

Fiscal Governance and Public Services: Evidence from Tanzania and Zambia

Barak D. Hoffman

Clark C. Gibson

**Department of Political Science
University of California, San Diego**

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Abstract

Do sources of revenue affect government expenditure? Using data from local government budgets in Tanzania and Zambia, we find that local governments in both countries produce more public services as a share of their local budget as the amount of taxes the local government collects rises. Alternatively, revenue that local governments receive from sources outside their boundaries, such as transfers from the central government and foreign assistance, increases the share of local budgets going towards salaries and administrative costs. Because there is no variation in the powers of local governments in mainland Tanzania and Zambia, the effects of revenue sources on public expenditure that we find are independent of political institutions. The results suggest that fiscal accountability is an important factor to consider when designing policies to enhance local government capacity.

Barak Hoffman
UCSD
9500 Gilman
La Jolla CA 92093-0521
858.248.9087
bdhoffma@ucsd.edu

Clark Gibson
UCSD
9500 Gilman
La Jolla CA 92093-0521
858. 822.5140
ccgibson@ucsd.edu

I. Introduction

Arumeru District and Monduli District in Tanzania share a number of similarities. The districts are adjacent to each other and to Arusha municipality, one of the fastest growing and most developed cities in Tanzania. Both districts occupy the same agro-climatic zone, have identical political institutions, are overwhelmingly agricultural, and are relatively free from ethno-religious conflict. In fact, on nearly every dimension that economists, political scientists, and development practitioners claim accounts for level of development - endowments, political institutions, geography, climate, economic structure, and ethno-religious relations - Arumeru and Monduli are identical. How then are we to explain the enormous variation in levels of development that exist between the two districts? The literacy rate in Arumeru is 72% whereas the literacy rate in Monduli is 39%; the net primary enrollment rate is 79% in Arumeru and 45% in Monduli; 70% of households have a radio in Arumeru but only 35% have a radio in Monduli.

Neither is the gulf between Arumeru and Monduli's development levels unique. Within Tanzania, district literacy rates range from 27% to 92% and net school enrollment rates range from 37% to 93%. In neighboring Zambia these puzzling variations also exist: life expectancy ranges from 34 years to 59 years and infant mortality range from 7% to 20%. How do we explain such different levels of development within a single country?

In this study we explore one of the causes of these disparities. Building on a literature which we label fiscal theories of governance, we argue that a local government's revenue source is central to any effort to explain its policy choices. We find that even after holding political institutions constant and controlling for socioeconomic factors, local governments in Tanzania and Zambia produce more public services -- as a share of total local government expenditure -- when their revenue is tied directly to their citizens through own taxes. Revenue from sources outside their boundaries -- transfers from the center and foreign assistance -- reduces the level of public services provided by the local government.

We believe this study furthers our understanding of the politics of development in several important ways. First, unlike the larger set of studies that link political institutions to policy and development outcomes, we examine quantitatively the effects of revenue on public expenditure under the conditions of identical political institutions. The main thrust of the political institutional approach is to tie policy outcomes to political accountability; our fiscal theory of governance demonstrates that there is another source of political accountability independent of formal political institutions: the fiscal link between the government and the governed. Understanding these fiscal links, we argue, is central to understanding development in general and foreign aid in particular.

Second, our research design allows us to test directly the influence of revenue streams on government choices. Because we use district level government budget data from Tanzania and Zambia, two countries where there is no sub-national variation in the formal powers of district governments, we are able to hold sub-national political institutions constant within each country, whereas most quantitative studies of how

sources of revenue affect policy choices use cross national data and must rely on control variables to account for the differences in political institutions across countries. In fact, since local level political institutions do not vary within either country but local level political institutions vary widely between the two countries - local governments in Tanzania are dominated by the center while Zambia's district governments enjoy greater powers - our research design presents a very rigorous test for the effect of revenue sources on policy outcomes. We believe this is the first study to enjoy such a research design.

Third, we use the entire local government budget in our research. Existing studies that attempt to explain sub-national variation in public policy outcomes tend to examine single sectors. Such research could produce misleading results because demand for different types of public services varies widely, and the variation in these demands manifest themselves in wide differences in expenditures across different types public services. Using the entire local budget provides a more comprehensive picture of how sources of revenue affect policy choices

The results of this study bear directly on current development policy in Tanzania and Zambia. Through programs of institutional reform, donors are placing considerable effort into increasing the accountability of local governments in these two countries. Our results predict that the success or failure of these policies depends partly on the structure of local government revenue. Specifically, institutional reform that results in substituting local taxes for donor and/or government transfers, as recently occurred in Tanzania, could undermine efforts to increase local government accountability.

The results of the study also raise two questions for further study. First, do local governments provide public services in proportion to those who pay taxes? Second, are there differences between public services that local governments provide in fiscally autonomous systems versus public services that the central government provides at the local level in centralized systems?

We present our study in six parts. We review the theoretical foundations of our approach in section II. In section III, we provide background information on the countries we use to test our hypotheses, Tanzania and Zambia, including an account of the structure of their political authority. Section IV presents the data and methods that we use in testing our fiscal theory of governance, the results of which we discuss in section V. We explore the interesting implications and possible extensions of the analysis in section VI. Section VII concludes.

II. Theoretical Foundations

Political Institutions

The provision of public services is arguably one of the central topics of political science. The vast majority of this work explores how political institutions affect the accountability of the government to the governed. Much of the research by political economists thus

centers around how differences in types of democratic institutions such as political systems (e.g. presidential versus parliamentary), electoral rules (e.g., first past the post versus run-offs), electoral systems (single-member districts versus multimember districts), the degree of separation of powers (veto points), and the relationship between local governments and central governments affect public policy outcomes (see Bardhan 2001, Bardhan, and Mookherjee 2005b, Carey and Shugart 1995, Cox 1997, Linz 1990 and 1994, Lijphart 1999, McIntyre 2003, Persson and Tabellini 2003; Persson et al., 2003, Persson et al., 2005, Shugart and Carey 1992, Shugart and Mainwaring 1997, Tsebelis 2002).

A clear example of this approach is found the emerging subfield of decentralization. Studies of decentralization generally explore how changes in political institutions governing the relationship between the center and local governments shape public policy outcomes (Rondinelli, et al. 1989, Inman and Rubinfeld 1996, Ferejohn and Weingast 1997, Bish and Ostrom, 1973). However, compared to the large number of papers examining the causes of decentralization and the effects of decentralization across countries, surprisingly little empirical work exists that examines the effect of decentralization on the provision of public services within countries.¹ The studies that do focus on this question generally seek to adjudicate between two hypotheses about the impact of decentralization on public service delivery. Proponents of decentralization argue it should increase accountability because local governments are more accountable than distant central governments. Opponents of decentralization argue that decentralization may harm the local provision of public services because local elites can divert public funds more easily through a decentralized system of public service delivery than a centralized one.² Evidence exists to support both hypotheses.

