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The Diminishing Effect of Democracy in Diverse Societies.*

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Abstract

We propose a theoretical framework and present empirical evidence to analyze how democracy aggregates preferences when these differ both within and across wealth classes. We show that when politicians belonging to different groups can form coalitions, the wealthy elites' influence on policy choices endogenously increases with the diversity in preferences among the poor. In line with the theoretical predictions, the pattern of public good provision and income transfer policies by local governments in Indonesia reveals that when individuals have different preferences –here due to different ethnicity– democratic policy outcomes reflect the preferences of the elites and of the ethnic minority, rather than the preferences of the poor majority.

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1 Introduction

Democracy is generally deemed to be good for the poor. Compared to oligarchic societies, where an elite group of citizens has the final say on policy choices, democratic societies give all citizens voice. Since the elites are few while the poor are many, common wisdom suggests that, compared to oligarchy, democracy will lead to the choice of policies that are closer to the preferences of the poor majority.

The comparison, however, becomes less straightforward when citizens' preferences for public policies differ along dimensions other than those deriving from differences in wealth. Examples include differences due to religious beliefs, ethnic interests, geography or culture.

This paper provides a theoretical framework and empirical evidence to assess how democracies aggregate citizens' preferences when these differ along several dimensions, and whether, indeed, policies chosen in democracy necessarily reflect the preferences of the poor majority.

The theoretical framework analyzes a society made of three groups –the elites and two poor groups– whose interests clash along two dimensions, namely the extent of redistribution and preferences for public goods. Preferences over redistribution are determined, as is standard, by wealth: the poor, who are also the majority, want to redistribute more. Preferences over public goods are determined purely by taste: the two groups of poor citizens derive different utility from the same good. More specifically, we consider a majority segment of the poor (who have the same tastes over goods as the elites) and a minority segment of the poor who derive utility from some specific public good.

Society needs to determine, via a political process, the level of tax and how to redistribute tax revenues between general goods and the specific public good. We analyze a political process in which politicians form parties, parties offer platforms, and voters vote for the platform they like most. Parties' platforms have to be credible, i.e., they must belong to the Pareto set of the politicians belonging to the party. We focus on stable political outcomes, which are immune to politicians splitting their party. When coalitions are not allowed to form, the majority segment of the poor wins the election. The ideal policy of this group, which advocates maximum taxation but no provision of the specific public good, is preferred by the elites to that of the minority segment of the poor, as they can at least enjoy the benefits of general redistribution, and is also preferred by the minority segment

of the poor to that of the elites, as it allows for some redistribution. In this case, diversity, i.e., the degree to which the tastes of the poor groups diverge, has no effect on the political outcomes.

When we allow for coalitions however, a unique stable coalition can arise, composed of the elites and the minority segment of the poor. This coalition offers a compromise which both coalition members prefer, relative to the policy advocated by the majority segment of the poor. Specifically, it offers reduced burden of taxation, which is favoured by the rich elites, and targeting some of the tax revenues to the specific public good, which is favoured by the minority segment of the poor. Thus, even in a full functioning democracy, in which there is a representative of (poor) majoritarian interests, the policy vector that wins is actually supported by the rich. Note that the assumption about the conflict dividing the poor is not sufficient to generate this phenomenon, as if coalitions are not allowed to form, such compromise will not be possible.

We further analyze how the policies of this coalition are sensitive to the degree of diversity in the population, that is, to the degree to which the preferences of the two poor groups diverge. We show that as the degree of diversity increases, the policies of the coalition are more likely to resemble the preferred outcome of the elites. The effect of democracy is thus "diminishing" in the level of diversity. Intuitively, when the preferences of the poor are more diverse, it becomes easier for the rich to maintain the support of the minority of the poor and to sustain the coalition (against the dominant segment of the poor) with policies that are more to their liking.

We bring the model to the data and analyze policy outcomes by local governments in Indonesia. The key theoretical prediction is that if there is a poor minority group whose preferences differ from the poor majority's and if the minority group and the elites can form a ruling coalition, public policy outcomes reflect the preferences of both groups, rather than the preferences of the poor majority. The empirical test thus require information on preference diversity both within and across wealth classes. Two features of the Indonesian context make it unique and ideal for the purpose of our test.

First, customary "*adat*" laws create natural differences in governance structure at the smallest political unit—the village. At one end of the spectrum, there are villages in which decision making is entirely controlled by the elites; at the other end, decisions are taken democratically in community meetings. While the tastes of the elites are not observable, a

revealed preference argument indicates that outcomes in oligarchy, namely when the elites control decision making, must be preferred by the elites.

Second, Indonesia is one of the world's most ethnically diverse countries and ethnic composition varies even within small geographical areas, so that some local constituencies are ethnically homogeneous while in others the dominant ethnic group barely constitutes a majority. Given that ethnicity is often mentioned as a lead source of preference heterogeneity and ethnic diversity is a salient issue in the Indonesian context, we use the population share of the ethnic minority to proxy for the probability that the minority and the elites can form a ruling coalition.

To test whether diversity among the poor is correlated with outcomes that are closer to the preferences of the elites, we test whether the difference in the provision of a range of public goods between oligarchies and democracy is decreasing in the level of ethnic diversity in the village. To test whether policies reflect the poor minority's preferences when these can form a coalition with the elites, we use information on income transfers programs managed by the elites to test whether these are targeted to poor minority households when the coalition is more likely to form.

The analysis yields three key findings. First, we find support for the intuition that the poor majority and the rich elites have different preferences over public goods. Indeed, the difference in the level of public good provision between ethnically homogeneous democracies and oligarchies is positive for some goods, negative for others and zero for a third group. Compared to oligarchies, ethnically homogeneous democracies have more education and health facilities but devote fewer resources to public security and voluntary labor programs that redistribute resources to the elites. In contrast, the provision of utilities and infrastructure services such as electricity, piped water and sewage, is not correlated with the mode of governance.

Second, we find that when the constituency is ethnically diverse, outcomes in democracy reflect the preferences of the elites. In particular, whenever outcomes are different in democracies and oligarchies, the difference is decreasing in diversity. The impact of diversity is large in magnitude. For instance, the number of health clinics per 1000 inhabitants is 12% higher in homogeneous democracies while the difference falls to 6% at the mean minority share. Whenever we find no difference between democracy and oligarchy, ethnic diversity does not affect outcomes.

The fact that the sign of the effect of diversity differs across a range of public goods allows us to rule out alternative theoretical models that predict an unambiguously negative effect of diversity on the level of public good provision. More specifically, the fact the effect of diversity can be positive or zero contradicts the assumption that individuals dislike to contribute resources to goods that benefit members of other ethnic groups. In addition, since the effect of diversity does not depend on whether people of different groups need to consume it together –as in the case of education– or not–as in the case of health facilities– does not lend support to the assumption that diversity reduces public good provision because individuals dislike interacting with others belonging to different groups.

Third, we find that when the coalition is more likely to form, namely when governance is democratic and the population share of the minority group is high, poor minority households are more likely to receive income support transfers. In contrast, when the population share of the minority group is low, transfers are more likely to be targeted to poor majority households in democracy.

The overall pattern of findings is thus consistent with the idea that when the poor belong to groups with different preferences: (i) the elites can rule forming a coalition with the poor minority, and (ii) the coalition chooses policies that give more weight to the preferences of both groups compared to preferences of the poor majority.

This paper contributes to the two strands of the political economy literature that separately analyze the effect of democracy and the effect of diversity on public policies. The main novelty is that we model the mechanism through which democracy aggregates the preferences of groups that differ by wealth and one other dimension, and provide empirical evidence in support of this particular mechanism. Indeed, the theoretical framework yields precise testable predictions on the *interaction* between the effects of democracy and diversity, which can be used to empirically distinguish the mechanism we put forward here from alternative explanations.

We discuss the relation of our work to the existing literature in more detail in the next section. We present the model in Section 3 and provide the theoretical predictions in Section 4. The empirical analysis is in Section 5, while Section 6 concludes. The Appendix contains all omitted proofs.

2 Related Literature

Our paper bridges between two strands of the political economy literature. One strand studies the effect of political governance, namely democratic institutions versus non-democratic ones, on political outcomes. A second strand studies the effect of ethnic (or religious/geographical) diversity on policy outcomes within democracies.

Within the first strand, the theoretical paper that is closest to ours is Acemoglu and Robinson (2006). They construct a model in which citizens and elites can invest resources in order to acquire *de facto* political power in order to change economic or political institutions in their favour. The model yields the conditions under which the elites will acquire sufficient political power in democracies, so that outcomes will be similar to those in non-democracies and reflect the preferences of the elites. While their analysis leaves the mechanism through which the elites gain power unspecified, we propose a specific political process that allows the rich to be influential, namely a process that results in a coalition between the elites and a segment of the poor.

Empirically, cross-country variation in governance systems has been exploited to analyze the effect of democracy and the balance of evidence so far indicates that democracies and non-democracies look remarkably similar on a large set of public policies (Mulligan et al 2004).¹ We complement this literature by exploiting variation across small political units, which has the key advantage of allowing us to control for unobservable heterogeneity at the national and sub-national level. In addition, informed by the theory, we allow the effect of democracy to be heterogeneous as a function of diversity. To the extent that national and local democracies can be compared, the cross-country evidence is in line with the findings in this paper, as we find that the effect of democracy is heterogeneous as a function of diversity, and it is not significantly different from zero, on average.

The second strand contains numerous theoretical and empirical contributions, and for this reason we direct the interested reader to the comprehensive review by Alesina and La Ferrara (2005). For the purpose of this section, it is key to note that theoretical contributions highlight three reasons for why diversity should enter preferences and through this reduce the provision of public goods: (i) that individuals belonging to different groups have different

¹See also Przeworski and Limongi (1993) and Barro (1997) for an analysis of the effect of democracy on growth, Rodrik (1999) on wages, Persson and Tabellini (2006) on political regimes and growth, and Besley and Kudamatsu (2006) and Kudamatsu (2007) on health outcomes.

tastes for public policies, (ii) that individuals do not internalize, or put a negative weight, on the consumption by other groups and (iii) that individuals of different groups do not like to consume public goods together. Empirically, the effect of diversity on policy outcomes has been identified using cross-country variation, cross-city variation within the US and communities in developing countries.

