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Elite Capture in Urban Development: Evidence from Indonesia

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Abstract

It has been argued that the potential gains of community-driven development (CDD) poverty programs are large as these can foster sustained poverty reduction. However, recent literature shows that community involvement can increase the risk of elite capture, particularly in more unequal communities. The risk is higher when the gap between the poor and the non-poor is larger with limited mobility between groups, the poor find it difficult to increase their bargaining power or voice their preferences. This paper contributes to the limited empirical literature on the existence of elite capture in social programs. Using community and household data from the Second Urban Poverty Project in Indonesia, we find robust evidence for the existence of elite capture under unequal communities. We further find that only when decision makers share similar characteristics with non-elites in terms of wealth, education and social networks, the share of pro-poor projects increases.

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1. Introduction

Community-driven development (CDD) has become a common mechanism to decentralize anti-poverty programs. This works by promoting community involvement in project implementation, as it is assumed that locals are best able to understand prevailing local conditions, capacities and necessities, and are best suited to identify the genuine poor. This typically involves the establishment of a local non-government institution made up of local representatives selected in a participatory manner. This institution is then responsible for managing and allocating project resources through anti-poverty actions responding directly to the needs of the poor.

In their comprehensive review on local participation and development, Mansuri and Rao (2004, 2013) advocate that the potential gains from involving local participation are large, as it may improve poverty targeting, creates social capital and increases demand for social governance through empowerment. It is expected that this approach will lead to a more fair resource allocation that can minimize rent-seeking behaviour which will sustain poverty reduction. However, given the fact that the local have more information than the donor, they might exploit such information for their own benefit under the cost of the poor, which made CDD approach counterproductive. Review of literatures finds that the participants of poverty government programs tends to be wealthier, more educated, and higher social network and male. This suggests that participatory program tends to exclude the marginalized poor with lower access into political connection. As the result, the poor may benefit less from the program, as resource allocation process typically reflects the preferences of the elite group.

It should be noted that the role of elites in social program can be benevolent or malevolent on development outcome. Altruistic elites can be the one who can persuade collective action, manage resource allocation, understood the project administration and preparing reports (Rao and Ibanez 2005; Beard and Dasgupta 2006). Yet, elites may also exploit their power, alter the nature of poverty programs by influencing local decision making to ensure an outcome that benefiting the elites more (Bardhan and Mookherjee, 2000; Platteau, 2004; Conning and Kevane, 2002). Araujo et al. (2008) define elite capture in social programs as occurring when a powerful minority has succeeded in altering the nature of the program for their own benefit.

In the last decade, the strand of literature on elite capture has focused on the role of local elites in unequal settings. Under such setting the poor at the bottom of distribution would be more difficult to voice their own choice, thus it is easier for elites to dominate community preferences. Literatures have highlighted that higher inequality can induce elite capture, and distort a program's outcome (Bardhan, 2000; Alesina and La Ferrara, 2000; La Ferrara, 2002; Rosenzweig and Foster, 2003; Galasso and Ravallion, 2005; Araujo et al., 2008; Labonne and Chase, 2009; and Platteau, 2009). Platteau (2009) suggested that higher inequality can increase conflicts of objectives among locals who each tend to promote their own agenda. To push their aims, people in the top of the distribution do not hesitate to exploit the information gap between donors and communities. This ensures that the poor at the bottom of the distribution find it difficult to increase their bargaining power. Existing theoretical literature concludes that the relationship between local capture and inequality is complex and without a clear pattern. Bardhan, et al. (2000) and Dayton-Johnson and Bardhan (2002) showed that the link is not necessarily monotonic, and can be U-shaped with higher inequality first reducing elite capture and still higher levels increasing it. These studies suggest that the correlation between the two variables can be context specific, and therefore empirical research is needed to identify the nature of elite capture under different conditions and settings.

The aim of this paper is to empirically investigate elite capture in the World Bank's Urban Poverty Project 2 (UPP2) implemented in Indonesia. Using the CDD approach, UPP2 required each targeted community to establish a local board consisting of community members which was then granted the authority to manage and implement resource allocation. We analyze the pattern of project types received in each community, and associate this with the level of inequality in household consumption. Our econometric results confirm the elite capture hypothesis: the more unequal a community, the lower the percentage of pro-poor projects. The results are robust for different inequality measurement and model specifications.

Our findings are related to the growing literature on collective action and local capture. On the logic of collective action, Olson (1965) emphasized that group members rationally maximize their self interest, as competition remains, where the dominant member is willing to bear the costs involved to get a higher share of the outcome. Such behaviour is found in

several community-based schemes. For instance, in Argentina's Trabajar community work program, it has been found that local managers perform worst in targeting because they act under the influence of local elites (Ravallion, 1999a). In India, Lanjouw and Ravallion (1999) showed that the poor have difficulty to gain the program benefits (located in remote area, limited information, etc.) as these benefits are first captured by non-poor who argue that they are entitled to it in exchange for their tax payments.

Empirical studies show that inequality increases local capture. In Bangladesh's Food for Education Program, higher inequality in land holding reduces allocation to the poor due to the greater power of local elites (Galasso and Ravallion, 2005). Bardhan (2000) constructed a local elite parameter on the basis of farmer perceptions, and found that these have a significant negative effect on water cooperation performance. Furthermore, it has been revealed that allocation rules are more often violated by better-off farmers with the ability to avoid punishment. In other studies, Alesina and La Ferrara (2000) and La Ferrara (2002) found that inequality lowers the incentive of participation and group interaction, discourages groups from making decisions by vote, and therefore reports higher instances of poor group performance and the misuse of funds.

Matching ex-ante community preferences with actual funded projects, Labonne and Chase (2009) reported that in unequal communities, a village leader is more likely to override community preferences. An interesting study by Araujo et al (2008) found that elite capture in poverty programs can occur when communities fund projects that are not exclusively intended for the poor. Examining India, Rosenzweig and Foster (2003) investigated local government allocation in public facilities under different local governance structures. The paper argued that irrigation construction more highly benefits land owners, while road construction more highly benefits the landless. They found that a higher proportion of the landless population positively impacts road construction and negatively impacts irrigation facilities.

