Pro-poor targeting and electoral rewards in decentralizing to communities the provision of local public goods in rural Zambia

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Abstract

Even though several studies have assessed the degree of progressivity in targeting communities under the participatory Social Investment Fund (SIF) approach to the provision of local public goods, there is yet little evidence on how increasing decentralization affects the quality of this targeting. We identify the impact of increasing decentralization on community targeting using the unique situation of Zambia's SIFs where the degree of decentralization changed in time and space across districts over the 15 years of program implementation. We find that greater decentralization of SIFs' functions to districts that had been deemed to have the necessary level of managerial capacity led to more progressive targeting across wards, mildly so at the national level and strongly so within districts. We also observe how local electoral politics gained importance with greater decentralization, with more votes received by the candidate from the majority party in the district council attracting more projects to a ward, and more projects in a ward rewarded by more votes for the councilor from the incumbent party. Decentralization thus made concerns with community poverty more salient in targeting and local politics more important in public goods allocation.

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1 Introduction

Citizen participation in the provision of local public goods has been widely pursued in developing countries in the past decades. This has been the hallmark of the Social Investment Fund (SIF) approach to deliver small-scale social and economic investment projects to communities, initially introduced to mitigate the negative impacts of adjustment policies on the poor (Rawlings, Sherburne-Benz, and van Domelen, 2001). Under this approach, community-based organizations (CBO) were invited to submit project proposals to an ad-hoc central agency that had the responsibility of selecting from among proposals received, providing budget support, and monitoring the implementation of projects. This approach to the delivery of local public goods was based on the presumption that delegating to CBOs the responsibility of identifying projects for investment in local public goods could improve their poverty reduction effectiveness compared to a top-down approach because of asymmetric information available at the local level. Which communities were selected for support, and which projects were funded within these communities, depended, however, on the particular capacity of each community's CBOs to formulate demands and get them approved by the central agency.

Because community capacity is quite uneven, and citizen interests are highly unevenly represented by CBOs, questions arose as to whether this approach would effectively serve the poorer communities. For this reason, the centralized SIF methodology gradually evolved toward a more decentralized approach giving greater roles to a structured representation of local interests. Local representation could be through the district administration, often with the assistance of an appointed development council in charge of representing the interests of the communities in the district, consisting of wards in the case of Zambia as the lowest formal administrative units. Under partial decentralization, the district was charged with receiving project proposals from CBOs, appraising these projects, transmitting to the central agency project appraisals, and monitoring implementation of projects that had received budgetary support from the central agency. Under complete decentralization, the districts received budgetary transfers from the SIF under the form of Community Investment Funds that they could allocate across wards in response to CBO project proposals (Figure 1).

The decentralized SIF approach, often referred to as Community-Driven Development (CDD), met with considerable support among international development agencies as a pro-poor instrument to allocate funds to the provision of local public goods and to support local productive projects. It was estimated that, in 2003, up to one fourth ($7 billion) of the World Bank's annual disbursements were occurring through this modality (Mansuri and Rao, 2004). As district administrative capacity was gradually strengthened by purposeful interventions of the central agency, district roles were correspondingly increased. From playing an intermediary role between CBOs and the central SIF agency under partial decentralization, districts were gradually entrusted with greater responsibilities in resource disbursement. The ultimate step was the complete decentralization of SIF resources, eventually transferring to districts a lump-sum investment fund to be competitively allocated to the projects submitted by CBOs in the wards composing the district.

In spite of large scale implementation of the modality, there are still few evaluations of the role of decentralization in the SIF approach to the delivery of local public goods, leaving strong reservations about the actual effectiveness of the approach and the conditions for success (World Bank, 2006). The main issue that requires evaluation is the trade-off that may exist between taking advantage of local information and local social capital to better target resources on the poorest communities; and the risks of capture of benefits by richer communities and by local elites and politicians (Platteau and Gaspard, 2003).[2]

Previous research gave mixed evidence on the pro-poor value of decentralization. Faguet (2003) found that municipal decentralization in Bolivia allowed to better adjust public expenditures to the specificity of community needs in human capital formation and social services, particularly in the poorest municipalities. This result is important as it shows that gains can indeed be achieved for the poor through decentralization, as opposed to inevitably leading to capture by local elites as had generally been expected. Paxon and Schady (2002) using data for Peru found that partially decentralized ?? SIFs were better at reaching the poorest communities but not the poorest households within

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[2] For a review of the relationships between decentralization and accountability, see Bardhan and Mookherjee (2005).

communities. In this case, capture was an intra-community phenomenon as project benefits did not reach the neediest. Galasso and Ravallion (2005) for Bangladesh, Alderman (2002) for Albania, Arcand and Bassole (2006) for Senegal, and Bardhan and Mookherjee (2006) for West Bengal all found the opposite, namely that inequality in the appropriation of benefits of decentralized programs [Need say what kind of decentralization we are talking about in these programs] was more an inter-community than an intra-community problem. In Senegal, it is regional politics that is important in influencing the allocation of projects across communities in a CDD approach to local public goods, leading to eventual "community capture" (Arcand and Bassole, 2006). In Thailand, it is the differential social capital endowment of a community, in particular the strength of its organizations and networks, and not necessarily its wealth, that determines its success in attracting CDD projects (Chase, 2006). Combining inter- and intra-community distribution of Zambia's SIF benefits across households, Chase and Sherburne-Benz (2001) observed that the program reached poor households in rural areas, but not in urban areas where benefited households were better off than urban households overall. Van Domelen (2002) analyzed six social funds in Armenia, Bolivia, Honduras, Nicaragua, Peru, and Zambia and concluded favorably that investments were generally targeted at the poorer districts and benefited more the poorer households, and that they largely responded to stated community needs. But Rao and Ibáñez (2003) found that, in the Jamaican social fund, gains were extensively captured by the elites within the community. Hence, evidence about the needs-capture tradeoff is mixed at both the community and the individual level, and outcomes depend on local specificities and program implementation. To identify the effectiveness of decentralization relative to other aspects of program implementation, we need to observe an evolution from centralized SIF to decentralized SIF across similar other program characteristics and local environments.

