure will lead to more precise estimates in those GPs where all villages were sampled than in those where only a subset of villages were chosen. However, since the villages were randomly chosen, the estimates should not be systematically biased. The landlessness rate is readily calculated as the share of households falling in the "no land" bracket. To estimate the land gini, the interval midpoint value is assigned to each household in a bracket, and inequality is estimated.⁷ Clearly, this procedure ignores within-bracket inequality, which leads to a downward bias. On the other hand, it cannot be determined whether the procedure overstates or understates between-bracket inequality, and so the direction of the overall bias of the measure cannot be determined. The use of land distribution as a measure of economic inequality is only valid if agriculture is the predominant source of livelihoods. Table 1 below documents that this is indeed the case for the sampled villages. I use other proxies for χ apart from land inequality, described further below.

6 Descriptive statistics

Table 1 presents descriptive statistics on the sampled households. Some 22 percent of households are BPL card holders. This confirms that the policy program we consider is of fairly wide scope. The fraction of households where the household head is a member of a political party is 31 percent. This is a remarkably high level of political participation. Calculations based on the 1990-91 World Values Survey show that in most Western countries, less than 10 percent of the adult population are party members.⁸ This could simply reveal the presence of an unusually active civil society, which is not entirely unrealistic in the case of

⁷The last, open bracket presents a special problem. However, only one household in the entire sample is in this bracket. It is assigned the value 30 acres.

⁸For example, the share of the adult population belonging to a political party or group is 2.0 percent in Japan, 4.9 percent in Great Britain, 6.5 percent in Denmark and 14.5 percent in the United States (World Values Study Group, 1994).

South India. However, it may also indicate that membership of a political party serves other functions than it does in the textbook model of democracy, for example by easing access to public resources. Only about half of party members are members of the same party as the Pradhan. This indicates that there is indeed true political competition in many of these communities, which is comforting since the model described above has little relevance in settings where one party has a de facto power monopoly.

- Table 1 about here -

There is considerable variation in land distribution among communities. The GP Gini coefficient of cultivated land has a mean of 0.63 and a standard deviation of 0.15. The GP landlessness rate has an average of 0.37 and a standard deviation of 0.22. The fact that the average landlessness rate is only 37 percent is a first indication that agriculture is the primary source of livelihoods. The data on households main source of income lead to the same conclusion. 61 percent of households rely on either self-employment in agriculture or agricultural labor as their main sources of income. Another 18 percent rely mainly on casual labor (day labor), which would also typically be work in agriculture. Only 13 percent of households derive most of their income from permanent wage labor or non-agricultural enterprises. A closer look at the occupations of members of these households reveals that they are mainly employed in traditional crafts and services, petty trade and teaching. In sum, these are rural communities. It is relevant and meaningful to use land inequality as our main indicator of economic inequality.

Table 1 also presents descriptive statistics specifically for members of political parties, and for members of the Pradhan's party. As predicted in the theoretical model, party members, particularly members of the Pradhan's party, are much more likely than the average household to benefit from the BPL program. This key result is explored further in section 7. Otherwise the table does not reveal any dramatic differences between party-member households and other households. Members of the Pradhan's party have somewhat smaller average landholdings than the average household and are a little more likely to report casual labor as their main source of income. This suggests that they are slightly poorer than the average household, which could in itself be a reason why they

receive more BPL cards. To take account of this possible effect, landholding size, source of main income, and other proxies for poverty are included in the regressions reported below.

7 Estimation results

7.1 Party capture

Table 2 shows the results of estimating (2) with γ_2 and γ_3 constrained to zero, i.e. interactions between party affiliation and proxies for χ are ignored. In the first four columns, a linear probability model is applied, while the last columns show the results of estimating a logit-model. The first column shows the same result as the first line in Table 1, namely that there is a strong bivariate correlation between membership of the Pradhan's party and BPL beneficiary status. Members of the Pradhan's party are much more likely to be beneficiaries. Columns 2 to 5 investigate whether this relationship is robust to the inclusion of control variables.

- Table 2 about here -

First, as discussed above, we might worry that membership of the Pradhan's party is merely a proxy for the official eligibility criterion for participation in the program, namely poverty. To take account of this objection, a number of variables known to be correlated with poverty are introduced, namely: (i) whether the household belongs to a scheduled caste or a scheduled tribe, (ii) education of the household head in years, (iii) amount of agricultural land owned by the household, (iv) household size, (v) age, gender and marital status of the household head, (vi) dependency ratio (defined as the number of household members below 15 or above 65 divided by the total household size), (vii) an index of durable goods ownership, and (viii) dummies for the main household source of income. Poverty is usually defined in terms of per capita household consumption. Being below the poverty line means having per capita consumption below some threshold. It might appear to be a serious drawback that data on household consumption are not available. However, note that eligibility is in practice determined in a survey carried out by officials from the local GP council. It is highly unlikely that consumption will be measured in this survey.

Officials are much more likely to build their judgment on characteristics such as those listed above, which are relatively easy to observe. When these variables are introduced, most of them have the expected sign, and many are significant. The only surprising result is that a higher dependency ratio decreases the probability of being selected for the program. As noted by Besley, Pande and Rao (2005) the significant effect of variables correlated with poverty indicates that the official criteria for allocation of BPL cards do play an important role. While various sorts of capture exist, GPs do achieve some amount of targeting.

