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Assessing Frontline Service Delivery

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1. Introduction

The considerable body of cross-country studies that relate public spending and economic growth and, to a lesser extent, public spending and social development seems ambiguous at best. For example, Ram (1986) and Kormendi and Mequire (1985) find that higher government expenditures are associated with higher growth, while Landau (1986), Barro (1991), Dowrick (1992), and Alesina (1997) find higher government expenditures to be associated with lower growth.¹ Easterly and Rebelo (1993) show that overall public investment has a very low impact on growth, but that certain types of investment expenditures are correlated with growth. Devarajan, Swaroop, and Zou (1996) observe that the standard candidates for productive expenditures had either a negative or an insignificant relationship with growth.

The relationship between the amount of resources spent on schooling and education outcomes is also ambiguous. The findings of different studies in industrial and developing countries as summarized by Hanushek (1995) and Kremer (1995), respectively, reach different conclusions regarding the effectiveness of education expenditures. In developing countries, the relationship between resources spent and educational outcomes appears to be weak.

Until recently the lack of data on public spending has limited a closer look at the relationship between public spending and health outcomes. Emerging evidence indicates that total public spending on health has had much less impact on average health status than one might have expected, and certainly less than one could have hoped for (Filmer, Hammer, and Pritchett 2000). One recent study finds that socioeconomic characteristics, including income and female education, explain most cross-country variation in child mortality, while public expenditure on health, as a share of GDP, is a small and statistically insignificant determinant (Filmer and Pritchett 1999). According to these

¹ Similar ambiguity exists between aid and growth and aid and social development. Boone (1996) finds no statistical relationship between aid and growth or social development outcomes. Burnside and Dollar (2000) and Svensson (1999) find similar unconditional results, but a positive relationship between aid and growth conditional on the recipients' policies (institutions). Hansen and Tarp (2001), using different methods, find a weakly positive relationship between aid and growth.

estimates doubling public spending from 3 to 6 percent of GDP would improve child mortality by only 9 to 13 percent. Other multivariate estimates of the determinants of life expectancy and child mortality also show that income is always significant, but the share of public spending on health in GDP is not (see a review by Musgrove 1996). Bidani and Ravallion (1997) find, however, that public spending has a large effect on the health status of the poor, but estimate that public spending on aggregate health status (of the poor and non-poor taken together) has only a small effect.

Recently, several studies have argued that the ambiguity regarding the relationship between public spending and growth, or the negligible positive effect from social sector spending to outcomes are likely to reflect problems of *identification*, broadly defined. More spending does not necessarily imply more public services (Pritchett 1996, Reinikka 2001, Reinikka and Svensson 2001b). From the supply side one can identify two general explanations for the ambiguity. First, low efficacy in transfer of funds within the public sector, for example leakage of funds may prevent spending from reaching the intended end-producer (for instance schools). Second, low efficacy of the end-user in creating valuable goods and services (even if funds reach the intended end-user), waste and corruption (within schools or health clinics, for example) may severely hamper the production of valuable services.

How then does one ascertain public spending has actually been converted into services that are socially valuable? This is a difficult question since data on *actual* spending on basic services are typically not available in developing countries.

The empirical growth literature is abundant with explicit (and implicit) attempts to separate productive public spending from expenditures that have no direct effect on productivity; for example, by ex ante determining what types of spending are likely to be productive. However, the partitioning of expenditure categories does not address the core problem—that public spending data, irrespective of category, tends to be a poor proxy for actual service delivery.²

² When output measures, such as telephones per worker (Easterly and Levine 1997) or electricity available from public grid to enterprises (Reinikka and Svensson 2001a) rather than spending have been used, a positive relationship emerges between public capital and growth.

Thus, it is not enough to analyze cross-country macroeconomic and budget allocations data. Micro-level tools are needed to reveal and understand provider behavior and the translation of public spending into services, both in terms of the quantity and quality of services, that reflect the public funds spent on them.³ This paper presents a new survey tool and its first applications to document frontline service delivery from public, private not-for-profit, and private for-profit providers. This tool has two variants: a diagnostic public expenditure tracking survey (PETS), and a more comprehensive facility-based quantitative service delivery survey (QSDS).

The rest of the paper is organized as follows. Section 2 discusses key features and potential uses of the PETS and the QSDS tools. Section 3 presents a number of survey applications in Uganda, Tanzania, Ghana, and Honduras. Section 4 discusses the role of asymmetric information in public spending and its adverse consequences for service delivery. It also suggests ways to tackle the problem through innovations in transparency. Section 5 concludes.