We complement this literature by proposing a model in which preferences differ both along ethnic and wealth lines and this determines whether outcomes in democracy reflect the preferences of the poor majority. Empirically, we are able to benchmark our predictions against alternative models'. As discussed in Section 5.3.4, our findings are consistent with the assumption of ethnic diversity determining the taste for public goods as opposed to assumptions (ii) and (iii) above. In addition the findings do not support models that predict an unambiguously negative effect of diversity on public good provision, rather the effect of diversity is to make outcomes reflect the preferences of the elites, implying that the provision of some goods might increase. To the best of our knowledge, only Collier (2000) analyzes the interaction between diversity and governance, but he focuses on its effects on growth rather than public policies.

Finally, our paper contributes to the political economy theoretical literature that studies the effect of preference disagreement along more than one dimension. Roemer (1998) was the first to formalize the effect of a second and salient conflict on redistribution. He shows that the existence of another salient non-economic issue (e.g. religion) can allow the rich not to be expropriated by the poor.² We show that similar results arise even if the polity is divided on economic issues only.³ Esteban and Ray (1999) show that coalitions are likely to form across income classes but within ethnic groups, whereas we find that coalitions are formed across both class and ethnic (or any other minority) groups. They show that, in the production of conflicts, ethnic coalitions can take advantage of synergies arising from economic inequality.⁴ While they focus on modelling a conflict, we consider a

²See also Lee and Roemer (2005). The idea that preferences differ along at least one dimension in addition to redistribution is not new. Political scientists have used the "second dimension" argument to justify the finding that some poor voters vote against their economic interests, for instance in the US poor voters with conservative values vote for the Republican party (Huber and Stanig 2007).

³See also Austen-Smith and Wallerstein (2003).

⁴Llavador and Oxoby (2005) also consider how some rich groups benefit from extending the franchise and aligning with poorer individuals to pursue their specific interests (that is, on issues other than general redistribution).

peaceful political process in which no such synergies arise.

In a similar model to ours, Levy (2005) considers a two-dimensional conflict, in which society is split according to income and according to preferences over education. While that paper considers two-dimensional conflict, it does not analyze the effect of changes in diversity on the power of the poor versus the elites, as we do here.

The most related theoretical framework to ours is Fernandez and Levy (2005), who study how diversity among the poor affects redistribution. That paper is complementary to ours in two ways. First, it analyzes public goods for which there is congestion in their consumption. Second, it analyzes the effect of changing the degree of social fragmentation, namely the number of groups in society. In contrast, here we analyze the effect of changes in the diversity of preferences among a fixed number of groups.

3 The Model

We begin with an overview of the model. The model contains a description of the economic environment, and of a political process which determines how voters' preferences are aggregated towards a collective choice. We keep the economic environment as simple as possible to highlight the features of the political process. The qualitative results are robust to variations to the main assumptions as discussed below.

There are two levels of income, that of the rich and that of the poor. The poor however are further split into two groups according to their preferences (similar results hold if the rich are split into two such groups as well); specifically, we consider the dominant or the majority poor group, and a minority poor group that also enjoys utility from some specific public good. This division can arise from ethnic or religious diversity, or due to geographical differences.

The political process must yield a decision regarding a proportional tax rate, and how the tax gains are divided between income redistribution (or some general public good that the whole population enjoys) and the specific public good which only the minority group enjoys. We model this process by adopting the political parties model as in Levy (2004). In this model, the different groups in society are represented by politicians, who care about the implemented policy. The politicians belong to parties, which can offer platforms to voters. The platforms must be credible, i.e., they must belong to the Pareto set of the party. Voters

then vote for the platform they prefer, and the political outcome is the platform which gains the highest number of votes. Parties are endogenous in the model in the sense that we identify the array of political parties and outcomes such that no politician, or a group of politicians, wishes to quit her party and thereby induce a different political outcome. The prediction of the model is the set of the stable political outcomes with endogenous parties.

We now turn to describe the model in more detail.

3.1 The Economic Environment

There are three groups of agents in the economy, distinguished by their income and according to their preferences for some specific good. In particular, groups R (with income y_r) and P (with income y_p) care only about income (or some general public good), whereas group E (with income y_p) cares about income and about some specific public good, e . To make the analysis interesting, we assume that neither group, R , E or P , constitutes a majority in the population. We make no additional assumption about the sizes of these groups, i.e, either of them can be the largest group in the population.

In this society, the rich R are a minority in the population in terms of their income, whereas group E is a minority in terms of its preferences over goods. Thus, we will sometimes describe P as the dominant poor group or as the majority poor group, whereas we refer to E as the minority poor group.

Society can impose tax t on income, where tax revenues can be spent on income redistribution (or some general public good) T , and on the specific public good e which only group E enjoys. The preferences over t, T and e are therefore:

$$\begin{aligned} U_P(t, T, e) &= y_p(1 - t) + T \\ U_R(t, T, e) &= y_r(1 - t) + T \\ U_E(t, T, e) &= y_p(1 - t) + T + kv(e) \end{aligned}$$

where $v(e)$ is a concave function with the usual assumption, and $k \geq 0$.⁵ The parameter $k \in [0, \infty)$ is what we will refer to as the degree of diversity, as it represents how divided

⁵Our results are maintained if one assumes that the minority poor group has a linear utility function or a utility function that is concave in both income and the special good. Alternatively, we can assume that instead of income, there is a good that the majority enjoys and that the utility of R and P is not linear in this good but concave.

are P and E in their preferences. A higher degree of k implies that the ideal policies of P and E will differ more, everything else equal. The budget constraint in the economy is

$$tNy = NT + e$$

where N is the number of agents and y is average income.

We can characterize the ideal policies and indifference curves of the different groups in society, in the policy space (t, e) . R and P are indifferent between all policies that provide them with the same income. This implies, for $y_i \in \{y_p, y_r\}$:

$$y_i + t(y - y_i) - \frac{e}{N} = \text{const} \rightarrow \frac{\Delta e}{\Delta t} = N(y - y_i).$$

The indifference curves of R and P are linear, with a positive slope for the poor and a negative slope for the rich.

The ideal policy of P is at $(t = 1, e = 0)$, i.e., a policy of full taxation and rebating it all via income redistribution, whereas that of the rich is at $(0, 0)$, a policy of no taxation. The indifference curve of E is defined by:

$$y_p + t(y - y_p) - \frac{e}{N} + kv(e) = \text{const} \rightarrow \frac{\Delta e}{\Delta t} = \frac{y - y_p}{1/N - kv'(e)}$$

The indifference curves are therefore concave, with an ideal policy at $t = 1$ and e^* that solves $1/N = kv'(e)$. The indifference curves for R and P and E are illustrated in Figure 1.

3.2 The Political Process

The economic model has constructed a society with three groups of citizens who are divided on two dimensions, whether they enjoy e or not, and their income. The political process translates their economic preferences into a policy outcome, namely the size of the local government (t) and whether to redistribute income to all or the specific good to E . We adopt a simplified version of the political model of parties introduced in Levy (2004). A more detailed and formal description is provided there.

The main assumption about parties in this model is that each party can only offer credible policies, that is, policies in the Pareto set of its members. Thus, when a politician runs as an individual candidate he can only offer his ideal policy, as in the ‘citizen candidate’ model.⁶ On the other hand, when heterogeneous politicians join together in a party, their

⁶See Besley and Coate (1997) and Osborne and Slivinski (1996).

Pareto set is larger than the set of their ideal policies. For example, the party of R and P can offer all policies with $e = 0$ and different tax rates, $t \in [0, 1]$. The party of P and E can offer $t = 1$ and some level of e ranging from 0 to e^* , and so on. The assumption about parties captures the idea that parties allow different factions to reach (efficient) internal compromises.⁷

Assume therefore that there are three politicians participating in the political process, each representing a different group of voters. In other words, politician i has the preferences of group $i \in \{R, P, E\}$. Consider a partition on the set of politicians. For example, $R|P|E$ is the partition in which each politician can only run as an individual candidate, and the partition $PE|R$ is such that P and E join together. Suppose for now that the partition of politicians into parties is given.

In an election, all parties (including one member parties) in this given partition simultaneously choose whether to offer a platform and if so, which platform in their Pareto set to offer. Voters (the whole population) then vote for the platform they like most (if they are indifferent between several platforms, they cast their vote on each of these platforms with an equal probability). The election's outcome is the platform which receives the largest number of votes (if winning platforms tie then each is chosen with equal probability). If no policy is offered, a default status quo is implemented. For simplicity, assume that the status quo is a situation of "chaos" which is worse for all players than any other outcome.⁸ In addition assume the following tie-breaking rule: In equilibrium a party does not offer some platform if, given the other platforms that are offered, all party members are indifferent between offering this platform and not running at all.

In this given partition, a set of platforms is an equilibrium if given the other platforms, no party can change its action (by withdrawing, offering another platform, or joining the race) and improve the utility of all its members.⁹

Generically, given a set of platforms, there is only one platform that will receive the

⁷The assumption about heterogenous parties relies on the idea that it is relatively easy for a small group of politicians to monitor one another. The public can then trust promises which represent internal compromises in the party. See also Ray and Vohra [1997] who analyze a general model in which agreements within coalitions are binding, as here.

⁸Alternatively one can assume that the status quo is simply the policy of no redistribution, i.e., a 'government shut-down', and the analysis would be exactly the same.

⁹For a general definition of equilibria and proof of existence see Levy [2004].

largest number of votes. As we show in the proofs, this together with the tie-breaking rule and the structure of preferences implies that only one platform is actually offered in equilibrium and obviously it wins. Thus, for any fixed partition we can find the set of such *equilibrium winning platforms*. Each such platform belongs to the Pareto set of one of the parties and there is no other party which can win against it while increasing the utility of all its members.