Concerning community composition and collective action, Vigdor (2004) shows that individuals behave altruistically toward the community they belong to, especially if they share similar characteristics with the (majority of) the community. The study examined an individual's decision to return a Census questionnaire by mail, and showed that individual responses depend on how much the individual internalizes the benefit bestowed on the

community at large. The similarity between individuals in terms of age, education and race in a community determines the internalization of the benefit.

Though many studies point to the negative effect of local elites in social programs, there are also studies that show that this is not always harmful to collective action. Local elites, who mostly come from wealthier, more educated groups with larger social networks, might be the only community members that can communicate effectively, manage project records and write reports. A qualitative study from Rao and Ibanez (2005) showed that the collective action process in Social Fund projects in Jamaica is dominated by wealthier well-educated groups. Yet 80 percent of the community were satisfied with the project's outcome.

This paper contributes to the limited empirical literature on elite capture in social programs. We take the case of Indonesia, a country with long history of poverty, where locals have rooted the so-called "*gotong royong*" or mutual cooperation between members of the community as the form of cultural legitimacy of state control, Mansuri and Rao (2013, pp.70). Specifically, we analyze individual bargaining power in local decision making towards project choice. As each individual has a distinct identity and preferences, they tend to balance between their own interests with the interest that derives from their group identity. Defining elite status as the combination of the level of wealth, education and social network, we find the evidence that only when groups are dominates with the non-elites, which shares the characteristics of the poor, the odd to choose pro-poor projects increases.

This paper proceeds as follows. The second section discusses the UPP2 and its delivery mechanism. Section Three presents the elite capture hypothesis and empirical strategy. Section Four provides the research data and statistics. Section Five presents empirical results. Finally, in Section Six, the main results are summarized and conclusions are drawn.

2. The Urban Poverty Project 2

During the 1997-98 economic crises, Indonesia experienced a massive capital outflow with numerous companies cutting back production and declaring bankruptcy. As a result, there was a spike in unemployment and thus poverty. The number of people living under the poverty line increased significantly, especially those living in urban areas which were more exposed to the financial crisis.

The Government of Indonesia responded to the crisis by launching a nationwide poverty alleviation program called the National Program for Community Empowerment (PNPM), one of the largest CDD poverty alleviation programs. This capitalized on the Indonesian tradition of *gotong royong* or mutual assistance among residents in development activities.

One part of the PNPM was the Urban Poverty Project 2 (UPP2), approved in June 2002. The project expanded the UPP1, the precursor coverage area, to the southern part of Java, Kalimantan, Sulawesi and West-Nusa Tenggara. In total, the $127 million project targeted 2,058 urban *kelurahan* spread over 13 provinces.[1]

The selection of *kelurahan* in UPP2 was based on a composite poverty score computed at the sub-district level using socio-economic and demographic variables from village census data (PODES). The score then excluded the richest 20 percent of sub-districts, with the remaining *kelurahan* located in the sub-district became eligible to participate and access grants.

The size of the grant awarded depended on population size and poverty density. For instance, a *kelurahan* with a population of less than 3,000 people could access grants up to US$ 15,000, while *kelurahan* with populations between 3,000 and 10,000, could access up to US$ 25,000 and those with more than 10,000 people could received up to US$ 45,000. Poverty density also determined the amount of the grant received. If there were 300-1,000 poor households in a *kelurahan* with a population of less than 3,000, the grant would be adjusted to US$ 25,000. Likewise, if there were more than 1,000 poor households in a *kelurahan* with 3,000-10,000 people, the allocation could rise to US$ 45,000.

The project required every beneficiary community to set up a local community board, the *Badan Keswadayaan Masyarakat* (BKM), consisting of 9-12 elected community representatives. The members were then delegated the authority to manage and implement the project resource allocation, including selecting potential beneficiaries and types of action.

Given the important role of the BKM members, the election mechanism was conducted in several stages. Before the grants were disbursed, the UPP2 project facilitators invited local

[1] *Kelurahan* is the lowest government administrative institution in Indonesia. It consists of rural *kelurahan* (village) and urban *kelurahan*. A *kelurahan* is divided non-administratively into different neighbourhoods (RW) which consists of several wards (RT). Each ward manages a certain number of households. UPP2 only targeted urban *kelurahan*.

residents in the neighbourhood (one level below *kelurahan)* to attend a neighbourhood meeting. The facilitators guided a discussion about the qualities that a leader should have, and asked them to identify people in the neighbourhood that possessed such qualities. These names were then collected and sent to the *kelurahan* as BKM candidates. The local residents were then invited to another *kelurahan* meeting to vote for the BKM board through a secret ballot. The winners of the election served as unpaid BKM board members.[2]

Once the BKM was established, its elected members led a community discussion among *kelurahan* residents to formulate a community development plan (CDP). Through discussion, the community could choose to allocate part of the resources to revolving fund projects, where recipients are required to repay the loans at low interest rates to maintain the project's cash flow. Revolving fund projects were mainly targeted at the non-poor, but were expected to create a multiplier effect for the poor.

In general, it was expected that the CDP include pre-identified investments covering a range of poverty alleviation activities: (1) bridge/road construction, school or health facilities improvement, and others; (2) anti-poverty activities that community groups could compete for (from physical infrastructure to services); (3) microcredit loans for community groups using a revolving fund basis; and (4) grant assistance to the poorest or most vulnerable individuals (scholarships, home improvements, health care, etc.). The CDP could identify activities from all categories or just one category, depending on circumstances. For projects not listed in the CDP, communities could submit project proposals to be assessed by the BKM.[3]

The list of poverty programs collected from discussions and proposals were then discussed by the BKM members to assess which project was to be approved. From this list of approved projects, some of the projects would be executed. Fieldwork showed that most BKM decisions were made through discussion but voting also occurred.

[2] Communities might also have BKM institution by choosing to strengthen existing local organization, as long as the members were chosen democratically and in a participatory manner.
[3] For some extremely high cost projects, financing could be combined from UPP2 funds, local government budgets and/or private donors. Community contribution of materials, labour, or land was also possible.