Second, we can imagine that membership of the Pradhan's party functions as a proxy for being a politician in the GP council. As described in section 2, Besley, Pande and Rao (2005) show that politician households are significantly more likely than other households to be program beneficiaries, and surely politicians are more likely than others to be members of the Pradhan's party. We therefore introduce a variable measuring whether a member of the household's family holds or has held a political position ("members of the family" are not necessarily members of the household). This variable enters with a negative coefficient.⁹

Third, for the results to be in line with the theory presented, I have to check that membership of the Pradhan's party is more beneficial than membership of other parties. A dummy for being a member of other parties than the Pradhan's is therefore introduced. This variable enters with a positive sign, and it is significant in some specifications. This indicates that members of other parties are not discriminated against. In light of the theory, the positive coefficient can be read as a sign that party members are less susceptible to the influence of election campaigns than others, and are therefore given relatively high weights in the candidates' optimization problems. The point estimate of the coefficient on membership of other parties is in all specifications much lower than the coefficient on membership of the Pradhan's party, as the theory predicts. In

⁹Besley, Pande and Rao (2005a) include the sample of elected officials in their estimation sample, whereas I do not. They find that households with members who are *currently* GP politicians are more likely than others to be program beneficiaries. My results, on the other hand, show that households where someone in the (extended) family *is or was* a politician are less likely than other to benefit. The difference between the results could be explained by the fact that the tendency for politicians to be from an economically privileged background was stronger in the past than it is today (in part because of the reservation system). In other words, the "family political history" variable should possibly be interpreted as a proxy for poverty. When I add the sample of elected officials to my estimation sample, the effect of membership of the Pradhan's party remains positive and significant in all specifications.

formal tests (t-tests) of the hypothesis that the coefficients on the two variables are the same, the null hypothesis of equal coefficients is always rejected (although in one case only at the 10 percent level).

Fourth, it is possible to imagine that membership of the Pradhan’s party is a proxy for other kinds of affiliation with the Pradhan, such as shared caste, religion or language and that BPL card allocation takes place according to these characteristics, rather than party membership. To test this hypothesis, I introduce dummies for sharing religion, language, caste-group and village of residence with the Pradhan. The caste group variable simply distinguishes between scheduled castes and tribes, and other castes. It takes the value one if the household belongs to the same of these two groups as the Pradhan. This is a very rough simplification of the complex, and still influential, system of castes in India. Unfortunately, I was unable to construct a more detailed measure. The introduction of these variables does not decrease the coefficient on membership of the Pradhan’s party. The coefficients on the variables are always smaller than the coefficient on membership of the Pradhan’s party, although the hypothesis that the coefficients on membership of the Pradhan’s party and same religion as the Pradhan are equal cannot be rejected according to statistical criteria. Same religion as the Pradhan is significant in both specifications in table 2, and although this result is not robust to the additional variables introduced in tables 3 and 4, this gives some indication that favoritism along religious lines plays a role in the Panchayats. On the other hand, there is no evidence of favoritism along linguistic, caste-group or village lines.

Finally, to control for unobservable characteristics at the state, district or GP level, such as the total number of BPL cards allocated to districts and GPs, district- and GP fixed effects are introduced.

The sign and significance of the member of Pradhan’s party-variable is robust to the inclusion of all these controls, although the point estimate drops as more variables are introduced. The variable is also significant and positive in both the linear probability- and the logit models. In the linear probability model with all controls included (column 4), members of the Pradhan’s party are estimated to be six percentage points more likely to be selected as beneficiaries than others. Since 18.4 percent of non-members of the Pradhan’s party are beneficiaries, this means that joining the Pradhan’s party increases a household’s probability of being selected by approximately 32 percent (0.061 divided by 0.184). The

results correspond with the footnoted result in Besley, Pande and Rao (2005b, p.24) mentioned in section 2.

7.2 Determinants of party capture

The theory presented in section 3 suggests that party capture will not be the same everywhere. In particular, it will be higher where the productivity of campaign activities (h in the model) is high, and susceptibility to the influence of electoral campaign ($1-\alpha$) is low. In the model, these factors were summarized in the parameter $\chi = h(1 - \alpha)$. In this section, several different proxies for χ are introduced and interacted with the member of Pradhan's party-variable.

In section 3 it was argued that inequality is likely to increase susceptibility to campaign influence, and that party capture would therefore be more pronounced in more unequal communities. On the other hand, it was argued that the expected effects of economic development on party capture are ambiguous, because economic development tends to decrease the susceptibility to propaganda, but might also increase the productivity of campaign activities.

Tables 3 and 4 show the results of entering proxies for χ , interacted with the member of Pradhan's party-variable, into the BPL-allocation model. The two different measures of inequality described above - the land gini (table 3) and the landlessness rate (table 4) - are used. Furthermore, the average education of the household head in the GP and the GP average of the durable goods index are entered as measures of economic development. While the inequality variables are based on village population data (supplied by respondents in the village survey), the GP education- and durable goods variables are calculated from the household sample. The regressions include the same controls as in columns 4 and 5 of table 2. In order to save space, the results are not shown. Since the measures of inequality and economic development are, in accordance with theory, measured at the GP level, GP fixed effects cannot be included. Instead, district fixed effects are entered.

- Table 3 about here -

- Table 4 about here -

The first column of Table 3 shows there is a significant and numerically strong, positive interaction between membership of the Pradhan's party and the land gini. In fact, the model predicts that in completely equal communities (land gini = 0) there is a significant *negative* effect of being a member of the Pradhan's party (The coefficient on the same-party-as-Pradhan main effect is significant and negative). However, no GPs in the sample are close to complete equality, and hence we should not attach too much significance to this result. What we should emphasize is this: As GPs become more unequal, party capture is predicted to increase rapidly. Party capture is estimated to be positive in GPs with a land gini above 0.4. Note from Table 1 that the average land gini is 0.63.

It can sometimes be difficult to distinguish interaction effects from other non-linear effects (see, for example, Hansen and Tarp, 2000). To take of account of this potential problem, a squared term of the gini-variable were added to the regressions in Table 3. This variable was always insignificant, while the interaction term remained significant and numerically strong (results not shown).

In column 2 and 3 I enter the average education level of household heads in the GP and the GP average of the durable goods index, respectively, and the interactions between these variables and membership of the Pradhan's party. The coefficients on both interaction terms are positive, and the interaction between the GP-durable goods index and membership of the Pradhan's party is significant at the ten percent level. Hence, the results weakly indicate that party capture is more pronounced in more developed communities.

In column 4 I enter all the interaction terms (and main effects) in the same regression. The result is that the interaction between inequality and membership of the Pradhan's party remains significant and strong, while the two other interaction terms are now completely insignificant. This pattern is repeated in column 5, where a logit model is estimated. It is also repeated in table 4, where I use landlessness as my measure of inequality instead of the land gini. As stated in the introduction, this is a main result: Party capture is much stronger in unequal than in equal communities. On the other hand, there is no evidence that it is affected by levels of economic development. In light of the theoretical framework presented, the last result could be interpreted as the result of different factors cancelling each other out. Economic development makes it easier for a "party-machine" to penetrate an area with its campaign, but it also helps to decrease voters susceptibility to the influence of that campaign.