Finally, we focus on stable political outcomes, namely, equilibrium winning platforms which are immune to politicians changing their party membership. Consider a politician or group of politicians who split from their party, while the rest of the representatives maintain their party membership. In this new partition, a new set of equilibrium winning platforms can arise. A *stable political outcome* is an equilibrium winning platform such that no politician (or a group of politicians) can break their party and receive a (weakly) higher utility from some equilibrium winning platform in the new partition.¹⁰ Parties are therefore endogenous in the model in the sense that we identify the array of political parties and political outcomes such that no group of politicians wish to quit their party. The prediction of the model is then the set of stable political outcomes with endogenous parties.

4 Diversity and the power of the rich

Our analysis of the model proceeds as follows. We first characterize the set of stable political outcomes and show that there are two such outcomes; either P wins the election with the policy ($t = 1, e = 0$), or a coalition of R and E forms and wins the election with policies characterized by $t < 1$ and $e > 0$. Such a coalition always provides the coalition members R and E a higher utility than when P wins the election. We will then focus on the winning policies of this coalition and show how these change with the degree of diversity k .

4.1 Stable political outcomes

The first important observation is that when no coalitions form, then the (only) stable outcome is that P runs alone and wins the election. To see why this is the only possible outcome, note that when no coalitions form, each politician, E , R and P , can only offer

¹⁰The stability requirement allows for politicians to deviate only by splitting their party and not by forming new parties. The reason is that if one allows for too many types of deviation in a multidimensional policy space, it might be that no partition is stable.

his ideal policy. However, both R and E prefer the ideal policy of P to that of the other group; given $t = 1$, R prefers that the tax revenues will be redistributed via income, and given $e = 0$, E prefers income redistribution to none at all. P will therefore win against any other politician in a two-way race. Moreover, if all three politicians will choose to run, then the largest group will win. But if E for example is the largest group, then R is better off dropping from the race and allowing his voters to switch their vote to P , which is better for the rich. Similarly, E should drop from the race if R is the largest group.

Thus, for any distribution of preferences in the population (as long as no group has a majority), it is the case that P wins the election if no parties form. This follows the common wisdom that in democracy policies are chosen according to the preferences of the majority, as P represents the majoritarian interests in this economy either in terms of income, or in terms of preferences. However, there are also incentives for endogenous coalitions to form, as characterized by Proposition 1 (the formal proof is in the appendix):

PROPOSITION 1 With endogenous political parties, there is a unique stable coalition RE . The winning policies of this coalition are characterized by $t < 1$ and $e > 0$.

In the unique stable coalition, both minority groups, the rich and the poor minority, can join forces together and win against the representative of majoritarian interests, P . To see first why this is the unique stable coalition, note that any other coalition must include P . If the coalition is composed of P and E or of P and R , then P has an incentive to split the party, which will result in the equilibrium in which, as described above, he wins by himself and gets to implement his ideal policy.¹¹ It is the inability of P to commit to stay in the coalition (no matter what policy the coalition offers to implement) which renders these coalitions unstable.

Consider then the RE coalition. To win, they must offer policies on their Pareto set. Their Pareto set does not however include the ideal policy of P , i.e., there are policies that both the rich and the minority poor prefer to the ideal policy of P . For example, faced with the "threat" of full taxation, the rich are willing to provide some of the specific good if the total burden of tax is sufficiently reduced and the minority poor are also better off with this policy as they prefer some provision of e to none at all. This implies that RE can win the

¹¹The grand coalition RPE is also not stable as either P or RE have incentives to split, as shown in the appendix.

election against P with one of these policies, and that neither R nor E has an interest in splitting the party, as the resulting outcome (the ideal policy of P), will be worse. Figure 2 describes the winning policies of the RE coalition; these policies are on the Pareto set of R and E and are better for both than the ideal policy of P .¹²

The resulting equilibrium outcomes represent therefore another explanation to the observation that “the poor do not expropriate the rich”.¹³ Although the poor are a majority, the rich manage to take advantage of the diversity of preferences among the poor in their favour. They compromise by providing the minority poor their specific good, but in return pay lower taxes.¹⁴

4.2 The effect of diversity

We now focus on the coalition characterized by Proposition 1 and analyze how the equilibrium outcomes are sensitive to the diversity parameter k . To do so, consider some set of policies, S , with an element $s = \{t^s, e^s\}$. The definition below provides a comparison between different sets of policies, S and S' :

DEFINITION 1 (i) A set of policies S is characterized by higher values of t (e) than a set S' if for any $s' \in S'$, there exists an $s \in S$ such that $t^s > t^{s'}$ ($e^s > e^{s'}$), but there is no policy $s \in S$ such that $t^s < t^{s'}$ ($e^s < e^{s'}$) for all s' ; (ii) A set of policies S is more favorable to i than S' if for any $s' \in S'$ there exists an $s \in S$ such that $s \succ_i s'$ but there is no policy $s \in S$ such that $s \prec_i s'$ for all $s' \in S'$.

PROPOSITION 2 *When k increases, the set of equilibrium policies is characterized by lower values of t , higher values of e , and is more favorable to R .*¹⁵

¹²That the Pareto set of R and E contains policies with a fixed level of e follows from the simple quasi-linear utility of E , but the results of Proposition 1 and Proposition 2 do not depend on this assumption.

¹³See also Roemer (1998), Levy (2004, 2005) and Fernandez and Levy (2005).

¹⁴Note that accounting for a fourth group, in particular, a rich ethnic group, will not alter our results. The ideal policy of such a group would consist of some positive tax rate but also targeting all tax revenues to the special ethnic good. This means that the coalition of RE can still win the election with all policies as above, as they will be granted also the votes of the rich ethnic group members. In addition, it might be that both the rich and the poor segments of the minority can form a winning coalition, if their Pareto set will include policies that can attract R and provide R with a higher utility than the ideal policy of P . The qualitative results of Proposition 2 will also remain unchanged.

¹⁵The formal proof is in the appendix.

Recall that the equilibrium outcomes of the winning coalition satisfy two types of conditions. First, they are on the Pareto set of RE . Second, they provide both R and E with a higher utility than the ideal policy of P . An increase in k will change the indifference curve of E and thus increase the level of e in the Pareto set of RE . Furthermore, as a result of the increases in k , the indifference curve of E which goes through the ideal policy of P shifts, so that it associates a lower level of t given the same level of e . Both these changes imply that the new set of winning policies is characterized by a higher level of e and, in line with Definition 1, lower levels of t . Moreover, the new set of policies, following an increase in k , is more favorable to the rich. As can be seen in Figure 3, the new set of winning policies intersects either with indifference curves of R that also pass through the old set of winning policies, or with indifference curves of R that are associated with a higher utility for the rich (note that k has no direct effect on the utility of R).¹⁶

Thus, when diversity increases, there is a higher likelihood that the provision of public goods decreases, and its allocation between specific public goods and general public goods shifts towards the specific goods. Intuitively, when the minority poor place a higher weight on their own specific good, it becomes easier for the rich to maintain their support and include them in the coalition. When k increases, even policies with lower level of public good provision are better for E relative to the ideal policy of P , which is the political outcome that would arise if the coalition will not be sustained.

Our model predicts therefore that the higher is the diversity level in society, the more likely it is that political outcomes are associated with policies preferred by the rich.¹⁷ Another way to see this, is to fix the bargaining process in the RE coalition (as such a process is unlikely to change with k). Given a process which gives some bargaining power to R and

¹⁶It is easy to see that an increase in k will also result in a lower utility for P , as the level of the ethnic good increases and the tax level may only decrease. Thus, the majority of the poor will suffer a utility loss with an increase in diversity. As for the ethnic group, its utility obviously increases with an increase in k , but as k enters directly the utility function, this exercise is not very meaningful.

¹⁷In the theoretical model we analyze specific redistribution in the form of public goods. In some environments, redistribution might take place in the form of private goods, such as individually targeted income transfers. Alternatively, at some level of provision of public good, congestion may be important so that the public good essentially becomes a private good. In these cases the size of the E group matters, and a countervailing effect may occur if an increase in k is coupled with an increase in the share of the E group in the population (as more of the specific good will need to be provided in order to gain the support of the E voters). Our results are qualitatively unchanged as long as the congestion effect does not dominate.

some to E (for example, chooses a policy on the Pareto set which is equally distant from the reservation utility of each), an increase in k implies a policy which unambiguously provides the rich with a higher utility than before. Note also that as k grows very large, the set of feasible policies on the Pareto set converges to policies with $T = 0$ and includes policies with t close to 0. In these cases, the democratic process allows for an "elite capture", or in other words, can yield political outcomes that are very similar to those that would be chosen by the elites if they had full control, as in some autocratic regimes.¹⁸

While other papers investigating the effect of ethnic diversity in democracies have also concluded that greater diversity may result in a lower provision of public goods, our analysis allows us to derive more tight or specific predictions. In particular, it allows us to conclude that when diversity increases, political outcomes are more likely to agree with outcomes favoured by the rich elites, and hence that political outcomes in democracies will be similar to those in non-democracies. Moreover, it allows us to conclude that the composition of public goods changes, as it becomes more tilted towards the special interest groups, when diversity increases. It is these more specific predictions that we will test in the next Section.

5 Application: Democracy, Diversity and Local Government Outcomes in Indonesia

This section illustrates the theoretical predictions with evidence on Indonesian local governments' outcomes at the smallest political level: the village. The key prediction is that the effectiveness of democracy in fostering the interests of the poor depends on how heterogeneous their preferences are. As the preferences of the poor get more diverse, the elites and the poor minority might be able to form a ruling coalition, and when this happens,

¹⁸Due to the quasi-linear nature of the simple utility functions that we have analyzed, our model is not equipped to analyze the effect of a change in income inequality. A mean-preserving spread increase (that is, keep the average income fixed but increase y_r and decrease y_p for example), changes the policies chosen by the winning coalition of R and E (specifically, they will be characterized by a higher tax level), but has no welfare effects as the new set of equilibrium policies will adapt to maintain the same level of utility for all groups, as in the old set of policies. Our model was designed to explore the issues arising from diversity of preferences and to this end, we have kept it as simple and as robust as possible. It seems reasonable that if one alters the quasi-linear and linear utility functions, then it will be possible to derive predictions about the effects of income inequality although these might depend on the particular assumptions about the utility functions.

the preferences of both groups are given larger weight when determining public policies outcomes.