In terms of local environment, capacity of the local administration is important for decentralization. If heterogeneity in the competency of local administrative officials is large, it is a wise strategy to only delegate to authorities that are deemed capable enough to deliver the service effectively. In this sense, we need to consider the 'treatment effect

of the treated' in a sense of measuring how decentralization changes the effectiveness in targeting when the function is only given to capable local authorities.

Zambia offers a unique laboratory to analyze the progressivity / regressivity in targeting of the SIF approach under different levels of decentralization. It has had a sustained 16 years experience with participatory SIF projects administered through different levels of decentralization: two centrally managed SIFs -- SRP I (1990-1994) and SRP II (1995-1999) --, and an increasingly decentralized SIF -- ZAMSIF (2000-2005) --, with increasing decentralization of control over resources to districts deemed capable of performing this function, ultimately converging into full decentralization. Under ZAMSIF, the degree of devolution of control over resources was increased with district administrative capacity, from capacity category A with no decentralization, to capacity category B with partial decentralization, and to capacity category C with a high and ultimately complete level of decentralization. Therefore, our identification strategy of the role of decentralization in SIF projects rests on comparing the changes in the within-district allocation of projects across time and district types, analogous to a difference in difference approach. We then analyze the relation between politics and projects to assess how increasing decentralization enhances the relevance of local politics in the allocation of local public goods, both in going from votes received by local politicians to project allocation, and from projects received by wards to votes earned by local incumbent politicians.

2 Zambia's Social Investment Fund programs

The SIFs in Zambia had the objective of funding small, simple, and locally initiated projects to mitigate the hardships that poor communities were facing under structural adjustment following the debt crisis.[3] Under SRPI and SRPII, the Micro Project Unit (MPU) of the Ministry of Finance was the central agency in charge of project selection and resource allocation. Staff of the provincial offices of MPU provided information on potential funding opportunities to the communities and local authorities. To enhance the likelihood that projects submitted for funding dealt with the perceived

[3] A detailed explanation of how SIFs functioned is provided by Chase and Sherburne-Benz (2001).

needs of those in the poor communities, a participatory approach was adopted trough CBOs. Under this scheme, potential beneficiary organizations were asked to express and prioritize their needs, and were encouraged to formulate and submit project proposals for potential funding. In addition to this, SRP II started to train the districts to enable them to achieve levels of administrative capacity that would permit to decentralize to the district level the functions initially fulfilled centrally by the Social Fund agency.

SIFs in Zambia were transformed into increasingly decentralized programs with initiation of ZAMSIF in 2000. Compared to the former SRPs, the ZAMSIF program allowed more district participation to SIF activities depending on the level of district administrative capacity. Capacity was carefully established by a set of indicators updated on an annual basis in the District Assessments conducted by the Provincial Assessment Committees, and summarized in a 5-level administrative capacity index. A district could enjoy an increasing degree of autonomy regarding SIF activities, up to receiving block grants for fully decentralized implementation.[4]

For districts with administrative capacity level 1, ZAMSIF supported all community project activities in the same fashion as under SRP I and II, with no decentralization. Districts with administrative capacity level 2 were given the responsibility to field appraise, desk appraise, and monitor projects. Districts with administrative capacity level 3 had the role of costing and budgeting projects, and of supporting implementation with monitoring and technical advice. Districts with administrative capacity level 4 could approve projects up to US$50,000, and communities were accountable for these expenditures to the districts. Finally, districts with administrative capacity level 5 received an annual Community Investment Fund allocation from the central agency, and were responsible to disburse and monitor all community projects. For the analysis conducted in this paper, districts with administrative capacity levels 1 and 2 are in categories A and B, respectively, while districts with administrative capacity levels 3 to 5 were regrouped in a category C due to the small number of districts at these levels. We thus refer to these three categories of

[4] The potential impact of district capacity on project choice by wards, in particular achieving a better fit between project type and community needs, can thus come through both greater administrative capacity and more autonomy in project management.

districts as centralized, partially decentralized, and highly decentralized (Table 1). As discussed later, district councils mainly consisted of elected representatives including the district's Member of Parliament (MP) and the locally elected ward councilors, giving local politicians a high level of control over project allocation. Local politics thus assumed increasing importance with the degree of decentralization.

3 Data

We have an exhaustive list of the 1,282 projects approved under SRP I, SRP II, and ZAMSIF, providing information on the type and budget of each project. Table 2 shows that the vast majority of projects under SRP I and SRP II focused on education, health, and water supply/sanitation. Projects became more diversified under ZAMSIF, including funds in support of income generation. Resources are very equally allocated across projects, with on average a budget of $60,000 per project. As a consequence, the distribution of allocated budgets by sector and program is quite similar to the distribution of the number of approved projects.

While the number of wards has changed over time, mostly through division of former wards, for the purpose of the analysis, we maintain a fixed definition of wards. We use the administrative divisions in 1288 wards reported in the 2000 census. For all but 51 of the projects we also know their location, given by the wards that received them. Table 3 shows that in all three program periods, there were still many wards which had never received a project, representing 81%, 80%, and 68% of all wards under SRP I, SRP II, and ZAMSIF, respectively. Among those that participated, most did so only once or twice, with very few receiving three or more projects.

We combine the project data with information from the 1990 and 2000 population censuses. The 1990 census however does not report wards. Matching Census Statistical Areas (CSA) in the two censuses, we are able to aggregate the 1990 census information for 1234 of the 1288 wards. Censuses provide detailed information on the characteristics of individuals such as education and housing conditions. From the two censuses, we measure two district- or ward-level welfare indicators: the school enrollment rate for children 7 to 12 years old, and a household welfare index, constructed

as the first principal component of indicators of housing conditions normalized by its mean and standard deviation over the whole population.[5] [Hide: we need to present this principal component index in Appendix] Table 4 shows that school enrollment for ages 7 to 12 was 50.2% in 1990 and 56.4% in 2000. Although the wealth index is by construction of mean 0 in the population, the un-weighted mean across wards need not be equal to 0 because of the unequal size of wards.