There could also be a methodological explanation for the fact that the interactions with inequality dominate those with education and wealth. The inequality measures, which are based on village level population data, are measured with less error than the education- and wealth variables. These are based on the household samples, which are sometimes as small as 20 households in a GP (the average is 51.3 households per GP). I have tried to counter this argument by entering the literacy rate in 1991, based on village level population data from the 1991 Census of India.¹⁰ The qualitative results obtained are exactly the same as those shown for the education level of the household head. The interaction between membership of the Pradhan's party and the 1991 literacy rate is completely dominated by the interaction between membership of the Pradhan's party and inequality. In the following sections I focus on further testing the robustness of the inequality-interaction.¹¹

7.3 Endogeneity

We might worry that both of the key explanatory variables, membership of the Pradhan's party and land inequality, are endogenous. First, membership of the Pradhan's party could be affected by BPL beneficiary status if beneficiaries tend to join the Pradhan's party out of gratitude for receiving the BPL card. Ideally, I would like to find an instrument for membership of the Pradhan's party to be able to test this alternative explanation. I have attempted to use a number of variables measuring other kinds of affiliation with the Pradhan than party membership as instruments. They include affiliation based on religion, language, caste-group, village of residence, occupation and main source of income. However, none of these come close to passing standard tests of instrument relevance. Instead, I shall rely on the reported interaction effects in arguing against the interpretation that membership of the Pradhan's party is endogenous. While it is not entirely implausible that some households would join the Pradhan's party because they are grateful for receiving benefits, there seems to be no reason why this effect should be much stronger in unequal than

¹⁰The village identifiers that allow me to link the survey to the Census were generously given to me by Tim Besley, Rohini Pande, Vijayendra Rao and Radu Ban. Again, I am extremely grateful for their help.

¹¹In the light of the findings on the effects of political reservation, summarized in chapter 2, I investigated whether reservation affects party capture by introducing interactions between indicators for the GP being reserved for women and for scheduled castes/scheduled tribes, respectively, and the member of Pradhan's party dummy. However, there is no evidence that reservation affects party capture. The coefficients on these interaction terms are always close to zero and entirely insignificant.

in equal communities. In other words, the significant interaction between membership of the Pradhan's party and inequality favors the theory of party capture over the theory of recipient gratitude.

Second, and perhaps more importantly, inequality could be endogenous. I claim that inequality leads to capture, but higher levels of capture may also reinforce inequality. This is possibly less the case with party capture than with other forms of capture. The literature has focussed a lot on "elite capture", that is, the phenomenon that a priori privileged groups appropriate public resources for themselves. It is obvious that this form of capture sustains and even increases inequality. The effect is possibly less pronounced in the case of party capture, because party members do not necessarily belong to the elite. However, if resources are allocated according to political affiliation rather than to criteria of need, this will decrease the ability of the poorest segments of the population to acquire assets such as land. Hence party capture will sustain inequality. Worries about endogeneity are made less severe by the fact that I focus on inequality of land rather than other assets, or income, because land markets are in general not very active, and land inequality is usually regarded as a slowly changing variable (Foster and Rosenzweig 2002). Hence, the feedback effect from the relatively young system of local government to land distribution is likely to be weak.

Nevertheless, I take account of the possible endogeneity of inequality by instrumenting current inequality with proxies for inequality in 1991 obtained from the 1991 Census of India. The Census did not directly collect information on land distribution, but it does include a classification of full-time workers according to industrial categories. In particular, the Census makes it possible to distinguish between people working on their own farm, either with cultivation or livestock, and other workers. I assume that workers employed on their own farm as a share of all workers is a good proxy for land inequality in 1991. The reason is simple. If land is equally distributed, many people will be small farmers, working on their own farm. On the other hand, if many households have no or only very little land (i.e. land inequality is high), many people will be working mainly on other people's farms, or outside agriculture.

The share of workers employed on the households' own farm can be calculated for both women and men, and I use both these variables as instruments for inequality in 2002. Furthermore, because I have interacted inequality with

membership of the Pradhan's party, I also use as instruments the interactions between membership of the Pradhan's party and the shares of workers employed on own farms.¹²

Table 5 reports the results of this exercise, using both the land gini and landlessness rate as inequality measures. In both columns, the interaction between membership of the Pradhan's party and inequality remains significant and positive. Although both t-statistics and point estimates are lower than in the OLS models (the interaction with landlessness is only significant at the ten percent level), the interaction effects are still numerically important.

- Table 5 about here -

At the bottom of the table, I report tests of instrument exogeneity and relevance. The Hansen J statistic test of instrument exogeneity fails to reject the hypothesis that the instruments are exogenous. However, since the two instruments, male and female shares of workers employed on own farm, are highly correlated (0.77) and conceptually closely related, we should probably not attach too much importance to this formal test. Rather, the credibility of the instruments relies mainly on the fact that intuitively it seems highly plausible that these proxies for inequality are exogenous, since they were measured 11 years before the survey. I present several tests of instrument relevance (in other words, tests for weak instruments). There are two first stage regressions for each column, one for the inequality main effect and one for its interaction with membership of the Pradhan's party. The standard, partial R-squared of the instruments from the first stage regressions is reported. I also show the Shea partial R-squared, which takes account of correlation between the instruments. If the Shea partial R-squared is much lower than the standard partial R-squared, this indicates that the instruments are weak (Baum, Schaffer and Stillman, 2003). However, we see that the difference between the standard- and Shea partial R-squared measures are in all cases relatively moderate. Furthermore, I provide the F-statistics for the tests of joint significance of the instruments in the first stage regressions. The well-known rule of thumb provided by Staiger and Stock (1997) is that these F-statistics should be at least 10. My instruments

¹²This method for instrumenting an interaction term was also used by Burnside and Dollar (2000).

fall short of this standard in one case, namely in the first stage regression for the main effect of the land gini. However, the shortfall is not large. The F-statistic is above 9. I conclude that weak instrument problems are sufficiently small to be ignored. In sum, the IV estimations strengthen the case that higher inequality leads to higher levels of party capture.