The empirical test then requires variation in the extent of preference diversity within society and information on the preferences of the elites, the poor minority and the poor majority. The Indonesian context is unique and ideal for this purpose for two reasons. First, Indonesia is one of the world's most ethnically diverse countries, counting seven hundred living languages and over one thousand different ethnic groups (Population Census 2000). Importantly for our analysis, ethnicity is often seen as a key source of difference for preferences over public goods (Alesina et al 1999, Esteban and Ray 1999, Fernandez and Levy 2005). The fact that ethnic composition varies across villages even within the same district provides the required variation in preference diversity.

Second, customary *adat* laws create natural differences in the extent of village democracy, so that in some villages decision making is entirely controlled by the elites while in others decisions are taken democratically in village meetings. This variation can be used to measure the preferences of the elites. Indeed, while the tastes of the elites are not observable, a revealed preference argument indicates that outcomes in oligarchy, namely when the elites control decision making, must be preferred by the elites. To test whether diversity among the poor is correlated with outcomes that are closer to the preferences of the elites, we can then test whether the difference in the provision of a range of public goods between oligarchies and democracy is decreasing in the level of ethnic diversity in the village.

The second theoretical implication, that the policies of the coalition take into account the preferences of the minorities cannot be tested using the same strategy since minorities do not control decision making under any governance structure. While we do not observe the minority groups' taste for different public goods, we can use information on income transfers programs managed by the elites to test whether these favor minority groups.

In both cases, our identification exploits observed cross-village variation in governance and ethnic diversity. As the source of variation is not random, we acknowledge that it is difficult to identify the causal effects of governance and diversity because of omitted unobservables correlated to both these and the outcomes of interest. Compared to cross-country, or even cross-state analyses, however, we can control for unobservable heterogeneity at the smallest possible political and administrative unit—the district. This increases our confidence that the estimates do not capture a wide range of correlated unobservables that

vary across district, although obviously we cannot assess the importance of unobservables that vary across villages within a district.

We discuss the Indonesian context and the main sources of variation in Section 5.1. Section 5.2 describes the data. Section 5.3 presents the results on the provision of local public goods. Section 5.4 presents the results on income transfers.

5.1 Context

In Indonesia, ethnic diversity is accompanied by diversity in the traditional laws that regulate decision making at the village level. Law scholars and anthropologists describe the Indonesian legal system as pluralistic, whereby modern post-independence Indonesian codes coexist with Dutch colonial law, Islamic law and traditional adat law. Especially in the rural sector, many Indonesians follow the diverse native legal systems, known as “adat” laws, which have been used to regulate their territories well before the arrival of the European colonizers (Lindsey 1999).

Adat laws were first formally mapped by Dutch legal scholars to provide the basis of the legal system used to rule over the indigenous people of Indonesia. Adat laws were applicable to all indigenous people in all spheres of life, with few exceptions to protect the Dutch commercial interests in transactions involving Europeans and Indonesians. In this spirit, the Dutch colonial rule recognized village governments as lawful entities and encouraged self-rule according to adat laws, which are still relevant today.¹⁹

Evidence from case studies indicates that village headmen belong to the elites and that, at least prior to decentralization, power resided entirely with these. Adat laws however determine the extent to which the headmen and the elites involve citizens in village governance, thus governance systems vary across villages as discussed in the next subsection.

Prior to decentralization, the village government was already responsible for several infrastructure projects such as maintaining and or building sewage systems, water pipes, health posts and schools. The village government was also in charge of administering various income and food transfer programmes. Village expenditures were financed by a central

¹⁹Formally, the use of adat laws was banned during Soeharto’s regime, when uniform local government structures were imposed on all villages. The formal ban did not in practice result in the abandonment of traditional laws and the extensive decentralization process that followed the demise of Soeharto reinstated adat laws. Law 22/99, fully enacted by January 2001, allowed village governance structures to be reorganized according to adat laws and villages to change back their names to adat names.

government grant, combined with villagers’ donations and in-kind labor contributions (*gotong royong*). Following decentralization, village governments were also allowed to raise local funds via taxation and the establishment of village enterprises.

5.2 Local Public Goods

5.2.1 Local Public Goods: Data Description

Our main source of data is the village modules of the 1997 Indonesian Family Life Survey (IFLS 2). The distinctive feature of this dataset is that it contains information on adat laws at the village level. The survey also contains information on a range of public goods and community activities and on ethnic composition. The sample covers 259 villages in 35 districts out of the 243 districts of Indonesia.

The adat laws module provides information on village governance, namely on the systems employed to take decisions of community-wide importance, such as construction and maintenance of infrastructure. Table 1 shows that governance systems vary considerably across villages. The most common system is “consensus building” (*musyawarah*), by which citizens in assembly engage in a process of group deliberation leading to consensus. A smaller share of villages has adopted majority voting. The other two, equally popular, governance systems see either the local elites or the village headmen being solely responsible for taking decisions. The comparison between these four systems, clearly indicates that the first two give voice to the majority, whereas the last two assign all decision making powers to the elites, either as a group or through the headmen. This indeed typically belongs to the elites and, despite being elected, is only accountable to the district government rather than to the population at large.²⁰ Overall, we expect the last two systems to give more weight to the preferences of the elites. In the analysis that follows we thus combine consensus building and majority voting and categorize them as “democracies”, whereas we categorize the other two systems as “oligarchies”.

²⁰According to the relevant laws (Law 5/79, effective until 2000), the village government is made of the headman, a village assembly (LMD) and community resilience boards (LKMD), whose purpose was to allocate development grants across households and projects within the village and to act as a forum to collect villagers’ opinions. The headman was elected every eight years but was only accountable to the district government and he appointed the members of the village assembly and the community resilience board.

Table 1 shows that democratic rule prevails in seventy-three percent of the sample villages. There is considerable variation in governance systems across villages both between and within districts. The between standard deviation is .18, the within is .40. This reflects the variation of local customs even within small geographical areas.

At this stage it is important to notice that the variation in the extent of democracy created by customary laws does not necessarily follow in practice. For instance, it could be that the elites are able to effectively "capture" decision making in democratic villages, or it could be that the majority's rebellion threat acts as a disciplining device in oligarchic villages. To the extent that this is the case, however, we are less likely to find that outcomes differ by governance structure, namely we can only provide lower bound estimates.

The survey contains information on the population shares of the three main ethnic groups in each village. Figure 4 shows that just about half of the villages are ethnically homogeneous, with minorities accounting for less than 5% of the population. The remaining exhibit considerable heterogeneity, with extreme cases in which the dominant group barely constitutes a majority. As with governance, there is considerable variation both between and within district. The between standard deviation of the minority share is .09, the within standard deviation is .12.

Table 2a shows that there is no correlation between democracy and ethnic composition, namely the average minority share or ethnic fragmentation is identical in democratic and elite-dominated villages. This has two key implications. First, it indicates that there is no endogenous sorting of different ethnicities by governance structure. Second, it suggests that there is enough variation in ethnic composition by governance systems to test its effect on the difference between democracy and oligarchy.

Table 2a also shows that democratic and elite-dominated villages are of similar size and have similar communication, transport and financial facilities. As a proxy for development, we report the share of villages in each category that received Inpres Deas Tertinggal (IDT) funds in 1997. IDT was the main antipoverty programme at the time and was targeted to the poorest villages. Governance systems thus do not appear to be correlated with the stage of development.

Tables 2b -2d report the means and standard deviations of the level of public services and community activities in four broad sectors: health, education, security and utilities. The responsibilities of the village government and the local community vary across sectors

and across activities within the same sector.

In the health sector, local institutions are directly responsible for managing midwives, delivery posts and community health posts. In the education sector, the local institutions are responsible for the maintenance of school buildings and the constructions of new classrooms.

The community security and voluntary labor programs are entirely organized at the local level. The first refers to a common group activity where local residents –usually men– provide security to the neighborhood at night by walking around or guarding the entrance of the community. Voluntary labor programs employ local residents in community-level development activities, such as paving a road, repairing a bridge, removing mud after the rainy season, and clearing ravines.

In the utilities sector, the village government and the local community are directly responsible for providing and managing sewage, water and waste collection services.

We analyze public choices both on dimensions that are directly decided and managed at the local level, such as the number of classrooms, and dimensions that are decided at the central level, such as the number of teachers. There are two reasons for doing so. First, village officials can lobby the provincial or central government for the provision of these services, and local governance institutions are likely to determine the effort devoted to lobbying. Second, even in the absence of lobbying, locally and centrally provided inputs are complementary, so that the level of the former can affect the latter.

Tables 2b-2d show that, in general, the level of public services is somewhat higher in democratic, compared to oligarchic, villages. The point differences are however small and not significantly different from zero at conventional levels. The analysis that follows will assess whether the magnitude of the differences between governance systems depends on preference diversity, as proxied by ethnic composition.

5.2.2 Local Public Goods: Empirical Method

The model predicts that if no group has an absolute majority, the elites and the ethnic minorities can form a coalition and choose policies in equilibrium. Whether this is the case depends on the relative size of the elite group and of the different ethnic groups. In the simplest case of three groups, the poor ethnic majority P , the poor ethnic minority E and the rich elites R we have two possibilities:

$$\begin{cases} N_R + N_E > 0.5 & \text{the coalition of } R \text{ and } E \text{ can win a majority vote} \\ N_R + N_E < 0.5 & \text{only } P \text{ can win a majority vote} \end{cases}$$

Where N_i indicates the number of people belonging to group i . Since we do not observe N_R , our empirical strategy is informed by the fact that for a given N_R the probability that the elites and the ethnic minority can win a majority vote depends on the size of the minority (N_E). Namely, $\Pr(N_R + N_E > 0.5) = F(N_E|N_R)$, with $F' > 0$.