3. Empirical Strategy

3.1. Model Specification

Our empirical model modified the Araujo, et al. (2008) model for analysing project allocation patterns in Social Fund investment projects in Ecuador. The model explains a situation where a social program provides two types of projects: a public good project and a private good project. A private good project is a basic necessity project that exclusively provides for the poor and cannot be consumed by the non-poor at the same time. A public good project shares the characteristics of public goods: non-excludable or impossible to restrict access to anyone, hence "non-rival" as it can be consumed simultaneously such as road construction, school repair, or public lighting.

Given the two types of projects, the rational poor should prefer private good projects, as these directly benefit them and meet basic necessities. On the other hand, the non-poor only reap incentives in a public good project as they cannot benefit from private good projects. Based on this definition, elite capture occurs in poverty programs when the non-poor succeed in influencing local decision making and alter the nature of poverty programs: to choose more public good project rather than private good project. [4]

In a community with an unequal distribution of bargaining power, the gap between the poor and non-poor is large and mobility across power is rigid. Under this setting, the poor find it more difficult to increase their bargaining power, which creates a hostile environment for elite capture. The following is the empirical model that explains elite capture incidence in the UPP2 *kelurahan*, by estimating the share of private projects received and associating it with the *kelurahan* inequality level:

$$P_{ij} = \alpha_0 + \beta_0 I_{ij} + \beta_1 Y_{ij} + \beta_2 S_{ij} + \beta_3 X_{ij} + \mu_j + \varepsilon_{ij} \quad (1)$$

[4] We use three assumptions that: (1) private projects can only be consumed by the poor, and the non-poor have no interest towards it. Private goods project covers support for basic necessities such as social assistance for scholarship, elderly support, health support, training for unemployed and microfinance without repayment. At this point, these kind of basic goods are less needed by the non-poor, or at least they can be too arrogant to be appointed and receive such support. (2) There is no utility externality, from poor people receiving private projects, to the non-poor. For example, the non-poor's utility will not increase if the poor received private projects. (3) There is no mistargeting issue in the program, that the non-poor received private projects.

The dependent variable, P_{ij}, stands for the share of private good projects per total projects received by *kelurahan i* in the district *j*. The main variable of interest is I_{ij}, the *kelurahan* inequality level measured by household consumption.[5] The elite capture hypothesis is confirmed if the parameter β_0 is negative, which means that higher inequality is associated with a smaller share of private projects received by *kelurahan i*, holding other variables constant. Our specification controls for pre-existing local public goods (S_{ij}) and the mean consumption of the *kelurahan* (Y_{ij}) that represents the prosperity level. In addition, the model controls other community level determinants X_{ij} that might affect project selection. Finally, district fixed effects (μ_j) is included.

To include the analysis of the local decision making process in selecting projects, we construct an elite status variable for each BKM member. S_i denotes the "elite status" for BKM member *i*, which represents the level of bargaining power. S_i is computed using principle component analysis (PCA), based on the education, consumption, and social network of every BKM member. These three variables were selected as they highly correlate to each other.

Having determined the status index for every member, we differentiate the member's status as: having "elite status" or having "no elite status", by using one standard deviation above the mean as the cut off.

$$S_i = \begin{cases} 1 & \text{elite status} \\ 0 & \text{no elite status} \end{cases}$$

We then analyze the BKM decision making process by investigating the status composition in the BKM. Out of 9-12 members in the BKM, we are able to compute the status index for only 3 randomly chosen members.[6] Based on this composition, we then define a dummy variable that corresponds to the bargaining power setting in the BKM meetings (Table 1).

Hm^h_i and Hm^l_i stand for the community status if all boards' members homogenously have elite status or no elite status, respectively. Heterogeneously high (Hm^h_i) means that the

[5] The assumption that political power is positively correlated with socio-economic status as also used in Araujo et al. (2008) is incorporated.
[6] The three members are randomly selected to be interviewed in the survey.

composition in BKM *i* is varied, wherein two of three members have a higher elite status than the third individual. Likewise, heterogeneously low (Ht^l_i) means that two members with no elite status form the majority against the third member.

[Table 1]

We argue that this status composition is highly relevant in the decision making process as it represents members bargaining power, especially if the voting mechanism is carried out. Including the BKM dummy into Eq. (1), we have:

$$P_{ij} = \alpha_0 + \delta_0 Hm^l_{ij} + \delta_1 Ht^h_{ij} + \delta_2 Ht^l_{ij} + \delta_3 Hm^h_{ij} + \beta_0 I_{ij} + \beta_1 Y_{ij} + \beta_2 S_{ij} + \beta_3 X_{ij} + \mu_j + \varepsilon_{ij} \quad (2)$$

In this type of setting, elite capture exists if there is an elite majority in the BKM, which succeeds to influence the decision outcome and benefits them more. Under this set up, we argue that elite capture exists if the parameter of Hm^h_i and/or Ht^h_i is negative.

The positive relationship between Ht^l_i and Hm^l_i and the dependent variable might indicate altruistic behaviour among BKM members. When members share similar characteristics with the poor, they might choose the outcome that favours the poor, namely private good projects.

Our model is estimated using the fractional logit method as suggested by Papke and Wooldridge (1996): since the dependent variable is a fraction and continues, with values bounded between 0 and 1. Estimating such a model with a logit or probit method will produce an unnecessarily transformed dependent variable into binary form: zero or one. Moreover, using the OLS estimator would be incorrect and not be constant through the entire range. The predicted value is more likely to have values outside the range of 0 to 1. Using the fractional logit model extends the generalized linear model (GLM), and shows that the quasi-maximum likelihood estimator (QMLE) is a consistent estimator, as long as the assumption of the conditional mean function is correctly specified.

4. Data and descriptive statistics

This study combines two data sets from the Monitoring Information System (MIS) and the Impact Evaluation Survey (IES), both data sets were collected by the World Bank. The MIS is a web based information system which reports project's deliverability, while the IES

contains *kelurahan* level information gathered from several survey modules: *kelurahan* head module, household module, BKM member module, etc. For our analysis, we combined the two data sources from 154 *kelurahan,* which are identified using the survey code and the *kelurahan* name.