In their study of Ugandan health care, for example, Akin, et al. (2001) found evidence that the local government benefited from decentralization in the health sector at the expense of the community. Specifically, they found that decentralization led local governments to decrease expenditure in providing public services with broad social benefits, such as child health, malaria control, and medicine, and to increase expenditures on providing goods that benefited primarily employees of the sector, such as salaries, equipment, and vehicles. Reinikka and Svensson (2004) find evidence of increased accountability and diversion of funds by elites across districts. Studying the impact of a school capitation program in Uganda, central government grants to schools benefited mainly well-off districts while local elites were able to capture benefits in relatively poorer districts. Galiani et al. (2005) present similar results in their study of Argentine school decentralization. According to their study, decentralization facilitated the ability of elites to divert funds in poor towns in poorly-run provinces, while decentralization led to more active oversight of schools in non-poor towns in well-run provinces. Most surprisingly, Galasso and Ravillon (2005) found evidence of elites diverting funds and increased accountability *within* villages. According to Galasso and Ravillon, variations

¹ See Ahmed et al. (2005) and Bardhan and Mookherjee (2005b) for a review of these studies.

² See Bardhan (2001), Bardhan and Mookherjee (2005a), and Bardhan and Mookherjee (2005b) for a comprehensive summary of this debate.

in benefits from a food-for-education program in Bangladesh were caused by within-village targeting, not by targeting of recipient villages by the central government.³

These studies are an important addition to our understanding of the links between public policy, institutions, and accountability. They suggest that the effects of decentralization are contingent upon local factors even when institutions are held constant. Generally the studies find that local factors, such as level of development, inequality, and the ability of citizens to participate in local politics, are important intervening factors that determine how decentralization affects the distribution of public services. Such findings also point to the limitations of institutions as explanatory variables for public policy outcomes. In each of the studies we have examined, political institutions did not vary across local governments but public policy outcomes did.

Fiscal Theories of Governance

Political institutions are not the only mechanisms that political scientists have employed to explain public policy outcomes. Another set of studies explores how the fiscal relationship between the government and the governed can help us explain public policy outcomes; we call these fiscal theories of governance. Fiscal theories of governance argue two central points. First, the shape of political institutions reflects government need for revenue (e.g., Bates and Lien 1985; Levi 1988; Moore 1995). This line of thinking is found most prominently in the work of scholars seeking to explain the evolution in the structure of the state. According to this theory, a government has an incentive to defer to its citizens' policy preferences when it is dependent on its citizens for revenue. Alternatively, when a government is not dependent on its citizens to raise revenue, the government has far less incentive to defer to its citizens' policy preferences (Moore 1998). Second, taxpayers benefit from government policies roughly in proportion with the share of government revenue they finance (e.g. Bates and Lien 1985; Boix 2002; Lindert 2004).

Several pivotal works demonstrate the considerable power of fiscal theories of governance to explain political outcomes. Levi (1988), for example, uses evidence from Ancient Rome, England and France in the Middle Ages, 18th Century Britain, and modern Australia to demonstrate that since tax payments are to a certain extent voluntary, rulers need to create compliance (or cede policy making power) in order to generate revenue and uses. Similar arguments have been made to account for the rise of democratic political institutions in Europe (e.g., Downing 1992, North and Weingast 1989, Root 1992, Tilly 1992). According to Tilly (1992), for example, as wars in Europe became more expensive, raising revenue and troops through coercion became an increasingly inefficient strategy. As coercion became a less effective strategy for raising

³ On the one hand, while Galasso and Ravillon (2005) find that while the larger the proportion of poor people in the village the greater the share given to the poor, they also find that as village inequality rises, the proportion going to the poor falls. Along the same lines, Bardhan and Mookherjee (2004) found that while village governments in West Bengal, India were far better at targeting the poor than were higher levels of government but also found some evidence of elite capture.

resources needed to fight wars, monarchs sought to generate compliance through policy concessions and policies that facilitated economic development to generate revenue. Bates and Lien (1985) use a formal model to predict the same outcome and make the important point that the more mobile capital is the more policy making power a government must cede in order to generate revenue. These works help us to understand that the origin of public revenues have a dramatic impact on the structure and policies of government, as well as the developmental outcomes associated with those policies.

Rentier economics extends this logic to assert that external funds (in the sense that they are not raised from the domestic population) should impede the development of democracy because external resources, such as oil, reduce the dependence of the government on the governed (e.g., Karl 1997; Ross 2001; Tornell and Lane 1998). According to Ross (2001), there are three causal mechanisms that lead from oil and mineral dependence to authoritarian rule. The first is the rentier effect. The rentier effect inhibits democratic accountability because governments that derive their revenue from easily exploitable natural resources either do not need to rely on their population for revenue and/or the revenue gives governments the ability to buy off opponents and reward supporters through patronage. The second mechanism is the repression effect where external sources of revenue give the state greater coercive power. The third effect is the modernization effect. Because a rentier economy tends to inhibit development (see Sachs and Warner 1998), the lack of modernization (e.g. urbanization and education) impedes citizen demand for democratic governance.

A number of scholars have extended the logic of rentier economics to suggest that foreign aid may generate the same political incentives as rentier commodities, especially if conditions on aid are weakly enforced (Brautigam 2000, Coolidge and Rose-Ackerman 1997, Knack 2000, Moore 1995, and Svensson 2000). Moore (1995) argues that foreign aid, like easily exploitable natural resources, reduces the need for the government to collect taxes and as a result, decreases the exigency for the government to develop broad-based and accountable political structures. Similarly, Brautigam (2000) argues that long-term dependence on foreign aid undermines the quality of governance, is likely to encourage the development of a political system characterized by a strong president and a weak parliament, reduces pressure for reform and accountability, and diminishes effort to collect taxes. Triesman (2000) extends this logic to transfers from the central government to local governments and finds that in Russia local governments who rely on transfers from the national government for revenue are more corrupt and less responsive to their constituents' needs than local governments who raise revenue more from their own constituents.

Our Approach

We borrow from fiscal theories of governance to explain the pattern of government expenditure at the local level in Tanzania and Zambia. Unlike studies that examine the effect of political institutions on public policy outcomes, political institutions in our sample do not vary at the local level, but the pattern of public expenditure does. This means we also diverge from those decentralization studies that seek to determine the

effect of a change of institutions (e.g., from more centralized to less centralized) on the supply of public services. Finally, we also depart from studies using fiscal theories of the governance to investigate how sources of public revenue helped create the structure of the state. Instead, we examine how sources of public revenue affect public policy - in this case public expenditure - holding institutions constant.

Nevertheless, although we rely on fiscal theories of governance to derive our hypotheses, political institutions are central to our study. Fiscal theories of governance offer two mechanisms that link revenue streams to public policy. The first is that electoral competition gives politicians incentives to consider the demands of their electorate. Citizens generally prefer more public services to less. If politicians do not respond to these demands, they are voted out of office. The other mechanism is the mobility of capital. If constituents are not given the public services they prefer, they will take their capital to another location (Bates and Lien 1985; Tiebout 1956). The first mechanism is a political institution that provides accountability of the ruler to the ruled; the second derives from the nature of capital.

Following theories of fiscal governance, we hypothesize that local government revenue derived from citizens will induce politicians to expend more funds on public services than those funds that derive from sources less connected with their local constituents, such as central government transfers and foreign aid. Alternatively, the more transfers and foreign aid a local government receives, the smaller the share of its budget should be expended on public services. As long as there are local elections, we expect this relationship to hold independent of national-level political institutions.

Using district level data from Tanzania and Zambia offers a major advantage over the majority of studies in this area that have attempted to understand the effects of revenue streams on public policy outcomes using cross-national data.⁴ Unlike cross-national studies of the effect of aid and/or oil/mineral wealth on political outcomes, we do not need to rely on control variables to account for differences in political institutions across countries because the political institutions for our unit of analysis - district governments - do not vary within each country.⁵ Because political institutions are orthogonal to our variables of interest (sources of revenue for local governments), we can be certain that our results do not reflect any correlation between revenue and political institutions.