We thus proxy the probability of the coalition of R and E choosing policies by the size of the ethnic minority and estimate the following model:

$$(1) \quad y_{vd} = \alpha + \beta D_v + \gamma D_v * M_v + \delta M_v + \xi_d + \varepsilon_{vd}$$

Where y_{vd} is outcome of interest in village v in district d , for instance the logarithm of elementary schools per capita. α is a constant that captures the average level of y_{vd} in ethnically homogeneous oligarchies. D_v equals 1 if adat laws prescribe democratic governance in village v , whereas D_v equals 0 if adat laws attribute decision making power to the elites. M_v is the population share of ethnic minorities, which proxies for the probability that the coalition of the elites and the ethnic minorities can win a majority vote. Finally, ξ_d are districts fixed effects that absorb unobservable district heterogeneity. To take into account that village in the same districts might be subject to similar shocks we cluster ε_{vd} at the district level.

Throughout the coefficient of interest is γ , that is the measure of the effect of diversity on the *difference* between oligarchy and democracy. The theory predicts that the difference between governance systems is smaller when the share of minorities is higher, that is $sign(\gamma) = -sign(\beta)$.

The difference between ethnically homogeneous democracies and ethnically homogeneous oligarchies is captured by β . Naturally, β cannot be interpreted as the causal effect of democracy on outcomes because –even if the difference in governance structure dates centuries back– democratic governance might proxy for correlated unobservables that have a persistent effect on the outcomes of interest. The coefficients δ and $\delta + \gamma$ capture the correlation between diversity and outcomes in oligarchies and democracies, respectively. Similarly, the causal effect of diversity cannot be identified with the data at hand because diversity might be correlated with unobservables that affect the outcome of interest.

The problem of correlated unobservables is partially ameliorated by the fact that the coefficients are identified from the variation within district, so that all district specific omitted characteristics that might create a spurious correlation between the outcome of interest and the right hand side variables are absorbed by the district fixed effect ξ_d .

5.2.3 Local Public Goods: Findings

We report the estimates of (1) in Table 3. For ease of interpretation, we divide public policy outcomes into four sectors –health, education, community programs, utilities– and divide Table 3 into four panels accordingly.

Three points are noteworthy. First, the findings indicate that preferences over public goods vary by wealth class. Indeed, the difference between ethnically homogeneous democracies and oligarchies (β), varies by sector. Villages with democratic governance have more health and education facilities. The difference is significantly different from zero at conventional levels for most outcomes, from health posts per capita to elementary schools per capita. In the education sector, differences in numbers of facilities are accompanied by differences in prices and quality: in democracies school fees are lower, the teacher/pupil ratio is higher and so is the share of schools offering a free lunch.

In contrast, villages with democratic governance are less likely to have neighborhood security and voluntary labor programs and a smaller share of the population is involved in these. This is consistent with the anecdotal evidence that these programs are used by the elites to extract contributions in terms of free labor from the lower classes in the village. Beard (2007) presents evidence that in these villages rich households are less likely to contribute free labor to community programs.

Finally, there seem to be no difference in the levels of utilities. Households in ethnically homogeneous democratic and oligarchic villages have the same access to electricity, piped water, sewage and waste collection services.

The second main finding is that outcomes are more likely to reflect the preferences of the elites in diverse democracies. Indeed, whenever there is a difference between democracies and oligarchies, namely whenever we can reject the hypothesis that $\beta = 0$, the difference is decreasing in the level of ethnic diversity. This is true both when the level is higher in democracy, namely when $\beta > 0$ as in education and health, and when the level is lower in democracy, namely when $\beta < 0$ as in the provision of community security services and

voluntary labor. Diversity does not affect outcomes, that is $\delta = \gamma = 0$ when democracies and oligarchies do not differ, that is when $\beta = 0$, as is the case for utilities.

Third, we note that the effect of diversity on the difference between governance systems is sizeable. For convenience, Table 3 reports the computed effect of democracy evaluated at the mean level of the minority share (.12) and its standard error. Throughout, the effect of democracy in homogeneous societies is at least double the effect of democracies in diverse societies. For instance, the number of community health posts per 1000 inhabitants is 12% higher in homogeneous democracies. The difference falls to 6% when the minority share is .12, and it is not significantly different from zero at conventional levels.

5.2.4 Econometric Concerns and Alternative Interpretations

As discussed above, neither the effect of democracy nor the effect of diversity can be interpreted as causal as these might be correlated with unobservable determinants of public policies that vary across villages within the same district. The issue can only be resolved by creating or exploiting existing random variation in governance structure and ethnic composition. This is, to the best of our knowledge, unavailable in this or similar contexts. Compared to previous studies, however, the results are purged of all relevant unobservables at all levels higher than the village and are remarkably consistent with the predictions of the model.

Measurement error is a further cause for concern. The concern arises because the variation in governance, D_v , derives entirely from differences in *adat* laws and these measure governance only to the extent that the headmen respects them. Clearly, if no headmen were to respect *adat* laws we would find no difference in public good provision between democracies and oligarchies. Since we do find a difference, we are left with two cases. In the case of classical measurement error, the estimates of the difference in public policy outcomes by governance system β would be biased downwards. A thornier issue arises if the headman's decision to respect *adat* laws were influenced by the level of ethnic diversity in the village. Given that the headman inevitably belongs to the elites, our model suggests that these have less power in ethnically homogeneous democracies. This implies that headmen of homogeneous villages should have a stronger incentive to abandon democratic institutions. If this is the case, our estimates of the difference between ethnically homogeneous democracies and oligarchies β and of the effect of ethnic diversity γ are both biased downwards.

The findings allow us to rule out alternative mechanisms that have been suggested to drive the effect of diversity on policy outcomes. First, the fact that the sign of the effect of diversity differs across a range of public goods allows us to rule out alternative theoretical models that predict an unambiguously negative effect of diversity on the level of public good provision. In particular, we find that diversity reduces the level of public good provision only when the level in democracy is higher than in oligarchy. When the level is higher in oligarchy, as in the case of security and voluntary labor programs, diversity actually *increases* the level of provision. When democracies and oligarchies do not differ, diversity has *no effect* on the level of provision.

Second, the findings also shed light on the mechanism through which diversity affects outcome. In alternative to the assumption that individuals belonging to different groups have different tastes for public policies, existing theoretical contributions have highlighted two channels: (i) that individuals do not internalize, or put a negative weight, on the consumption by other groups and (ii) that individuals of different groups do not like to consume public goods together. Our findings do not lend support to either channel. More specifically, the fact the effect of diversity can be positive or zero contradicts the assumption that individuals dislike to contribute resources to goods that benefit members of other ethnic groups. In addition, since the effect of diversity does not depend on whether people of different groups need to consume it together –as in the case of education– or not–as in the case of health facilities– does not lend support to the assumption that diversity reduces public good provision because individuals dislike interacting with others belonging to different groups.

5.3 Transfers

5.3.1 Transfers: Data Description

The model predicts that if the elites and the poor minority form a coalition, the policies chosen by the coalition will give more weight to the preferences of both groups compared to the policies that would be chosen by the poor majority group. The findings so far suggest that policy outcomes in more diverse democracies, namely where the coalition is more likely to form, resemble outcomes in oligarchies, that is they are closer to the preferred outcomes of the elites. Since we do not observe what the minority groups would choose if they had

the power to do so, we cannot use a similar strategy to assess whether the minority groups gain from the possibility of forming a coalition.

To assess whether policy outcomes in more diverse democracies give more weight to the preferences of the ethnic minority group we rely on the assumption that each ethnic group would prefer its members to receive more income transfers and analyze the targeting of income support programs.

We combine the village level data on governance and diversity with household data on income transfers from the household modules of the 2000 Indonesian Family Life Survey (IFLS 3). The main reason to analyze transfers in 2000 rather than 1997 is that income support programs became considerably more widespread and more economically relevant after the crisis of 1997-1998.

We focus on the largest income support program, the "Special Market Operation" or OPK (Operasi Pasar Khusus). Household eligible for OPK could purchase rice, the staple of Indonesian diets, at approximately 1/3 of the market price (Pritchett et al 2002).²¹ To be eligible, households had to belong to the two lowest "prosperity" classes as defined by the National Family Planning Agency.²²

The feature of the program that makes it well suited for the purpose of our analysis is that the distribution and sale of OPK rice is entirely managed by the village head, and hence effectively controlled by the elites. This implies that the elites could favor the ethnic minority group over the poor majority. Every month the village head or his officials retrieve the village allotment of rice from the nearest government warehouse, divide it into 20kg sacks, decide which households are allowed to buy it and collect payment. Since household targeting is not monitored, the village head effectively has complete discretion on how to allocate the rice. Existing evidence suggest that many non-eligible households have received the subsidy (Pritchett et al 2002) and at least 18% of the rice went "missing" during the

²¹Olken (2006) calculates that for rural households the value of the subsidy was about 9% of total monthly household expenditures for the median eligible household that purchased all the rice they were entitled to (20kg per month).

²²The National Family Planning Coordinating Agency (BKKBN) established the criteria for the classification of all households into four levels of prosperity. The criteria are based on the household ability to provide food, clothing and health care to its members, and on the quality of the dwelling. At the village level, the list is compiled and updated annually by the village level workers of the family planning agency. The "prosperity" classification is correlated, albeit not perfectly, with per capita consumption expenditures. See Pritchett et al 2002.

first years of the programme (Olken 2006).

The village module of IFLS2 contains information on the population share of the three main ethnic groups in each village. Javanese are the main ethnic group in Indonesia, and they are reported to be the dominant group in 45% of the sample villages while the remaining 55% is divided between smaller groups. The test requires to identify whether a household belongs to the majority or the minority ethnic groups in each village. To do so we match the village ethnic composition information from IFLS2 to the household ethnic origin variable in IFLS3. We are able to do so for 243 out of the 258 villages for which IFLS2 contains information on governance structure. The final sample contains 6735 households. The remaining 15 villages (418 households) cannot be matched because the ethnic group names used in IFLS2 do not match the household ethnic codes in IFLS3.