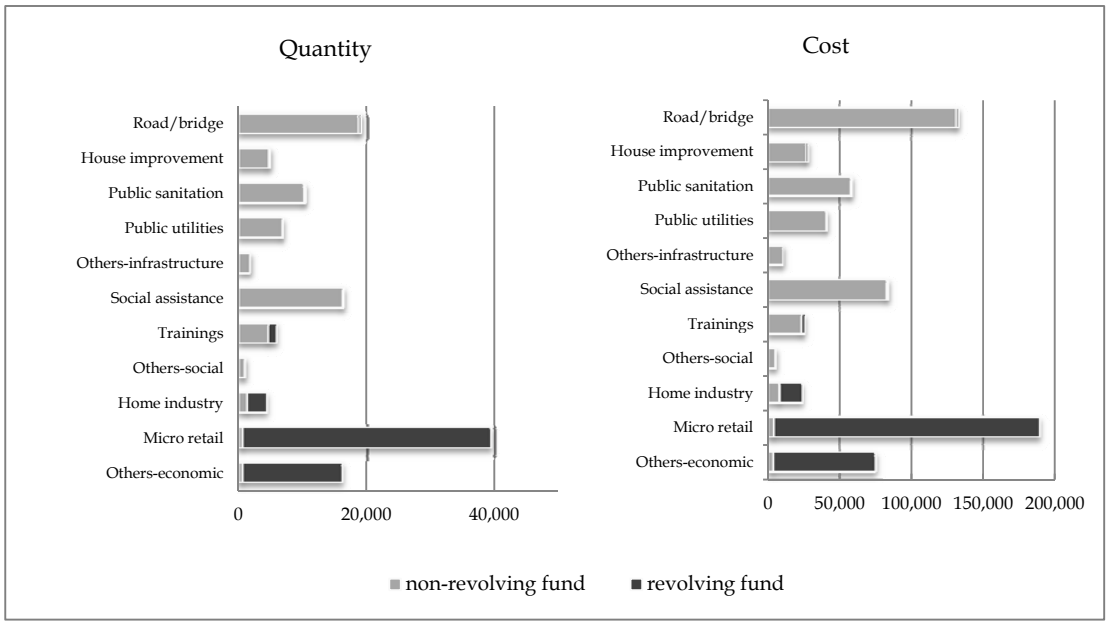
4.1. Monitoring Information System (MIS)

The MIS data reports information about the UPP2 proposals submitted, approved and funded during the project implementation, from 2004 until 2007. The data contains both the number of projects and the cost of projects for every sub-type of project, which is the main interest of our analysis.

[Table 2]

In the data, the MIS begins by classifying projects based on mechanism: revolving fund projects and non-revolving fund projects. Then, each classification is broken down into three types based on the sectors: (1) infrastructure projects, (2) social projects, and (3) economic projects. Every sector is further classified into several project sub-types. Table 2 describes the UPP2 project classification, and Figure 1 shows the project distribution.

Figure 1
Distribution of the UPP2 projects by project's cost and quantity, 1994-1997



In the left panel, 57 percent of the total non-revolving fund projects or 37,052 projects were comprised of construction or rehabilitation of public facilities, such as roads/bridges, public sanitation, public utilities, and other infrastructure projects. Of these, the highest share involved road/bridge construction (18,626 projects), followed by public sanitation (10,063 projects) and public utilities (6,746 projects).

In this study, we define road/bridge projects, public sanitation projects, and public utilities projects as "public projects", as these projects can be consumed by all community residents, both the poor and the non-poor. For example, the construction of a road/bridge intended to open access to poor households in a remote area, will not only benefit the poor, but also households located around the road/bridge.

The remaining non-revolving fund projects (43 percent) focused on social assistance (16,134 projects), training (4,531 projects), housing improvement for the poorest community members (4,555 projects), and grant support for the unemployed to start small businesses (2,379 projects). The UPP2 project document defines social assistance projects as given to specific individuals identified by the communities as the most needy or vulnerable. Based on the characteristics of these projects, these are pro-poor projects, which share the characteristics of private good projects. They are exclusively consumed by the poor, and cannot be consumed at the same time by the non-poor. Hence, these are defined as "private good projects".[7]

The distribution of the revolving fund projects are depicted in Figure 1 (darker bar). Most of the revolving fund projects fall under economic projects (96 percent), particularly in the form of microcredit loans for community groups. These loans are used to finance income generation, through petty trade, selling cooked/fresh food, and services such as electronics repair, tailoring, small scale manufacturing of shoes, clothing, handbags, pottery, etc. As the UPP2 project document earmarks revolving-fund projects to the non-poor, our empirical analysis focuses on the non-revolving fund projects. The revolving fund projects are used in the analysis for a robustness check (see below).

[7] For each type of project, there are some projects which cannot be classified into any sub-type classification. For simplification, the "others" in infrastructure are classified as public projects, while for economic and social projects these are classified as private projects.

The project cost for every sub-type is shown in the right panel of Figure 1. Public projects account for 61 percent of total non-revolving fund projects. For public projects, the highest share goes to road/bridge projects, followed by public sanitation, public utilities, and other infrastructure projects. It can be seen that even though project quantity and cost shows a similar distribution, inevitably differences in project scale/size affected project choice analysis.[8] A community's project choice was initially based on the cost of the project, related to the size of the UPP2 grant given to the specific community, although it was possible to secure other funding sources.

4.2. Impact Evaluation Survey

The second data source of this study comes from the Impact Evaluation Survey (IES), which was conducted to measure the true impact of UPP2 on poverty reduction. Designed as a quasi-experimental survey, the data collection was fielded in three rounds: baseline (2004), midterm (2005-2006), and final (2007). For the purpose of our analysis, we utilized the baseline and midterm rounds, which include community information before the program took place, and right after the BKM institution was established.

In the sample design, IES selects both control and treatment *kelurahan* using the regression discontinuity method.[9] We only focus on the treatment sample. In each selected *kelurahan*, 32 households were randomly chosen for the enumerator to collect information from one adult male and one adult female. The survey questions gathered socio-demographic information on each household member, as well as household expenditure, and the social network of the two adults. Information on food and non-food expenditure of every household was then used to compute *kelurahan* mean consumption and inequality.