One benefit of our study compared to the studies we have cited that examine the effect of decentralization on public service delivery is that we use the entire local budget for recurrent expenditure and/or the entire local budget for public services as our dependent variable, not just a specific program or policy area within a budget line-item. This is a major advance because studies that examine the effect of decentralization on one program or area face the difficulty that demand for different public services varies widely. For example, Azfar et al. (2001) found that in Uganda, sub-national preferences were far stronger for primary education than for immunization. Local leaders, in turn, were far more sensitive to the quality of primary education than immunization. As a result,

⁴ We study each country separately.

⁵ See Snyder (2001)

separate studies of each program would lead to drastically different results. By using the entire local budget for public services and/or recurrent costs, we can make the far more simple and plausible assumption that the majority of the public would prefer that the local government allocate funds public services rather than to recurrent costs. Moreover, by using local budget expenditures on public services and/or recurrent costs as a dependent variable, we can test the independent effects of different sources of finance (local, central government, and donor) on fiscal accountability simultaneously. Finally, unlike the studies we have cited that explore only a single source of revenue, we examine at the impact of multiple sources of revenue on public service delivery.

II. Tanzania and Zambia

Tanzania and Zambia share many important similarities (see table 1). First, both countries are in the same agro-climactic region. Second, both countries exhibit quite similar economies and levels of development. Out of 174 countries, Tanzania is ranked 162 and Zambia is ranked 164 on the UNDP's Human Development Index. Given their poverty it is not surprising that both countries are very large aid recipients. Both countries have similar levels of aid per capita and both countries far exceed the average for sub-Saharan Africa in aid as a share of GDP (regional average 6% versus 13% and 8% for Tanzania and Zambia respectively) and aid per capita (regional average \$25 versus \$47 and \$54 for Tanzania and Zambia respectively).

Third, the two countries have a broadly similar political history. Both countries are former British colonies and attained independence at about the same time. Moreover both countries were one-party quasi-Socialist regimes in the 1970s and 1980s, democratized in the early 1990s, and are relatively free of ethnic and/or religious conflict.⁶ Currently, Tanzania and Zambia have very similar ratings in terms of the two most popular measures of democracy, Freedom House and Polity. The critical political difference between the two today is that the ruling party in Tanzania during the single-party regime, Chama Cha Mapinduzi (CCM), is still in power and has won the first two multi-party elections (1995 and 2000), while Zambia's single party (UNIP) was replaced through multiparty elections in 1991, 1996, and 2000. Fourth, Tanzania and Zambia have similar electoral systems at the national level and local level. Both countries have direct elections for president, elect members of parliament in single member districts using a first-past-the-post system, elect councilors at the local level, and allow for reelection for president, parliament, and local councilors.

One key institutional difference between the two countries is that while governments in Tanzania are almost wholly reliant on the central government for funding, local governments in Zambia are much more fiscally autonomous. Not surprisingly, local governments have more political independence from the central government in Zambia than in Tanzania. This difference is crucial for our analysis because our results

⁶ The Minorities at Risk (MAR) database does not view any sub-national group within mainland Tanzania or Zambia as an immediate risk for rebellion. However, it is important to note that MAR data suggest Zanzibar in Tanzania and the Lozi in Zambia could be future threats.

demonstrate that fiscal incentives of local governments operate independently of their link to the central government.

Table 1: Economic, Political and Social Comparison between Tanzania and Zambia

	Tanzania	Zambia
<i>National</i>		
Population	36 million	10 million
Urban Population as a Share of Total Population	34%	40%
Life Expectancy	43	37
Fertility Rate	5	5
Infant Mortality Rate	10%	10%
Child Mortality Rate	17%	18%
Adult HIV Infection Rate	9%	16%
Adult Literacy Rate	78%	80%
Net Primary Enrollment	68%	69%
Primary Completion Rate	58%	58%
Per Capita GDP (Nominal)	300	380
Per Capita GDP (PPP)	580	840
Agriculture as a Percent of GDP	44%	22%
UNDP Human Development Rank (out of 174)	162	164
Polity Score	2	1
Freedom House Rating	Partly Free	Partly Free
Democratic Transition	1995	1991
Corruption (Transparency International)*	2.8	2.6
ICRG Composite Investment Risk**	58	48
Index of Economic Freedom (Heritage Foundation)	Mostly Not Free	Mostly Not Free
Aid/GDP	13%	18%
Aid/Per Capita	47	54
<i>Local</i>		
Average Population Per District	280,000	140,000
District Personal Emoluments Per Capita	\$11.43	\$7.35
District Other Charges Per Capita	\$6.28	\$4.64
District Total Recurrent Costs Per Capita	\$17.71	\$11.99
District Total Recurrent Costs as a Share of GDP	5.9%	3.2%
Probability Recurrent Costs are Equal (p-value)		<.01

* Scale 1-10 (worst to best)

** Scale 0-100 (highest risk to lowest risk)

III. Data and Methods

In this section we describe the data and methods we use to test our hypotheses. In the first part, we describe the sources of our data and the quality of the data. In the second part we describe our key dependent variables and explanatory variables. In the third part we describe the methods we use to test the hypotheses.

Data Sources

Our key dependent variables measure local government expenditures funded by locally-generated revenue; we exclude external sources of revenue (aid and transfers) from our dependent variables. Our key explanatory variables are local revenue, central government transfers, and foreign aid. This data comes from local governments in both countries.

In Tanzania the source of the data are the Medium Term Expenditure Frameworks (MTEFs) for each district in the country. MTEFs typically include detailed budget information that identify the source of revenue (local, central government transfer, and external assistance) and expenditures by line item (i.e., not simply local expenditure but the individual components). MTEFs are completed annually and use a three-year rolling budget form of planning.⁷ Unfortunately, as a consequence of highly variable local government capacity and the weak ability of the central government to enforce strict compliance with MTEFs, in practice, MTEFs vary enormously in quality. Whereas some districts provide in-detail analysis of all expenditures and sources of revenue in the district, others present only a bare-bones summary. The two areas with the least detail tend to be (1) detailed local government expenditures from own-source revenue; and (2) donor/NGO expenditures.

In Zambia our data sources are local government budgets. MTEFs are not yet available from Zambia as the government is implementing them for the first time during FY 2005/2006. Currently, local governments in Zambia produce detailed budgets on district revenue and expenditure. Unfortunately, as in Tanzania, local governments provide far more detail on government expenditure than donor and NGO expenditures.

These budgets report three general categories of local government expenditure. The first is personal emoluments which are salaries and other direct employee benefits. The second is other charges (primarily administrative costs, such as supplies, maintenance, and vehicles). The sum of personal emoluments and other charges are total recurrent costs. The third category of expenditure is public services. Public services are all expenditures that are aimed at district improvement. While public services includes public-type goods, such as education and health, public services also include narrowly-targeted benefits, such as bus shelters and grants to certain community groups, as well as services that benefit the public but have a low social return, such as maintenance of parks.