In the sample as a whole 37% of households receive subsidized rice. The share is however significantly larger for household belonging to the majority ethnic group than for households belonging to the minority groups (43% vs 32%, p-value .00). This is despite the fact that households belonging to the majority are significantly wealthier. The average per capita monthly consumption expenditure is 331,200 IDR for majority households and 312,255 IDR for minority households (p-value .04).²³

More interestingly, the mode of governance is correlated with the probability of receiving the transfer only for households belonging to the ethnic minority group. The share of *majority* households receiving the transfer is 43% in villages where the elites rule and 44% in democracy (p-value .67). In contrast, the share of *minority* households receiving the transfer is 27% in villages where the elites rule and 34% in democracy (p-value .00). This provides preliminary evidence that the preferences of the minority are given more weight when they can be part of a ruling coalition. The next subsection investigates this issue in more detail.

5.3.2 Transfers: Empirical Method and Findings

Our strategy is to test whether poor households belonging to the ethnic minority group are more likely to receive the transfer when the coalition is more likely to form, that is in democratic villages where the population share of minorities is high.

Column 1 in Table 4 reports the estimates of:

²³The average daily exchange rate in 2000 was 8412 IDR to the US dollar.

$$(2) \quad \text{opk}_{ivd} = \alpha D_v + \beta C_i + \gamma D_v * C_i + \eta_d + u_{ivd}$$

where $\text{opk}_{ivd} = 1$ if household i in village v and district d receives the transfer and 0 otherwise. $D_v = 1$ if governance is democratic in village v , 0 otherwise. C_i is the logarithm of household i 's per-capita expenditure. We include the interaction between D_v and C_i to test whether targeting differs by governance system.

The estimates in Column 1 indicate that households residing in democratic villages are more likely to receive the transfer *and* the subsidized rice is targeted to the poor only in democratic villages. Indeed, the income coefficient in oligarchy (β) is small and not significantly different from zero, suggesting that in oligarchic villages rich and poor households are equally likely to receive the transfer. In contrast the income coefficient in democracy ($\beta + \gamma$) is negative and significantly different from zero at the 1% level.²⁴ The magnitude of the coefficients is such that households with the mean level of income are 3 percentage points more likely to receive the transfer if they live in a democratic village, whereas households whose income is at the bottom decile are 6 percentage points more likely to receive the transfer if they live in a democratic village. These represent a 9% and 18% increase over the mean probability of receiving the transfer in oligarchy (34%).

In column (2) we test whether the effect of democracy depends on the level of ethnic diversity in the village. We group villages according to whether the population share of the minority group is below or above the sample mean of 12% and estimate:

$$(3) \quad \text{opk}_{ivd} = [\alpha^L D_v + \beta^L C_i + \gamma^L D_v * C_i] * L_v + [\alpha^H D_v + \beta^H C_i + \gamma^H D_v * C_i] * H_v + \eta_d + u_{ivd}$$

where $L_v = 1$ if the minority share in village v is lower than 12% and zero otherwise and $H_v = 1 - L_v$.²⁵

While both $\alpha^L < \alpha^H$ and $\gamma^L < \gamma^H$ suggest that the effect of democracy is stronger when the population share of the minority group is high, neither difference is significant at conventional levels.

²⁴This is in line with the findings in Besley et al (2005). Using household data from Indian villages that differ in the extent of community participation, they show that pro-poor targeting is more intensive in villages that hold community level meetings to discuss resources allocation.

²⁵The qualitative results are unchanged if we group villages according to the median minority share rather than the mean.

The theoretical predictions however indicate that the interaction between democracy and diversity should have a different effect depending on whether the household belongs to the ethnic majority or the ethnic minority. Indeed when the population share of the minority is low so that the coalition is unlikely to form, policy choices should reflect the preferences of the poor majority whereas when the population share of the minority is high so that the coalition can form, policy choices should put more weight on the preferences of the minority group. To test this prediction we therefore estimate (3) for households belonging to the minority and majority separately.

Column (3) shows that indeed minority households are more likely to receive the transfer and are better targeted in democracy but only when the minority population share is high. That is, for minority households α^H is positive and significant, γ^H is negative and significant, while both α^L and γ^L are considerably smaller and not significantly different from zero. The hypotheses $\alpha^L = \alpha^H$ and $\gamma^L = \gamma^H$ can be rejected at conventional levels. The magnitude of the coefficients is such that households with the mean level of income are 7 percentage points more likely to receive the transfer if they live in a democratic village, whereas households whose income is at the bottom decile are 15 percentage points more likely to receive the transfer if they live in a democratic village. These represent a 26% and 55% increase over the mean probability of receiving the transfer in oligarchy (27%).

The pattern is completely reversed in Column (4) where the sample is restricted to households belonging to the ethnic majority. Namely, these households are more likely to receive the transfer and are better targeted in democracy but only when the minority population share is low. We find that for majority households α^L is positive and significant, γ^L is negative and significant, while both α^H and γ^H are considerably smaller and not significantly different from zero. The hypotheses $\alpha^L = \alpha^H$ and $\gamma^L = \gamma^H$ cannot however be rejected at conventional levels due to the lack of precision of the estimated α^H and γ^H .

Overall, the results in Table 4 are in line with the prediction that when the rich elites and the minority can form a coalition, namely in democratic villages where the population share of the minority is sufficiently large, the preferences of the poor minority bear more weight on policy choices. Indeed, compared to when the elites control decision making, the probability that a poor household receives the transfer in democracy depends on its ethnicity and on the ethnic composition of the village. When the population share of the minority is small, transfers are targeted to poor households that belong to the ethnic majority. In

contrast, when the population share of the ethnic minority is large so that the minority can rule in a coalition with the elites, poor households belonging to the ethnic minority are more likely to receive the transfer, in line with the hypothesis that their preferences are given more weight in policy choices.

6 Conclusion

Does democracy foster the interests of the poor majority? Our analysis shows that the answer depends on the cohesiveness of the lower classes. We show that when the poor are divided into groups with different preferences over public goods and politicians from different groups can form coalitions, the level of diversity endogenously determines the power of the wealthy elites in influencing policy outcomes. The elites and the poor minority can indeed rule in a coalition that fosters the interests of both groups over the interests of the poor majority. Evidence from local government outcomes in Indonesian villages suggests that policies are closer to the preferred outcomes of the elites when the polity is divided along ethnic lines. Moreover, poor households belonging to the ethnic minority are more likely to receive income transfers, in line with the hypothesis that policies are chosen by a coalition of the ethnic minority and the elites to favor both groups.

The central implication of our analysis is that political institutions interact with the composition of the polity to determine economic policy. To compare democracy with alternative governance structures, such as oligarchy, it is key to identify the dimensions along which preferences might differ, as this determines which coalitions can win a majority vote.

The empirical application focuses on differences in preferences due to ethnicity as ethnic divisions are salient in the Indonesian context. The theoretical insight however applies to differences in preferences deriving from any other source. While we are not aware of any other study that analyzes these issues directly, evidence from election surveys in Western countries is consistent with the idea that the elites and a subset of the poor support the same party. The surveys indeed reveal that, compared to their secular counterparts, the religious poor are more likely to vote for parties that oppose income redistribution and, as such, have the support of the wealthiest segments of the population (Huber and Stanig (2007)).

Finally, note that our analysis indicates that it might be in the interest of rich elites to

"divide and rule", that is, to amplify differences in preferences among poor groups. While it is not clear whether the salience of such differences in preferences is a strategic choice of politicians or rich interest groups, and the question whether it is subject to their influence is essentially an empirical question. Our paper indicates that the possibility of dividing opinions on such issues may be desirable for the elites.

Appendix

PROOF OF PROPOSITION 1: Note first that for all k , E prefers the ideal policy of P to that of R , and R prefers the ideal policy of P to E . Consider now the partition $R|P|E$. Consider first the equilibrium in which all three platforms are offered. If P is the winner (i.e., it is the largest group), then E or R can drop from the race without affecting the result. If either $E(R)$ wins, then $R(E)$ is better off dropping from the race and inducing his voters to vote for P , which would then win. Thus there is no equilibrium in which three platforms are offered. Note that in all partitions, there cannot be an equilibrium with two platforms generically, as then the loser would rather not run. We can therefore consider equilibria with only one platform offered.

In the partition $R|P|E$ such platform must be that of P , offered by P , as P is a condorcet winner in this partition. Consider then the partition $PE|R$. It cannot be that R wins as the coalition can offer the ideal policy of P , win, and improve the utility of its members. Thus, the coalition must win but specifically, it must win with the ideal policy of P otherwise P splits it and induces the partition $R|P|E$. The same analysis holds for the partition $PR|E$. Consider now the partition $RE|P$. The Pareto set of R and E is comprised of all policies that are at the tangency of the indifference curves of R and E . As the indifference curves of R are linear and negatively sloped, and that of E are concave, they must intersect in the interior of the policy space, in the region where the indifference curves of E are negatively sloped as well. RE can win against P if they offer policies in their Pareto set that are better for both than the ideal policy of P . Note that the ideal policy of P is not in the Pareto set of RE , which implies that there exist a set of policies which provides both R and E a higher utility than the ideal policy of P . These policies are equilibrium winning policies described in Figure X. Moreover, these policies are stable because if they split, the unique winning policy is the ideal policy of P .