2. Provider Surveys

The financing and provision of services are two aspects of service delivery. Even for those services where there is a strong case for public financing, there may not be a case for public provision. Until now the financing issue has been given most of attention. This paper focuses on issues and problems of service provision and three principal types of service providers in a typical developing country: (i) government at all levels, especially lower tiers; (ii) non-profit private providers (NGOs, Church, etc.); and (iii) for-profit private providers. For example, estimates suggest that in India 80 percent of health services are privately financed and provided (World Bank 2001b). In Uttar Pradesh one-quarter of rural children and 70 percent of their urban counterparts go to private schools (World Bank 2001b). In some Sub-Saharan African countries, non-profit providers

³ A considerable body of research using Living Standard Measurement Study (LSMS) surveys, which focuses on demand for education and health services and household production of human development outcomes, is outside the scope of this paper.

deliver over half of all curative health services, and these services are mostly privately funded (see, for example, Hutchinson 2001).

The microeconomic survey approach presented here focuses on provider behavior in general, including issues of incentives, oversight, accountability and multiple-principal multiple-agent dynamics in the public sector.⁴ As mentioned earlier, the two instruments are the public expenditure tracking survey (PETS) and the quantitative service delivery survey (QSDS).⁵ As information on actual public spending is seldom available in many developing countries, the PETS was designed to provide the missing information from different tiers of government and frontline service facilities. In the QSDS, the facility or frontline service provider is typically the main unit of analysis much in the same way that the firm is the unit of observation in enterprise surveys and the household in the household surveys. The QSDS can be easily applied beyond the government to comprise NGO-run and privately operating providers. In each case, quantitative data are collected both through interviews and directly from the service provider's records. Facility data can be "triangulated" by also surveying local governments, umbrella NGOs, and private provider associations. The compilation of facility level quantitative data typically requires much more effort than, say, a perception survey of service users, which makes the QSDS both more costly and time consuming to implement than its qualitative alternatives.⁶

The PETS can be conducted in conjunction with the QSDS. Their combination allows a direct evaluation of the effect of wider institutional and resource-flow problems on frontline service delivery. The facility level analysis can also be linked "upstream" to the public administration and political processes (including public official surveys) and "downstream" to households to combine the supply and demand side of service delivery.

⁴ Dixit (2000) provides a review of the theory of incentives.

⁵ Provider or service facility surveys are not entirely new. LSMS surveys have included health facility modules on an ad hoc basis (for example, Alderman and Levy 1996). A number of the Demographic and Health Surveys (DHS) carried out in over 50 developing countries have included a service provider component. Similarly, the Family Life Surveys implemented by RAND have combined health provider surveys with those of households. For a review of health facility surveys see Lindelöw and Wagstaff 2001.

⁶ Examples of these survey instruments can be found at www.publicspending.org (tools).

The PETS and the QSDS have two broad uses. First, they serve as diagnostic tools on service delivery. Many countries formulate policies within a paradigm of large and ambitious public spending programs intended to address issues of efficiency and equity. Yet, the implementation capacity of governments has seldom been systematically incorporated into the analysis of public expenditure priorities. Second, these surveys provide primary data on service providers for empirical research. Empirical evidence is severely lacking on questions of incentives and moral hazard despite a plethora of appealing theoretical arguments (Dixit 2000). Well designed and executed surveys may thus provide the necessary data to undertake such empirical analysis.

Data collection. As mentioned earlier, micro-level data collection is necessary because information systems that report on spending and public services in developing countries are either non-existent or suffer from poor-quality data. The dearth of information extends across all sectors and to all service categories. The PETS and QSDS offer a means of compiling such information. Given their public expenditure focus, the following data are particularly interesting: the quantity and quality of service outputs, inputs, resource allocations within facilities and lower tiers of government, financing (including user fees and donor financing), management systems and incentives, community participation, and staff attendance. Much of this type of data has not been collected from frontline service providers. Therefore an important contribution of the PETS and the QSDS is the establishment of stylized facts about service provision. Such stylized facts can then be used as benchmarks for cross-country studies, as well as baselines for monitoring the effectiveness of policy changes within individual countries.

Diagnosis. By designing the instruments appropriately, the PETS and the QSDS can be used to diagnose and quantify problems of inefficiency, low quality of services, leakage of resources, and capture manifestations of moral hazard in public service, such as shirking and ghost workers, asymmetric information, ineffective management and supervision systems, as well as distributional issues (see Bardhan and Mookherjee 1999, 2000).