Immediately after the BKM was established, but before the grants were disbursed, the midterm data was collected. In this survey, an additional module was given to all 1,920

[8] Araujo et al. (2008) only use project quantity data as the project funding data for Social Fund investment projects in Ecuador is unreliable. We use our information benefit for the robustness check of our analysis.

[9] The treatment sample was selected using the poverty score computed at the sub-district level. The richest 20 percent of sub-districts were excluded. Using RD, *kelurahan* located in sub-districts with a poverty score slightly above the cut-off were assigned as control, while *kelurahan* located in sub-districts with poverty scores slightly below the cut-off were assigned as treatment sample.

BKM board members to record their socio-demographic background, such as gender, education, employment status, etc. Of the 1,920 BKM members interviewed, the survey randomly selected three members to collect information from regarding per capita expenditure and social network. The sample design of UPP2 is presented in Table 3.

[Table 3]

Using the community profile module, community level information such as population size, number of mosques, access to public services, etc., was collected. The descriptive statistics for the control variables at the community level used in the empirical analysis are presented in Table 4.

[Table 4]

As the BKM members played a key role in determining project choice, we are interested in comparing BKM members and non-BKM members (the general population), as shown in Table 5.

Table 5 shows that BKM members are overwhelmingly male. Although a 30 percent quota was the target for women in BKM, only 19 percent of BKM members are women, compared to 51% in the general population. Although the UPP2 developed a strategy to systematically address gender mainstreaming and equality, specifically through the regulation that at least one third of BKM members be women, nevertheless it clearly shows that the number of women in the BKM is less than the mandate.

BKM members are more highly educated, wealthier and from higher social network levels. In terms of education, the board members spent 13 years in school, while for the general population this was only 9.32 years. Around 46 percent of BKM board members have a diploma degree, while only 13 percent of the general population do. Based on consumption, 83 percent of BKM members come from the high consumption group, compared to 26 percent in the general population.[10]

[10] The welfare indicator for both board members and non-board members is based on per capita consumption at the baseline (pre-program condition). At this phase, the board members expenditure was not available because they are only elected after the program is active. Assuming that assets would not vary significantly between baseline and midterm, per capita consumption is predicted based on their assets. First, the household information at baseline is used, specifically to regress household consumption on a number of asset variables. Applying the estimated coefficients from this regression to the same asset variables of the board members

[Table 5]

The social network indicator is measured as the percentage of people in the local government or local institution that an individual knows personally. The comparison table shows that 93 % of BKM members are networked using this definition, higher than the 62 percent reported by the general population. For the BKM members, the social network variable was collected at the midterm survey, whilst for non-members, at the baseline. We acknowledge the potential endogeneity issue for this variable, which is the possibility that the members met activists through participation in the UPP2. However, the types of local activists listed in the questionnaire were those whom respondents were not likely to meet through the UPP2, as the project was specifically designed to be less connected with governmental structure to guarantee its independence.

5. Empirical Results

Table 6 presents the estimation result of specification (1), which examines the relationship between *kelurahan* inequality and the share of private projects in total projects. Here, the share of private projects is computed using project cost data for private good projects under the non-revolving fund mechanism. The regression results show that inequality is significant and negatively associated with the share of private projects implemented in a community. Controlling for other covariates constant, the more unequal a community's consumption, the smaller is the share of private projects. This clearly supports the elite capture hypothesis in an unequal power distribution setting.

To ensure result consistency, we use several inequality measurements with different sensitivity in different parts of the distribution. The first measurement we use is the deciles dispersion ratio: the ratio of the average consumption of the richest group divided by the average consumption of the poorest. This measurement is quite useful for a small sample like our case, where the computation for inequality is based on the consumption of 32 randomly selected households.

obtained from the midterm survey, the consumption of the board members is predicted. This predicted consumption is used as the proxy of their welfare indicator not affected by the program.

In column (1), we use P_{8020} or the ratio of the average richest 20 percent divided by the average poorest 20 percent. The econometric result shows that one standard deviation changes in P_{8020} is associated with 0.029 times standard deviation reduction on the probability to implement a higher share of private projects. However, P_{8020} might neglect the information of households in the middle of the distribution. In column (2), we use another deciles dispersion ratio P_{8050}, or the ratio of the average 20 percent richest divided by the median. This measurement also gives a negative and significant effect, although its magnitude is higher and more significant. We also consider the problem of vulnerability in extreme values and outliers, so we include an inequality measure with axiomatic foundations. In column (3) to (5) we use the gini index, general entropy (GE) and Atkinson index. It shows that the coefficients of these three measurements remain negative and significant.

To control for other community variables that might influence the type of project chosen, our estimation includes control variables: mean consumption, population, number of mosques and access to public services such as electricity rate and distance to nearest bus station. To control the targeting effect of the UPP2, we also include the amount of the UPP2 fund received and the interaction between the fund and the population.

Access to public services is included to capture the existing supply of public goods accessible by all residents. These public goods were exogenously provided by the government before the UPP2 had started. The distance to the nearest bus terminal is our proxy for transportation access. The farther the distance to the public terminal, the lower the access to public transport. The estimation result shows a positive and significant effect, reflecting that low access to public goods is associated with a higher number of private projects implemented. In other words, communities with greater access to transportation will implement fewer private projects. One would expect the reverse - that communities with better infrastructure which represents public goods will demand more private projects.

The number of mosques is positive and statistically significant. We include this variable as Indonesia is the largest Muslim country in the world. Rao (2005) describes the important role of mosques as “symbolic public goods” in collective action, vital to generating common knowledge and helping build a sense of community. We argue that mosques often host development activities, providing a venue for community meetings, discussions about who

and where the genuine poor exist in the community, and announcing community work. Our findings confirm that the number of mosques increases the likelihood of implementing pro-poor projects because of their important role in the community.

[Table 6]

Of the remaining independent variables, *kelurahan* mean consumption is strongly positive and significant. This means that the share of private projects is higher in better off *kelurahan*. One could assume that higher rates of poverty would generate more private projects. Yet, our econometric results show a different pattern. Holding other variables constant, poorer communities (lower mean consumption) are associated with fewer private projects, a problem in the UPP2.

5.1. BKM setting and project selection

Since the UPP2 uses CDD and project allocation is conducted primarily through closed BKM meetings, one could argue that it is not the community that chooses projects but rather the BKM. We thus include the power distribution of BKM members in the empirical analysis.