By law, local governance, and in particular the supervision of the provision of services such as infrastucture, is insured by a district government council. This district government council is composed of (1) the members of parliament from constituencies in the district, (2) two representatives of the traditional Chiefs, appointed by the Chiefs in the district, and (3) all the elected councilors in the district representing their respective wards. A district consists of one to seven constituencies – 2.7 on average –, each of which elects one member of parliament. A district also consists of eleven to thirty wards – 19 on average –, each of which elects one councilor. In order to establish each district majority party, we collected voting results for the local elections of 1998, 2001, and 2006 and the parliamentary elections of 1996, 2001 and 2006. For each candidate to the position of district councilor or parliament, the election data provide the name, party membership, and number of votes received in the ward or constituency.[6] The timing and summary results on these elections are reported in Table 5.

Parliamentary results are complete and constituencies have not changed over the course of the period we study. However, there are only 1,206 wards with local election results in 2001, which leaves 1,198 wards with complete election and census data.[7] Combining the parliamentary and councilor election results, we construct a variable for majority-party in a council in a district. 75 % of the wards elected councilors from the

[5] We examined targeting effectiveness based separately on each of the housing conditions that were used for constructing the welfare index. Results are similar to the one obtained with the welfare index.

[6] We do not have information on the two representatives of the Chiefs for each district, which implies that the majority party constructed from the two elections (members of parliament and district councilors) is not completely accurate.

[7] Two districts lack information for all wards, whereas about half the districts miss 1 or 2 wards. To avoid losing half of the data, we included all districts except for these two districts that do not have any election results.

party which is the majority-party in the district council. (NEED TO BE ADJUSTED WITH TABLE 5).

The political sphere has been dominated by the Movement for Multiparty Democracy (MMD), which won all four presidential elections since democracy was established in 1991, although with a declining share of the votes as the number of candidate parties increased. Similarly, in parliamentary and local elections, the MMD members declined dramatically in 2000 to about 50% of the seats.[8] However, as the percentage of councilors that are from the district majority party shows there a certain degree of clustering in party affiliation, but not all wards of a district votes for the same party. This is the variation that we will exploit in section 5 on the political economy of project allocations.

4 Decentralization and targeting

4.1 Empirical specification and identification strategy

The question of interest in this paper is whether project allocation across either districts or wards becomes more progressive or regressive as decentralization progresses. The allocation across districts is the outcome of the central agency decision both under the centralized regimes (in this case indirectly through project allocation to ward-based CBOs) or decentralized regimes (in this case directly through budgetary transfers to the districts). With decentralization, the overall allocation of resources across wards is an outcome of the allocation across districts by the central agency and within districts by the local agency. So while this overall allocation is the correct measure for welfare and equity obtained by a decentralized regime, it combines centralized and decentralized decisions. It is therefore in the allocation across wards within districts that the role of decentralization is best observed, comparing allocations within districts under centralized and decentralized regimes.

We correspondingly estimate several specifications for the allocation of projects. We first consider project allocation across districts, with the following specification:

[8] The number of MPs in the 2006 results does not account for two constituencies where the election was postponed due to sudden death of the candidates.

$$P_{di} = \beta_i W_{di} + X_{di}\gamma_i + \mu_i + \varepsilon_{di}, \quad (1)$$

where P_{di} is the (log) project budget per capita in district *d* under program *i* (SRPI, SRPII, or ZAMSIF), W_{di} is the district welfare indicator (school enrollment rate or household wealth), X_{di} are other district characteristics, notably population and rural share of population, μ_i a program fixed effect, and ε_{di} is unobserved heterogeneity. Welfare and other characteristics are measured before each program is implemented. The differences among β_i indicate the relative degree of progressivity across districts under the three programs. This specification does not, however, indicate the role of decentralization as differences in β_i can be due to shifts in program features, such as the allocation rule across districts, and learning effects.

We then consider the allocation across wards, contrasting wards that pertain to type B or C districts, that will respectively become partially or highly decentralized under ZAMSIF, to wards that pertain to type A districts that remained under central decision-making. We estimate two specifications:

$$P_{wdi} = \theta_i^A L_d^A W_{wdi} + \theta_i^B L_d^B W_{wdi} + \theta_i^C L_d^C W_{wdi} + X_{wdi}\pi_i + \nu_{di} + \xi_{wdi} \quad (2)$$

$$P_{wdi} = \phi_i^A L_d^A W_{wdi} + \phi_i^B L_d^B W_{wdi} + \phi_i^C L_d^C W_{wdi} + X_{wdi}\lambda_i + \mu_i + \zeta_{wdi} \quad (3)$$

where *P*, *W*, and *X* are now measured at the ward level *w*. L_d^A, L_d^B, and L_d^C are districts' administrative capacity categories under ZAMSIF, and ν_{di} a program-specific district fixed effect. Equation (2) looks at the within-district allocation of funds in response to the welfare level of a ward relative to the other wards in the same district, whereas equation (3) estimates the overall allocation of funds in response to the welfare level of a ward relative to the national mean.

Identification of the effect of decentralization to districts *B* and *C* is based on a comparison of parameters θ_i^K, *K* = *A*, *B*, *C*, of equation (2). In a difference in difference framework, the effect of decentralization is measured by comparing the evolution of θ_i^B and θ_i^C across programs $i = SRPI, SRPII, ZAMSIF$ with the counterfactual evolution of θ_i^A observed in districts *A*.

4.2 Empirical results

The overall allocation of projects across districts under the different programs (SRPI, SRPII, and ZAMSIF) corresponding to equation (1) above is analyzed in Table 6. Project allocation does not respond to district welfare level under SRPI and ZAMSIF. When using the household wealth index, SRPII shows regressive allocation across districts. With the district wealth index varying approximately from -1 to +1, the estimated parameter suggests that a one point increase in wealth index is associaed These changes in project allocation across districts must be attributed to changes in district features such as CBOs' capacity to formulate projects and the selection process at the level of the central agency.