7.4 Party capture and taxation

While allocation of BPL cards is probably the single most important program that allows GP councils to differentiate between individual households, it is interesting to investigate whether party favoritism is prevalent in other policy areas as well. I investigate the instance of taxation. Table 1 shows that 69 percent of households pay tax to the GP. The most important tax is a house tax, followed by water charges and a few minor taxes and fees. Among households who pay tax, the average amount paid over the last 12 months is 80 rupees, or about 2 dollars and 25 cents. For comparison, the average daily wage rate for a male agricultural laborer in the sampled villages is 60 rupees. Hence, the amount of tax paid is relatively small, but still large enough to be of interest. Table 6 shows the results of estimating several linear probability- and logit models explaining whether a household pays tax, and Table 7 reports the results of tobit regressions for the amount of tax paid. The regressions include the indicator for being a member of the Pradhan's party, and (in some specifications) the GP land gini and its interaction with membership of the Pradhan's party. The set of control variables is the same as in the BPL allocation models reported in tables 2 to 5.

- Table 6 about here -

The first columns of Table 6 show that the bivariate correlation between membership of the Pradhan's party and tax-payer status is significant and strongly negative, as predicted by the theory of party capture. Members of the ruling party are more likely than others to be exempted from paying tax. However, this effect is not as robust to the introduction of controls as the BPL-selection variable. When the set of control variables and state dummies are introduced (in column 2), the coefficient remains negative, but is no longer significant (p-value = 0.14). In columns 3 to 5, the land gini and its interaction

with membership of the Pradhan's party is introduced. The coefficient on the interaction term has in all specifications the sign predicted by theory (negative) and is numerically relatively large. However, it falls just short of being statistically significant at conventional levels (p-values range between 0.12 and 0.18). Hence, the evidence weakly supports the hypothesis that inequality also in the field of taxation increases party capture. Membership of the ruling party seems to be more likely to lead to tax exemption in more unequal communities, although the evidence for this is less convincing than in the case of BPL card allocation. Similar results are obtained when inequality is instrumented by the 1991 shares of male and female workers employed on own farm, as in Table 5 (results not shown).

- Table 7 about here -

The first columns of Table 7 shows that members of the ruling party pay a significantly smaller amount of tax than others. However, once the set of control variables is included, this effect vanishes completely. Also, the coefficient on the interaction between inequality and membership of the Pradhan's party is entirely insignificant. Hence, the analysis of amounts of tax paid by households offers little support for the theory of party capture. One possible reason is the relatively small amounts at stake. Alternatively, the discretion of GP officials in setting tax rates could be smaller than in the case of BPL beneficiary selection, giving them fewer opportunities to favor supporters.

8 Conclusion

The main contribution of the present paper is threefold: First, I have highlighted the interplay between candidates for political office and rank and file members of political parties, and used the two-party theory of interest groups and electoral competition to show that this interplay potentially leads to "party capture". Second, I have demonstrated the existence of party capture empirically in the context of local governments in India, and have shown that it is economically as well as statistically important. Party capture is equally or more important than favoritism along lines of caste, religion and language. Third, I documented that party capture is strongly affected by inequality, as measured by the distribution of agricultural land. In equal communities party capture is unimportant, but

in unequal communities it is pervasive. In contrast, there is little evidence that party capture is affected by economic development.

The findings indicate that party capture is not equally strong in all areas of policy. There are strong signs of party capture in the allocation of an economically important poverty alleviation program where local governments have a high level of discretion in the selection of beneficiaries. The evidence for party capture is weaker in the case of local taxes, where the economic stakes are smaller.

The finding of party favoritism does not imply that political parties in general play a negative role. The four states of South India have done relatively well over the past 30 or 40 years in terms of reducing poverty (Ravallion and Datt, 2002). Political parties have been instrumental for this progress in several ways, for example by eroding traditional, caste-based patterns of political dominance (Harriss, 2000). It is possible to interpret party capture as a "necessary evil". Mobilizing the masses to effect change, such as the removal of a repressive regime, presents a massive collective action problem, and perhaps the promise of private benefits is the only effective means of overcoming this obstacle (cf. Mancur Olson, 1965). This being said, the allocation of public resources according to criteria of political affiliation certainly does not correspond well with traditional standards of democracy and good governance. If, as shown in this paper, the benefits from a poverty alleviation program are targeted to members of the ruling party rather than to the poor, the program will obviously not be effective.

I have not directly investigated determinants of the decision to join a party. However, the findings indicate that it is often prudent to interpret data on civil society activity with a degree of scepticism. While high levels of participation in parties and other civil society organizations could indicate high levels of political awareness and desire to affect public life, rent seeking may also play a role. This is the same problem faced by aid donors who witness an NGO community emerging after the donors have decided to channel aid funds through local NGOs. It is difficult to determine whether the policy has sparked a wave of genuine political participation or the NGOs are only there to collect the money. In the same manner, it is difficult to interpret whether increased party membership following decentralization is caused by the growing possibilities for

ordinary people to affect public policy, or by the increased potential for political parties to function as vehicles of patronage.

Although I have taken a critical look at local governments, this should not be read as a recommendation against decentralization. First, it is entirely possible that party capture is at least as strong at state- or national levels as it is at the local level (as documented in the studies by Bardhan and Mookherjee (2005) and Galasso and Ravallion (2005) reported in chapter 2). Indeed, this is an important hypothesis to be tested in further research. Second, the results reported document that the poverty alleviation program under study is in fact to an important extent allocated according to criteria known to be correlated with poverty. I do suggest, however, that the success of decentralization is likely to depend on the implementation of complementary policies, such as land reform, policies to secure openness in political and administrative decision making, and reforms to strengthen the media. The recommendation on land reform follows directly from the finding that more equal communities are less prone to capture. The recommendations on introducing openness and strengthen the media stem from the theory-based assumption that party capture is a result of low levels of political awareness and of local politicians' misuse of their discretionary powers. As demonstrated by Svensson and Reinikka (2005) for Uganda, stronger media and better access to information on political and administrative decision making is likely to increase levels of political awareness, and reduce the scope for clientelism.