[Table 7]

In Table 7 we estimate the probability of getting elected to the BKM by pooling individual data for both BKM and non-BKM members. The estimation includes socio-economic characteristics such as gender, education, consumption, social network, age, and religion, and controls for the sub-district effect. Confirming the descriptive findings, the results show that being educated, wealthier and in a higher social network increase the probability of being elected to the board. The results also suggest that being male and Muslim increase the odds. Using age and age squared to explain the determinants of board membership reveals that the effect of age is non-linear.[11]

The results show that BKM members have specific characteristics which distinguish them from the general population. The characteristics with the highest magnitude and significance are years of schooling, per capita consumption, and social network.

[11] Similar results have been reported in Beard et al. (2008).

These three factors together determine the bargaining power of an individual in the local decision making process for project allocation. An elite index based on these three variables classified each BKM as falling into one of four categories: homogenously high status (Hm^h_i), homogeneously low status (Hm^l_i), heterogeneously high status (Ht^h_i), or heterogeneously low status (Ht^l_i) then included in the specification as dummy variables. The PCA output is reported in Table 8.

[Table 8]

Column (6) to (10) in Table 6 show how a project decision is determined and influenced by the composition of the board and each individual's bargaining power. Of all the dummies included, only "homogenously low status" is statistically significant, compared to the left-out category ("heterogeneous and low status"). This strengthens the elite capture hypothesis: only when all members are of homogeneously low status, does the probability to implement private projects become higher; all other compositions lead to fewer pro-poor projects. The result is plausible. When BKM members share similar characteristics with the poor they have within-community affinity, and thus engage in altruistic behaviour by giving higher preference to pro-poor projects.

Comparing columns (1) to (5) with columns (6) to (10), we find that the sign and value of all parameters are quite similar. *Kelurahan* inequality remains negative and significant, and for P8020, gini index, general entropy, and Atkinson index, the effect is slightly stronger. We interpret that *kelurahan* inequality has a separate effect from BKM status in determining project selection.

In Table 9 we compare the characteristics for each type of BKM, both for the boards as well as for the *kelurahan*. The BKM boards which classify as "homogeneously low status" have the lowest consumption, years of education and social networks. These characteristics mirror the poor who have low levels of wealth and education, limiting their social networks especially with decision makers in the *kelurahan.*

Examining *kelurahan* characteristics, BKM members categorized as Hm^l_i, live in the poorest *kelurahan* with the worst access to electricity and transportation. These *kelurahan* qualify for the highest UPP2 grants. In terms of community inequality, power distribution is quite even, and therefore elite capture is low. In *kelurahan* where BKM members are of a

homogeneously low status, the boards prioritize private projects (intended for the specific poor) even though the pre-existence of public goods is low.

[Table 9]

5.2. Endogeneity issues

We acknowledge that these results might be biased due to endogeneity issues. The first is the possibility that there is an unobserved heterogeneity that might affect the BKM selection process, which would then affect the probability of a BKM member getting elected as well as the project choice simultaneously. For example, communities with an unobserved pro-poor orientation might choose low status BKM members and more pro-poor projects. We try to limit this problem through our comprehensive set of control variables as well as district fixed effects. The second endogeneity threat might arise from the reverse causality issue. We argue that this reverse relationship does not exist, as the main independent variable, community inequality, is predetermined before the project takes place.

5.3. Robustness

For the robustness tests, we examine how a community favours non-revolving and revolving mechanism projects. Using the same model specification, the dependent variable is now defined as the ratio of house improvement projects, social projects, and economic projects under a non-revolving fund mechanism, divided by the rest of the non-revolving fund projects (bridge/road construction, public sanitation and public utilities) and all revolving fund projects. This is based on the argument that the non-poor would prefer public good projects as well as revolving fund project from which they both benefits. Our results show a similar pattern, and confirm this (Table 10).

[Table 10]

Another robustness test was conducted by using the number of projects instead of the cost of projects to compute the dependent variable to estimate the same specification. Again, our results show a similar pattern, but with a weaker effect.[12]

[12] Results are available on request.

6. Conclusions

Currently many poverty programs are implemented using Community Driven Development, which many argue fosters sustained poverty reduction through social inclusion. Yet, recent literature has shown that such an approach may increase the risk of elite capture at the expense of the poor. Particularly in more unequal communities, the risk is higher as the gap between non-poor and poor is more severe, which may reduce the poor's ability to voice their preferences.

This paper aimed to investigate the existence of elite capture within the Urban Poverty Project 2, a CDD program in Indonesia. Classifying different types of alleviation programs as private or public good projects, where private good projects directly benefit the poor, while public good projects benefit both poor and non-poor, we argue that elite capture exists when communities choose more public projects than private projects.

By estimating the share of private projects implemented by the communities, we find that inequality increased the incidence of elite capture as unequal communities prefer public good projects over private good projects. These findings are in line with previous studies that confirm the negative relationship between inequality and development outcomes.

We further argue that the decision over which types of projects are approved depends primarily on the power distribution and internal decision making process between BKM board members rather than the community as a whole. This is based on the fact that UPP2 delegates the decision making process to elected community boards, and therefore the bargaining power between board members determines which types of programs are funded.

By constructing an elite index using information on BKM member education, consumption and social network, we are able to identify the role the BKM plays in deciding which projects to fun. We find an interesting result: only when BKM members closely share characteristics with the poor, does altruistic behaviour exist and project decision favour the poor. These results are robust for different inequality measurements and specifications.