Dependent Variables

Our ideal dependent variable is public services provided from locally-generated revenue. In Zambia this is not a problem because the budgets contain complete information on uses of local government sources of revenue. Unfortunately, in Tanzania, how

⁷ The MTEFs also review past budget performance by examining actual expenditure compared to estimated expenditure and whether the district fulfilled its project objectives as stated in under the estimated expenditures.

governments spend own-source revenue is much less clear. Specifically, while most districts report the amount of own-source revenue used for personal emoluments and other charges, most districts do not report how much of their own-source revenue they use for public services. While it is tempting to infer that the share not used for recurrent costs must be used for public services, such a conclusion is false for three reasons. One, non-recurrent expenditures can also include debt repayments, two the central government encourages districts to maintain budget surpluses, and three districts can run budget deficits if they can borrow money. For these reasons, we must use locally-generated revenue used for the recurrent budget to test our hypotheses.⁸ Fortunately, this is not problematic. Our main hypotheses are that we expect (1) a positive relationship between local taxes and local services; and (2) a negative relationship between external sources of revenue and local services. We easily can restate these hypotheses as we expect (1) a negative relationship between local taxes and local recurrent costs; and (2) a positive relationship between external sources of revenue and local recurrent expenditure.

For both countries we need to exercise considerable caution with how we express our dependent variable (local government expenditure from locally-generated revenue). The most obvious way of testing our hypotheses would be to use aggregate or per capita budget expenditures as our dependent variable. However because we have no reason to believe that expenditures on any budget line-item will decrease as taxes and/or transfers rise, using aggregate or per capita expenditure would be inappropriate. As a consequence, for Tanzania, our dependent variables are the share of total local government expenditure from locally-generated revenue going towards (1) the recurrent budget; and (2) other charges.⁹ For Zambia our dependent variable is the share of public services provided by the local government as a share of total locally-generated revenue. For this reason, the expected sign of our key explanatory variables will be different in each country as the figure below shows. It is important to reiterate that we are testing the same hypotheses in each country; the reason we predict different signs is because data constraints force us to use different dependent variables in each country.

⁸ Teacher compensation is an important issue we must address when using recurrent expenditures as our dependent variable. For district transfers in Tanzania, the largest component of personal emoluments is teacher compensation. However, because one can easily argue that teachers are an investment in education (like classrooms which are treated as development expenditures), one can argue that teacher compensation should be considered as a development expenditure. Fortunately, this is not a problem with district-level data because teachers are employed by the Ministry of Education, not local governments. Nevertheless, for the sake of completeness and transparency, we use two dependent variables to test our hypothesis for Tanzania: (1) Total recurrent costs; and (2) other charges/administrative costs.

⁹ See footnote 8 for an explanation of why we use two measures of recurrent costs.

Figure 3: Hypotheses

		Dependent Variable	
		Locally-Funded Recurrent Expenditure/ Total Locally-Funded Expenditure (Tanzania)	Locally-Funded Public Services/ Total Locally-Funded Expenditure (Zambia)
Explanatory Variable	Local Revenue	-	+
	External Revenue (Central Government and Donors)	+	-

Explanatory Variables

The key explanatory variables for our study are the three sources of revenue for local governments: locally-generated revenue, transfers from the central government, and foreign aid. In both countries, local budgets identify locally-generated revenue. Unfortunately, identifying external sources of revenue for local governments in Tanzania is far more problematic in Zambia because budgets in Zambia are far more transparent (but not as comprehensive with regard to donor funding). Our objective is to categorize transfers to local governments by the degree of government and donor involvement. The easiest transfers to categorize are those where donors and/or the government act independently. In the case of Tanzania, these are recurrent transfers and transfers from basket funds. Even though basket funds are financed partially by donors, we categorize them as government transfers because from the point of view of the local government, these funds come from the central government, not donors, and because parliament decides on the allocation of these funds across districts. Because of the way local governments record donor flows, we use two measures of donor funding. The first are direct transfers for local projects. The second includes direct transfers plus programs that are financed by donors but are distributed through independent government agencies that parliament does not control. This would include programs like the Tanzania Social Action Fund and the Local Government Capital Developments Program. Because classifying the latter category as donor could be a debatable point, we use both measures (in separate models).

Budgets in Zambia are more transparent than budgets in Tanzania but less comprehensive. Identifying central government transfers is straightforward because each local budget identifies central government transfers by line item. Unfortunately, local governments in Zambia do not comprehensively record donor transfers. As a consequence, our measure of foreign assistance to local governments in Zambia is disbursements from the Zambia Social Investment Fund (ZAMSIF). Although ZAMSIF is only a subset of donor flows into districts, using ZAMSIF data has two advantages: first, the data are comprehensive and second, to receive ZAMSIF funds, local governments must develop projects with community involvement and the projects must be directed in part at strengthening the capacity of the local government (ZAMSIF 2004). Because two of the primary objectives of ZAMSIF are to increase the capacity of local governments and to increase community participation in development, ZAMSIF is

explicitly designed to increase local government accountability. As a result, even though we only have a sub-set of aid flows to districts, using ZAMSIF data is a particularly rigorous test of our hypothesis: if ZAMSIF projects which are specifically designed to increase local government accountability result in larger recurrent budgets, foreign aid with fewer conditions on accountability is likely lead to a similar outcome.

Because our dependent variables are expressed as a share of expenditure, it would seem logical to express each source of revenue as a share of total revenue. But this is not the case for two reasons. First, because the three shares must sum to one by definition, we are unable to test the three hypotheses simultaneously. Second, creating ratios of revenue shares substantially increases the correlation among different sources of revenue and as a consequence we are likely to face severe collinearity problems. Although testing different sources of revenue alone would solve the immediate statistical problems, we would still be unable to say for certain which of the three sources of revenue had the greatest impact on local government expenditure.¹⁰ Because we are interested in testing all three sources of revenue simultaneously and because it is our objective to understand which source of revenue has the greatest impact on local government expenditure, we use the three sources of revenue measured in per capita terms.¹¹

We also use the usual array of control and structural variables in our model, such as level of development (i.e., poverty rates, mortality rates, life expectancy), size of district (total population and total area), and electoral data from the most recent elections in Zambia (2001).¹² For Tanzania the control/structural variables come from the 2000 census and for Zambia the source of these variables is the 2000 census and the 2000 living conditions survey.

Method

We use OLS with robust standard errors to test our hypotheses. There are two reasons why OLS with robust standard errors is sufficient to test our hypotheses. First, we have only one year of data. As a consequence, we are only able to conduct a cross-sectional analysis. Second, because there is little evidence to suggest that our dependent variables are endogenous we see no reason to test our model using instrumental variables. There two main reasons that suggest our dependent variables are exogenous. One, our control variables are from the 2000 census while the budget data is from FY 2005.¹³ Two, while it is possible that the central government and donors could base their transfers on local government budgets, in practice the opposite occurs: local governments determine how

¹⁰ For the sake of simplicity, consider the case where we have two sources of expenditure, internal and external), Because the share of internal equals 1 minus the share of external, in separate regressions, the coefficients and standard errors on these variables would be exactly the same; the only difference would be the sign. As a result, there would be no way to determine the relative importance of each factor.

¹¹ The correlations among sources of revenue (local, national, and foreign) are sufficiently low that we can include all three in our models. In Tanzania, the highest correlation is between own sources of revenue and transfers (0.4). In Zambia, the highest correlation is between local taxes and aid transfers (-0.2).

¹² We do not use electoral data from Tanzania because of the ruling party's overwhelming majority: in mainland Tanzania over 90% of the seats in Parliament are held by the ruling party.