Capacity Building. Undertaking the PETS and the QSDS in partnership with local research institutions can yield an additional benefit of local capacity building for policy

analysis. Working with local academics, research institutions, and relevant government agencies can also be very useful in building local ownership of and demand for policy research.

Research. As mentioned before, the QSDS owes more to enterprise or household surveys than to conventional public expenditure analysis, given its focus on provider behavior incentives. While firm surveys focus on issues like investment response or productivity and household surveys on demand for services, the QSDS explores provider behavior that underlies service delivery outcomes. The implication is that the novelty of this approach lies not so much in the development of new methods of analysis per se as in the application of known survey techniques to the evaluation of frontline public expenditure and analysis of provider behavior. Important empirical research questions that the PETS and the QSDS can answer include the following:

- How to design institutions that can generate the “right” incentives within the public sector (characterized by multiple principals and multiple agents) and the private sector, compatible with increasing the quantity and improving the quality of basic services?
- How does decentralization impact public expenditure outcomes and the quantity and quality of basic services? What is the optimal role of various tiers of government and under which circumstances?
- How to strengthen voice mechanisms for service users in developing countries and counter problems created by asymmetric information?
- What type of accountability and oversight arrangements between various tiers of government can help improve basic service delivery?
- How can local participation and partnerships with the private sector and civil society enhance basic service delivery?
- How best to regulate private providers?

Explaining variation in service delivery outcomes can be a difficult task, however. It entails being able to identify exogenous sources of variation in institutional features across facilities amenable to policy manipulation and to relate them to input choices and actual outcomes at the facility level.

3. Applications

Several countries have implemented diagnostic public expenditure tracking surveys (PETS), while the QSDS is only now being fielded in a number of countries. This section therefore reviews the experience gained mostly from the PETS in Uganda, Tanzania, Ghana, and Honduras. In the first three cases leakage of public funds (defined as the share of intended resources/funds not received by the frontline service provider/facility) is the main issue, while the Honduran PETS focus on staff behavior, including attendance and job migration. Nearly all applications of the PETS so far concentrate on health and education.

Leakage of Public Funds

Uganda was the first country to carry out a PETS in 1996. The study was motivated by the observation that despite a substantial increase in public spending on education since economic recovery started in the late 1980s, the official reports of primary enrollment remained stagnant. The hypothesis was that actual service delivery, proxied by primary enrollment, was much worse than budgetary allocations implied because public funds were subject to capture by local government officials and did not reach the intended facilities (schools). To test this hypothesis, a PETS was conducted to compare budget allocations to actual spending through various tiers of government, including frontline service delivery points, in primary education and health care (Ablo and Reinikka 1998, Reinikka 2001). The PETS also collected quantitative data on outputs produced by service facilities (schools and clinics) as well as data on facility characteristics.

Adequate public accounts were not available to report on actual spending, so the surveys of 19 districts (out of 39), 250 government primary schools and 100 health clinics collected a panel dataset on spending (including in-kind transfers) and outputs for 1991–95. Previous survey work in Uganda had been limited to households, while issues concerning the flow of public funds or school enrollment had relied on limited official statistics or administrative records. Initially, the objective of the PETS was purely diagnostic, that is, to provide a reality check on public spending. Subsequently, it became

apparent that, apart from diagnostics, a quantitative tool like the PETS can provide useful microeconomic data for analyzing, for example, service provider behavior and incentives in the same fashion as household surveys are used to explore household behavior.

The Ugandan school survey provided a stark picture of public funding on the frontlines. On average, only 13 percent of the annual capitation (per student) grant from the central government reached the school in 1991–95. Eighty-seven percent either disappeared for private gain or was used by district officials for purposes unrelated to education. Most schools received very little or nothing (roughly 70 percent of the schools). In fact, based on yearly data 73 percent of the schools received less than 5 percent, while only 10 percent of the schools received more than 50 percent of the intended funds. The picture looks slightly better when constraining the sample to the last year of the survey period. Still, only 22 percent of the total capitation grant from the central government reached the schools in 1995.⁷

Uganda: Leakage of Public Funds, 1991–95
(percent)

	<i>Salaries</i>	<i>Education</i>	
		<i>Non-wage</i>	
		<i>Mean</i>	<i>Median</i>
1991	—	97	100
1992	—	96	100
1993	20	85	100
1994	—	84	100
1995	—	78	100

— Not available.

Source: Authors' calculations based on 1996 PETS data and government of Uganda (for salaries).