Finally, we can consider the grand coalition RPE . As E or R can split and create a partition in which the ideal policy of P can be offered by the remaining coalition and be an equilibrium, the coalition must offer the same policies that RE offer. This implies that RE can split and achieve the same outcomes without P , so that the grand coalition is not stable. ■

PROOF OF PROPOSITION 2: Note first that k does not affect the utility or the indiffer-

ence curves of R . On the other hand, the ideal policy of E satisfies $1/N = kv'(e)$ and thus when k increases, also the optimal $e(k)$ increases (by the concavity of v). In addition, the slope of E 's indifference curve, $\frac{y-y_p}{1/N-kv'(e)}$, becomes less steep, and the policies that satisfy $y_p(1-t) + T + kv(e) = c$ for some c are characterized, for a fixed t , with a lower e , and for a fixed e , with a lower t . These changes imply that the Pareto set is characterized, when k increases, by a higher level of e , and that the policy which keeps E indifferent to the ideal policy of P on the new Pareto set is on an indifference curve of R which gives R a higher utility compared with all policies in the former Pareto set. By continuity, this implies that the feasible policies on the Pareto set comprise a set which is more favorable to R than before. ■

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Figure 1: Preferences

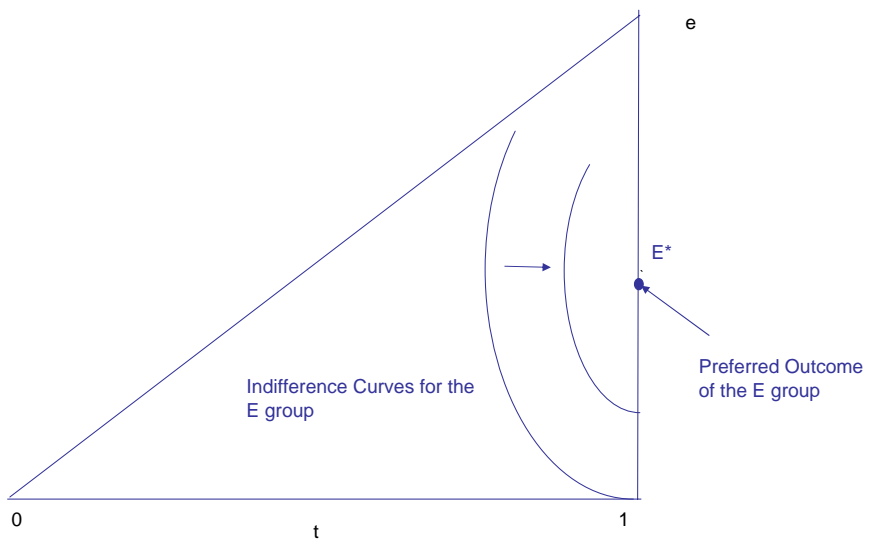
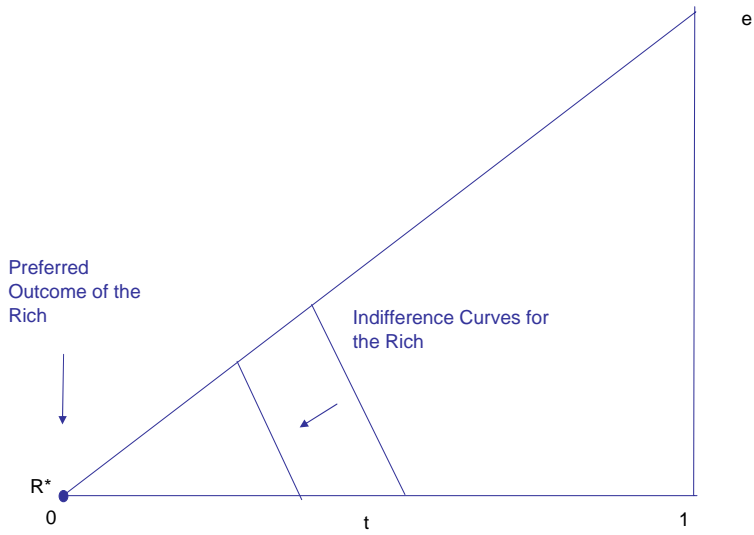
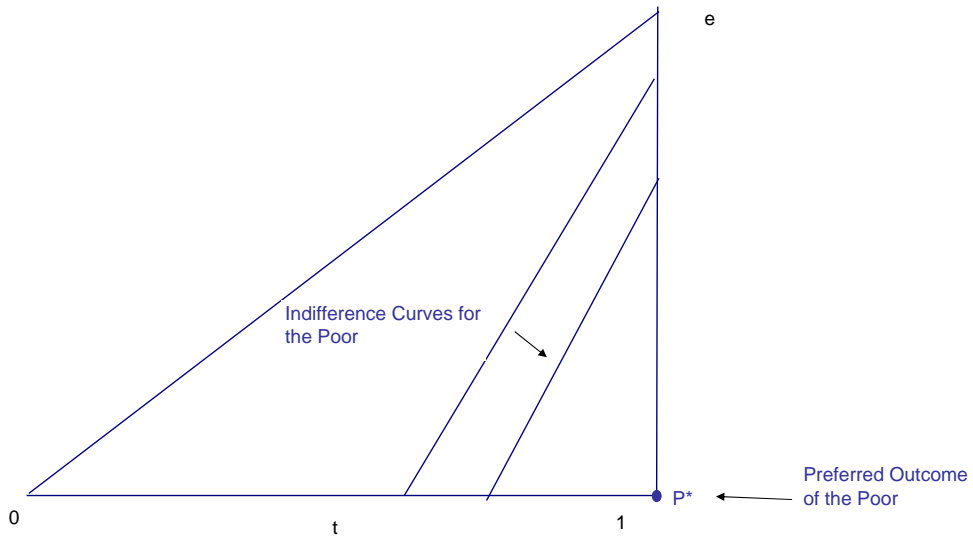


Figure 2: The Coalition of R and E

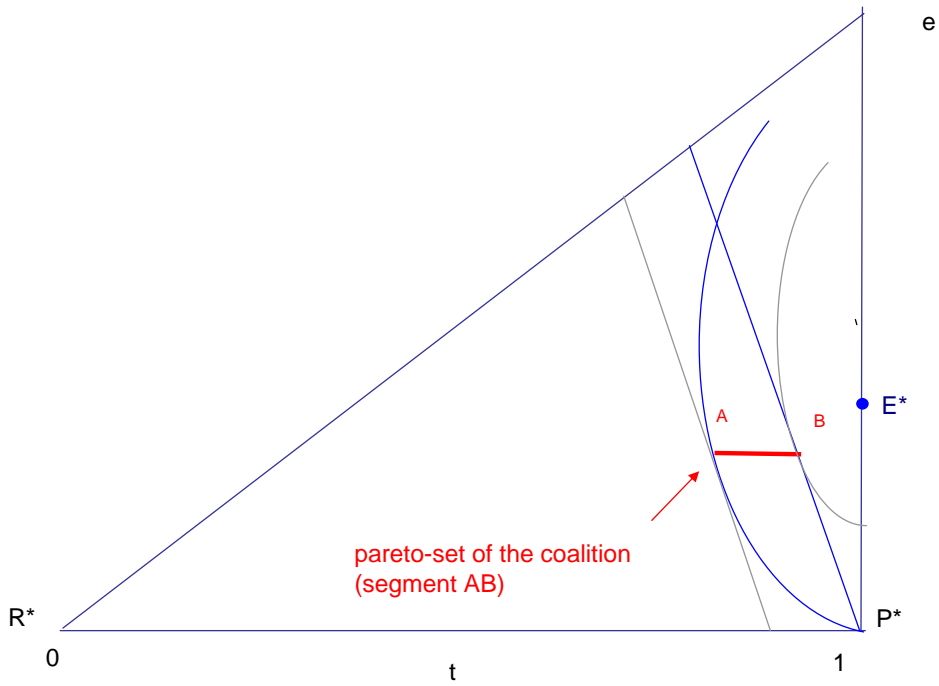
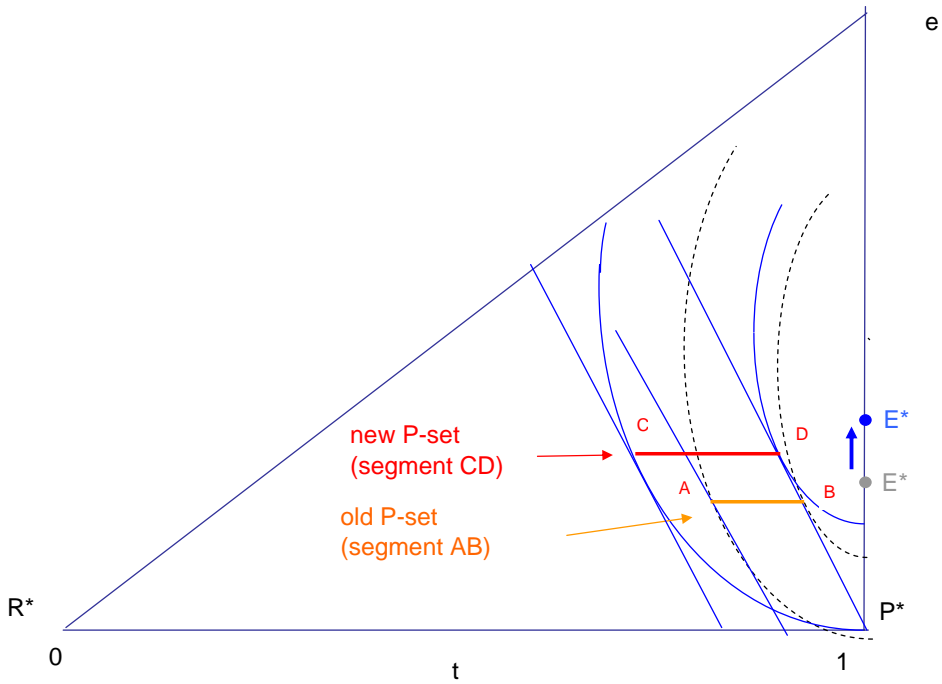


Figure 3: An Increase in Diversity



NOTE: The solid indifference curves are drawn for a higher level of k .