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A Proof of Proposition 1

We have already noted that candidates will implement the policies they have announced, and we have described the voting decision criteria of aware and impressionable voters. Now consider candidate k 's problem: how to set policy to maximize his expected number of votes? Look at candidate A . We first calculate the vote-share received by the candidate from aware voters. In group g , candidate A receives the votes of those voters who fulfill the condition:

$$\varepsilon_i^* \geq -\lambda - (U_g(\pi^a) - U_g(\pi^b))$$

Therefore the share of the aware vote in group g that candidate a receives is (remember that ε_i is uniformly distributed):

$$\tilde{s}_{g,aware}^a = f\left(\frac{1}{2f} - \varepsilon_i^*\right) = \frac{1}{2} + f(\lambda + (U_g(\pi^a) - U_g(\pi^b)))$$

The share of the total vote that candidate A receives from aware voters in group g is $\alpha_g \beta_g \tilde{s}_{gI}^a$. Therefore, the share of the total vote that the candidate receives from all aware voters is:

$$\begin{aligned} s_{aware}^a &= \sum_g \alpha_g \beta_g \left(\frac{1}{2} + f(\lambda + (U_g(\pi^a) - U_g(\pi^b)))\right) \\ &= \left(\frac{1}{2} + f\lambda\right)(\alpha_A \beta_A + \alpha_B \beta_B + \alpha_C \beta_C) + f(W_I(\pi^a) - W_I(\pi^b)) \end{aligned}$$

where $W_I(\pi^k)$ equals $\alpha_A \beta_A U_A(\pi^k) + \alpha_B \beta_B U_B(\pi^k) + \alpha_C \beta_C U_C(\pi^k)$. We can think of $W_I(\pi^k)$ as "the welfare of aware voters".

Now focus on the votes from impressionable voters. Candidate a receives the votes of all the impressionable voters who fulfill:

$$\varepsilon_j^* \geq -\lambda - h(C^a - C^b)$$

Therefore, the share of the impressionable vote that candidate a receives is:

$$\tilde{s}_{imp}^a = f\left(\frac{1}{2f} - \varepsilon_j^*\right) = \frac{1}{2} + f\lambda + fh(C^a - C^b)$$

The share of the total vote that candidate a receives from impressionable voters

is

$$s_{imp}^a = (1 - \alpha)s_U^a = (1 - \alpha_A\beta_A + \alpha_B\beta_B + \alpha_C\beta_C)(\frac{1}{2} + f\lambda + fh(C^a - C^b))$$

(remember that $1 - \alpha$ is the share of all voters that are impressionable).

We can now calculate candidate a 's total vote share, s^a :

$$\begin{aligned} s^a &= s_{aware}^a + s_{imp}^a \\ &= (\frac{1}{2} + f\lambda)(\alpha_A\beta_A + \alpha_B\beta_B + \alpha_C\beta_C) + f(W_I(\pi^a) - W_I(\pi^b)) \\ &\quad + (1 - \alpha_A\beta_A + \alpha_B\beta_B + \alpha_C\beta_C)(\frac{1}{2} + f\lambda + fh(C^a - C^b)) \\ &= \frac{1}{2} + f(\lambda + W_I(\pi^a) - W_I(\pi^b)) \\ &\quad + (1 - \alpha_A\beta_A + \alpha_B\beta_B + \alpha_C\beta_C)h(C^a - C^b) \\ &= \frac{1}{2} + f(\lambda + W_I(\pi^a) - W_I(\pi^b) + \chi(C^a - C^b)) \\ &= \frac{1}{2} + f(\lambda + V(\pi^a, C^a) - V(\pi^b, C^b)) \end{aligned}$$

where $\chi = h(1 - \alpha_A\beta_A - \alpha_B\beta_B - \alpha_C\beta_C) = h(1 - \alpha)$ measures the weight of campaign activity in the vote-share function. Clearly, this weight depends on the effectiveness of campaign spending and on the share of voters that are impressionable. $V(\pi^k, C^k) = W_I(\pi^k) + \chi C^k$ measures the total effectiveness of candidate k 's electoral strategy. The candidate faces a trade-off between attracting aware voters on the one hand, and inducing campaign contributions, which will allow him to attract impressionable voters, on the other.

Finally, the probability that a wins the election - the objective function of candidate a - is now given by:

$$\begin{aligned} prob(s^a \geq \frac{1}{2}) &= prob(f(\lambda + V(\pi^a, C^a) - V(\pi^b, C^b))) \geq 0) \\ &= prob(-\lambda \leq \frac{1}{f}(V(\pi^a, C^a) - V(\pi^b, C^b))) \\ &= G(\frac{1}{f}(V(\pi^a, C^a) - V(\pi^b, C^b))) \\ &= G^a(\pi^a, \pi^b, C^a, C^b) \end{aligned}$$

Remember that $G(\cdot)$ is a cumulative distribution function and hence monotonically increasing. This expression therefore implies that the dominant strategy for candidate k is simply to maximize $V(\pi^k, C^k)$.

We can now turn to the party's problem. Remember that we distinguish between the candidate and the party that (may) support him. Focus on party A , which maximizes

$$G^a U_A(\pi^a) + (1 - G^a) U_A(\pi^b) - \frac{C^a}{\beta_A} \quad (3)$$

If candidate a receives no campaign contributions, he sets policy to maximize $W_I(\pi^a)$. Denote the policy vector that solves this problem by π^* . In order to induce the candidate to set an alternative policy vector, π^a , the following participation constraint needs to be fulfilled:

$$W_I(\pi^a) + \chi C^a(\pi^a) \geq W_I(\pi^*)$$

Essentially, the party sets candidate a 's policy, subject to the participation constraint of the candidate. In the out-of-equilibrium situation where the participation constraint is not satisfied, the candidate runs without support from a party. For example, he could threaten to run as an independent. Now, assume that the participation constraint is satisfied with equality in equilibrium. Then, campaign contributions do not change the parties' winning probabilities, it only changes their policies. In the words of Grossman and Helpman there is a "policy-motive", but not an "electoral motive" for contributing to a candidate's campaign. The probability that candidate a wins the election is therefore fixed. Denote this fixed probability by $\bar{G}^a$. From party A 's point of view, the policy of candidate b is also fixed. Therefore, maximizing (3) is the same as maximizing $\bar{G}^a U_A(\pi^a) - \frac{C^a}{\beta_A}$. Insert the participation constraint into this objective to find that the party maximizes $\bar{G}^a U_A(\pi^a) - \frac{W_I(\pi^*) - W_I(\pi^a)}{\chi \beta_A}$, which, since $W_I(\pi^*)$ is fixed from the party's point of view, is equivalent to maximizing $\chi \beta_A \bar{G}^a U_A(\pi^a) + W_I(\pi^a)$, which in turn is the same as maximizing (1).