It was not possible to track teachers' salaries, given the lack of disaggregated pay data from central government. Other available evidence (a comprehensive payroll clean-up) suggested, however, that the average share of ghost works was 20 percent in 1993.

Records at the district level were found to be patchy. Hence, a detailed comparison between budgets and actual spending could only be made about non-wage spending

⁷ A few obvious outliers in the original dataset were excluded from the analysis.

between the center and the school (without the middle tier of government, that is, the district).

The school survey unearthed other important information critical to understanding the education delivery system and the efficacy of potential interventions. First, instead of being stagnant as official statistics indicated, the school survey showed a 60-percent increase in primary enrollments during the survey period of 1991–95. This suggests that, while the input flow suffered from major problems, performance of the education system (in terms of school enrollment) had improved much more than the information system that reports on it. Second, the survey confirmed that public primary education was mostly funded by parents who, on average, contributed up to 73 percent of total school spending in 1991 (42 percent at the median school). During the repressive Amin and Obote regimes in the 1970s and 1980s, government gradually retreated from funding and managing primary schools leaving the parent-teacher associations (PTAs) no option but to take over. The survey data demonstrated that by 1991 this situation had not changed much. Government's share increased during the survey period, but by 1995 parents still financed 60 percent of total primary school spending on average (at the median school, however, the parental share was reduced to 23 percent). Strikingly, parental contributions continued to increase in real terms despite higher public spending.

The PETS approach for health care did not work as well as it did for primary education. The survey confirmed that health facilities did not keep systematic financial or patient records in 1991–95. Most transfers from government were in-kind. Therefore, a quantitative assessment of the flow of resources to health centers or services delivered by them could not be achieved.⁸ The two (seemingly comparable) social sectors demonstrate quite different institutional behavior, at least as manifested in recordkeeping at frontline service facilities.

⁸ Interviews at health facilities indicated (qualitatively) that in-kind transfers, typically made directly to the health facility from the central medical store, reached the intended health centers. Using focus groups and direct observation, McPake and others (1999) highlighted problems in efficacy of service delivery at the facility level. Health workers were routinely found to charge users above the formally agreed levels, and the drug supplied by donors or the government were routinely used as a source of additional income. Their leakage estimate ranged from 40 to 94 percent of the public supply of drugs to the facilities in mid-1990s.

More generally, the school survey quantified a moral hazard problem, that is, the adverse effects of asymmetric information on the flow of funds. Because local government officials (the agent) have an informational advantage, they can obtain rents at the expense of PTAs. As confirmed by the PETS, the problem was huge in non-wage spending. Following publication of the survey findings, the central government made a swift attempt to remedy the situation. It began publishing the monthly intergovernmental transfers of public funds in the main newspapers, broadcasting information on them on radio, and required primary schools to post information on inflows of funds for all to see. This not only made information available to PTAs, but also signaled to local governments that the center had resumed its oversight function.

Initial assessments of these reforms a few years later, through two locally implemented follow-up PETS, show that the flow of funds improved dramatically, from 13 percent (on average) reaching schools in 1991–95 to about 80 to 90 percent of intended capitation grants reaching schools in 1999 and 2000 (Republic of Uganda 2000, 2001). Delays in transfers were still considerable so that if the leakage were measured on an annual basis it is likely to have been higher than the reported 10 to 20 percent, although significantly lower than the almost 80 percent experienced in 1995. We return to the issue of asymmetric information in section 4.

Tanzania implemented two public expenditure-tracking surveys in 1999 and 2001. As in neighboring Uganda, there was a strong suspicion that serious problems existed in the flow of funds from the central government via the local authorities to frontline service facilities. In Tanzania, as in many other low-income countries, basic service delivery is primarily funded by central government transfers (as opposed to local taxation). The first Tanzanian PETS, which was limited to 3 districts, 45 primary schools, and 36 health facilities, pointed to qualitatively similar problems observed in Uganda a few years earlier, but quantitatively they appeared to be somewhat less severe (Price Waterhouse Coopers 1999). As in Uganda, local (district) councils diverted a large part of funds disbursed by the center for non-wage education and health expenditures to other uses (that is, other sectors than education) as well as private gain. Leakage was estimated at 57 percent in education and 41 percent in health care. Again, salaries appeared to be less

prone to diversion, but payrolls suffered from ghost workers and frontline staff suffered delays in pay.

Tanzania: Leakage of Public Funds, 1999 and 2001
(percent)

	<i>Education</i>		<i>Health</i>	
	<i>Salaries</i>	<i>Non-wage</i>	<i>Salaries</i>	<i>Non-wage</i>
1999	—	57	—	41

— Not available.