Table 7 analyzes the progressivity in budget allocation across wards under each program. Panel A reports the within-district allocation while panel 2 reports on the overall allocation across wards. The targeting of wards within districts clearly became more progressive over time. In terms of school enrollment, regressive targeting under SRPI and SRPII (columns 1 and 2) became neutral under ZAMSIF (column 3). In terms of household wealth, neutral targeting under SRPI and SRPII (columns 4 and 5) became progressive under ZAMSIF (column 6). Similar results are found when looking at the overall allocation of project budget across wards (columns 7 to 12), although progressivity under ZAMSIF is substantially lower than it is within district and not statistically significant. This is to be expected as it results from the combination of the within-district allocation with the across district allocation that we saw did not improve or even became more regressive.

Regression results for equations (2) and (3), with contrast across levels of district decentralization, are shown in Table 8. Panel A reports the within-district allocation of projects using equation (2). Results show that the within-district project allocation in response to ward welfare did not differ across different (future) district administrative capacity levels under SRPI and SRPII: projects were more likely to be placed in wards with relatively higher school attendance rates exhibiting regressivity in districts at all levels of future administrative capacity (columns 1 and 2); in terms of household wealth,

allocation was neutral in all types of districts (columns 4 and 5). However, project allocation became more progressive in districts with higher level of administrative capacity (B and C) under ZAMSIF, while it remained unchanged in districts with low capacity level (columns 3 and 6). Allocation became neutral using the school enrollment criterion, and progressive using the household wealth criterion. This change occurred with partial decentralization in district category B and was further reinforced with higher decentralization in district category C. The fact that there was no effect of future administrative capacity levels on project allocation under SRP I and II gives us a good counterfactual indicating that it is district decentralization that affected the shift towards progressivity. These results give strong support to the proposition that greater administrative decentralization to districts with proven administrative capacity led to targeting of relatively poorer wards within district.

Using these results, we compute the difference in difference estimation of the effect of decentralization in districts C on the relationship between ward welfare and allocation of SIF funds:

	Ward welfare effect on project allocation	
	School enrollment	Wealth index
$\left(\theta^{B}_{Zamsif} - \theta^{B}_{SRPI}\right) - \left(\theta^{A}_{Zamsif} - \theta^{A}_{SRPI}\right)$	-2.44	-1.33
p-value for equality to 0	(0.20)	(0.03)
$\left(\theta^{C}_{Zamsif} - \theta^{C}_{SRPI}\right) - \left(\theta^{A}_{Zamsif} - \theta^{A}_{SRPI}\right)$	-1.33	-1.53
p-value for equality to 0	(0.46)	(0.01)

It shows that decentralization was accompanied by a significant shift of resources allocated to poorest wards in terms of their wealth asset. Point estimates for the shift with respect to school enrollment are large but not statistically significant. In contrast, none of these differences is large or statistically significant when comparing SRP II to SRP I.

Panel B reports the overall allocation across all wards using equation (3). Results show that the progressivity effect across all wards of decentralization in project allocation is weaker overall than it is within district. This was expected as the increased

progressivity observed in within-district allocation only occurred in some districts and was not accompanied by any similar progressivity in the across-district allocation (as seen in Table 6).

5 The politics of decentralizing SIF allocations

5.1 Theoretical framework for a correlation between voting results and budget allocation

It is well known that the allocation of public goods is part and parcel of the political process. Whether decentralization reinforces the two-way link between projects and votes is an important question as it may suggest a trade-off between a more efficient targeting of local public goods (based on local information and local social capital) and a greater use of public budgets to reward or mobilize votes. A number of studies have analyzed the performance of local public expenditure programs when local political rewards become part of the process.

One class of theories – the core-supporter model – suggests that a politician allocates investments to the communities where he has received the strongest electoral support as rewards for their loyalty (Cox and McCubbins, 1986; Dixit and Londregan 1996; Verdier and Snyder, 2002). In this case, causality would run from votes to projects. Finan (2003) finds that Brazilian federal deputies allocated more public works in 1996 and 1999 to the municipalities where they had received more electoral support in 1994, supporting the core-supporter model. Another other class of theories focuses on the way incumbent politicians use projects to influence votes. In this case, causality would run from projects to votes. Among these theories, the swing-voter model predicts that incumbent politicians target communities with more swing voters whose electoral choices could be influenced by the public goods provision (Dixit and Londregan, 1996). Dahlberg and Johansson (1999) found evidence that Swedish incumbent governments distributed temporary grants for ecologically sustainable development programs to regions where there were more swing voters. There is also evidence that government spending increases the incumbent's vote share in US congressional elections (Levitt and Snyder, 1997) and for political incumbents in Spain (Sole-Olle and Sorribas-Navarro, 2008). For Mexico,

Rodriguez-Chamussy (2009) finds that Progresa/Oportunidades expenditures at the municipal level not only increased the share of votes for the incumbent presidential party in municipal elections (a legitimate reward since the program is fully under the authority of the Federal government), but also for the local incumbent party even if in opposition to the presidential party, indicating capacity of local mayors to successfully engage in "credit claiming" for benefits delivered by others. Manacorda, Miguel, and Vigorito (2009) find that beneficiaries of a cash transfer program in Uruguay were more likely than non-beneficiaries to favor the current government relative *to the previous one*. (??)

In this paper, we do not try to identify which model prevails or the direction of causality. We analyze instead whether increasing decentralization in the allocation of expenditures on local public goods gives greater importance of local politics along the two directions of influence. To do this, we match local election results in 1998, 2001, and 2006 with project placement results under the three programs and examine whether there is an association between electoral outcomes and subsequent project allocation and between project placement and subsequent electoral rewards.