¹³ It is important to note that our data is from budget estimates not actual expenditures.

they will spend their funds after receiving information on how much they will receive from donors and the central government.

IV. Results

In this section we present the results of our tests. The first section reports the results from Tanzania and the second section reports results from Zambia.

Tanzania

Because governments in Tanzania are so reliant on government transfers, we first present models that attempt to predict government transfers to districts from the central government and from donors. To estimate the models, we used a number of obvious “measures of need” to determine the degree of predictability (as opposed to idiosyncrasy) in government and donor transfers, such as the level of development and size of the population. Consequently, our explanatory variables are the size of the population, various measures of household development (e.g., literacy rates, infant mortality rates, percent of population involved in agriculture), and various measures of district development (e.g., percent of households with electricity and kilometers of road). The results we show below show a sub-set of these regressions using log population, literacy rates, and log of kilometers of road per district.¹⁴

These “measures of need” do a surprisingly good job of explaining government transfers to districts as tables 2A and 2B show. While there may be normative reasons to disagree with how the government chooses to transfer funds, local governments should have no difficulty predicting government transfers. Population, literacy rates, and kilometers of road are able to explain between 76% and 98% of transfers. For all transfers - personal emoluments, other recurrent transfers, and development - population is by far the strongest predictor of transfers. Level of development (as measured by literacy rates and kilometers of road) has a small and positive effect on emoluments and development transfers while level of development has a small but negative effect on other recurrent transfers.

Whereas the central government uses a transparent process for transfers to local governments, donors appear to follow no such logic. While we are able to explain about 85% of the variance in all government transfers using population, level of development, and kilometers of road, these same variables explain only 13% of the variance in donor transfers. One interpretation is that the much smaller number of districts that report donor transfers suggests our results using all districts may be biased if we compare them to districts that report donor funding. When we restrict the sample to those districts that report donor flows (table 2B) the results for government transfers stay the same suggesting that we do not have selection bias. What is more likely is that districts are not reporting donor flows in full and/or that local governments do not have control over donor flows because donors spend their resources directly. The data suggest that donor

¹⁴ The results of the regressions change minimally with regard to which measure of household and district development we employ.

flows are either (1) much less predictable; or (2) much less transparent than government flows. Either way, the data suggest that the largest problem that district governments face with multi-year budgeting is not inability to forecast government flows but inability to forecast donor flows.¹⁵

Table 2a: Determinants of Transfers to All District Governments in Tanzania

	Personal Emolument	Other Recurrent	Government Development
Log Population	0.672 (15.95)***	0.617 (17.16)***	0.952 (55.28)***
Literacy Rate	0.011 (3.90)***	-0.004 (2.59)**	-0.002 (1.48)
Log Road (KM)	0.079 (1.51)	-0.073 (2.23)**	0.100 (7.66)***
Constant	5.080 (11.74)***	6.645 (13.67)***	-1.747 (5.65)***
Observations	113	113	113
R-squared	0.83	0.76	0.98

Robust t statistics in parentheses

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

Table 2a: Determinants of Transfers to District Governments in Tanzania that Report Donor Funds

	Personal Emoluments	Other Recurrent	Government Development	Donors
Log Population	0.607 (14.04)***	0.659 (12.73)***	0.956 (41.23)***	0.536 (2.06)**
Literacy Rate	0.012 (4.19)***	-0.003 (1.44)	-0.001 (0.35)	-0.014 (1.37)
Log Road (KM)	0.128 (2.69)***	-0.048 (0.88)	0.119 (3.75)***	0.207 (0.65)
Constant	5.555 (8.99)***	5.947 (7.58)***	-1.994 (4.50)***	6.209 (1.99)*
Observations	56	56	56	53
R-squared	0.88	0.82	0.97	0.13

Robust t statistics in parentheses

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

While the results above suggest that there is no bias to limiting our analysis to only those districts that report donor flows, it is important to examine more thoroughly if there are any clear differences between districts that report donor funds and those that do not. The table below shows that across a broad range of indicators - enrollment rates, literacy rates, recurrent transfers, population, area, percent of households with electricity,

¹⁵ This is consistent with what we heard from district government officials; in most cases where we heard complaints about the inability to forecast flows the government officials complained about donor opacity not government.

agriculture as a share of the labor force, and total kilometers of roads - there are no statistically significant differences between districts that report donor funds and those that do not. For these reasons, there does not appear to be any bias between districts that report donor funds and those that do not.

Table 3: Differences Between Districts that Report and Don't Report Donor Funds

	Donor Funds Reported	Donor Funds Not Reported
Number of Districts	59	54
Population	297,000	275,000
Recurrent Transfers Per Capita	\$14	\$12
Area (Square Kilometers)	7,646	7,471
Literacy Rate	62%	60%
Houses with Electricity	7%	8%
Agriculture/Total Labor	70%	70%
Net Enrollment Rate	67%	68%
Kilometer of Roads	619	608

Tables four and five show the results using data from Tanzania for both measures of our dependent variable (other charges as a share of total expenditure and total recurrent costs as a share of total expenditure), our measure of local revenue (total local revenue per capita), our measure of government transfers (total government transfers per capita), and our two measures of foreign aid (direct donor transfers per capita and total donor transfers per capita). It is important to recall here that our dependent variable is local expenditure as a share of total locally-generated revenue on (1) personal emoluments; and (2) other charges.

Although we discuss these results more thoroughly in comparison with the Zambian case, several points bear mentioning here. First, and most important, local taxes per capita have a consistently strong and negative effect on the share of local government expenditures that finance recurrent costs from local sources. Second, government transfers per capita have a consistently strong and positive impact on the share of local government expenditure going towards recurrent costs. Third, donor flows have no systematic effect on government expenditure. Although on the surface this is evidence against our hypothesis, the evidence from Zambia (that we show in the next sub-section) as well as the evidence presented in table 2B suggests that either (1) we are not capturing aid flows very well; or (2) aid flows are not sufficiently predictable for government to react to them. Fourth, table five shows that development indicators (literacy rates and kilometers of road per district) have no effect on service provision. This is important because one hypothesis could be that per capita revenue is a proxy for level of development in which case the effect of local revenue on government expenditure could be a restatement of Modernization Theory. Table five shows that local revenue per capita is not a proxy for the effect of local level of development on local government fiscal accountability because when we remove local revenue per capita from the model neither of our development statistics are close to statistically significant.