Source: Price Waterhouse Coopers (1999).

The second PETS also tracked flows of money and materials from the central government via regional and local governments to basic service delivery points, using a combination of existing documentation and records and facility visits and interviews (REPOA and ESRF 2001). The sectoral focus was on health and education, while some information was collected on other pro-poor expenditures (rural water supply, rural roads, water supply, judiciary, and HIV/AIDS). The survey covered 5 districts, and 4 primary schools and 4 clinics in each district.

Considerable delays in disbursement of funds were found at all levels of government. However, the study does not provide average figures for leakage or delays. Delays were reported to get worse for non-wage expenditures and in rural areas. Also, rural districts received a smaller share of the intended resources than urban districts received. The underlying causes include cash budgeting leading to volatile transfers due to fluctuations in revenue, which in turn, gave rise to information asymmetry as it became increasingly difficult for beneficiaries to know the amount of their monthly allocation or entitlement. In particular, council staff was reported to take advantage of the information asymmetries vis-à-vis service facilities. Similarly, highly aggregated government records were found to undermine transparency in public spending.

The findings of the two PETS were disseminated during the national budget consultations, but they have not had as strong a catalytic effect on central government oversight or transparency arrangements as the PETS in Uganda. Nevertheless, the Treasury has initiated regular dissemination of itemized local government budgets to

members of Parliament and regular publication of budget allocations for the selected pro-poor spending programs both in Swahili and English language newspapers, covering allocations for ministries, regions, and local authorities (councils). This practice is still recent and an awareness campaign about these new transparency measures is only now being launched. According to the 2001 PETS, only a few local authorities displayed budgets on public notice boards.

Ghana implemented a PETS in 2000. As in Uganda and Tanzania, its purpose was to measure actual expenditures (including in-kind transfers) on basic education and primary health care to estimate the leakage of public funds in the transfer process from central government via districts (local governments) to service facilities. In addition, a survey of user perceptions was carried out. The Ghana PETS covered 4 districts in each of the 10 regions. Apart from interviewing 40 district education officers and 40 district health officers, a total of 119 primary schools, 79 junior secondary schools, and 173 primary health clinics were included in the facility-level survey. The sample frame coincided with the 1998 household survey, but no explicit link with the household survey was made in the PETS (Ye and Canagarajah 2001).

Ghana: Leakage of Public Funds, 2000
(percent)

	<i>Education</i>		<i>Health</i>	
	<i>Salaries</i>	<i>Non-wage</i>	<i>Salaries</i>	<i>Non-wage</i>
2000	20	50	20	80

Source: Ye and Canagarajah (2001)

The results from Ghana PETS indicated that only about 20 percent of the non-wage public health expenditure and 50 percent of non-wage education expenditure reached the frontline facilities. As observed in Uganda and Tanzania, the leakage in salaries, in contrast, was much smaller (around 20 percent). Contrary to the Ugandan and Tanzanian

experience, a large proportion of the leakage seemed to occur between line ministries and district offices when public expenditures are translated from funds into in-kind transfers.⁹

The in-kind nature of transfers gave rise to information asymmetries and lack of accountability within the delivery system and discouraged opportunities for feedback from frontline facilities regarding their resource needs or for voicing their complaints. The possibilities for leakage were found to be much greater when the value of the materials distributed was unknown to their recipients.

The PETS opened an avenue for practical interministerial collaboration in Ghana and provided a practical approach for assessing frontline expenditures and service delivery. However, it has not (at least yet) been able to catalyze a strong response to reduce leakage, either through innovations in transparency or increased central government oversight. As the first PETS was considered a pilot, there is scope for building on this experience in the future.

In conclusion, the three PETS for which leakage of public funds was the main focus reveal that non-wage expenditures (subject to an intergovernmental transfer mechanism) suffer more from extensive leakage than salary expenditures. The three PETS also demonstrate that the sources of leakage can result from different tiers of government. In Uganda and Tanzania, the most serious leakage arose at the local government level, while in Ghana it occurred before the resources reached the local government. In each case the level of leakage of non-wage expenditures is massive. For example, it is well known that availability of books and other instructional materials (non-wage inputs) are essential ingredients for improving the quality of schooling. If between 87 percent (Uganda) and 50 percent (Ghana) of the funding for these inputs never reach the schools, leakage must become a major policy issue to tackle in education.

⁹ The Ghana PETS applied a somewhat different survey method from the two others. In particular, recall methods rather than direct examination of facility/district records was used. Similarly, the ex ante budget allocation rules appear less clear (or were not fully specified in the PETS). This may somewhat bias the leakage estimates, which should be taken as indicative only.