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Table 1
Elite status composition in the BKM meetings

BKM dummy	S_1	S_2	S_3	Description
Homogeneously high (Hm^h_i)	1	1	1	All have elite status
Heterogeneously high (Ht^h_i)	1	1	0	2 with elite status and 1 with no elite status
Heterogeneously low (Ht^l_i)	1	0	0	1 with elite status and 2 with no elite status
Homogeneously low (Hm^l_i)	0	0	0	All have no elite status

Table 2
MIS Classification of the UPP2 Projects

Mechanism	Project type	Project sub-type	Description
Non-revolving fund projects / Revolving fund projects	Infrastructure	Road/bridge	New construction or rehabilitation of road/bridge.
		House improvement	Construction or rehabilitation of residential house.
		Public sanitation	Drainage, public toilets, garbage/waste facilities for community level.
		Public utilities	Construction or rehabilitation of community's clean waterways, water tank, public lighting, etc.
		Infrastructure - others	Infrastructure related projects which doesn't fit the above criteria.
	Social	Trainings	Support for trainings or informal education to improve the poor's skill.
		Social assistance	Grant assistance to the specific individuals identified as being most needy or vulnerable, which include the support for orphan, elderly, the poorest, in the form of scholarships, health care, etc.
		Social - others	Social related project which doesn't fit the above criteria.
	Economic	Home industry	Small scale manufacturing support (i.e. small scale shoes factory, clothing, handbags, pottery, etc.
		Micro retail	Petty trade support such as: selling cooked/fresh food, services such as electronics repair, tailoring,
		Economic - others	Economic related projects which doesn't fit the above criteria.

Table 3
Sampling framework

Module	Respondents	Sample	
		Baseline	Midterm
Community profile	Head of *kelurahan*	159	154
Ethnicity, language, etc.	Households level	5,046	4,588
Demographic variables	All household members	23,192	-
Consumption and social network	2 adults in a household	9,447	8,239
Demographic variables	All BKM members	-	1,920
Consumption and social network	3 selected BKM members	-	420

Table 4
Community Descriptive Statistics

Variable	Mean	Median	Standard Deviation	N
Mean per capita consumption	219,264	198,121	94.28	154
Population	5,821	4647	3,817	154
Mosque	6	5	5.5	154
Access to public electricity	0.96	1.00	0.12	154
Distance to terminal (minutes)	14.95	10.00	13.33	154
P_{8050}	2.76	2.51	1.67	154
P_{8020}	5.62	4.84	3.76	154
Gini index	0.33	0.32	0.09	154
GE index	0.20	1.62	0.16	154
Atkinson index	0.17	0.15	0.17	154

Table 5
Comparison between Boards Member and Non-Boards Member

Characteristics	Board members	Non-member
Age *)	42,83	39,02
Female	0,19	0,51
Married	0,91	0,69
Moslem	0,91	0,92
Employed	0,80	0,53
Hours work per week	41,69	44,55
Years of schooling	13,00	9,32
Education category 0 **)	0,00	0,00
Education category 1	0,03	0,34
Education category 2	0,08	0,18
Education category 3	0,46	0,35
Education category 4	0,42	0,13
Per capita consumption ***)	395.460	207.945
n (individuals)	1.920	15.073

[a]) Age below 18 is dropped, as UPP2 restricts BKM member below 18. [b]) Category 0 means never been in school, 1 for primary school, 2 for junior high school,3 for senior high, and 4 for university/diploma) Board's consumption is measured using 462 sample, outlier and zero values were dropped

Table 6
Determinants of the share of private projects received by community

	Community Inequality					*Community organization inequality*				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Mean of per capita consumption (in log)	0.454***	0.389***	0.437***	0.406***	0.478***	0.497***	0.419***	0.485***	0.442***	0.526***
	(2.816)	(2.738)	(2.942)	(2.692)	(3.060)	(2.989)	(2.866)	(3.114)	(2.838)	(3.248)
Population (in log)	-0.248	-0.237	-0.225	-0.240	-0.235	-0.210	-0.197	-0.187	-0.200	-0.197
	(-1.187)	(-1.144)	(-1.087)	(-1.150)	(-1.137)	(-1.060)	(-1.005)	(-0.953)	(-1.016)	(-1.007)
Distance to terminal (minutes)	0.005*	0.005*	0.005**	0.005*	0.005**	0.005*	0.005*	0.005*	0.005*	0.005*
	(1.886)	(1.878)	(2.109)	(1.839)	(2.055)	(1.755)	(1.772)	(1.949)	(1.722)	(1.890)
Mosque	0.016**	0.016**	0.016**	0.016**	0.017**	0.015*	0.015*	0.016**	0.015*	0.016**
	(2.138)	(2.148)	(2.309)	(2.169)	(2.356)	(1.795)	(1.828)	(1.961)	(1.822)	(1.994)
P8020	-0.029**					-0.030***				
	(-2.521)					(-2.596)				
P8050		-0.059**					-0.059**			
		(-2.334)					(-2.405)			
Gini index			-1.320**					-1.381***		
			(-2.519)					(-2.658)		
GE index				-0.585**					-0.589***	
				(-2.550)					(-2.611)	
Atkinson index					-1.469***					-1.530***
					(-2.795)					(-2.954)
Homogenous and high status	-	-	-	-	-	-0.239	-0.217	-0.260	-0.218	-0.256
						(-1.154)	(-1.036)	(-1.169)	(-1.028)	(-1.175)
Homogenous and low status	-	-	-	-	-	0.157*	0.157*	0.151*	0.158*	0.153*
						(1.931)	(1.913)	(1.851)	(1.932)	(1.881)
Heterogeneous and high status	-	-	-	-	-	0.010	0.025	-0.006	0.011	-0.004
						(0.104)	(0.259)	(-0.066)	(0.111)	(-0.040)
N	153	153	153	153	153	153	153	153	153	153
AIC	1.25	1.25	1.25	1.25	1.25	1.29	1.29	1.29	1.29	1.29
BIC	-599.25	-599.24	-599.25	-599.22	-599.27	-584.33	-584.32	-584.34	-548.30	-584.37
(1/df) Pearson	0.37	0.37	0.37	0.037	0.37	0.04	0.04	0.04	0.04	0.04

The dependent variable is the share of private non-revolving fund projects as a share of all projects from the non-revolving projects. The results are obtained using the fractional logit. *t*-values are in parentheses. *, **, *** denote significance at 10%, 5% and 1% level, respectively. Constants are not reported. The estimation also controls for the amount of the UPP2 fund received by community, interaction between population and amount of the UPP2 fund received, and access to public electricity. Districts fixed effect is included.