Table 4: Tanzania Results

	Other Costs/ Total Expenditure		Total Recurrent/ Total Expenditure	
Local Taxes Per Capita	-0.600 (3.20)***	-0.230 (2.38)**	-0.747 (3.30)***	-0.258 (1.98)*
Total Government Transfers Per Capita	0.135 (3.73)***	0.080 (3.16)***	0.162 (3.72)***	0.096 (3.14)***
Direct Donor Transfer Per Capita	-0.004 (0.15)		0.008 (0.25)	
Total Donor Flows Per Capita		-0.026 (1.33)		-0.026 (1.12)
Log Population	1.037 (2.92)***	0.972 (3.57)***	1.258 (2.97)***	1.234 (3.75)***
Constant	-13.201 (2.77)***	-11.504 (3.08)***	-15.993 (2.80)***	-14.679 (3.26)***
Observations	50	76	50	76
R-squared	0.23	0.18	0.24	0.18

Robust t statistics in parentheses

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

Table 5: Robustness Check for Tanzania

Local Taxes Per Capita	-0.697 (2.84)***		-0.863 (2.88)***	
Total Government Transfers Per Capita	0.125 (3.52)***	0.100 (2.85)***	0.148 (3.41)***	0.116 (2.69)**
Donor Transfer Per Capita	0.009 (0.29)	-0.019 (0.71)	0.023 (0.63)	-0.011 (0.36)
Log Population	0.994 (3.06)***	0.931 (2.69)**	1.195 (3.10)***	1.118 (2.70)***
Log Road (KM)	0.118 (0.29)	0.632 (1.34)	0.193 (0.38)	0.829 (1.44)
Adult Literacy Rate	0.012 (0.76)	0.007 (0.43)	0.016 (0.80)	0.009 (0.46)
Constant	-13.915 (2.35)**	-16.352 (2.42)**	-17.064 (2.39)**	-20.080 (2.47)**
Observations	49	49	49	49
R-squared	0.24	0.14	0.25	0.14

Robust t statistics in parentheses

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

Zambia

Results from our tests on the *Zambian* data generally follow those we found in *Tanzania*. As locally-generated revenues rise, local government expenditure on public services rises while the opposite occurs with government transfers. The last column in table six shows that local revenue is not a proxy for wealth in the way that modernization theory links development and democracy: literacy rates (our proxy for development in this model) have no effect on government expenditure even after we remove local taxes.

One key difference between the results from the two countries is that unlike donor transfers in Tanzania, ZAMSIF transfers have a negative effect on local government provision of services, consistent with our hypothesis. One hypothesis that may explain these divergent results is that local governments in Zambia are able to anticipate ZAMSIF transfers with a much higher degree of certainty compared to the average donor program because ZAMSIF announces how much funds are available for each district and districts subsequently propose projects to draw on those funds. Because ZAMSIF is designed to increase local government capacity, because ZAMSIF projects must involve community participation, and because ZAMSIF is only a subset of total aid, that we have tentative evidence that ZAMSIF funds decrease local government expenditure on services is quite a remarkable finding.

Table 6: Zambia Results and Robustness Check

	Services as a Share of Total Local Government Expenditure				
Local Taxes Per Capita	0.004 (2.20)**	0.005 (2.65)**	0.008 (2.84)***	0.008 (4.30)***	
Transfers Per Capita	-0.021 (2.39)**	-0.023 (2.30)**	-0.021 (2.13)**	-0.021 (2.04)**	
ZAMSIF Transfers Per Capita	-0.024 (1.90)*	-0.020 (2.44)**	-0.020 (2.73)***	-0.019 (2.53)**	
Adult Literacy		-0.003 (1.31)	-0.004 (1.52)	-0.004 (1.91)*	0.000 (0.42)
Log Population	-0.059 (1.65)	-0.058 (1.60)	-0.048 (1.29)		
Log Area (Square KM)			0.037 (1.50)		
Log Population Density				-0.042 (2.37)**	-0.006 (0.77)
Poverty	0.003 (0.83)				
Constant	1.022 (1.79)*	1.425 (4.00)***	0.981 (2.08)**	0.873 (5.96)***	0.474 (4.02)***
Observations	46	46	46	46	50
R-squared	0.19	0.20	0.22	0.22	0.04

Robust t statistics in parentheses

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

Table seven shows that the logic of fiscal governance holds even in the face of partisanship. Unlike in Tanzania, which is dominated by one party, Zambia has a more competitive multiparty electoral system. The two main political parties are the Movement for a Multiparty Democracy (MMD) and the United Party for National Development (UPND) (there are a number of other smaller parties as well). The first two columns of table seven test whether the parties behave differently by adding each party's seat share on local councils.¹⁶ There is some evidence that the ruling party (MMD) is more profligate while UPND appears to be more concerned with public services. More interesting, the weak significance of transfers in models that include party seat shares on district councils suggests that national politics may help determine transfers in Zambia.

¹⁶ Because of the fairly strong negative correlation between the share of local government votes from each party, we could not put both parties in the same equation.

Including seat shares of political parties reduces the significance of transfers, not local revenue, suggesting that transfers may be the result of partisanship.¹⁷ This argument finds strength in the fact that ZAMSIF transfers, which are less political because ZAMSIF is an independent government agency, do not change when we place political variables in the model.

The last column examines whether governments are sensitive to different sources of revenue streams. Local governments in Zambia report three main types of local revenue: taxes (e.g., income taxes and levies), charges (e.g., fees and rent), and other income. Interestingly, given that other income is the most diverse source of local revenue it nevertheless has the strongest effect on expenditures. In the next section we briefly examine the link between revenue and service provision at the local level by examining sources of revenue and public services provided for a single district in Zambia.

	Services as a Share of Local Government Expenditure		
Total Revenue Per Capita	0.009 (4.33)***	0.008 (4.08)***	
MMD Seat Share	-0.005 (1.85)*		
UPND Seat Share		0.002 (2.16)**	
Taxes Per Capita			0.007 (3.18)***
Charges Per Capita			0.04 (1.25)
Other Revenue Per Capita			0.018 (2.95)***
Transfers Per Capita	-0.010 (0.86)	-0.018 (1.79)*	-0.021 (2.06)**
ZAMSIF Transfers Per Capita	-0.020 (2.60)**	-0.020 (2.58)**	-0.017 (1.90)*
Adult Literacy	-0.004 (1.80)*	-0.005 (2.12)**	-0.004 (1.87)*
Log Population Density	-0.066 (2.90)***	-0.037 (2.00)*	-0.041 (2.28)**
Constant	1.052 (6.54)***	0.845 (5.50)***	0.861 (5.53)***
Observations	46	46	48
R-squared	0.22	0.29	0.24

Robust t statistics in parentheses

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

One point that we want to highlight is the significance of the relatively low amount of variation we are explaining. While it is clear that we are missing most of the variation in shares of government expenditure, it is nevertheless somewhat remarkable that we are able to explain any variation at all. First, these models all account for variations in level of development and other demographic factors and the models show that these factors are

¹⁷ Simple correlations provide tentative support for this hypothesis. While there is no correlation between local taxes and political parties, there is a positive correlation between MMD seat shares and national transfers while there is a small negative correlation between UPND seat shares and transfers.

essentially irrelevant for how governments spend their revenue. Second, and far more important from a political point of view, institutions are held constant. There are no variations in institutions at the local level on mainland Tanzania and Zambia.

Our analysis of Tanzania and Zambia makes two fundamental points. One, more locally-generated revenue leads to a smaller recurrent budget as a share of total expenditure from locally-generated revenue. Second, transfers consistently cause districts to spend more of their locally-generated revenue on recurrent expenditures. Recall that in Tanzania about 90% of local budgets come from central government transfers whereas in Zambia only about 15% come from transfers. That the same outcomes occur in two countries where local governments have very different powers and sources of revenue is strong support for our hypotheses.

VI. Implications and Extensions

The results of the previous section suggest two implications. First, if local governments that collect more local taxes are more responsive to local needs, do those who pay the most in local revenue benefit the greatest from local government expenditure? We examine this issue briefly by analyzing local taxes and local public services in Mpulungu, Zambia. Second, while the results from the previous section suggest that local taxes generate demands for public services, are there difference is the type of public services that local governments and central governments provide? To examine this proposition, we compare public services provided in Mpulungu, Zambia, which are primarily provided by the local government, to public services provided in Mkruga, Tanzania, where public services are provided mainly by the central government. To be clear, the purpose of the analysis is not to compare Tanzania to Zambia rather it is to compare public services in a district where the local government provides the majority of public services to public services in a district where the central government provides the majority of to public services.