Absenteeism and Job Migration

Honduras used the PETS to explore and diagnose moral hazard with respect to frontline health and education staff (World Bank 2001a). The three previous PETS established that leakage due to bureaucratic or political capture is a less critical factor in salary expenditures. Honduras demonstrates, however, that there are other issues related to staff behavior and incentives in public service that can have similar adverse effects on service delivery, such as ghost workers, absenteeism and capture of jobs by employees. The hypothesis for the PETS was that the central payroll office in Honduras has no means of ensuring that public employees really exist (ghost workers) and whether they are actually working where they are supposed to work (migration of posts). In particular, migration of posts poses a big problem, facilitated by the Honduran system of staffing which does not assign posts to individual facilities but to the central ministry. Given that the central ministry has discretion over the geographic distribution of posts, the system provides an incentive to frontline staff to lobby the ministry to have their posts transferred to more attractive locations, most often to urban areas. The implication is that posts migrate from rural and primary health care/primary school level toward cities and higher levels of health care/schooling. This is neither efficient nor equitable.

Honduras: Ghosts, Absenteeism and Job Migration, 2000

(percent)

<i>Year</i>	<i>Education</i>			<i>Health</i>		
	<i>Ghost workers</i>	<i>Absenteeism</i>	<i>Job migration</i>	<i>Ghost workers</i>	<i>Average absenteeism</i>	<i>Job migration</i>
2000	3.0 (staff) 5.0 (teachers)	14.0	—	2.4	27.0	5.2

— Not available.

Source: World Bank (2001a).

In light of the hypothesis, the objective of the PETS was to quantify the incongruity between budgetary and real assignments of staff and to determine the degree of attendance at work. The PETS used central government information sources and a nationally representative sample of frontline facilities in health and education. Central government payroll data indicated each employee's place of work. The actual unit of

observation in the Honduran study was not the facility but the sector staff, both operational and administrative, and at all levels of the two sectors from the ministry down to the service facility level.¹⁰

The Honduran PETS details a range of problems in the health sector. First, 2.4 percent of staff in the health sector was found to be ghost workers, notably general practitioners (GPs) (8.3 percent) and specialists (5.1 percent). Second, absenteeism is a generic problem with an average attendance rate of 73 percent across all categories of staff, meaning that only 73 percent of staff was at work in the 5 days prior to the survey. Thirty-nine percent of absences were without justifiable reason (such as sick leave, vacations, and compensation for extra hours worked). This amounts to 10 percent of total staff work time.¹¹ Third, multiple jobs are prevalent, but especially for GPs and specialists. Fifty-four percent of specialist physicians have two or more jobs (of which 60 percent are in a related field). Multiple jobs probably reflect employee capture (that is, the post belongs to the individual). Fourth, 5.2 percent of sampled staff members had migrated to other posts than those to which they were assigned in the central database, while 40 percent had moved since their first assignment. The highest proportions of migrators were found among GPs. Migration is always from lower to higher-level institutions, although there is also some lateral migration. Job migration was found to reflect a combination of employee capture and budget inflexibility.

In education, 3 percent of staff members of the payroll were found to be ghosts, while 5 percent of primary school teachers were unknown in their place of work. Staff migration was highest among non-teaching staff and secondary teachers. Absenteeism is

¹⁰ The health sample frame consists of 14,495 staff members in 873 workplaces. The education sample frame had 43,702 staff members in 9,159 workplaces. The total sample is 1,465 staff nationwide with 805 staff members from health and 660 staff members from education. These are clustered within 35 health establishments and 44 education establishments. The samples were stratified by type of facility and by type of employee. Population weighting was used to determine how many of each type of employee to draw from each type of facility. Two questionnaires were used for each institution from which individual staff members were sampled. One questionnaire was for the institution's manager and one was for each individual employee working in the sampled institution on the day of the visit. If the individual was not there, close colleagues were used to fill in the required information about the employee.

¹¹ The average attendance rate (based on attendance in previous 5 days) was 73 percent. Attendance was lowest among general practitioners (61 percent). No group attended more than 76 percent of the time.

less of a problem than in the health sector with an average attendance rate of 86 percent across all categories of staff. Unaccounted for absence were 15 percent of all absences. Multiple jobbing in education is twice as prevalent as in health with 23 percent of all teachers doing two or more jobs. However, half of multi-employment is by secondary school teachers who are paid for a set number of hours rather than full time jobs so that they can legitimately hold two jobs. Multiple jobs are almost always in a related field. Finally, 40 percent of all education sector workers work in administrative jobs suggesting a preference for non-frontline service employment.