Table 7
Determinants of community organization membership

	(1)	(2)
Years of schooling	0.308***	0.308***
	(14.612)	(14.170)
Per capita consumption (log)	1.131***	1.012***
	(12.131)	(10.168)
Social network	8.173***	8.233***
	(17.818)	(17.441)
Age		0.302**
		(8.909)
Age squared		-0.003**
		(-7.854)
Female		-0.647***
		(-5.192)
Moslem		0.867***
		(3.839)
District fixed effect	Yes	Yes
N	14,335	14,331
Pseudo R2	0.37	0.43

The dependent variable is the probability that a person is elected as a BKM member. t-value in the parenthesis. ***, **, * indicate significance at 1, 5, and 10 percent level, respectively.

Table 8
Elite status construction using principle component analysis

Correlations

	Eigen value	*Difference*	*Proportion*	*Cumulative*
Comp 1	1.28086	0.289166	0.427	0.427
Comp 2	0.991689	0.264234	0.331	0.758
Comp 3	0.727455		0.243	1

Eigenvectors

Variable (standardized value)	*Comp 1*
Per capita consumption	0.699
Years of schooling	0.694
Social network	0.174

Table 9
BKM comparison based on status composition

Community Organization Status	Hm^h_i	Ht^h_i	Ht^l_i	Hm^l_i
Boards Characteristics				
Consumption per capita	806,559	457,460	412,892	288,238
Years of education	15,6	14,79	13,44	12,5
Social network	0,94	0,93	0,93	0,92
Kelurahan Characteristics				
Mean *kelurahan* consumption (IDR)	214,990	240,524	219,230	204,581
Population	4,775	6,018	5,709	5,923
Access to public electricity	0.99	0.98	0.98	0.93
Distance to terminal (minutes)	9.00	12.89	15.79	15.96
Number of mosques	6	6	7	6
Total UPP2 fund (millions IDR)	230	256	248	272
Gini index	0.30	0.34	0.34	0.32
GE index	0.19	0.22	0.20	0.18
Atkinson index	0.14	0.17	0.17	0.15
P8020	4.45	6.29	5.68	5.15
P8050	2.54	3.19	2.74	2.49
Number of BKM institution	5	36	63	50

Table 10
Robustness tests on the determinants of the share of private projects received by community

	Community inequality					*Community organization inequality*				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Mean of per capita consumption (in log)	0.373***	0.324**	0.305**	0.323**	0.342**	0.404***	0.346***	0.339**	0.350**	0.377***
	(2.641)	(2.539)	(2.286)	(2.418)	(2.460)	(2.756)	(2.584)	(2.396)	(2.497)	(2.588)
Population (in log)	-0.253*	-0.244	-0.235	-0.245	-0.241	-0.222	-0.212	-0.204	-0.213	-0.211
	(-1.660)	(-1.608)	(-1.549)	(-1.605)	(-1.595)	(-1.534)	(-1.470)	(-1.420)	(-1.474)	(-1.470)
Distance to terminal (minutes)	0.006***	0.006***	0.006***	0.005***	0.006***	0.005**	0.006**	0.006**	0.005**	0.006**
	(2.737)	(2.730)	(2.705)	(2.681)	(2.725)	(2.532)	(2.558)	(2.525)	(2.498)	(2.523)
Mosque	0.014**	0.014**	0.013**	0.013**	0.014**	0.013*	0.013*	0.012*	0.013*	0.013*
	(1.992)	(1.996)	(2.006)	(1.988)	(2.062)	(1.699)	(1.721)	(1.709)	(1.692)	(1.759)
P8020	-0.020**					-0.020**				
	(-2.389)					(-2.504)				
P8050		-0.040**					-0.039**			
		(-2.408)					(-2.479)			
Gini index			-0.605					-0.628		
			(-1.360)					(-1.432)		
GE index				-0.359**					-0.356**	
				(-2.104)					(-2.166)	
Atkinson index					-0.769*					-0.794*
					(-1.702)					(-1.806)
Homogenous and high status		-	-	-	-	-0.142	-0.126	-0.144	-0.126	-0.146
						(-0.994)	(-0.881)	(-0.944)	(-0.865)	(-0.961)
Homogenous and low status		-	-	-	-	0.122*	0.122*	0.119*	0.122*	0.119*
						(1.825)	(1.816)	(1.774)	(1.827)	(1.781)
Heterogeneous and high status		-	-	-	-	-0.002	0.008	-0.013	-0.002	-0.012
						(-0.029)	(0.100)	(-0.156)	(-0.029)	(-0.147)
N	153	153	153	153	153	153	153	153	153	153
AIC	1.113	1.113	1.114	1.114	1.114	1.152	1.152	1.152	1.152	1.152
BIC	-601.54	-601.54	-601.51	-601.52	-601.52	-586.52	-586.52	-586.49	-586.50	-586.50
(1/df) Pearson	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018

The dependent variable is the share of private non-revolving fund projects as a share of all projects from the revolving or non-revolving projects. The results are obtained using the fractional logit. *t*-values are in parentheses. *, **, *** denote significance at 10%, 5% and 1% level, respectively. Constants are not reported. The estimation also controls for the amount of the UPP2 fund received by community, interaction between population and amount of the UPP2 fund received, and access to public electricity. Districts fixed effect is included.

Table 11

Distribution of UPP2 Projects 2004-2007

Project Type	Non-revolving		Revolving		Total projects	
	Number	Cost*	Number	Cost*	Number	Cost*
Infrastructure						
Road/Bridge	18,626	130.7	388	1.8	19,014	132.5
Housing	4,555	26.1	250	1.6	4,805	27.7
Public sanitation	10,063	57.6	202	1.3	10,265	58.8
Public utilities	6,746	40.2	87	0.4	6,833	40.6
Infrastructure - others	1,617	10.0	27	0.1	1,644	10.0
Social						
Social assistance	16,134	82.8	171	1.1	16,305	83.9
Trainings	4,531	23.1	1,300	2.6	5,831	25.7
Social-others	843	4.8	82	0.5	925	5.3
Economic						
Home industry	1,278	7.6	3131	15.9	4,409	23.6
Micro retail	565	4.0	38,719	185.5	39,284	189.6
Economic-others	536	3.5	15,481	71.5	16,017	75.00
Total	65,494	390.2	59,838	282.4	125,332	673

**) in billion IDR*