Table eight examines local revenue and supply of public services in Mpulungu District, Zambia. We chose this district because it is an average district in Zambia in terms of level of development. The data show that in Mpulungu, revenue overwhelmingly comes from commercial operations (mainly fisheries) while on the expenditure side, the largest aggregate source of supplies is infrastructure (roads, markets, street lights, bus stations, water), garbage collection, and cemeteries. While this is only illustrative, there does seem to be a rough correlation between revenue sources (mainly commercial) and public services (mainly infrastructure). It is also important to note that with the exception of roads, the public services the council currently provides are all quick to produce, have a relatively low social return compared to long-term investments areas like health and education, and can be targeted with a relatively low-cost to many different communities. One example of this is the amount of projects that are primarily esthetic: refuse collection, street lights, cemetery maintenance, bus stations, parks, and grass cutting compose two-fifths of the district's budget for public services. It is at least reasonable to ask whether these should be top priorities in a district where 73% of households live below the poverty line, 77% of households lack access to safe water, 13% of the adult

population tests positive for HIV, life expectancy is 42, infant mortality is 15%, and the net primary enrollment rate is 42%. One hypothesis for why local governments invest in projects that are quick to complete and can be targeted narrowly is that the time between elections motivates the type of public services a councilor has an incentive to provide: projects with immediate benefits to many communities are likely to be more politically useful than projects where the benefits accrue in the long-term and must be shared across communities.

Table 8: Revenue and Public Service in Mpulungu, Zambia

Revenue		Services	
Fish Levy	1,005,208	Roads/Drains	150,000
Landing Fees	355,000	Refuse	65,000
Truck Loading fee	85,000	Street Lights	51,000
Other Fees	75,000	Cemeteries	42,000
Plot Premium	50,700	Wells and Dams	34,000
Other Levies	30,000	Bus station	30,000
Rates	23,000	Markets	30,000
Vehicle Hire	21,150	Parks	21,000
Personal Levy	20,300	Sport Clubs	20,000
Licenses	20,000	Insecticide	15,000
Grain Levy	18,000	Council Buildings	15,000
Wayleave Clearing	15,000	Grass Cutting	12,000
Commercial Contribution	13,000	Coffins	10,000
Rent (non-housing)	10,000	Community Development	10,000
Other income	10,000	Ward Committee	8,500
Pre school	10,000	Women's Clubs	8,000
Coffin Sale	10,000	HIV/AIDS	7,000
Abattoir	9,000	Gender Dev	5,500
Interest	5,000	First aid	4,000
Loan Repayment	4,000		
Ground Rent	2,800		

Services as Share of Revenue: 30%

Table nine compares public services in Mpulungu, Zambia and Mkrunga, Tanzania to determine if there are differences between public services provided by the local governments and the central government. Like Mpulungu, Mkrunga has an average level of development for Tanzania. The key difference is that in Mpulungu, public services are provided mainly by the local government while public services are provided mainly by the central government in Mkrunga.

The key point of the table is that compared to Mpulungu, public services in Mkrunga, have more of a bias to long-term projects with a higher social return. Although the largest program in Mkrunga is construction of a district office compound, the overwhelming majority of the other projects in the district are longer-term investments in education (e.g., classroom construction and teacher houses), health (child/mother survival programs, medical labs, dispensaries, and HIV/AIDS), infrastructure (roads, fisheries

development, land development, and water), and conservation. While this evidence is only suggestive, it does appear that there may be a trade-off between the benefits and costs of fiscal autonomy. On the one hand, evidence from Tanzania and Zambia shows that local governments are sensitive to the needs of their constituents demonstrating that local governments in these countries can provide public services. On the other hand, the data below suggest that the public services that local governments provide in Zambia may have a lower social return than projects provided by the central government in Tanzania. Thus, there could be a trade-off in aid-dependent countries between fiscal autonomy, which may make governments more accountable, and centralization, where the government (most likely under pressure from donors) supplies public services that have a greater social return. We plan to explore these topics in greater detail in future papers.

Table 9: Comparison between Public Services Supplied in Tanzania and Zambia

Mpulungu District, Zambia (Thousands of Kwacha)		Mkrunga District, Tanzania (Thousands of Shillings)	
<i>Local</i>		<i>Central Government and Donors</i>	
Roads/Drains	150,000	District Office Construction	355,585
Refuse	65,000	Classroom Construction	224,992
Street Lights	51,000	Rural Roads	165,000
Cemeteries	42,000	Teacher Houses	89,974
Wells and Dams	34,000	Fisheries Development	79,700
Bus station	30,000	Conservation	70,753
Markets	30,000	Vehicle Purchase	66,500
Parks	21,000	Land Development	48,627
Sport Clubs	20,000	Child/Mother Survival	48,420
Insecticide	15,000	Training	37,952
Council Buildings	15,000	Water Supply	36,054
Grass Cutting	12,000	Construct Medical Lab	20,000
Coffins	10,000	Dispensary Rehabilitation	10,305
Community Development	10,000	HIV/AIDS	10,194
Ward Committee	8,500	Supervision	4,050
Women's Clubs	8,000	Gender	1,381
HIV/AIDS	7,000		
Gender Dev	5,500		
First aid	4,000		

VII. Conclusion

In this paper we have employed insights from fiscal theories of governance to examine how different sources of revenue affect incentives of local governments. First, independent of the level of external assistance, local governments in Tanzania and Zambia devote a larger share of locally-generated revenue to public services as the amount of taxes constituents pay increases. Second, external funds encourage

district governments to use locally-generated revenue for recurrent expenditures. Third, the results on the impact of donor funds on local government budgets are mixed. While local governments in Zambia treat ZAMSIF transfers and central government transfers the same, donor flows to local governments in Tanzania have no impact on local government expenditure patterns. However, we also have some evidence that the inability of local governments in Tanzania to predict donor funds compared to their ability to predict central government transfers and the ability of local governments in Zambia to predict ZAMSIF transfers may be important for explaining why donor funds have no impact on the expenditure decisions of local governments in Tanzania.

The results suggest two further areas of study. First, do local governments provide public services across sectors roughly in proportion to the amount of revenue different sectors contribute to the local budget? We will test this hypothesis using local government taxes and services provision in Zambia. Second, do public services provided by local governments differ from public services provided by the central government at the local level? One possibility is that because local governments are more accountable to their constituents than the central government, local governments may respond to constituent demand by providing public services that have an immediate benefit to many communities and discount public services that have a higher social return but that are shared across communities and/or take longer to implement. We will pursue this issue in a further paper as well.