5.2 Identification and results

We first look at the direction of influence that would run from vote to project allocation. According to the core-supporter model, politicians (the district council here) allocate projects to the wards where relatively more of their supporters are located. The proxy information in this case is the percent of votes received by the candidate from the majority party in the district council, and we look at project allocation in relation to the previous local election result. Specifically, we estimate the following equation:

$$P_{wd} = \theta^A L_d^A SH_{wd} + \theta^B L_d^B SH_{wd} + \theta^C L_d^C SH_{wd} + X_{wd}\pi + \nu_d + \xi_{wd}, \qquad (4)$$

where the dependent variable P_{wd} is the project budget (in log) in ward *w* of district *d* for three years after the previous local election, and the independent variable is the share of ward votes SH_{wd} received by the candidate from the party with most seats in the district council. Due to non-availability of 1992 election results and the interruption in budget between SRP II and Zamsif, we can only analyze project allocation after the

December 2001 election, i.e., under Zamsif but not under SRPI or SRPII (as shown by project and election timing reported in Table 5).

Expectations are thus that the θ parameters be positive for districts with higher level of responsibility (district administrative capacity category C and possibly B) while null when the allocation is centralized (in district category A). Results in Table 9 show point estimates for parameters θ to increase from 0 in districts A to 0.013 in districts C, but none of them are statistically significantly (column 1). However, when splitting the districts by literacy rate, we see that projects follow local votes when there is greater decentralization (districts C) and a high adult literacy rate (column 2). Votes received by the candidate from the majority party in the district council located in districts with high decentralization and high adult literacy rates are rewarded by larger per capita project budgets for the ward. A 10 percentage points increase in vote share would lead to a 49% increase in program budget to that ward. The result is robust to adding ward control variables (column 3). This increase in expected budget allocation largely comes from the increasing probability of receiving a project. Column (4) shows that a 10 percentage points higher vote share is associated with a 9% increased probability to receive a project. Compared to an average of 29% among this category of wards, this is a 31% increase in the probability for a ward to receive a project.

For the electoral reward model, we correlate local election results for the candidate from the incumbent party with the project budget per capita for three years before that election in estimating:

$$W_{wd} = \lambda^A L_d^A Ppc_{wd} + \lambda^B L_d^B Ppc_{wd} + \lambda^C L_d^C Ppc_{wd} + X_{wd}\pi + \nu_d + \xi_{wd} \qquad (5)$$

where W_{wd} indicates whether the incumbent district majority party won in ward *d*, and Ppc_{wd} represent the per capita project budget. This is done for the 1998 and 2006 local elections, allowing a contrast between the SRPII and Zamsif periods in addition to the contrast across district categories. For the 1998 election, we do not know the incumbent party (since this is the outcome of the 1992 election that is not available). However, Burnell (2000) reports that MMD captured around 80 per cent of all votes in 1992, and most districts had an MMD majority. We therefore use the MMD party as a proxy for

the district majority in 1998. Results in Table 10 show that, in districts with high administrative capacity and adult literacy rates, per capita project budgets received by wards are rewarded by electoral victory for the candidate from the incumbent party in the 2006 election (column 3). This did not happened under SRPII (1998 elections) when these same districts were not decentralized (column 1), nor under ZAMSIF (2006 elections) in the districts with low decentralization (administrative capacity category A or B in column 3). These results are robust to adding ward characteristics (columns 2 and 4). The effect is such that a doubling of project budget in a ward increases the probability that the incumbent majority candidate wins by 4-5 percentage points (columns 3 and 4). Column (5) shows that having received a project, whatever its budget level, increases the probability of the district majority candidate to be elected by 14%. This is a large effect given that 23% of the wards in these districts received a project and 71% elected a councilor from the district majority.

Decentralization thus made local politics more relevant in relating projects to votes and votes to projects. In both cases, our identification strategy rests on the contrast between the districts with high administrative capacity and high literacy rates and the other districts. We showed that voting for the district majority lead to rewards in projects in those districts, which operated under the decentralized system of ZAMSIF. This is solely a cross sectional comparison as we can not establish the relationship in earlier years because of data availability. But in the projects to vote relationship, we establish the positive relationship under ZAMSIF while it did not hold under SRP II, nor in the other districts.

5.3 Is there a trade-off between targeting to the poor and political forces?

A frequent concern with decentralization is the possible trade-off between the targeting objective for the funds and the political use of resources. Could it be that political forces pull resources to the wealthier? In the particular case of the Social Fund in Zambia, this does not look to be a major issue. This is because it happens so that wards that most vote for the majority party of the district tends also to be the poorest wards. This can be seen in Table 6, columns 2 and 4. Controlling for project

allocation, there is no differential voting behavior by level of education, and ward with higher wealth index tend to vote less for the district majority than those with lower wealth in 2006. Symmetrically, we see in Table 9, column 3, that even controlling for voting behavior, allocation of projects favors relatively poor wards. This conditional negative correlation between wealth and voting preference thus insure that these two objectives of catering to voters and to less endowed wards do not work at cross-purpose.

6 Conclusion: Decentralization of public goods for poverty and politics

Zambia offers a unique laboratory to analyze the social and political impacts of decentralization in the participatory provision of local public goods to districts deemed to be good managers of public affairs. Over a 16 year period, the provision of local public goods was increasingly decentralized to district councils with proven administrative capacity. We use this experience to ask whether decentralization to administratively capable local governments leads to better poverty targeting across communities and changes the role of local politics. We find that decentralization of SIFs' functions to administratively capable local districts led to more progressive targeting across wards, mildly so at the national level and clearly so within districts. We also find that games of local political influence changed with increasing decentralization: local votes were increasingly rewarded by the allocation of local projects, and local projects were increasingly rewarded by electoral support for incumbent politicians. This suggests that decentralization made concerns with community poverty more salient in targeting across wards. Decentralization also made local politics more important in influencing public goods allocation and in rewarding elected officials for delivering local public goods.