In brief, employees seek movement upward through the system, taking their posts with them. Inflexibility of the budgeting system contributes to this situation, as managers prefer to shuffle posts rather than apply for new ones. As the PETS study was carried out fairly recently, there has not yet been much follow-up within government of the findings.

4. Asymmetric Information in Public Spending

A key finding of these public expenditure tracking surveys is that asymmetric information can have a considerable adverse effect on the flow of funds to the frontline and on service delivery. As access and ability to acquire information differs within segments of society, the actual programs may also have adverse equity implications. We also observed that cash budgeting, deemed necessary in a number of low-income countries to bring about fiscal discipline, has serious negative side-effects in that it produces volatile monthly releases of funds, aggravating the informational disadvantage that beneficiaries typically have. This leads to extremely high levels of leakage of funds. As demonstrated by the PETS, non-wage expenditures are particularly vulnerable to leakage.

Educational spending in Uganda is a case in point. As described above, a PETS to gauge the extent to which public resources actually filter down to the intended end-user revealed that in mid-1990s, for every dollar spent by the central government on non-wage expenditures at the primary level, the schools received, on average, only 22 cents. Most schools received nothing. Apart from the high degree of leakage, the unique panel data

from the Ugandan PETS also revealed large variations in leakage across schools and over time.¹² Reinikka and Svensson (2001b) develop a simple bargaining model to explain these differences. In the absence of central government oversight, local government officials and schools bargain over the non-wage expenditures (per-student capitation grant), which the central government disburses to local governments (districts). The district is supposed to pass the grant on to schools. District officials have discretion over these funds as, at the district level, they only know the amount of monthly transfers. In principle a PTA could obtain information on disbursements of the capitation grant but in practice contacting central government is costly. Even if the PTA decides to incur the cost of obtaining the necessary information, exercising their voice (see Hirschman 1970) is also costly. It would require organizing the parents and teachers and lodging a complaint with a higher authority. In the model, resource flows—and leakage—are endogenous to school characteristics, as schools use their bargaining power vis-à-vis other parts of government to secure greater shares of funding. These resources are therefore not allocated according to the rules underlying the government's budget decisions, with obvious equity and efficiency implications.

The bargaining model's predictions are confirmed by the school-level data. Specifically, larger schools appear to receive a larger share of the intended funds (per student). Schools with children of better-off parents also experience a lower degree of leakage, while schools with a higher share of unqualified teachers experience higher leakage. After addressing potential selection and measurement issues, these school characteristics have a quantitatively large impact on the degree of leakage.

These findings provide new insight into an area almost exclusively studied using cross-country data. They show that a large part of the variation in corruption and/or diversion of funds from their intended use at the local level can be explained by studying the interaction between the local officials and the end-users (schools in this case) as a bargaining game. From an analytical point of view this approach differs from much of the

¹² While there was variation in leakage across regions (districts), the bulk of the variation was within the regions. The standard deviation of leakage (the share of intended capitation grants received) across regions is roughly one-third of the average standard deviation within regions.

existing literature on corruption, since it focuses on the principal's (the school's) rather than the agent's (the district officials') incentives and constraints. The results suggest that a systematic effort to increase citizens' ability to monitor and challenge abuses of the system, and inform them about their rights and entitlements, are important aspects in controlling corruption.

Interestingly, the extent to which funding reached the intended beneficiary had little to do with conventional audit and supervision mechanisms, but on the schools' opportunity to voice their claims for the funds. Traditionally it has been left to the government and its legal institutions to devise and enforce public accountability. The Uganda findings question this approach. However, the finding is not Uganda-specific. As the government's role and services have expanded considerably during the past decades, it has become apparent that conventional mechanisms, such as audit and legislative reviews, may not be enough. Collusion, organizational deficiencies, abuse, and lack of responsiveness to citizens' needs cannot easily be detected and rectified even with the best of supervision. When the institutions are weak, as is common in many developing countries, the government's potential role as auditor and supervisor is even more constrained.

As discussed in section 3, the second PETS assessment of these reforms a few years later showed that the flow of funds improved dramatically (Republic of Uganda 2000, 2001). The improvement suggests that provision and dissemination of information can indeed play a crucial role in improving outcomes. A quantitative evaluation of the impact of the informational innovations (that is, the empowerment of schools/parents through improved information on entitlements) would warrant a repeat survey using the QSDS approach. Such an evaluation is not only interesting from a Ugandan perspective, but has the potential to provide detailed information on a simple but potentially powerful policy instrument, that is, the provision of information on public services, entitlements, and spending items through mass media and other means, with potentially wide applicability.