References

- Ahmad, Junaid, Shantayana Devarajan, Stuti Khemani, and Shekhar Shah (2005), “Decentralization and Service Delivery”, World Bank Policy Research Working Paper 3603, Washington, DC: World Bank.
- Akin, John, Paul Hutchinson and Koleman Strumpf (2001), “Decentralization and Government Provision of Public Goods: The Public Health Sector in Uganda”, Chapel Hill, NC: Working Paper 01-35, Measure Evaluation, Carolina Population Center University of North Carolina at Chapel Hill.
- Azfar, Omar, Satu Kähkönen, and Patrick Meagher (2001), Conditions for Effective Decentralized Governance: A Synthesis of Research Findings, College Park, MD: Working Paper, IRIS Center, University of Maryland.
- Bardhan, Pradhan (2002), “Decentralization of Governance and Development”, Journal of Economic Perspectives, 16(4), 185-206.
- Bardhan, Pradhan and Dilip Mookherjee (2004), “Pro-Poor Targeting and Accountability of Local Governments in West Bengal”, Working Paper, Institute for Economic Development, Boston University.
- Bardhan, Pradhan and Dilip Mookherjee (2005a), “Decentralizing Delivery of Anti-Poverty Programs in Developing Countries”, Journal of Public Economics, forthcoming.
- Bardhan, Pradhan and Dilip Mookherjee (2005b), Decentralization and Local Governments in Developing Countries: A Comparative Perspective, Cambridge, MA: MIT Press, forthcoming.
- Bates, Robert (2001), “Prosperity and Violence”, New York: Norton.
- Bates, Robert and Dau-Hsiang Lien (1985), “A Note on Taxation and Representative Government”, Politics and Society 14(1).
- Bish, R. and V. Ostrom (1973), “Understanding urban government: Metropolitan Reform Reconsidered”, Washington, DC: American Enterprise Institute for Public Policy Research, Domestic Affairs Study 20.
- Boix, Carles (2003), “Democracy and Redistribution”, New York: Cambridge University Press.
- Brautigam, Deborah (2000), “Aid, Dependence, and Governance”, Stockholm: Almqvist and Wiksell.

Bueno de Mesquita, Bruce, Randolph Siverson, Alastair Smith, and James D. Morrow. (2003), "The Logic of Political Survival", Cambridge MA: MIT Press.

Carey, John and Matthew Shugart (1995), "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas", *Electoral Studies* 14 (1).

Coolidge, Jacqueline and Susan Rose-Ackerman (1997), "High-Level Rent-Seeking and Corruption in African Regimes", World Bank Working Paper 1780, Washington, DC: World Bank.

Cox, Gary (1997), "Making Votes Count", New York: Cambridge University Press.

Cox, Gary and Mathew McCubbins (2001), 'The Institutional Determinants of Economic Policy Outcomes' in Haggard and McCubbins (eds.), "Presidents, Parliaments, and Policy", New York: Cambridge University Press.

Downing, Brian (1992), "The Military Revolution and Political Change", Princeton, NJ: Princeton University Press.

Ferejohn, J, and B. Weingast (1997), "The New Federalism: Can the States Be Trusted?", Stanford (CA): Hoover Institution Press.

Galasso, Emanuela and Martin Ravillon (2005), "Decentralized Targeting of an Antipoverty Program", *Journal of Public Economics*, 89, 705-727.

Galiani, Sebastian, Paul Gertler and Erenesto Schargrodsky (2005), 'School Decentralization: Helping the Good Get Better, but Leaving the Poor Behind', Working Paper, Buenos Aires: Universidad de San Andres.

Inman, R., and Rubinfeld, D. (1996), "Designing Tax Policy in Federalist Economies: an overview", *Journal of Public Economics* 60, 307-334.

Karl, Terry Lynn (1997), "The Paradox of Plenty", Berkeley, CA: University of California Press.

Knack, Stephen (2000), "Aid Dependence and the Quality of Governance", World Bank Working Paper 2396, Washington, DC: World Bank.

Levi, Margaret (1988), "Of Rule and Revenue", Berkeley: University of California Press.

Lijphart, Arendt (1999), "Patterns of Democracy", New Haven, CT: Yale University Press.

Lindert, Peter (2004), "Growing Public: Social Spending and Economic Growth Since the Eighteenth Century", New York: Cambridge University Press.

- Linz, Juan (1990), "Perils of Presidentialism", *Journal of Democracy*, 1, p. 50-69.
- Linz, Juan (1994), 'Presidential or Parliamentary Democracy: Does It Make a Difference', in Linz and Valenzuela (eds.), "The Failure of Presidential Democracy", Baltimore, MD: Johns Hopkins University Press.
- Mainwaring, Scott and Matthew Shugart, eds. (1997), "Presidentialism and Democracy in Latin America", New York, Cambridge University Press.
- McIntyre, Andrew (2003), "The Power of Institutions" Cornell, NY: Cornell University Press.
- Moore, Mick (1995) "Promoting Good Government by Supporting Institutional Development?", Institute for Development Studies, University of Sussex, Brighton UK: IDS Bulletin 26 (2)
- Moore, Mick (1998), "Death Without Taxes", in Robinson and White (eds.), "The Democratic Developmental State", Oxford: Oxford University Press, p. 84-124.
- Ndulu, Benno and Stephen O'Connell (1999), "Governance and Growth in Sub-Saharan Africa", *Journal of Economic Perspective* 13(1).
- North, Douglass and Barry Weingast (1989), "Constitutions and Commitment", *Journal of Economic History*, 49(4), p. 803-832.
- Persson, Torsten, Gerard Roland, and Guido Tabellini (2003), "How Do Electoral Rules Shape Party Structures, Government Coalitions, and Economic Policies?", NBER Working Paper 10176, Cambridge, MA: NBER
- Persson, Torsten, Gerard Roland, and Guido Tabellini (2005), "Electoral Rules and Government Spending in Parliamentary Democracies", mimeo.
- Persson, Torsten, and Gerard Roland (2003), "Constitutional Rules and Fiscal Policy Outcomes", *American Economic Review*, 94 (1).
- Przeworski, Adam, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi (2001) "Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990", New York: Cambridge University Press.
- Reinikka, Ritva and Jakob Svensson (2004), "Local Capture: Evidence from a Central Government Transfer Program in Uganda", *Quarterly Journal of Economics*, 119 (2).
- Republic of Zambia (1996), "Local Government Act 1996", Lusaka, Zambia: Government of the Republic of Zambia.

Rondinelli, D., J. McCullough and R. Johnson (1989), "Analyzing Decentralization Policies in Developing Countries: A Political-Economy Framework," *Development and Change* 20, p.57-87.

Root, Hilton (1992), "The Fountain of Privilege", Berkeley, CA: University of California Press.

Ross, Michael (2001), "Does Oil Hinder Democracy?", *World Politics*, 53 (3), p. 325-361.

Sachs, Jeffrey and Andrew M. Warner (1997), "Natural Resource Abundance and Economic Growth", Center for International Development, Harvard University.

Shugart, Matthew and John Carey (1992), "Presidents and Assemblies", New York: Cambridge University Press.

Svensson, Jakob (2000), "Foreign Aid and Rent-Seeking", *Journal of International Economics*, 51 (2), p. 437-461.

Tiebout, Charles (1956), "A Pure Theory of Local Public Expenditures," *Journal of Political Economy*, 64: 416-24.

Tornell, Aaron and Philip Lane (1998), "Are Windfalls a Curse?", *Journal of International Economics* 44 (1).

Treisman, Daniel (2000), "The Causes of Corruption", *Journal of Public Economics*, 76 (3), p. 399-457.

Tsebelis, George (2002), "Veto Players", Princeton, NJ: Princeton University Press.

United Republic of Tanzania (2000), "Local Government Laws Principal Legislation (Revised Edition) 2000", Dar es Salaam, Tanzania: Government of the United Republic of Tanzania.

Wiseman, J.A., (1995), "Democracy and Political Change", London: Routledge, 1995.

ZAMSIF (2004), "Zambia Social Action Fund: ZAMSIF in Brief", Lusaka, Zambia: ZAMSIF.