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Figure 1. Operational rules under Social Investment Fund programs by level of decentralization

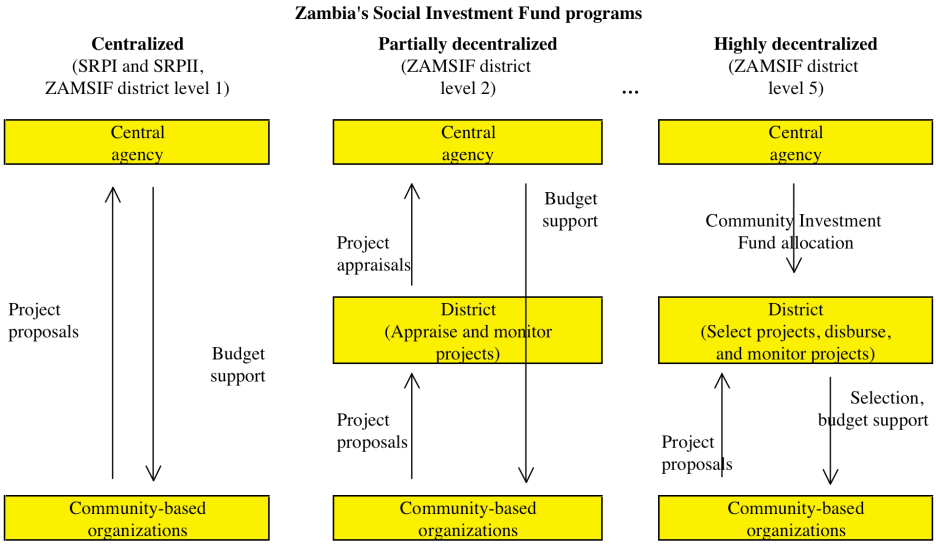

Table 1. Levels of decentralization by program and district administrative capacity

District administrative capacity category in 2005	Number of districts in 2005	Social Investment Fund programs		
		SRP I SRP I 1990-94	SRP II 1995-99	ZAMSIF 2000-05
A (administrative capacity level 1)	22	Centralized	Centralized	Centralized
B (administrative capacity level 2)	24	Centralized	Centralized	Partially decentralized
C (administrative capacity levels 3 to 5)	26	Centralized	Centralized	Highly decentralized

Capacity category C includes 19 districts of administrative capacity level 3, 3 districts of level 4, and 4 districts of level 5.

Table 2. Number of projects implemented under SRP I, SRP II, and ZAMSIF

	Social Investment Fund programs						All	
	SRP I (1990-94)		SRP II (1995-98)		ZAMSIF (2000-05)			
Projects	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)
Education	266	70	266	82	255	44	787	61
Health	69	18	38	12	134	23	241	19
Water supply/Sanitation	31	8	16	5	62	11	109	9
Community welfare	-	-	-	-	22	4	22	2
Environment/Income	-	-	-	-	10	2	10	1
Food security/Market	-	-	-	-	16	3	16	1
HIV/AIDS	-	-	-	-	24	4	24	2
Infrastructure	12	3	4	1	11	2	27	2
Roads	-	-	-	-	39	7	39	3
Training activities	-	-	-	-	3	1	3	0
Other	2	1	2	1	-	-	4	0
Total	380	100	326	100	576	100	1282	100

Table 3. Distribution of wards by number of projects

Number of projects	SRP I		SRP II		ZAMSIF	
	Number	Share (%)	Number	Share (%)	Number	Share (%)
0	1042	80.9	1029	79.9	875	67.9
1	170	13.2	215	16.7	305	23.7
2	52	4.0	34	2.6	86	6.7
3	15	1.2	7	0.5	15	1.2
4 or more	9	0.7	3	0.2	7	0.5
Number of wards	1288	100	1288	100	1288	100
Wards with projects	246		259		413	
Total projects*	361		317		553	

* 51 of the 1282 projects do not have a ward assignation.
Wards referred to the 2000 administrative limits

Table 4. Ward level characteristics from the 1990 and 2000 population censuses

Census year	1990	2000
Number of wards	1234	1288
School enrollment rate for 7-12 years old (%)	50.2	56.4
	(19.8)	(18.0)
Household wealth index (standardized)	-0.23	-0.20
	(0.77)	(0.76)
Rural population (%)	76.5	78.7
	(40.7)	(39.4)
Population in ward (people)	6,369	7,745
	(6,237)	(7,579)

Standard deviations in parentheses
Only 1234 of the 2000 census wards could be identified in the 1990 census.
The household wealth index is the principal component of several indicators on housing conditions, normalized to mean 0 and standard deviation 1.

Table 5. Timeline for Zambia's Social Investment Fund programs and elections

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
SIF program			SRPI					SRPII					ZAMSIF					
Number of SIF projects	2	1	199	104	36	64	95	120	80	0	27	55	116	259	91	33	-	1282
Parliamentary elections (MP)		October					November					December					December	
MMD victories/total		125/150					131/150*					69/150					72/148**	
Local elections (councilors)			November						December			December					December	
Main political parties			not available						MMD, UNIP			MMD, FDD UNIP, UPND						
Wards with election results									1144			1206					1421	
Number of candidates			Results						2795			6201					4091	
Councilor is MMD (%)									70.0			47.4					52.7	
Councilor is from the district majority party (%)									81.5			75.7					75.1	

* The second largest party (UNIP) boycotted the 1996 election. ** Elections in 2 constituencies were postponed due to the death of candidates.
Political parties: Forum for Democracy and Development (FDD), United National Independence Party (UNIP), United Party for National Development (UPND), Patriotic Front (PF), and United Democratic Alliance (UDA).

Table 6. Progressivity in targeting: Project allocation across districts

Dependent variable:	SRPI	SRPII	Zamsif	SRPI	SRPII	Zamsif
District level project budget per capita (log)	School enrollment rate for 7-12 years old			Household wealth index		
	(1)	(2)	(3)	(4)	(5)	(6)
District welfare	-2.367	3.154	0.153	-1.099	1.989**	-0.126
(School enrollment or household wealth)	(2.009)	(1.923)	(0.584)	(0.951)	(0.892)	(0.282)
Rural population (%)	0.0474	0.820	0.248	-1.049	3.228*	-0.0212
	(0.930)	(0.890)	(0.274)	(1.800)	(1.688)	(0.528)
Population in district (log)	0.651***	0.484**	0.904***	0.704***	0.401**	0.907***
	(0.201)	(0.192)	(0.0868)	(0.201)	(0.188)	(0.0871)
Constant	0.0338	-1.260	-3.461***	-1.242	0.00296	-3.228***
	(3.104)	(2.971)	(1.214)	(2.610)	(2.447)	(1.101)
Observations	57	57	72	57	57	72
R-squared	0.198	0.174	0.648	0.198	0.206	0.649
Fixed effects	No	No	No	No	No	No

Standard errors in parentheses. ***, **, *: significant at the 1%, 5%, and 10% level.