Recently "knowledge" and "empowerment" have become buzzwords in the policy debate on development. From a research perspective this might seem surprising, given

that there is very little empirical (quantitative) information on the impact of policies aimed at empowering and informing citizens about their rights and entitlements. This lack of empirical evidence is even more surprising given that social scientists, for a long time, have stressed the role of free press as an essential institution for citizens to make well-grounded decisions about public affairs (although the role of information in improving public service delivery is typically not stressed).

5. Conclusions

Recent development debate emphasizes the importance of improving basic service provision in developing countries. Until recently the analysis of service delivery has focused almost entirely on the financing of services, while provision, particularly issues related to institutions, incentives, and provider behavior, has received much less attention. The public expenditure tracking survey (PETS) and the quantitative service delivery survey (QSDS) are new promising microeconomic tools to address this deficit. Our review shows that these surveys are indeed useful instruments both for diagnosis of problems and for research. Experience also suggests that rigorous survey methods and careful implementation are required to ensure good quality and comparability of data across countries would be desirable. These are important lessons for the PETS that are currently in the field in Africa and Latin America, as well as to the first multi-country round of the QSDS getting underway in the health and education sectors in Africa and East Asia. For the latter the emphasis is on generating primary data for research.¹³

The PETS implemented so far have focused on quantifying moral hazard problems manifested in the leakage of public funds in education and health and in staff behavior. All three Sub-Saharan African studies chose to examine leakage of funds. All three confirm that leakage indeed obstructs social service delivery in Africa. While ghost workers on wage bills account for about 20 percent of total spending, leakage in non-

¹³ The PETS is being undertaken in Chad, Rwanda, Senegal, and Peru. The QSDS countries are Chad, Laos, Madagascar, Mozambique, Nigeria, Papua New Guinea, Uganda, and Zambia. Some of them will be linked explicitly to household surveys and others to surveys of public officials.

wage expenditures as measured by the surveys ranged from 87 to 41 percent. Interestingly, Honduras expanded the use of the PETS to diagnose and quantify ghost workers, absenteeism, and job migration (resulting from employee capture) and their underlying reasons. In Honduras they were considered to be a more problematic form of “leakage” than that of non-wage public funds due to bureaucratic and/or political capture.

These results have implications for the large cross-country literature on public spending and growth in developing countries, as well as the literature on the macroeconomic impact of foreign aid. In particular, the findings highlight the identification problem in attempting to evaluate the efficacy of public capital or services with public spending data. Given the extent of and variation in leakage and attendance, using budget allocation data to assess the impact of public spending on growth and social outcomes will severely underestimate any potential positive effect that the public capital or services actually created by public funds can have. Based on the existing cross-country work, the effect of government spending on growth and social development outcomes is ambiguous. The results reviewed in this paper suggest that increased spending does not necessarily translate into an equivalent increase in output and services.

The Uganda case also illustrates the possible positive impact that collection and dissemination of quantitative data on public services can have as a tool to mobilize “voice.” When individual complaints about services are made or the characterization about services offered are based on isolated experiences, they tend to be brushed aside as anecdotal evidence or at best partial evidence. But when that public feedback is backed by systematic comparative data it is difficult to ignore and, as the Uganda case shows, it can then provide a spark for (public) action. As discussed above, when the degree of leakage became public knowledge in Uganda, the central government enacted a number of changes: it began publishing the monthly transfers of public funds to the districts in mass media and required every primary school to post information on inflows of funds. The objective of this information campaign was to promote transparency and increase public sector accountability by giving citizen access to information needed to understand and examine the workings of the capitation grant program for primary schools. The idea was, by providing adequate information, to empower schools and citizens to monitor and

challenge abuses of the system. As a result, flow of funds improved greatly. Our review confirms that similar problems exist elsewhere, making the information campaign approach adopted in Uganda widely applicable.

The studies reviewed here focus mostly on moral hazard and negative effects of provider behavior on service delivery. As shown by these studies, major problems exist today in the basic service delivery systems of many developing countries—and they are seldom quantified at the micro-level. In the future, it would be valuable to broaden the diagnostic work and research using the PETS and the QSDS to examine more positive features of the public sector, such as idealism and professionalism and their effects on service delivery. These could prove equally inspiring for developing country reformers.

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