Figure 4: Ethnic Composition

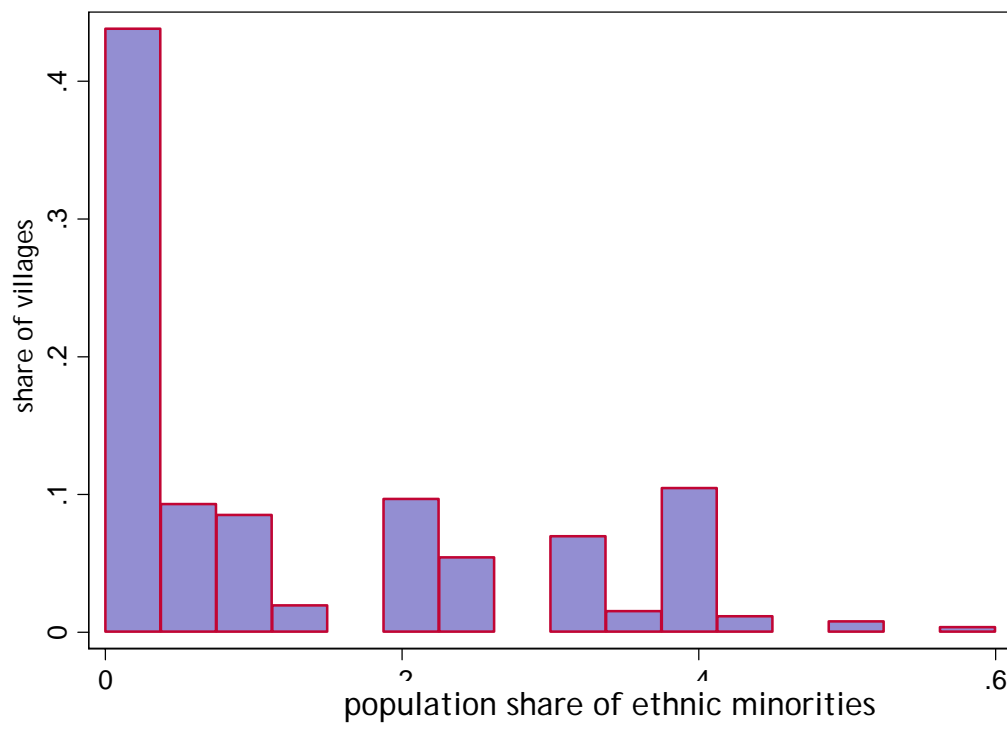


Table 1 Governance

According to traditional adat law, how are decisions of community importance (e.g. constructions, celebrations) made?		
	Number of Villages (percentage of total)	
consensus building	177 (68.3%)	democracy
voting	12 (4.63%)	
village elites decide	35 (13.5%)	oligarchy
village head + assembly decide	35 (13.5%)	

Table 2a Characteristics by Governance Structure

Means, Standard Deviation in Parenthesis

	democracy	oligarchy	difference=0 p-value
minority share	.126 (.148)	.141 (.155)	.466
population	7221.5 (7187)	7073.1 (7251)	.883
share of rural villages	.460 (.500)	.557 (.500)	.167
share of IDT villages	.238 (.423)	.228 (.427)	.873
post office (=1 if in village)	.208 (.407)	.186 (.391)	.686
public phone (=1 if in village)	.473 (.500)	.406 (.494)	.336
bank (=1 if in village)	.367 (.483)	.328 (.473)	.568

Table 2b Health Facilities by Governance Structure

Mean Number of Facilities per 1000 inhabitants, Standard Deviation in Parenthesis

	democracy	oligarchy	difference=0 p-value
midwives	.237 (.472)	.205 (.253)	.588
beds in delivery posts	.175 (.488)	.107 (.237)	.262
community health posts	1.30 (.804)	1.16 (.514)	.172
government health centers	1.07 (1.30)	1.01 (.852)	.705
government hospitals	.488 (.694)	.364 (.328)	.171

Table 2c Elementary Schools Characteristics by Governance Structure

Means, Standard Deviation in Parenthesis

	democracy	oligarchy	difference=0 p-value
schools per 1000 inhabitants	.953 (.809)	.900 (.475)	.603
school fees for new pupils (1000 rupiah)	25.8 (33.6)	22.3 (27.3)	.439
teacher/pupil ratio	.049 (.014)	.045 (.012)	.063*
pupil/classroom ratio	34.5 (14.3)	34.3 (11.9)	.927
free school lunch (=1 if yes)	.220 (.354)	.198 (.352)	.645

Table 2d Community Security and Utilities by Governance Structure
Means, Standard Deviation in Parenthesis

	democracy	oligarchy	difference=0 p value
community security program	.849 (.359)	.800 (.403)	.352
community security members/population	.130 (.167)	.120 (.128)	.697
voluntary labor program	.834 (.372)	.857 (.352)	.656
voluntary labor members/population	.153 (.205)	.220 (.297)	.082
share of households with electricity	.856 (.201)	.765 (.268)	.005
piped water system	.566 (.497)	.557 (.500)	.897
sewage system	.598 (.491)	.543 (.502)	.427
waste collection service	.471 (.500)	.386 (.490)	.222

Table 3. Democracy, Diversity and Public Finance Outcomes
Standard Errors Clustered by District in Parenthesis

3a: Health

All dependent variables are defined as log(number of facilities X 1000 inhabitants)

	(1)	(2)	(3)	(4)	(5)
<i>dependent variable:</i>	midwives	beds in delivery post	community health posts	government health centres	government hospitals
democracy (β)	.082 (.058)	.143*** (.050)	.120** (.050)	.104 (.075)	.093* (.054)
democracy*minority share (γ)	-.481** (.186)	-.752*** (.242)	-.511** (.246)	-.866* (.464)	-.337 (.304)
minority share (δ)	.347 (.213)	.423* (.230)	-.001 (.238)	.251 (.471)	.052 (.197)
<i>implied effect of democracy at mean minority share</i>	.027 (.050)	.057 (.045)	.061 (.043)	.004 (.055)	.054 (.044)
district FE	yes	yes	yes	yes	yes
adjusted R-square	.2841	.2228	.1316	.1925	.1509
observations	257	255	255	254	241

3b: Education

Dependent variables are in logarithms in columns 1-4. In column 5 the dependent variable equals 1 if lunch is provided for free, 0 otherwise.

	(1)	(2)	(3)	(4)	(5)
<i>dependent variable:</i>	schools per 1000 people	school fees	teachers/pupils	pupils/classrooms	free school lunch
democracy (β)	.158*** (.053)	-.396* (.223)	.007*** (.002)	-.127** (.052)	.115** (.044)
democracy*minority share (γ)	-1.04*** (.344)	3.23** (1.51)	-.033** (.014)	.885*** (.318)	-.591* (.355)
minority share (δ)	.715*** (.241)	-2.66* (1.46)	.015 (.014)	-.136 (.289)	.561* (.304)
<i>implied effect of democracy at mean minority share</i>	.038 (.039)	-.026 (.199)	.003 (.001)	-.025 (.037)	.047 (.047)
district FE	yes	yes	yes	yes	yes
adjusted R-square	.2553	.3287	.2225	.2749	.0727
observations	258	258	252	258	258

Notes: OLS estimates, standard errors are clustered at the district level throughout. *** (**) (*) indicate significance at the 1%, 5% and 10% level, respectively. Sample size varies because of missing values for the dependent variable.

Table 3. Democracy, Diversity and Public Finance Outcomes

Standard Errors Clustered by District in Parenthesis

3c: Security and Voluntary Labor Community Programs

In columns 1 and 3 the dependent variable equals 1 if the program exists, 0 otherwise. Dependent variables are in logarithms in columns 2 and 4.

<i>dependent variable:</i>	community security program	community security members/population	voluntary labor program	voluntary labor members/population
democracy (β)	-.073 (.064)	-.050*** (.016)	-.121** (.054)	-.107*** (.034)
democracy*minority share (γ)	.772** (.366)	.414*** (.110)	.547* (.305)	.351** (.160)
minority share (δ)	-1.14*** (.377)	-.391*** (.069)	-.587* (.344)	-.419** (.126)
<i>implied effect of democracy at mean minority share</i>	.015 (.055)	-.003 (.013)	-.058* (.032)	-.067** (.031)
district FE	yes	yes	yes	yes
adjusted R-square	.1656	.2754	.2636	.2462
observations	254	200	256	188

3d: Utilities

Dependent variable in logarithms in column 1. In columns 2-4 the dependent variable equals 1 if the service is available, 0 otherwise.

<i>dependent variable:</i>	share of houses with electricity	piped water	sewage system	waste collection
democracy (β)	.039 (.025)	-.061 (.095)	.041 (.117)	.015 (.077)
democracy*minority share (γ)	.053 (.115)	.557 (.392)	.098 (.453)	.385 (.398)
minority share (δ)	-.115 (.129)	-.605 (.494)	.230 (.503)	.318 (.528)
<i>implied effect of democracy at mean minority share</i>	.045** (.019)	.003 (.089)	.052 (.078)	.059 (.053)
district FE	yes	yes	yes	yes
adjusted R-square	.2545	.2164	.2590	.3859
observations	248	258	258	258

Notes: OLS estimates, standard errors are clustered at the district level throughout. *** (**) (*) indicate significance at the 1%, 5% and 10% level, respectively. Sample size varies because of missing values for the dependent variable.

Table 4: Democracy, Diversity and the Targeting of Income Transfers

Dependent Variable=1 if Household Receives OPK Transfer, 0 otherwise

Standard Errors, Clustered at the District Level, in Parenthesis

	(1)	(2)	(3)	(4)
	all households	all households	minority households	majority households
democracy	.437** (.172)			
log(pce)	-.007 (.013)			
democracy*log(pce)	-.032** (.013)			
democracy*low minority share		.415** (.165)	.309 (.216)	.803** (.328)
democracy*high minority share		.843** (.343)	1.20*** (.323)	.548 (.570)
democracy*log(pce)*low minority share		-.035** (.014)	-.027 (.019)	-.063** (.026)
democracy*log(pce)*high minority share		-.062** (.025)	-.092*** (.022)	-.036 (.045)
log(pce)*low minority share		.012 (.012)	.005 (.019)	.031 (.020)
log(pce)*high minority share		-.002 (.010)	-.005 (.017)	.012 (.018)
test 1 p-value			.001	.608
test 2 p-value			.009	.504
district FE	yes	yes	yes	yes
adjusted R-square	.0424	.0538	.0649	.0832
observations	6735	6735	3870	2865

Notes: OLS estimates, standard errors are clustered at the district level throughout. *** (**) (*) indicate significance at the 1%, 5% and 10% level, respectively. log(pce) is the natural logarithm of per capita consumption expenditure. Minority share is defined to be "high" ("low") when the population share of minority groups is above (below) the sample mean (= .12). The null hypothesis in test 1 is that the coefficients of democracy in high and low minority share villages are the same. The null hypothesis in test 2 is that the coefficients of the interaction between democracy and log (pce) in high and low minority share villages are the same. Columns (3) and (4) restrict the sample to households belonging to the ethnic minority and to the ethnic majority, respectively.