Table 7. Progressivity in targeting: Project allocation across wards

Dependent variable:	SRPI	SRPII	Zamsif	SRPI	SRPII	Zamsif
Ward-level project budget per capita (log)	School enrollment rate for 7-12 years old			Household wealth index		
Panel A. Within districts allocation	(1)	(2)	(3)	(4)	(5)	(6)
Ward welfare	1.759***	1.610***	0.953	0.165	0.0928	-0.563**
(School enrollment or household wealth)	(0.482)	(0.525)	(0.690)	(0.178)	(0.193)	(0.242)
Percent rural population	-0.409	-0.666**	0.360	-0.653*	-0.955**	-0.531
	(0.306)	(0.333)	(0.364)	(0.347)	(0.377)	(0.436)
Population in ward (log)	0.164**	0.162*	0.697***	0.191**	0.189**	0.720***
	(0.0789)	(0.0859)	(0.129)	(0.0790)	(0.0859)	(0.128)
Observations	1234	1234	1288	1234	1234	1288
R-squared	0.151	0.109	0.104	0.142	0.102	0.106
Fixed effects	District	District	District	District	District	District
Panel B - Allocation across all wards	(7)	(8)	(9)	(10)	(11)	(12)
Ward welfare (School enrollment or household v	0.754*	1.820***	0.530	-0.0497	0.145	-0.308
	(0.396)	(0.419)	(0.521)	-0.153	(0.163)	(0.194)
Percent rural population	0.138	0.205	0.340	-0.192	-0.154	-0.333
	(0.196)	(0.207)	(0.243)	(0.292)	(0.311)	(0.377)
Population in ward (log)	0.332***	0.204***	0.867***	0.339***	0.215***	0.877***
	(0.0655)	(0.0694)	(0.0930)	(0.0656)	(0.0699)	(0.0930)
Constant	-2.308***	-1.706**	-6.245***	-1.749***	-0.580	-5.567***
	(0.654)	(0.693)	(0.945)	(0.610)	(0.650)	(0.880)
Observations	1234	1234	1288	1234	1234	1288
R-squared	0.029	0.033	0.067	0.026	0.019	0.068
Fixed effects	No	No	No	No	No	No

Standard errors in parentheses. ***, **, *: significant at the 1%, 5%, and 10% level.

Table 8. Progressivity in targeting:
Project allocation across wards by category of district administrative capacity

Dependent variable:	SRPI	SRPII	Zamsif	SRPI	SRPII	Zamsif
Ward-level project budget per capita (log)	School enrollment rate for 7-12 years old			Household wealth index		
Panel A. Within districts allocation	(1)	(2)	(3)	(4)	(5)	(6)
Ward welfare (school enrollment or household wealth)	1.694*	1.682*	2.202*	0.181	0.102	0.576
	(0.872)	(0.950)	(1.182)	(0.317)	(0.345)	(0.423)
- interacted with administrative capacity cetegory B	0.378	0.0393	-2.061	-0.0708	0.0551	-1.399***
	(1.135)	(1.236)	(1.575)	(0.373)	(0.405)	(0.472)
- interacted with administrative capacity cetegory C	-0.178	-0.224	-1.512	0.0526	-0.106	-1.479***
	(1.092)	(1.190)	(1.505)	(0.377)	(0.410)	(0.489)
Rural population (%)	-0.426	-0.673**	0.338	-0.634*	-0.977**	-0.517
	(0.308)	(0.335)	(0.364)	(0.351)	(0.382)	(0.436)
Population in ward (log)	0.163**	0.162*	0.689***	0.189**	0.191**	0.711***
	(0.0789)	(0.0860)	(0.130)	(0.0793)	(0.0863)	(0.128)
Observations	1234	1234	1288	1234	1234	1288
R-squared	0.152	0.109	0.105	0.142	0.102	0.114
Fixed effects	District	District	District	District	District	District
Tests						
Base + Category B: Coefficient	2.07	1.72	0.14	0.11	0.16	-0.82
[p-value]	[0.04]	[0.07]	[0.51]	[0.65]	[0.55]	[0.01]
Base + Category C: Coefficient	1.52	1.46	0.69	0.23	0.00	-0.90
[p-value]	[0.01]	[0.04]	[0.90]	[0.39]	[0.99]	[0.01]
Panel B - Allocation across all wards	(7)	(8)	(9)	(10)	(11)	(12)
Ward welfare (school enrollment or household wealth)	0.724*	1.543***	0.453	-0.0998	0.169	-0.0557
	(0.431)	(0.457)	(0.567)	(0.204)	(0.218)	(0.274)
- interacted with administrative capacity cetegory B	-0.228	0.417	-0.0340	0.156	0.0498	-0.199
	(0.275)	(0.291)	(0.313)	(0.187)	(0.200)	(0.245)
- interacted with administrative capacity cetegory C	0.145	0.386	0.215	-0.0335	-0.111	-0.424*
	(0.266)	(0.282)	(0.310)	(0.185)	(0.197)	(0.248)
Rural population (%)	0.0945	0.234	0.324	-0.183	-0.144	-0.304
	(0.198)	(0.210)	(0.244)	(0.292)	(0.312)	(0.378)
Population in ward (log)	0.336***	0.194***	0.867***	0.345***	0.218***	0.869***
	(0.0658)	(0.0697)	(0.0940)	(0.0659)	(0.0703)	(0.0933)
Constant	-2.283***	-1.649**	-6.229***	-1.818***	-0.617	-5.511***
	(0.655)	(0.695)	(0.953)	(0.613)	(0.654)	(0.882)
Observations	1234	1234	1288	1234	1234	1288
R-squared	0.031	0.035	0.068	0.027	0.020	0.070
Fixed effects	No	No	No	No	No	No
Tests						
Base + Category B: Coefficient	0.50	1.96	0.42	0.06	0.22	-0.25
[p-value]	[0.03]	[0.00]	[0.22]	[0.75]	[0.25]	[0.24]
Base + Category C: Coefficient	0.87	1.93	0.67	-0.13	0.06	-0.48
[p-value]	[0.26]	[0.00]	[0.44]	[0.45]	[0.76]	[0.04]

Standard errors in parentheses. ***, **, *: significant at the 1%, 5%, and 10% level.