Table 1 Descriptive Statistics

<i>Variable</i>	All households		Hh head party member	Hh head member of Pradhans party
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Mean</i>	<i>Mean</i>
BPL-card holder	0.22	0.41	0.36	0.42
Paid tax to GP in last 12 months	0.69	0.46	0.59	0.57
Hh head member of political party	0.31	0.46	1.00	1.00
Hh head member of Pradhan's party	0.14	0.34	0.44	1.00
Family political history	0.06	0.23	0.11	0.09
Same religion as Pradhan	0.83	0.37	0.82	0.83
Same caste group as Pradhan	0.64	0.48	0.65	0.65
Same mother tongue as Pradhan	0.65	0.48	0.69	0.67
Same village as Pradhan	0.36	0.48	0.42	0.45
Gram Panchayat gini of cultivated land	0.63	0.15	0.66	0.65
Gram Panchayat landlessness rate	0.37	0.22	0.43	0.42
Scheduled caste or scheduled tribe	0.23	0.42	0.24	0.24
Head's education (years)	3.42	4.14	3.72	3.14
Agricultural land owned (acres)	2.07	4.38	1.79	1.55
Hh size	5.33	2.39	5.30	5.27
Age of household head	49.10	13.81	47.95	47.53
Dependency ratio	0.29	0.22	0.28	0.28
Durable goods (index)*	11.67	13.01	12.70	11.54
Female household head	0.12	0.32	0.09	0.08
Hh head unmarried	0.01	0.12	0.02	0.02
Hh head divorced	0.01	0.07	0.01	0.01
Hh head widowed	0.13	0.33	0.10	0.08
Farmers as a share of all workers, 1991 (males)	0.46	0.21	0.37	0.38
Farmers as a share of all workers, 1991 (females)	0.28	0.22	0.19	0.21
<i>Main source of income:</i>				
Selfemployment in agriculture	0.36	0.48	0.32	0.30
Agricultural labor	0.25	0.43	0.22	0.24
Casual labor (coolie)	0.18	0.39	0.23	0.25
Permanent wage labor	0.07	0.26	0.08	0.06
Selfemployment in non-agriculture	0.06	0.24	0.06	0.07
Rents, remittances, interests, dividends and pensions	0.02	0.15		
Other	0.04	0.20	0.03	0.03
			0.04	0.04

Note: N = 5,180.

*This variable is a weighted sum of the durable goods owned by the households. I have not had access to price data which I could use to construct weights, and the weights are therefore based on casual estimates of relative value (This method was also used by La Ferrara (2002) for constructing a key asset inequality variable for a sample of Tanzanian households. For overlapping goods, my weights are roughly proportional to hers). The weights are: Pressure cooker, fan, bicycle, pressure lamp, desert cooler: 2, Radio, transistor, cassette player: 3, Watch, black and white TV: 4, Sewing machine, music system, color TV, autorickshaw, refrigerator, freezer, washing machine, camera: 5, Motor cycle, moped, telephone set: 6, Motor car: 7.

Table 2: Party affiliation and beneficiary status in a poverty alleviation program

	<i>Dependent variable: Household has BPL card</i>				
	OLS	OLS	OLS	OLS	LOGIT
Member of Pradhan's party	0.231 (6.49)***	0.136 (4.39)***	0.061 (2.74)***	0.061 (2.74)***	0.379 (2.43)**
Member of other party		0.058 (2.55)**	0.017 (0.95)	0.018 (0.94)	0.09 (0.64)
Family political history		-0.048 (2.38)**	-0.037 (1.94)*	-0.039 (1.99)**	-0.421 (1.85)*
Scheduled caste/scheduled tribe		0.141 (5.09)***	0.113 (6.29)***	0.112 (5.76)***	1.14 (6.32)***
Education of head in years		-0.001 -0.41	-0.003 (2.05)**	-0.004 (2.94)***	-0.032 (2.07)**
Agricultural land owned, acres		-0.001 -0.99	-0.002 (1.88)*	-0.002 (2.33)**	-0.166 (4.75)***
Household size		0.006 (2.30)**	0.009 (3.71)***	0.008 (3.29)***	0.094 (4.01)***
Age of head		0.001 (1.51)	0.001 (1.71)*	0.001 (1.35)	0.009 (2.24)**
Dependency ratio		-0.094 (4.00)***	-0.100 (4.76)***	-0.093 (4.48)***	-0.880 (4.27)***
Index of durable goods ownership		-0.003 (4.66)***	-0.003 (6.24)***	-0.003 (6.02)***	-0.023 (4.12)***
Female household head		0.057 (2.54)**	0.045 (1.95)*	0.04 (1.66)*	0.438 (1.49)
Head never married		0.034 (0.72)	0.045 (1.00)	0.018 (0.38)	0.316 (0.91)
Head divorced or separated		-0.009 (0.13)	-0.004 (0.05)	0.003 (0.03)	-0.403 (0.58)
Head widowed		-0.06 (2.55)**	-0.043 (1.92)*	-0.038 (1.67)*	-0.473 (1.64)
<i>Main source of income (rfc: selfemployed in agric.)</i>					
Agricultural labor		0.048 (2.42)**	0.057 (3.51)***	0.052 (3.14)***	0.41 (2.37)**
Casual labor		0.12 (4.94)***	0.135 (6.65)***	0.134 (6.60)***	0.741 (4.43)***
Permanent wage labor		-0.057 (2.53)**	-0.037 (1.79)*	-0.034 -1.62	-0.575 (2.25)**
Non-agricultural enterprise		0.054 (1.79)*	0.057 (2.24)**	0.057 (2.20)**	0.368 (1.60)
Rents, pensions, remittances etc.		-0.027 (0.70)	-0.013 (0.37)	-0.003 (0.08)	-0.147 (0.35)
Other		0.034 (0.93)	0.023 (0.86)	0.02 (0.74)	0.08 (0.28)
Same religion as Pradhan				0.042 (2.20)**	0.263 (1.66)*
Same caste-group as Pradhan				0.009 (0.45)	0.302 (1.63)
Same mother tongue as Pradhan				-0.014 (0.99)	-0.192 (1.38)
Same village as Pradhan				0.005 (0.37)	0.014 (0.09)
Constant	0.184 (13.15)***	0.119 (3.67)***	0.136 (5.41)***	0.105 (3.03)***	0.006 -0.01
Fixed effects	None	District	GP	GP	GP
Observations	5,180	5,140	5,140	4,860	4,208
R-squared	0.04	0.22	0.36	0.36	

t statistics in parentheses. Standard errors are adjusted for clustering at the village level.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Determinants of party capture
(*Land gini as measure of inequality*)

	Dependent variable: Household has BPL card				
	OLS	OLS	OLS	OLS	LOGIT
Member of Pradhan's party	-0.229 (2.84)***	0.043 (0.67)	0.040 (0.68)	-0.208 (2.53)**	-0.848 (1.34)
Member of Pradhan's party*Land gini	0.568 (4.23)***			0.690 (4.04)***	4.000 (4.04)***
GP land gini	-0.225 (2.61)***			-0.257 (2.92)***	-2.170 (3.07)***
Member of Pradhan's party*GP education level		0.026 (1.60)		-0.009 (0.38)	-0.233 (1.20)
GP education level		0.012 (0.85)		0.02 (1.21)	0.215 (1.45)
Member of Pradhan's party*GP dur. good index			0.008 (1.82)*	-0.005 (0.68)	-0.006 (0.14)
GP durable goods index			0.001 (0.34)	-0.001 (0.15)	-0.029 (0.76)
Constant	0.248 (3.94)***	0.083 -1.35	0.108 (1.81)*	0.211 (2.85)***	-0.093 -0.16
Control variables as in table 2, col. 4	Yes	Yes	Yes	Yes	Yes
Fixed effects	District	District	District	District	District
Observations	4,860	4,860	4,860	4,860	4,860
R-squared	0.24	0.23	0.23	0.24	

t statistics in parentheses. Standard errors are adjusted for clustering at the village level.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Determinants of party capture
(*Landlessness as measure of inequality*)

	Dependent variable: Household has BPL card		
	OLS	OLS	LOGIT
Member of Pradhan's party	-0.038 (0.97)	0.022 (0.35)	0.446 (0.82)
Member of Pradhan's party*GP landlessness	0.430 (4.34)***	0.494 (4.02)***	2.641 (3.85)***
GP landlessness	-0.189 (2.76)***	-0.209 (2.98)***	-1.689 (3.10)***
Member of Pradhan's party*GP education level		-0.016 (0.64)	-0.245 (1.26)
GP education level		0.021 (1.30)	0.22 (1.51)
Member of Pradhan's party*GP dur. good index		-0.002 (0.29)	0.013 (0.32)
GP durable goods index		-0.001 (0.20)	-0.029 (0.77)
Constant	0.168 (3.99)***	0.117 (1.90)*	-0.857 (1.63)
Control variables as in table 2, col. 4	Yes	Yes	Yes
Fixed effects	District	District	District
Observations	4,860	4,860	4,860
R-squared	0.24	0.24	

t statistics in parentheses. Standard errors are adjusted for clustering at the village level.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Party capture and inequality - IV estimation

	<i>Dependent variable: Household has BPL card</i>	
	IV	IV
Member of Pradhan's party	-0.106 (0.92)	0.034 (0.65)
Member of Pradhan's party*Land gini	0.370 (2.00)**	
GP land gini	-0.092 (0.30)	
Member of Pradhan's party*GP landlessness		0.247 (1.89)*
GP landlessness		-0.008 (0.04)
Control variables	As in table 3	As in table 4
Fixed effects	District	District
Observations	4,720	4,720
Hansen J test of instrument exogeneity (p-value)	0.310	0.304
<i>Tests of instrument relevance</i>		
Partial R-sq of excluded variables in first stage		
Land gini/landlessness	0.120	0.161
Interaction terms	0.551	0.587
Shea partial R-sq of excluded variables in first stage regressions:		
Land gini/landlessness	0.106	0.141
Interaction terms	0.489	0.515
F-test of excluded variables in first stage regressions:		
Land gini/landlessness	9.1	13.0
Interaction terms	40.7	57.0

t statistics in parentheses. Standard errors are adjusted for clustering at the village level.

* significant at 10%; ** significant at 5%; *** significant at 1%

Land gini and landlessness are instrumented by the share of male cultivators and livestock farmers in all male workers in 1991, and the share of female cultivators and livestock farmers in all female workers in 1991. The interactions between membership of the Pradhans party and land gini/landlessness are instrumented by interactions between membership of the Pradhans party and the share of cultivators and livestock farmers in all workers (male and female).

Table 6: Party affiliation, inequality and tax-payer status

	<i>Dependent variable: Household paid tax to GP in last 12 months.</i>				
	OLS	OLS	OLS	OLS	LOGIT
Member of Pradhan's party	-0.148 (4.46)***	-0.043 (1.48)	0.120 (1.30)	0.133 (1.59)	0.728 (1.61)
Member of Pradhan's party*Land gini			-0.234 (1.57)	-0.184 (1.35)	-0.998 (1.40)
GP land gini			-0.164 (1.97)*	-0.013 (0.13)	-0.126 (0.22)
Member of other party		-0.031 (1.38)	-0.021 (0.99)	-0.004 (0.19)	-0.043 (0.37)
Family political history		-0.007 (0.26)	-0.009 (0.35)	-0.010 (0.38)	-0.082 (0.52)
Scheduled caste/scheduled tribe		-0.032 (1.33)	-0.031 (1.29)	-0.04 (1.71)*	-0.16 (1.28)
Education of head in years		0.004 (1.97)*	0.005 (2.24)**	0.004 (2.12)**	0.02 (1.66)*
Agricultural land owned, acres		-0.005 (2.48)**	-0.005 (2.73)***	-0.002 (1.26)	-0.014 (1.40)
Household size		0.008 (2.67)***	0.008 (2.41)**	0.007 (2.43)**	0.042 (2.16)**
Age of head		0.001 (1.94)*	0.001 (2.25)**	0.001 (2.50)**	0.007 (2.21)**
Dependency ratio		-0.025 (0.86)	-0.029 (1.01)	-0.035 (1.22)	-0.193 (1.16)
Index of durable goods ownership		0.005 (6.32)***	0.005 (6.40)***	0.005 (5.94)***	0.038 (7.16)***
Female household head		0.03 (1.13)	0.031 (1.14)	0.025 (0.95)	0.146 (1.00)
Head never married		0.044 (0.77)	0.041 (0.74)	0.036 (0.65)	0.228 (0.70)
Head divorced or separated		-0.132 (1.32)	-0.122 (1.21)	-0.094 (0.91)	-0.404 (0.84)
Head widowed		-0.035 (1.26)	-0.033 (1.17)	-0.03 (1.09)	-0.166 (1.09)
<i>Main source of income (rfc: selfemployed in agric.)</i>					
Agricultural labor		-0.04 (1.98)**	-0.03 (1.51)	-0.036 (1.82)*	-0.19 (1.64)
Casual labor		-0.062 (2.47)**	-0.054 (2.20)**	-0.058 (2.50)**	-0.293 (2.28)**
Permanent wage labor		-0.052 (2.07)**	-0.045 (1.81)*	-0.031 (1.27)	-0.226 (1.45)
Non-agricultural enterprise		-0.036 (1.31)	-0.026 (0.97)	-0.013 (0.51)	-0.1 (0.61)
Rents, pensions, remittances etc.		-0.002 (0.05)	0.001 (0.03)	0.011 (0.30)	0.1 (0.36)
Other		-0.017 (0.55)	-0.004 (0.12)	0.014 (0.45)	0.077 (0.39)
Same religion as Pradhan		-0.025 (0.97)	-0.016 (0.61)	-0.016 (0.64)	-0.089 (0.62)
Same caste-group as Pradhan		0.03 (1.24)	0.029 (1.24)	0.021 (0.94)	0.124 (1.02)
Same mother tongue as Pradhan		0.096 (4.99)***	0.085 (4.67)***	0.064 (3.74)***	0.348 (3.65)***
Same village as Pradhan		-0.017 (0.69)	-0.013 (0.51)	-0.014 (0.57)	-0.08 (0.59)
Constant	0.714 (50.73)***	0.538 (10.70)***	0.623 (9.73)***	0.539 (7.56)***	-1.393 (2.82)***
Fixed effects	None	State	State	District	District
Observations	5,180	4,860	4,860	4,860	4,860
R-squared	0.01	0.17	0.17	0.19	

t statistics in parentheses. Standard errors are adjusted for clustering at the village level.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7: Party affiliation, inequality and amount of tax paid

	<i>Dependent variable: Amount of tax paid to GP in last 12 months.</i>			
	TOBIT	TOBIT	TOBIT	TOBIT
Member of Pradhan's party	-24.593 (3.30)***	1.735 (0.22)	10.402 (0.34)	4.987 (0.16)
Member of Pradhan's party*Land gini			-12.450 (0.29)	0.379 (0.01)
GP land gini			0.706 -0.03	25.140 -1.02
Member of other party		-2.433 (0.32)	-2.347 (0.31)	-2.67 (0.35)
Family political history		-1.326 (0.12)	-1.350 (0.12)	-1.758 (0.16)
Scheduled caste/scheduled tribe		-8.142 -1.08	-8.192 -1.09	-11.854 -1.56
Education of head in years		2.146 (2.84)***	2.15 (2.84)***	2.257 (2.98)***
Agricultural land owned, acres		0.386 (0.60)	0.382 (0.59)	1.03 (1.52)
Household size		-1.31 -1.05	-1.326 -1.06	-1.177 -0.93
Age of head		0.482 (2.18)**	0.484 (2.18)**	0.488 (2.20)**
Dependency ratio		12.795 (1.03)	12.768 (1.03)	9.648 (0.77)
Index of durable goods ownership		3.235 (14.10)***	3.237 (14.06)***	3.093 (13.04)***
Female household head		17.298 (1.36)	17.402 (1.36)	17.63 (1.38)
Head never married		35.311 (1.68)*	35.286 (1.68)*	33.976 (1.62)
Head divorced or separated		-53.175 (1.52)	-53.191 (1.52)	-54.244 (1.55)
Head widowed		-23.984 (1.93)*	-24.062 (1.94)*	-24.094 (1.94)*
<i>Main source of income (rfc: selfemployed in agric.)</i>				
Agricultural labor		-9.841 (1.32)	-9.704 (1.29)	-8.655 (1.15)
Casual labor		-37.117 (4.54)***	-37.043 (4.50)***	-36.478 (4.36)***
Permanent wage labor		-3.937 (0.37)	-3.933 (0.37)	-0.802 (0.07)
Non-agricultural enterprise		-0.232 (0.02)	-0.118 (0.01)	3.665 (0.33)
Rents, pensions, remittances etc.		-15.807 (0.92)	-15.778 (0.92)	-11.93 (0.69)
Other		-23.087 (1.69)*	-22.912 (1.67)*	-18.493 (1.34)
Same religion as Pradhan		-30.569 (4.28)***	-30.458 (4.24)***	-30.052 (4.17)***
Same caste-group as Pradhan		7.889 (1.24)	7.869 (1.24)	5.712 (0.89)
Same mother tongue as Pradhan		28.322 (5.01)***	28.144 (4.91)***	25.245 (4.37)***
Same village as Pradhan		-0.336 (0.06)	-0.306 (0.05)	1.5 (0.26)
Constant	3.148 (1.08)	-177.233 (9.05)***	-178.654 (8.03)***	-183.439 (7.61)***
Fixed effects	None	State	State	District
Observations	4,224	3,965	3,965	3,965

Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%