Table 9. Decentralization and local politics: From votes to projects

Election year	2001			
Project budget period	2002-2004			
Dependent variable	Project budget (log)			Received a project
	(1)	(2)	(3)	(4)
Percent of votes received by the candidate from the district council majority party				
In district administrative capacity category A	-0.000149			
	(0.0102)			
In district administrative capacity category B	0.00425			
	(0.00863)			
In district administrative capacity category C	0.0133			
	(0.00881)			
In district category A with low adult literacy rate		-0.00497	-0.00405	-0.00131
		(0.0124)	(0.0124)	(0.00222)
In district category B with low adult literacy rate		0.00965	0.0105	0.00132
		(0.0115)	(0.0114)	(0.00205)
In district category C with low adult literacy rate		0.00400	0.00430	0.000237
		(0.00988)	(0.00987)	(0.00177)
In district category A with high adult literacy rate		0.00970	0.0118	0.00168
		(0.0179)	(0.0178)	(0.00319)
In district category B with high adult literacy rate		-0.00263	-0.00279	-0.000354
		(0.0131)	(0.0131)	(0.00234)
In district category C with high adult literacy rate		0.0491**	0.0486**	0.00897***
		(0.0194)	(0.0194)	(0.00346)
School enrollment rate for 7-12 years old (0 to 1)			1.211	
			(0.797)	
Household wealth index			-0.728***	
			(0.275)	
Rural population (%)	0.467	0.400	-0.197	0.0678
	(0.327)	(0.328)	(0.433)	(0.0586)
Population in ward (log)	0.642***	0.618***	0.613***	0.108***
	(0.131)	(0.132)	(0.132)	(0.0235)
Observations	1198	1198	1198	1198
R-squared	0.098	0.102	0.108	0.096
Fixed effects	District	District	District	District

Standard errors in parentheses. ***, **, *: significant at the 1%, 5%, and 10% level.
The household wealth index is the normalized principal component of indicators of dwelling quality from the census.

Table 10. Decentralization and local politics: From projects to votes

Election year	1998		2006		
Project budgets period	1996-1998		2003-2005		
Dependent variable	MMD candidate won (proxy for incumbent party)		Candidate from incumbent party won		
	(1)	(2)	(3)	(4)	(5)†
Ward received a project in columns (5), project budget per capita (log) in other columns					
In district category A with low adult literacy rate	-0.0483*	-0.0487*	0.0213	0.0206	0.0711
	(0.0262)	(0.0263)	(0.0232)	(0.0231)	(0.0938)
In district category B with low adult literacy rate	-0.00956	-0.0107	-0.0189	-0.0187	-0.0817
	(0.0350)	(0.0350)	(0.0181)	(0.0180)	(0.0688)
In district category C with low adult literacy rate	0.00737	0.00550	-0.00952	-0.00956	-0.0164
	(0.0170)	(0.0171)	(0.0150)	(0.0149)	(0.0577)
In district category A with high adult literacy rate	0.0241	0.0219	0.0103	0.0155	0.0857
	(0.0275)	(0.0276)	(0.0201)	(0.0200)	(0.0775)
In district category B with high adult literacy rate	-0.00115	-0.00276	0.0238	0.0148	0.0713
	(0.0204)	(0.0204)	(0.0174)	(0.0175)	(0.0617)
In district category C with high adult literacy rate	-0.00294	-0.00499	0.0468**	0.0385*	0.140*
	(0.0256)	(0.0257)	(0.0234)	(0.0234)	(0.0802)
School enrollment rate for 7-12		0.0635		-0.0899	
		(0.131)		(0.130)	
Household wealth index		0.0393		-0.117***	
		(0.0446)		(0.0441)	
Rural population (%)	0.0481	0.110	0.309***	0.153**	0.311***
	(0.0533)	(0.0709)	(0.0527)	(0.0688)	(0.0527)
Population in ward (log)	0.00747	0.00626	0.0423**	0.0471**	0.0403*
	(0.0213)	(0.0213)	(0.0212)	(0.0212)	(0.0213)
Observations	1128	1128	1103	1103	1103
R-squared	0.293	0.295	0.454	0.460	0.453
Fixed effects	District	District	District	District	District

Standard errors in parentheses. ***, **, *: significant at the 1%, 5%, and 10% level.
† Dependent variable is "ward received a project".

Appendix Table 1. Progressivity in targeting: Choice of wards within districts based on relative welfare, controlling for political variables

Dependent variable: Project budget (log) in 2002-2004	School enrollment rate for 7-12	Household wealth index
	(1)	(2)
Ward welfare (School enrollment or household wealth)	1.452	0.286
	(1.222)	(0.231)
Interacted with administrative capacity cetegory B	-1.904	-0.738***
	(1.607)	(0.259)
Interacted with administrative capacity cetegory C	-1.923	-0.741***
	(1.523)	(0.267)
Percent of votes received by the candidate from the majority party	0.00620	0.00534
in district council in 2001 local election	(0.00531)	(0.00525)
Rural population (%)	0.473	-0.167
	(0.361)	(0.433)
Population in ward (log)	0.638***	0.642***
	(0.132)	(0.131)
Observations	1198	1198
R-squared	0.050	0.054
Fixed Effects	District	District
Tests		
Base + Category B: Coefficient	-0.45	-0.45
Base + Category B: F test (p-value)	0.688	0.00695
Base + Category C: Coefficient	-0.47	-0.46
Base + Category C: F test (p-value)	0.645	0.0170

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses