

Public expenditure tracking surveys in education



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International Institute for Educational Planning

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Presentation of the series

Several studies conducted over the past decade have clearly emphasized the negative impact of corruption on the economic, social and political development of countries, due to the increased transaction costs, the reduction in the efficiency of public services, the distortion of the decision-making process, and the undermining of social values. They have also shown a strong correlation between corruption and poverty: statistical regressions suggest that an increase in the per capita income of a country by US\$4,400 will improve its ranking on the index of corruption (international scale) by two points (OECD, 1995). Moreover, it has been observed that corruption tends to contribute to the reinforcement of inequities, by placing a disproportionate economic burden on the poor, and limiting their access to public services.

As a consequence, fighting corruption has become a major concern for policy makers and actors involved in development. In view of the decrease in the international flow of aid and the more stringent conditions for the provision of aid – due to growing tensions on public resources within donor countries, and the pressure exerted by tax payers on governments to increase transparency and accountability in resource management – it is regarded today as a major priority on the agenda of countries and of international agencies of development co-operation. The Drafting Committee of the World Education Forum has expressed this concern in the following terms: “Corruption is a major drain on the effective use of resources for education and should be drastically curbed.”¹

1. UNESCO. 2000. *Dakar Framework for Action. Education for All: meeting our collective commitments*. Adopted by the World Education Forum, Dakar, Senegal, 26-28 April 2000. Extended commentary on the Dakar Action Plan (§ 46).

A rapid review of the literature shows that a number of attempts have already been made to tackle the issue of corruption both globally and sectorally. In the social sector, for example, several studies have been conducted on corruption in the provision of health care services. However, it appears that the education sector has not been given proper attention by national education authorities and donors, despite the many grounds for attaching a particular priority to the challenge of combating corruption in education:

- No public sector reform aiming at improving governance and limiting corruption phenomena can obtain significant results as long as the case of education has not been properly addressed – given the importance of the education sector, which in most countries, is the first or the second largest public sector both in human and financial terms.
- Any attempts to improve the functioning of the education sector in order to increase access to quality education for all, cannot prove successful if problems of corruption, which have severe implications for both efficiency in the use of resources and for quality of education and school performance, are not being properly dealt with.
- Lack of integrity and unethical behaviour within the education sector is inconsistent with one of the main purposes of education; that is, to produce ‘good citizens’, respectful of the law, of human rights and fairness (it is also incompatible with any strategy that considers education as one of the principle means of fighting corruption).

In this context, the IIEP launched a new research project within the framework of its Medium-Term Plan for 2002-2007, which deals with ‘Ethics and corruption in education’. Corruption is defined as “the systematic use of public office for private benefit that results in a reduction in the quality or availability of public goods and services”. The main objective of this project is to improve decision-making and the management of educational systems by integrating governance and corruption concerns in methodologies of planning and administration of education. More specifically, it seeks to develop

methodological approaches for studying and addressing the issue of corruption in education, and collect and share information on the best approaches for promoting transparency, accountability and integrity in the management of educational systems, both in developing and industrialized countries.

The project includes works on topics of relevance such as teacher behaviour, school financing, textbook production and distribution, and academic fraud. It also includes monographs on success stories in improving management and governance, as well as case studies which facilitate the development of methodologies for analyzing transparency and integrity in education management.²

Within this framework, the IIEP asked Ritva Reinikka and Nathan Smith to write a study which examines the merits and relevance of methods used for tracking public education expenditures to improve transparency in the management of education resources. After an introductory chapter dealing with the concept of accountability in education management, the authors present the various successful approaches (Public expenditure tracking survey, multipurpose surveys, quantitative service delivery survey) developed to diagnose and analyze the magnitude of leakages in education resources in three countries – Peru, Uganda and Zambia. They highlight the lessons learned both on how to undertake adequately (and make use of the findings of) such approaches in reducing leakage in the education resources.

Jacques Hallak and Muriel Poisson

2. An information platform, called ETICO, has also been created within the framework of the project. It is available on the IIEP's web site, at the following address: <http://www.unesco.org/iiep/eng/focus/etico/etico1.html>

This study was prepared by Ritva Reinikka, Research manager, and Nathan Smith of the Development Research Group of the World Bank, under the supervision of Muriel Poisson, Programme Specialist at the International Institute for Educational Planning (IIEP) and Jacques Hallak, international consultant.

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List of abbreviations

APAFA	<i>Asociación de padres de familia</i> (parent association)
BESSIP	Basic Education Sub-Sector Investment Programme in Zambia
CTAR	Transitory Council of Regional Administration, Peru
EFA	Education for All
ESDS	Expenditure and service delivery survey
GRZ	Government of the Republic of Zambia
IU	Implementing Unit, Peru
MED	Ministry of Education, Peru
MEF	Ministry of Economics and Finance, Peru
MOFPED	Ministry of Finance, Planning and Economic Development, Uganda
PETS	Public expenditure tracking survey
PRSP	Poverty reduction strategy paper, Zambia
PTA	Parent Teacher Association
QSDS	Quantitative service delivery survey
SIAF	<i>Sistema integrado de administración financiera</i> (integrated system of financial management), Peru

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Executive summary

The public expenditure tracking survey (PETS) is a method used to study the flow of public funds and other resources, including various levels of government and administrative hierarchy. It is most relevant where public accounting systems function poorly or provide unreliable information. This method has been applied successfully in Uganda, Peru, Zambia and many other countries to enhance our understanding of why public resources devoted to education often produce unsatisfactory results. Education is in most countries financed and provided publicly. Left to itself the market would provide education in a too inequitable manner, leaving too many children without. Yet without some ‘client power’, it is difficult to create incentives that will make education systems function efficiently. Accountability must be carefully cultivated as administrators and teachers are less likely to leak public funds or be absent from the classroom if they are held accountable. Public expenditure tracking surveys allow policy-makers to diagnose how incentives and accountability systems are working in practice and how they can be improved.

To conduct a PETS, a research team consisting either of external consultants or employees of a government statistical office (but *not* officials of the education ministry or local officials, whose presence may bias the results) begins by holding broad-based consultations. Through dialogue with a range of stakeholders, the study team can identify the issues and problems that most affect the education sector and develop a statement of the study’s objectives. The next task is to draft a set of questionnaires corresponding to different tiers of the hierarchy and categories of respondents, while recruiting enumerators. A thorough piloting of the questionnaires is critical – and this phase often allows sharpening of initial research questions and hypotheses.

The sample, carefully stratified to be adequately representative of the country, should permit the cross-validation of data between different tiers of government. The team then trains the enumerators and with them often carries out the final field-tests or pilots of the survey instruments. The most costly phases of the survey are the actual conducting of the interviews and data collection from school and local government records (that is, enumerators' wages and transport) and the subsequent data entry and cleaning (pay for data entry personnel). Once the data is collected and compiled into data sets, the research team analyses these and attempts to answer the research questions posed during the consultations, test the hypotheses and report the most relevant findings. Total cost, which depends on the country and scope of the study, may range from 50,000 United States dollars (US\$) to well over US\$100,000.

Among the results which may emerge from the PETS are estimates of leakage, information on the percentage of funds spent at each level of the education hierarchy, descriptions of how funding is targeted among different schools and subpopulations, information about school facilities, teacher quality and absenteeism, drop-out rates, test scores, school governance and accountability. Applied as a diagnostic survey, a PETS can provide statistics that show the scale of the problems. To point towards solutions, analysts must dig deeper, framing and testing hypotheses in order to discern the *causes* of those problems.

Leakage and other forms of corruption, of course, are not the only reason why education systems may falter or fail to improve. There may be a failure on the demand side due to parental perceptions that the curriculum is irrelevant or a strong need for children's labour at home. Or, as was found to be happening in Zambia, public money may merely substitute for household spending on education. If a country's education goals apply mainly to disadvantaged children, it may fail to make progress in achieving them because funds are not properly targeted. A PETS is one of the few ways to acquire quantitative evidence on the elusive issue of corruption. It is a useful tool to test for bureaucratic leakage and can shed light on equity and other hypotheses.

If the reasons for unsatisfactory educational outcomes emanate from the supply side, the situation is unlikely to improve without better public sector accountability. However, making public sector actors more accountable is likely to provoke resistance. Once a PETS has identified leakages and accountability failures, it is up to the government and other stakeholders to make administrative reforms and mobilize civil society in order to translate recommendations from the PETS into reality. If a government is dissatisfied with educational outcomes and prepared to make the necessary efforts to get the system on the right track, it may be worth undertaking a public expenditure tracking survey to show the way!

Chapter 1

Accountability: a conceptual framework for service delivery in education

Every school system requires money and other resources to run. Buildings, chalkboards, desks and chairs, textbooks, water and electricity and, most importantly, classroom teaching are among the inputs that schools use in their daily operation. In most cases the government is responsible for supplying these inputs through the agency of a provider organization dedicated to education and consisting of various layers, using taxpayers' money and sometimes donor funds. Money and resources are by no means the only determinants of quality in an education system but they are the variables over which governments have the most control. The most obvious course available to a government that wishes to improve its education system is to contribute more money and resources to schools.

Unfortunately, research has shown that the link between public education spending and outcomes is tenuous and a public expenditure tracking survey (PETS) conducted in Uganda in 1996 suggested one reason for this: Little of the money allocated at the centre reached the schools. In Uganda, it turned out that the majority of schools received none of the funds that they were entitled to in 1991-1995. Moreover, of the total non-wage spending intended for the schools, only an average of 13 per cent reached these latter. PETS conducted in other countries have confirmed that capture of funds by interests along the way, though rarely as extreme as during Uganda's early recovery period in 1991-1995, is a widespread problem.

This report is devoted to two closely related survey instruments, the PETS and the quantitative service delivery survey (QSDS). These instruments can be used to find out whether funds and other resources are being disbursed to schools honestly, efficiently and equitably. A PETS collects data at each tier of government to create a picture of how funds and other resources are flowing and where they may be leaking. A QSDS collects a wide variety of information from schools to answer a variety of questions about service delivery. Both surveys achieve their best results when their explorations and analysis go beyond mere accounting. To know which data to trust and to derive policy recommendations that will improve performance, they must address issues of *accountability*.

Accountability is an institutional relationship which enables successful service delivery by giving interdependent actors the proper incentives. Our focus is on the relationships between policy-makers and the provider organization and between beneficiaries (clients) and providers. PETS and QSDS provide policy-makers with a glimpse of how this accountability framework operates in practice, thereby helping them to design policies to improve it. The rest of this introductory chapter describes the actors in the education sector and the accountability relationships between them as a conceptual framework within which to understand the role of a PETS or a QSDS. This monograph describes the methodology in detail in *Section I* (three chapters), provides case studies of PETS and QSDS in *Section II* (three chapters) and sums up in the *Concluding remarks*.

1. The four actors

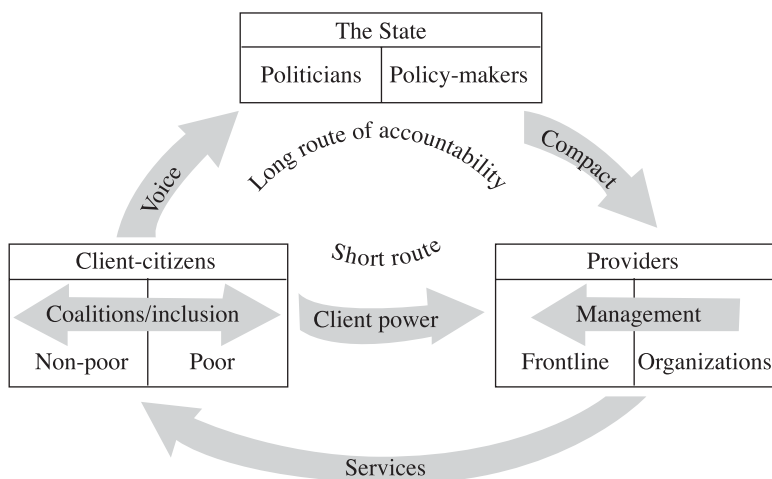
In the education sector, we can identify four sets of actors (*Figure 1.1*).

Clients/citizens. Students are the beneficiaries of an education system. It is useful, however, to think of students and parents together as the ‘clients’

in the education sector. Indeed, the interests of parents are close to those of their children and they may act as spokespersons for their children *vis-à-vis* the provider organization. Parents may also serve on school boards, pay school fees and fund complementary expenses in education such as uniforms, textbooks or transportation. Parents are also citizens. As citizens they pay taxes and may enjoy voting rights or other forms of input into the political process. We can therefore label the first set of actors ‘client-citizens’.

To collect data from client-citizens directly, a household survey is usually required. While this was conducted in the case of the Zambia PETS (see *Chapter 7*), most PETS will probably not include one.

Figure 1.1 Short and long routes of accountability



Source: World Bank, 2004.

Policy-makers. Prime ministers, presidents, parliamentarians, ministers of finance and so forth have the political authority to channel funds to and set guidelines for the public education system. Generally, it is this set of actors that sponsors PETS and QSDS.

Provider organizations. Between the education minister and the teacher there is a long hierarchy which typically includes provincial education officers, inspectors, district education officers or superintendents, head teachers or principals and various secretarial and administrative staff. Most of the respondents to PETS questionnaires are members of the provider organization. The sample questionnaire in *Appendix 1*, for example, is directed at the head teacher.

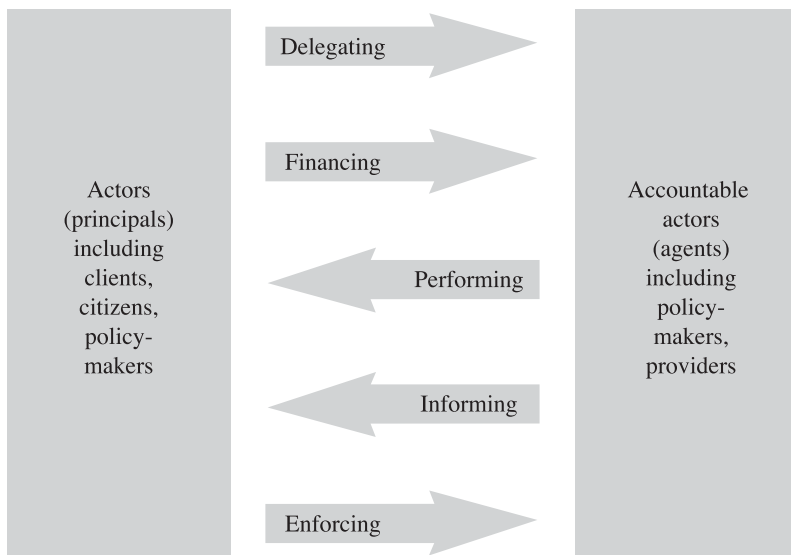
Teachers. The corps of teachers carries out the main work of an education system and their labour forms the main input in the education process. Often a PETS will include interviews of teachers. In the sample questionnaire there is a section requiring three teachers to be selected.

Taken together, client-citizens, policy-makers, provider organizations and teachers within them constitute the full range of people involved in the public education system. These four groups determine educational outcomes through their actions and interactions. These groups are in turn influenced by the incentives faced by these agents. Moreover, their incentives depend on the education sector's relationships of accountability.

2. Accountability defined

Accountability, defined here as in the 2004 *World Development Report*, is a relationship with five features: *delegation, finance, performance, information about performance* and *enforceability* (*Figure 1.2*).

Figure 1.2 Relationships of accountability have five features



Source: World Bank, 2004.

One way to illustrate accountability (applicable to private as opposed to public goods) is to examine its operation in basic market transactions. If I purchase a pair of shoes – that is, if I *delegate* obtaining shoes for me to a vendor and *finance* him to get the shoes by paying – I get *information about performance* from wearing the shoes for a while and forming an opinion as to whether they are comfortable, durable, etc. I exercise *enforceability* the next time I need a pair of shoes by giving or withholding repeat business. *Finance* gives the vendor the means and *information* and *enforceability* (together) give him the incentive to *perform* the task which I *delegated* to him. For an example from education, consider a private school. Parents pay tuition and send their children to the school – they *delegate* the

education of their children to the school and *finance* the school so that it might carry out this responsibility. The school *performs* by teaching the children. Parents obtain *information* by talking to their children and finding out how they like the school and how much they are learning. They then *enforce* their decision by leaving their children in the school or withdrawing them. In public schools, however, the story is more complicated.

The education sector is full of relationships of accountability. Or rather, it is full of relationships in which accountability is desirable. Teachers are accountable to head teachers, head teachers to district and provincial educational officers, these officers to education ministries, ministries to politicians and politicians to client-citizens. In this rather roundabout way, accountability goes all the way around from schools back to the public and particularly to parents concerned about their children's education. A shorter route is also possible: In the case of a private school, teachers and principals are accountable directly to the parents of their students and this may be true to a lesser extent in the case of public schools, for example when parents are involved in school governance.

3. The four links in the chain of public accountability

Public provision makes accountability more complicated. The various accountability relationships in public service provision are displayed in *Figure 1.1* (above). In the market transaction, one relationship of accountability, between the seller and the vendor, was enough. In the provision of public education, however, we have already identified four categories of actors and there are four relationships of accountability which may and should, but also may not, exist among them. Policy-makers should be accountable to client-citizens: This is called *voice*. Provider organizations should be accountable to policy-makers: This is a *compact*. Teachers should be accountable to provider organizations: This is *management*. And provider

organizations and teachers should be directly accountable to client-citizens: This is *client power*. For the purpose of understanding the PETS, it is also important to be aware that there are many accountability relationships *within* the provider organization: Head teachers, for example, are accountable to district education officers who in turn are accountable to provincial education officers.

We have seen that in order for the accountability relationship to work, all five features must be present. Without *delegation*, no relationship is initiated. Without *finance*, the agent lacks the means to perform the delegated task. The hardest part lies in *information about performance* and *enforceability*. If the policy-maker has enforceability but not information, he cannot make a credible threat to punish the provider for non-performance as he does not know when to carry it out. Knowing this, the provider has no incentive to perform. If client-citizens have information but not enforceability, they cannot make a credible threat as they have no power to punish the provider – again, the provider has no incentive to perform. To create the four relationships of accountability that the education sector needs – voice, compact, management and accountability – *all five* features need to be present in each one.

Are providers accountable to client-citizens (client power)? Information about performance is present in the client power relationship as parents probably have a good idea of what is going on in their children's schools. However, *finance* and *enforceability* are likely to be missing. Client-parents typically do not pay teachers' salaries, except indirectly through their tax dollars, nor do they have the right to hire, fire and promote teachers in order to enforce their expectations. The client power relationship is especially desirable in developing countries where the legal and administrative systems do not function well. A good way for a PETS to get results (see *Chapter 5*) is to serve as a source of information to the public and civil society in countries where legal and administrative systems are weak (see *Box 1*).

Box 1. Problems in ensuring accountability through legal and financial management systems

In most countries, government agencies and the existing legal institutions devise and enforce public accountability. However, reliance on legal and accounting systems alone can be problematic. First, as the government's role and services have expanded considerably during the past few decades, it has become apparent that conventional mechanisms such as audit and legislative reviews may not be adequate. Collusion, organizational deficiencies, abuse and lack of responsiveness to citizens' needs in public agencies and units cannot easily be detected and rectified even with the best of supervision.

Second, legal processes and systems to control public sector mismanagement rely on the existence of a truthful (benevolent) legal machine (judges, court personnel and police) that can investigate and enforce existing rules. For many countries, in particular those characterized by systemic corruption, such a legal machine does not exist. The financial management approach suffers from a similar dependence on a credible institutional framework. A credible financial system relies on a functioning enforcement mechanism and the ability to delegate reviews to trustworthy auditors.

Third, while well-functioning legal and financial systems minimize obvious cases of mismanagement (such as theft of public funds), rules and accounting systems only partially constrain the discretionary power of public sector managers and employees. The complexity of the task that a typical public sector unit performs and the informational advantage it has relative to its customers effectively hinders the design of legal and accounting measures (or makes it extremely costly) to address all types of inefficiencies. Thus, less obvious measures of mismanagement (such as shirking, budget prioritization favouring staff instead of users, certain procurement procedures, implicit political considerations) will typically not be captured.

Fourth, audit reports and legal procedures are often difficult for a layperson to interpret and reports therefore often go unnoticed unless the body that commissioned the audit (e.g. a local authority) acts on it. The problem is compounded by the fact that in many countries there is a long time lag between the period under review and the publication of the audit report. In fact, when the time has come to evaluate the actual outcome, many of those responsible will have already changed positions.

Finally, many countries simply lack an independent and well-functioning legal or audit system at the local level, where most services are being delivered.

In these circumstances, ‘client power’ or measures to empower parents by providing them with the necessary information to monitor school performance or participate in the management of schools can offer alternative ways to improve service delivery in education.

Box 2. The client power relationship

Delegation	Parents rely on teachers and school systems to provide an education for their children.
Finance	Parents finance schools indirectly through their taxes and directly through school fees and other supplementary private expenditure. However, this is likely to be a weak link in the accountability relationship.
Performance	The provider organization creates adequate facilities and supplies scholastic materials. Teachers show up, lecture, grade and so on.
Information about performance	Parents and students are in the best position to judge whether teachers and school systems are doing their job adequately. Still, the degree of communication between students (who see teachers’ performance first-hand) and parents (who have the power to do something about it) will vary. Parents and students also may not know what parts of an education will turn out to be most valuable later in life.
Enforceability	Like finance, this is likely to be a weak link in the client power relationship as many policies are set in a top-down fashion with schools and teachers answering to higher authorities rather than to clients. An active parent teacher association or a board of management with parent involvement may strengthen this feature of the client power relationship.

**How a PETS
can help**

If the results of a PETS are made public, they can be a powerful stimulus to civil society. The exposure of waste and abuses can inspire parents to make the effort to hold schools accountable.

Voice, compacts and management form a chain of accountability – the ‘long route’ in *Figure 1.1* – that links client-citizens all the way around to teachers. Like any chain, this one is no stronger than its weakest link. At each link, failure is possible – voice failures, compact failures and management failures all can lead to service failures.

How accountable are frontline providers to provider organizations (management)? Unlike parents, provider organizations pay teachers and have the notional power to hire, fire, promote, give raises and so on. If, however, teachers are paid and the central government rather than the schools creates teaching posts, the finance link is weakened. Firing a teacher for poor performance or even absenteeism (enforceability) is often difficult. Information is also a problem. Even if someone in the provider organization, such as the head teacher, knows whether a teacher is performing or not, the persons with the information and those authorized to hire and fire may not be the same.

Are provider organizations accountable to policy-makers (compact)? And are policy-makers accountable to the public (voice, see *Box 3*)? Policy-makers, who channel *finance* to provider organizations, notionally have the right to reform or overhaul them if they are dissatisfied with their performance. In practice, the political clout of teachers’ unions may make this difficult. However, even if politicians are ready to challenge vested interests for the sake of the rising generation, they may have only a vague idea of how well the education system is doing or of what would make it work better.

Box 3. The compact and management relationships

	Compact	Management
Delegation	Policy-makers set broad policy outlines and then authorize provider organizations to carry them out.	Provider organizations hire teachers to run the classroom, take attendance, administer the curriculum and evaluate student performance.
Finance	While regimes differ, most school funding is usually allocated at the centre and channelled through the hierarchy to the schools.	Schools may pay teachers or they may receive salaries directly from the centre, although the school may still provide bonuses, housing allowances and so on.
Performance	A provider organization should execute their tasks efficiently and honestly.	Management (hopefully) seeks to induce diligent and high-quality teaching.
Information about performance	All too often, policy-makers know little about what happens to funds after they have been disbursed (PETS is useful here).	Head teachers and other education administrators must put forth effort to find out whether or not teachers are teaching well.
Enforceability	In theory, policy-makers have the authority to replace the personnel and overhaul structure of provider organizations. In practice, they may face stiff resistance from vested interests.	The authority to fire non-performing and under-performing teachers is useful to administrators who want to establish a high standard of performance in their schools. They do not always enjoy such authority, however. Firing a teacher, besides being emotionally difficult, is often legally impeded by tenure arrangements.

How a PETS can help

PETS can provide policy-makers with much better information on where funds are going.

PETS can throw light on teacher performance and on obstacles to good management such as low-quality leadership or excessive job security.

4. Accountability and policy

The failure of an accountability relationship does not necessarily lead to service failure. Public servants who are inadequately financed or monitored may still perform well, motivated by a sense of duty or the intrinsic rewards of a job well done. But even the most devoted public servants are likely to become demoralized if they see colleagues shirking with impunity or corrupt superiors taking credit for their work. Although cultural and historical factors certainly influence educational outcomes, policy-makers have little or no influence over these variables. Moreover, without accountability, increasing funds to education may be like pushing on a string: They will pad salaries or be diverted to other uses and fail to increase performance.

Problems such as leakage of funds and absenteeism can result from a failure in any one of the key relationships of accountability. Public funds may be captured to fund the political machinery, beneficiaries may be kept in the dark about their entitlements or there may be no incentives or monitoring to ensure that teachers are in the classroom. The PETS and QSDS are tools to generate new information, about finance in particular and about the accountability system as a whole.

Section I

Method and approach

A government that wishes to create accountability in the education sector needs information. In this section, we will explain how a public expenditure tracking study is carried out and how it can help provide policy-makers with that information. *Chapter 2* describes what a PETS is, illustrating its key features and showing what it can do with examples from a PETS conducted in a number of countries. *Chapter 3* describes multi-purpose school surveys, including QSDS, into which public expenditure tracking is often incorporated. *Chapter 4* works through the procedure of the PETS in detail and includes an explanation of the sample questionnaire provided in *Appendix 1*.

Chapter 2

Public expenditure tracking surveys in education

Public expenditure tracking surveys (PETS) track the flow of resources through various strata of government in order to determine how much of the originally allocated public resources (human, financial, in-kind) reach each level. The tool is designed to respond to the problem that policy-makers at the central level often rely on information from official data and administrative records which are often inadequate. A PETS is useful as a method for locating and quantifying political and bureaucratic capture, leakage of funds and problems in the deployment of human and in-kind resources such as staff, textbooks and more generally how the system targets funding to different levels. The information a PETS provides about corruption has generated particular excitement as this is an area on which quantitative data has hitherto been elusive.

PETS collect data at several levels: from frontline providers (schools and teachers), local governments (politicians and public officials) and the central government's financial and other data. By comparing these sources, the study team can 'track' the flow of funds and other resources through the hierarchy, from the centre to the school, to see where funds are being absorbed and perhaps where they are going astray.

The PETS explicitly recognizes that an agent may have a strong incentive to misreport. These incentives derive from the fact that information provided for example by a school partly determines the entitlement of this latter to public support. In cases where resources, including staff time, are used for corruption or shirking, the agent involved in the activity will most likely not

report it truthfully. Likewise, official charges may only partly capture what the survey intends to measure (such as the user's cost of service). The PETS deals with these data issues by (i) using a multi-angular data collection strategy (a combination of information from different sources); and (ii) carefully considering which sources and respondents have incentives to misreport and identifying data sources that are the least contaminated by such incentives. This data collection strategy serves to cross-validate information obtained separately from each source.

The PETS allows us to observe the outputs and actions of service providers, thereby providing new information to policy-makers and beneficiaries on the complex transformation of public budgets into services. When tailored to the specific circumstances, these tools can help identify incentives and shed light on the interactions which these incentives give rise to. They can also illuminate the political economy such as the effect of interest groups on spending outcomes. The novelty of the PETS approach lies not so much in the development of new methods of analysis *per se*, but the application of proven methods (micro surveys) to service providers and governments, where we have previously relied on administrative data.

The initial objective of the PETS conducted in Uganda in 1996 was purely diagnostic. The question there was: Why did primary enrolment remain stagnant despite a tripling of public funding to the sector? The hypothesis was that funding had not reached the schools. In other words, the PETS sought to measure leakage in school funding. *Chapter 2* will describe the experience of using PETS as a diagnostic tool. *Chapters 3* and *4* deal with PETS as an analytic tool to provide quantitative data for more detailed study and, finally, as a tool for impact evaluation.

1. PETS as a diagnostic tool

A diagnostic survey seeks to ascertain concrete facts and identify basic problems without necessarily exploring why the problems are occurring or how they can be solved. Two common problems that PETS studies have diagnosed are leakage of funds, usually non-wage funds, and provider absenteeism. Studying each problem involves the collection of a sufficient amount of data within a well-designed sample. However, the use to which this data is put is straightforward, for example a simple calculation of percentages (of funds leaked or teachers missing). In general, non-wage funds appear more prone to leakage than salary funds as teachers know their salary and have an incentive to make sure they receive it. However, salary funds may suffer from other abuses such as ‘ghosts on the payroll’, individuals who collect a salary without being teachers.

Non-wage spending

The first Ugandan school survey provides a stark picture of public funding on the frontlines, as mentioned in *Chapter 1* (see *Chapter 5* for more details). Following this, several other countries implemented public expenditure tracking surveys in education and health care. For primary education, these studies included Ghana, Madagascar, Peru, Tanzania and Zambia. Leakage of non-wage funds – defined as the share of resources intended for but not received by the frontline service facility – was found to be a major issue in all cases (*Table 2.1*).

Table 2.1 Capture of non-wage funds in primary education: evidence from public expenditure tracking surveys

Country	Year	Expenditure programme	Sample size	Capture
Ghana	1998	Non-wage spending in primary education (multiple programmes)	126	49
Peru	2001	Utilities	100	30
Tanzania	1998	Non-wage spending in primary education (multiple programmes)	45	57
Uganda	1995	Per-student capitation grant	250	78
Zambia	2001	Fixed school grant	182	10
Zambia	2001	Discretionary non-wage grant programme	182	76

Note: Sample size is the number of schools surveyed. Capture is the share (in percentage) of entitled funds not reaching the schools (average).

Sources: Ye and Canagarajah, 2002 for Ghana; Instituto Apoyo and World Bank, 2002 for Peru; Price Waterhouse Coopers, 1999 for Tanzania; Reinikka and Svensson, 2001 for Uganda; Das *et al.*, 2004 for Zambia.

The PETS study in Tanzania attempted to track all non-salary flows to primary schools. As the study was diagnostic only, the sample was relatively small (45 schools), covering three of 115 districts. Schools were entitled to funds from three different expenditure programmes. As in Uganda, funds from these programmes were channelled to schools via district administrations. Funds were distributed at the discretion of district officials. Although schools typically knew they were entitled to some funding, as resources reaching the schools were predominantly in-kind without any indication of monetary values, school communities seldom knew the value of the in-kind support they received or what exactly they were entitled to. As reported in *Table 2.1*, the PETS study in Tanzania found that in 1998, on average 57 per cent of all non-wage funds intended for primary schools never reached the schools.

According to the PETS in Zambia – unlike in Uganda in the mid-1990s – rule-based allocations appeared to reach the intended beneficiaries: more than 90 per cent of all schools received their rule-based non-wage allocations and 95 per cent of teachers received their salaries (Das *et al.*, 2004). However, rule-based funding accounts only for 30 per cent of all funding. In discretionary allocations (70 per cent of total spending) the positive results no longer hold: Less than 20 per cent of schools receive *any* funding from discretionary sources. The rest is spent at the provincial and district levels. Similarly, in the case of overtime allowances (which must be filed every term) or other discretionary allowances, 50 per cent were overdue by 6 months or more.

The Ghana PETS tracked the flow of all non-salary expenditures to primary schools (Ye and Canagarajah, 2002). A total of 126 randomly selected schools were surveyed in 40 of 110 districts in Ghana. Unlike the other PETS, the information collected from schools is based on recall data rather than obtained from school records or accounts, making the data significantly noisier and less reliable. As in Uganda, education funds in Ghana are channelled through district offices. As most of the resources reaching the schools were in-kind, schools had little knowledge of the monetary value of what they actually received. The Ghana PETS found that an average of 49 per cent of non-wage funds were captured.

The PETS in Peru examined the use of funds for utilities and found that 30 per cent of allocations were used for other purposes (see *Chapter 5, Section 2* for more discussion of the Peru study).

Salaries

A few studies also quantify the share of ghosts on the payroll, that is, teachers or health workers who continue to receive a salary but who are no longer in government service or who have been included in the payroll without ever having been in service. In Honduras, for example, 5 per cent of

teachers on the payroll were found to be ghosts while in health care the percentage was 8.3 for general practitioners in 2000 (Table 2.2).

Table 2.2 Ghost workers on payroll (percentage)

Country	Ghost workers	
	Education	Health
Honduras 2000	5.0	8.3
Uganda 1993	20.0	–

– Not available.

Sources: World Bank, 2001 for Honduras; Reinikka, 2001 for Uganda.

Taken together, the PETS carried out in Africa found leakage of non-wage funds on a very large scale. Local officials and politicians could take advantage of the gap in information; they could reduce disbursements or procure few non-wage items for schools as they knew that such actions would not attract political attention. In contrast, failure to pay teachers would attract much more attention as, not surprisingly, teachers knew how much they were owed. Hence, salaries and allowances suffer from leakage to a much lesser extent.

Weak links and bottlenecks

Given that availability of books and other instructional materials are key to improving the quality of schooling, the fact that between 78 per cent (Uganda) and 49 per cent (Ghana) of the funding for these inputs never reach schools makes leakage a major policy concern in the education sector. Instead of instituting more general public sector reforms, the PETS in Uganda shows that it may be more efficient to target reforms and interventions in specific problem areas. For example, the PETS in 1996 pointed to the fact that non-wage expenditures are much more prone to leakage than salary expenditures. They also demonstrate that leakage occurs at specific tiers within the

government (typically at local government level in Tanzania, Uganda and Zambia). In the countries concerned, the identification of problem spots prepared the way for specific and targeted interventions. A general lesson is that, in order to control leakage, it is necessary to identify the weak links in the accountability system and make them the focus of reforms. As a diagnostic tool, PETS can help to achieve this.

2. PETS as an analytical tool

Diagnostic surveys can identify problems but in designing solutions it is also important to understand the *causes* of the problems so that these factors may be changed. A starting place for analysis, for example, may be the observation that the capture of funds varies across schools and perhaps across districts and regions; or it may be the widely different attendance behaviour among teachers. The task that falls to analysts is to determine why some schools suffer more leakage than others or why some teachers attend faithfully and others appear to be ghosts. Analysts look for other factors that are correlated with the variable of interest, formulate and test hypotheses and try to discern the causal relationships that may be operating. If causes are discovered, they often imply the appropriate policy intervention.

Uganda will serve as an example. A striking feature of the Uganda (PETS) data is that although a majority of schools did not receive funding (in a given year), there was still large variation in leakage across schools. Reinikka and Svensson (2001, 2004a) used statistical analysis to explain why some schools received more than others. They found that resource flows – and leakage – were dependent on school characteristics that influenced their bargaining power *vis-à-vis* other parts of the government. Schools in better-off communities experience a lower degree of leakage. Larger schools appear to receive a larger share of the intended public funds per student while schools with a higher share of unqualified teachers experience higher leakage. These

school characteristics have a quantitatively large impact on the degree of leakage. A 10 per cent increase in household income increases the amount of public funding that reaches the school by three percentage points.

Non-wage expenditures were disbursed by the central government to local governments (districts). The district is supposed to pass the grant on to schools. However, district officials have discretion over these funds as only they know the amount of monthly transfers that arrive in the district (which varies frequently given cash budgeting at the national level). In principle, a school could obtain information on disbursements of the capitation grant. However, in practice contacting the central government is costly. Even if the school decides to pay for obtaining the necessary information, exercising their voice is also costly (Hirschman, 1970). Indeed, it requires organizing the parents and teachers and lodging a complaint with higher authorities. The schools best able to play this game were those which were large (to spread out the costs of information and lobbying) with well-trained teachers (hence, better informed) and high-income parents (hence better able to lobby).

An examination of the schools that succeeded in claiming the funds to which they were entitled suggested to researchers that factors which affected the extent of leakage such as access to information, a Parent Teacher Association (PTA) income and quality of leadership did so because they affected schools' ability to voice claims to their funds. This suggested that if schools enjoyed better information, they would find it easier to claim the funds to which they were entitled. This conclusion suggested a policy intervention: If schools do not push to get their money because information about entitlement is difficult to obtain and the result of a complaint uncertain, the solution is to make information readily available and signal that the government is eager to hear and respond to complaints. This is what the government did, as described in the Uganda section of *Chapter 5*. A general lesson is that PETS, used as an analytic tool, can throw light on the reasons for service delivery failures. These reasons can then suggest the form that

successful interventions may take. Moreover, the starting place for analysis will generally be the effort to explain differences in variables of interest such as capture of public funds.

3. Using PETS data for impact evaluation

A third reason to conduct a PETS is to examine the impact of a policy intervention that has already taken place. The likely occasion to use PETS for impact evaluation is after an earlier PETS, so that results can be compared. Thus, in Uganda, a PETS was conducted in 2001 for the purpose of a before-after comparison to estimate the impact of the information campaign. The PETS visited the same schools in 2001 that had participated in the 1996 survey.

First, the new survey found that there had been a large improvement. Leakage had fallen from 78 to 18 per cent. However, this did not prove that the information campaign had been successful as the reduction in leakage may have occurred for other reasons. So, to test the effect of the campaign *per se*, analysts included questions in the questionnaire about the schools' access to sources of information, particularly newspapers. Analysts controlled for a broad range of school-specific factors such as household income, teacher education, school size and degree of supervision and took into account the fact that district personnel might not know whether schools had newspapers or not. The study suggests that the information campaign accounts for three-quarters of the improvement (Reinikka and Svensson, 2004b).

While not rigorously evaluated for impact on leakage of public funds, the Tanzania PETS resulted in similar information innovations to those in Uganda, including a newspaper campaign and regular information of transfers to members of Parliament. These measures appear to have had similar beneficial effect on local capture.

Chapter 3

Multi-purpose school surveys

Multi-purpose school surveys are increasingly used to examine the efficiency of public spending in education, incentives and various dimensions of service delivery on the frontline. The quantitative service delivery survey (QSDS) is a variant of these provider surveys with a heavy emphasis on systematic quantitative data. It can be applied to government and private for-profit and not-for-profit providers. It collects data on finance, inputs, oversight, outputs, pricing, quality and so forth. The facility or frontline service provider, for example a school, is typically the main unit of observation in a QSDS in much the same way as the firm is in enterprise surveys and the household is in household surveys. A QSDS requires considerable effort, cost and time compared to some of its alternatives and in particular perception surveys.

In primary education and health care, service provision usually depends on the provider being present in the classroom or the health centre. Yet anecdotal evidence and a handful of careful studies suggest that teachers and health care workers in developing countries are absent from their posts quite often.

Honduras used a combination PETS-QSDS to diagnose moral hazard with respect to frontline health and education staff (World Bank, 2001). The study demonstrated that even when salaries and non-wage funds reach frontline providers certain staff behaviours and incentives in public service have an adverse effect on service delivery, particularly absenteeism and job capture by employees. Migration of posts (due to capture by employees) was considered a major problem. The Honduran system of staffing assigns posts to the central ministry, not individual facilities. As the central ministry has discretion over

the geographic distribution of posts, frontline staff have an incentive to lobby for their posts to be transferred to more attractive locations, most often to urban areas. The implication is that posts migrate from the rural areas and primary level to cities and higher levels of health care/schooling. This is neither efficient nor equitable.

The PETS-QSDS set out to quantify the incongruity between budgetary and real staff assignments and determine the degree of attendance at work. It 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 unit of observation was both the operational and administrative facility and staff members and included all levels of the two sectors from the ministry down to the service facility level.

It is interesting to compare education to health. In health, the study found absenteeism to be generic, with an average attendance rate of 73 per cent across all staff categories (*Table 3.1*). Thirty-nine per cent of absences were without justifiable reason (such as sick leave, vacations and compensation for extra hours worked). This amounts to 10 per cent of total staff work time. Multiple jobs were prevalent, especially for general practitioners and specialists. Fifty-four per cent of specialist physicians had two or more jobs and 60 per cent of these were in a related field. Five per cent of sampled staff members had migrated to posts other than the one assigned to them in the central database while 40 per cent had moved since their first assignment. The highest proportions of migrants were found among general practitioners. Migration was always from lower to higher-level institutions, although there was also some lateral migration. Job migration was found to reflect a combination of employee capture and budget inflexibility.

Table 3.1 Absence rates among teachers and health-care workers in the public sector (percentage)

Country	Primary schools	Primary health facilities
Bangladesh, 2001	–	35
Ecuador, 2002	16	–
Honduras, 2000	14	27
India,* 2002	25	43
Indonesia, 2002	18	42
Papua New Guinea, 2001	15	19
Peru, 2002	13	26
Uganda, 2002	26	35
Zambia, 2002	17	–

– Not available.

* Average for 19 states.

Sources: Chaudhury and Hammer, 2003 for Bangladesh; Chaudhury *et al.*, 2003 for Ecuador, India, Peru, and Uganda; World Bank, 2001 for Honduras; Habyarimana *et al.*, 2003 for Zambia.

In education, staff migration was highest among non-teaching staff and secondary teachers. Multiple jobs in education were twice as prevalent as in health, with 23 per cent of all teachers performing two or more jobs. Finally, 40 per cent of workers in the education sector worked in administrative jobs, perhaps suggesting a preference for non-frontline service employment or deliberate employment creation on the part of government.

In 2003, the World Bank in collaboration with partner organizations carried out a co-ordinated survey of thousands of primary schools and primary health centres in eight countries: Bangladesh, Ecuador, India, Indonesia, Papua New Guinea, Peru, Uganda and Zambia (results are reported in *Table 3.1* above). One major goal was to provide good estimates of the extent of provider

absence. The project did this by making surprise visits to those facilities and recording, in a sample survey, whether personnel were present at their assigned posts. Preliminary analysis of the data reveals absence rates ranging from 13 per cent among teachers in Peru to 58 per cent among medical personnel in the Indian states of Assam and Bihar.

The QSDS is still a new tool, but in terms of obtaining relevant new information the results of the first surveys are encouraging. There are ongoing attempts for which published results are not yet available to use the QSDS to measure other aspects of corruption and inefficiencies across service providers, including drug leakage, wastage and informal user fees. It is also important to note that the QSDS can measure many other aspects of service delivery beyond corruption.

Chapter 4

How to conduct a PETS-QSDS

Like other micro level surveys, PETS and QSDS require careful design and implementation. It is vital that at least some members of the study team have prior experience with these surveys. The intuitive appeal of PETS and QSDS can belie the complexity involved in their planning and implementation.³ This section outlines the steps involved in successful design and implementation of PETS and QSDS, bringing to bear the experience of the surveys conducted in Uganda, Peru and Zambia.⁴

1. Preparing for the study through consultations

During the initial phase, the survey team must consult with in-country stakeholders including government agencies (ministry of finance, sector ministries and local governments), donors and civil society organizations. The following objectives should be accomplished in the context of broad-based consultations.

3. Information on survey design, sampling, implementation, and costs as well as sample questionnaires are available at www.publicspending.org (tools).
4. PETS and QSDS have evolved as different tools however the distinction implied by the labels has become less clear as there are many overlapping areas between the two tools. Most steps are common to both surveys, given that PETS typically includes a school component and that QSDS must relate individual schools to the public-sector hierarchy. If policy-makers chiefly want to know where and how public funds are flowing, they may prefer to conduct a PETS. If other quantitative information is more important, a QSDS may be in order but the content, of course, is more important than the label.

a. Reach agreement on the purpose and objectives of the study

While defining the study's objective is the prerogative of the organization that sponsors and funds it, which in most cases is the government, it is preferable to establish the objectives and purpose of the study consultatively, with the government and the research team as well as several other stakeholders. For one thing, researchers and stakeholders may have useful input on the most fruitful objectives for the study and on what can realistically be achieved. In addition, participation in defining the study's objectives will help the research team to understand what the government hopes to find out and align their plans to its goals.

In Uganda, the objective of the study was to understand why an increase in funds devoted to public education had not boosted primary school enrolment rates. To analyse the equity of distribution of funds became a second objective.

In Peru, the objective of the study was to understand the mechanics of resource channelling in an education sector characterized by severe administrative disarray. The study looked for signs of corrupt activity and calculated leakage figures following the example of Uganda. The study expected in particular to uncover corruption in the hiring and promotion of teachers.

The impetus for the study in Zambia also came from the Ugandan experience. However, the researchers involved were able to expand the scope of the study considerably. This research team played the lead role in defining the study's objectives which were to investigate empirically the issue of how resources could be converted to educational outcomes. The team hoped to shed light on how interventions could reverse the downward slide in enrolment in Zambia.

Even if a study is sponsored by donors rather than by a developing country government, it is important to involve people affiliated with the country's government in the process of deciding the study's motivation and purpose. Only government involvement can ensure the co-operation of public officials. In addition, this builds the government's sense of *ownership* of the study, making it more likely that the study's recommendations will be translated into policy.

b. Identify key service delivery issues and problems (research questions)

Every data collection strategy should be designed with one or more research questions in mind. It is also useful to develop a hypothesis of what the answer to the research question might be. The hypothesis determines what kind of data will be the most valuable.

Data collected with a view to testing one hypothesis can often be used to test other hypotheses as well. However, the data are unlikely to be a perfect fit for a hypothesis which did not originally motivate the data collection strategy. A good initial hypothesis is key to the most successful studies.

Generally, a good hypothesis will be inspired by a combination of intuition, other available evidence, anecdotes, interviews, local experience and other countries' experiences. It will be formulated within a sound conceptual framework and with the country's broad educational goals in mind.

In Uganda, a hypothesis developed by the team was that the finance link was failing – that is, funds provided by the central government were simply not reaching the schools. As it turned out, this hypothesis was vindicated by the study.

In the Zambia study, the conceptualization of key service delivery issues and problems was especially clear. The study explored the questions of leakage,

targeting and household responses to public spending. Each of these concerns related to the effectiveness of public funds in boosting education and reversing the decline in enrolment in Zambia driven by economic depression and the AIDS epidemic.

The Peru study was more exploratory in nature and did not develop a hypothesis as explicitly as the studies in Uganda and Zambia. Instead, the introduction to the study lays out what the study hoped to ‘analyze’, ‘understand’ and ‘assess’. The implicit hypothesis was similar to that of Uganda: that poor results reflected a failure in the finance link. Still, the exercise of framing a plausible but bold hypothesis can help researchers clarify what they need to know and help the study yield concrete results and clear policy recommendations. A consultant’s account of the Peru study and its results is included in the appendix. Readers may judge whether more effort in developing a hypothesis would have proven worthwhile.

c. Determine the structure of government’s resource flow, rules for resource allocation to frontline schools and the accountability system

A detailed blueprint of how government and its resource flows are designed with respect to the education sector is a prerequisite for tracking expenditure to determine whether the system is actually working properly. Before designing their strategy, researchers must therefore ascertain how the education hierarchy is structured and how funds are allocated and disseminated.

Among the studies showcased here, the Peru study was conspicuously thorough in this regard. The World Bank and Instituto Apoyo team produced a detailed description of the unwieldy education hierarchy in Peru, in which various different tiers of the hierarchy might be named Implementing Units (IU) and authorized to execute funds. Jose Lopez Calix, a World Bank staffer

involved with the study, commented in an interview that exposing the disarray in the system was one of the most useful results of the survey.

Uganda's administrative structure was relatively simple: The districts were directly responsible to the centre. Yet, disentangling the actual resource flows and responsibilities at various levels was time-consuming.

In Zambia, the study began with the recognition of two major classifications of government funds: discretionary funds, which officials could spend on the schools' behalf as they saw fit and rule-based funds which were channelled directly to schools on the basis of a centrally determined rule. By examining and contrasting the impact of these two forms of funding, the study derived nearly all its main results, both practical and theoretical. The Zambia study's subtle but sparse description of the flow of public funds fit into the study's conceptual structure well but was perhaps less detailed and rigorous than that developed by the study in Peru.

d. Obtain a good understanding of the institutional setting with respect to the relationship of government and private for-profit and not-for-profit providers

Most developing countries have a mixture of private, public, religious and/or community schools. A varying but often sizeable share of the education of most nations' children takes place outside the framework of the public school system. In some cases, private schools may cater mainly to the wealthy so that the burden of reaching out to the un-enrolled and disadvantaged rests mostly on the public schools. In other cases private, religious, and community schools may be important to the poor and funding them may even be part of the optimal strategy for achieving Education for All (EFA). In any case, it is useful to understand the different kinds of schools operating in a country and what roles they play.

It is also possible for inadequate funding and government neglect to cause schools to drift from the public to the private sphere. *De facto* partial privatization of schools played a role in all countries showcased in this report.

In Uganda, the government had largely abandoned its responsibility for education for a time as the state's capacities had unravelled during prolonged conflict and mismanagement in the 1970s and 1980s. Instead, schools began to rely on PTA dues. As students whose families could not afford to pay the dues were often pressured out of the system, many schools that were once public effectively became private. On average, over 60 per cent of school-level finance come from parents. At the time of the study, the government was trying to reverse this change and reaffirm its commitment to free education.

While Peru never resorted to a declared cost-sharing policy and did not suffer the unravelling of the state, the PETS found that funding was so inadequate at the school level that APAFAs (the Spanish acronym denoting PTA in Peru) stepped in to provide scholastic materials and building maintenance.

In Zambia the government, whose revenues were eroded by a long-term downward trend in the price of copper, the country's main export, had overseen the development of a cost-sharing arrangement in education in which households were expected to pay part of the cost of their children's education in the form of uniforms, textbooks and school supplies and PTA dues. Only after the study was already underway did the government announce a Free Basic Education initiative which sought to change the cost-sharing plan.

e. Assessing data availability

A rapid data assessment may be necessary to determine availability of records at various layers of government as well as in the private sector,

particularly at the school level. Some studies have failed as the availability of records in local governments and schools was not adequately assessed beforehand. It is important to verify the availability of records early on, even if this means a delay and some extra up-front costs.

Consultations at the design stage often take place in the capital city, so it is easy to visit schools in the vicinity to check on records with the proviso that these schools may not be representative of schools in remote locations. It may be important to assess data availability in more than one location. A simple questionnaire is usually sufficient for a rapid data assessment.

Data constraints are encountered in every study and compensating for these must be part of the research strategy. The study in Uganda discovered that record keeping of disbursements of capitation grants to schools at the district level was poor whereas receipts from the centre were relatively well recorded by the districts. In Peru, the government warned enumerators against collecting detailed information on the flow of public expenditure in the area of teacher salaries and researchers were forced to abandon that objective. The study was able to compensate for this by comparing school personnel rosters with rosters maintained at the central level. Discrepancies were found that probably represented in part corruption and in part bookkeeping errors. However, they were not able to examine public expenditures in the area of salaries as they had hoped.

f. Assess available local capacity to carry out the survey and engage in data analysis and research

To conduct a PETS requires a variety of staff, ranging from enumerators and data entry agents to statistical analysts. Different types of staff have different skills requirements but none of these requirements should be underestimated. Using local consultants to conduct the PETS or QSDS is likely to be more cost effective as well as beneficial for capacity building. In-

country consultants also have a comparative advantage over their international counterparts regarding knowledge of local institutions.

g. Choose the appropriate survey tool

The surveys in Uganda and Peru were described as public expenditure tracking surveys (PETS). The survey in Zambia was described as an expenditure and service delivery survey (ESDS) while other surveys resembling the Zambia study go by the name of quantitative service delivery survey (QSDS). There is a range of survey tool models already available, with room for further adaptation. In a given country context the appropriate survey may draw on a number of different models depending on data availability, the purpose of the study and the main issues and problems it seeks to address.

2. Sampling strategy and questionnaire design

The PETS uses a *sample survey* methodology. In this methodology, data is collected only for a sample of schools. This sample should not be too small, however it should be quite small in relation to the total number of schools in the country. On the basis of this sample, claims are typically made about the whole country.

This is a legitimate strategy, but only if it is done carefully. In particular, it is important for the sample to be adequately *representative*. The strategists of the survey must guard against the possibility of schools included in the sample being unusual in important ways, tending to have certain relevant characteristics not shared by the set of schools at large. If they do, the sample is *biased*. A biased sample cannot be used to make valid generalizations about the whole population of schools.

Developing a representative sample requires the input of intuition and local knowledge and in the case of PETS will generally demand a combination of randomness and deliberate selection of schools that are diverse with respect to certain key characteristics.

A PETS or QSDS typically consists of questionnaires for interviewing head teachers or school principals (and staff) as well as separate data sheets to collect quantitative data from school records. It is important to ensure that recorded data collected at one level in the system can be crosschecked against the same information from other sources. The questionnaire also collects data at the local, regional and national levels. The need to use information from several different tiers causes PETS samples to have a somewhat unusual structure (see *Box 4*). Provider organizations can also be in several ownership categories such as government, private for-profit or private non-profit organizations. The combination of questionnaires and data sheets is usually flexible enough to evaluate most of the problems under study. A beneficiary survey can also be added.

Box 4. Stratification in sampling

Many developing countries have no reliable census on service facilities. An alternative is to create a sample frame from other sources (administrative records of some kind). A list of public schools is usually available from the central government or donors active in the sector (if private schools are included in the sample for the sake of comparison, only private schools in the areas selected by the stratification process need to be surveyed).

When determining sample size, a number of issues must be considered. First, the sample should be sufficiently large and diverse enough to represent the number of range of facilities in the specified categories. Second, subgroups of particular interest (for example, rural and private facilities) may need to be more intensively sampled than others. Third, the optimal sample size is a trade-off between minimizing sampling errors and minimizing non-sampling errors (the former typically decrease and the latter increase with the sample

size). Arguably, in a PETS or QSDS, non-sampling error (caused by poor survey implementation) is of more concern than sampling error as data is often in a highly disaggregated form and hence difficult to collect. Enumerator training and field-testing of the instrument are therefore critical in obtaining high-quality data. Finally, these objectives must be achieved within a given budget constraint.

The above considerations often lead to a choice of a stratified random sample. Stratification entails dividing the survey population into subpopulations and then sampling these subpopulations independently as if they were individual populations. Stratification reduces sampling variance (increases sampling efficiency) and ensures a sufficient number of observations for separate analysis of different subpopulations. Stratification is an opportunity for the surveyor to use prior information about the population to improve the efficiency of the statistical inference of quantities that are unknown.

Sampling issues become more complicated when PETS and QSDS are combined. In PETS one may wish to sample a relatively large number of local government administrations. However, sampling a large number of districts reduces the number of facilities that can be sampled within each district for a given budget. From the perspective of QSDS it is desirable to have more facilities within fewer districts in order to characterize intra-district variation among facilities.

Sources: Alreck and Settle, 1995; Grosh and Glewwe, 2000; Rossi and Wright, 1983.

After considering what data is needed to confirm or disconfirm the hypothesis, the questionnaires should include ways to request all the necessary data. Designing questions, too, is a subtle art. A question may fall into various traps which prevent it from yielding useful data. Leading questions that influence the respondent psychologically may create a persistent bias in the results. Questions that allow the respondent to answer with a phrase or a sentence (open-ended questions) may be difficult to compile and code into data for analysis. However at the same time, in multiple-choice questions the respondent may find no choice which comes close enough to his real view. Good questions will ask for opinions already formed in the respondent's mind

(rather than induced by the question) and which vary among respondents but lend themselves to classification into clear categories. Questions asking for strictly quantitative data (although less prone to leading the respondent) are not likely to be useful if they are based on recall. Enumerators must be prepared to work with school records and differing accounting practices in order to make figures comparable across schools.

Deriving results from raw data generally requires personnel with statistical and computing expertise. The degree of statistical expertise needed depends on the sophistication of the hypotheses to be explored. Statistics should not be divorced from intuition and cooperation between technical teams and local experts may be most fruitful.

A crucial component of PETS-QSDS is the explicit recognition that respondents may have strong incentives to misreport (or not report at all) certain information. As a general guideline, information should be collected as close as possible to the original source. Data is thus typically collected from records kept by the school for its own use (for example, funding to schools can be recorded from check receipts). It is also important to keep in mind that some information (for instance on corruption) is almost impossible to collect directly (especially from those benefiting from it). Instead, different sources of information should be combined.

Sample questionnaire

Appendix 1 includes a sample questionnaire. Several PETS instruments used in recent years provided the basis for this questionnaire. It is a school questionnaire with the head teacher as primary respondent. As it includes several hypotheses, it is only one (although admittedly one of the most complex) of the instruments needed to conduct a full PETS or QSDS. Other questionnaires and data sheets should be designed for district education officers, provincial education officers, teachers, in some cases households and so forth. The sample questionnaire included here has eight general sections to be

answered by the head teacher, partly in consultation with the school records, three data sheets that focus on funding and a final section with questions on the sources and accuracy of some of the data.

Six core elements for frontline provider questionnaires have been identified. These elements help to make data comparable across waves of surveys, sectors and countries and include characteristics of the school (size, hours, catchment population, access to infrastructure, competition from other providers), inputs, outputs, quality, financing and institutional mechanisms and accountability. While these six elements were not used as the organizing principle for this questionnaire, they are all addressed therein and should be borne in mind when the questionnaire is adapted to specific country circumstances.

i. *Identification.* The first section of the sample questionnaire collects some basic information on the school that will be useful in organizing data sets. This basically includes where the school is located and what kind of school it is. It will mostly be used to organize and check data.

ii. *Number of students in the school.* This section collects a profile of a key school ‘output’ – enrolment. Enrolment is differentiated by grade level, gender and for different times of year, thereby allowing researchers to study gender gaps and within-year drop out rates. The last two questions ask about other school ‘outputs’: students taking the primary leaving exam and students passing it. What kinds of examinations are offered varies from country to country. Where a national standardized achievement test is administered, more detailed questions about it should be included in the survey. If test scores can be accessed, they will be especially useful to analysts who seek to measure the impact of funding on learning achievement as was done in Zambia (see *Chapter 7*).

iii. *Personal information about the head teacher.* There are three reasons to collect personal information on the head teacher. First, it is easy to collect as the head teacher is the primary respondent. Second, the head teacher's qualities affect the process of the interview itself and may systematically affect the quality of the responses. Third, the head teacher's own management services, even if they are less directly important than teaching or facilities, are an 'input' to the education process.

iv. *Teachers.* Classroom teaching is a very important input in education. Questions 1-3 seek to determine the number of teachers (both qualified and unqualified or contract teachers) who teach at the school as well as the efficiency of the staffing system and absenteeism. Most of the information in questions 1-3 is collected in more detail in question 5. The teacher roster in question 5 provides a profile by age, gender, position and experience of the teaching staff and also takes a look at absenteeism.

To study absenteeism, however, one must rely on a surprise visit. If teachers know that a study will be conducted at the school on a certain day, this may influence their decision to show up, creating a bias in the results. A surprise visit may not be possible if other issues that need to be explored require head teachers to be informed ahead of time. This poses a clear trade-off and a need to decide on the key hypothesis early on.

Questions 6-24, which focus on between two and four selected teachers, are structured to allow analysts to find out the relationship between pay and education, experience, absenteeism and the working week. The questions in this section should be sufficient to test a wide range of hypotheses about the quality of teachers and how they are held accountable.

v. *Facilities.* The quality of facilities is a physical fact which surveys can ascertain relatively easily and show what the government has gotten in return for the money it has invested. If diversion of funds is a problem, the

facilities may be far poorer than what the funds invested should entitle the government to expect. Meanwhile, facilities influence teachers' ability to teach and the rate at which students learn. Questions in the survey address learning inputs such as a library and blackboards. Facilities can also influence demand for education by making a school a more attractive place for students to spend their time – the relevant questions here address toilets, drinking water and a cafeteria. The data collected in this section will allow analysts to determine the variation in the quality of facilities across the country, what the determinants of facility quality are and whether funds allocated to schools seem to result in improved facilities.

vi. *Location, distance and school choice.* There is not much that policy can do about location, even if it does turn out to be a major determinant of school quality. Location is important mostly as something analysts will want to control for in order to answer questions such as “Are rural schools worse off than urban schools?” and “Do schools close to district offices get more supplies?” School choice is an important variable as it affects the types of students who attend the school and may induce specialization or competition. When choice is feasible, competition among schools can give rise to *client power*, a useful ‘short route of accountability.’ Of course, school choice is often non-existent, especially in rural areas, and accountability must be obtained by other means.

vii. *Organization and governance.* Institutional mechanisms are important to corruption as they affect who has opportunities for capture. They are also an ‘input’ – an active board of management shares management responsibilities with the head teacher, while an active parent teacher association can give the head teacher useful feedback. More than school choice, this is a direct form of *client power*. Analysts can explore how governance structures and the active role of boards of management, PTAs and other organizations linked to the school influence such accountability measures as the dismissal of teachers, absenteeism and leakage.

viii. *Supervision and accountability.* The kind of ‘accountability’ this section’s title refers to is the accountability of the school as a whole, and in particular that of the head teacher and management to the authorities above them. This part of the questionnaire may interlock with questionnaires conducted at local government level to offer a better picture of how the ‘long route’ of accountability works.

ix. *School’s sources of funding.* The rows in this matrix, for which a good deal of country-specific adaptation is essential, classify possible sources of funding for schools in the imaginary country for which this survey is designed. Sections 9-11 are the core of the public expenditure tracking exercise proper and it should be remembered that the public expenditure tracking exercise remains incomplete without information, records, questionnaires and so on at other levels of government with which these can be compared. A strategy for generating leakage statistics must be adapted to country circumstances in the context of a blueprint for the education sector’s overall organization. However, this data sheet seeks to provide ideas for the kind of information that will be useful.

x. *What did the school spend its money on?* In this matrix, to which extensive country-specific adaptation will be useful, the rows represent several classes of spending. The columns ask for each of the past two years how much was spent on and off-budget on the item and how much was received in kind.

xi. *Data sheet to calculate the value of in-kind support.* The list of supplies here is very limited and no more than illustrative as country-to-country variation limits the usefulness of any sample list. Once data on in-kind support is collected it will need to be converted into monetary values. To do this, a realistic prevailing price for each good should be established and multiplied by the quantities of in-kind support. The value of this in-kind support received at the school level can be compared to what was allocated at higher levels.

This part of the PETS should be conducted very carefully as the distribution of in-kind support creates many opportunities for capture activity, which careful survey strategies may be able to expose.

xii. *Quality of records.* A check on what records the schools had available may be useful to analysts, who might want to exclude for example data derived only from the respondent's memory and for which no documentation could be provided. The 'specify' item will provide a reservoir of anecdotes to help analysts and future survey designers understand weaknesses in the record-keeping capacity of the country's schools.

3. Implementation

Staffing. As PETS surveys can be complex to administer, it is often necessary to recruit people with some college education. Officials of ministries of education are exempt from employment on a PETS as they themselves are part of the education hierarchy. They may have incentives to falsify the results, and their presence may inhibit school agents from reporting truthfully. These possibilities of bias will prevent the PETS from yielding reliable data.

Training. Once the survey instruments (questionnaires and data sheets) are drafted according to the specific needs of the study, the next step is to train enumerators and their supervisors. Experience has shown that training is a crucial component and a significant amount of time must be allocated for it, e.g. two weeks in Uganda. Field-testing survey instruments may also serve as part of the enumerator training process. Regular supervision of enumerators is critical during implementation of the survey. It is also good practice to prepare a detailed implementation manual for survey personnel.⁵

5. Examples of implementation manuals are available at www.publicspending.org

Field-testing. All instruments should be field tested on each type of provider in the sample (government, nongovernmental organization and private) as different providers may have different practices of record keeping. In case the field test leads to major modifications in the questionnaire, the modified questionnaire should be retested before finalization. The field-testing procedure takes between two weeks and one month to complete. More time is required if the final questionnaire is in more than one language, as changes made in one language must be translated to the other (see *Box 5*).

Box 5. PETS in translation

There are no hard and fast rules about when to translate the survey. At the survey design stage, working on two versions of the survey in parallel causes difficulties. At the same time, it is important to get feedback on questionnaires from local counterparts. It is advantageous if people designing the questionnaire can work in the local language or, when the survey is first designed in an international language such as English, it is useful if there are local consultants involved who can provide feedback on an English version.

Where there are multiple local languages, resources may be a constraint. It is expensive to translate questionnaires (at least if you are going to do it well). Many surveys therefore proceed with only one version of the questionnaire and enumerators translate it in the field as required. This is less than perfect and places a lot of demands on training but cannot be avoided in many contexts. Translation is typically more of a problem with household surveys than with PETS as most countries have a national *lingua franca* in which the head teachers of schools, who usually form the largest number of respondents to a PETS, are likely to be proficient.

Survey implementation. At this point, the most extensive work of the PETS begins. The necessary permissions must be received. Enumerators must be sent to all the selected schools. To ensure the participation of head teachers and other personnel, advance letters from education authorities may be needed. In the case of an absenteeism survey with surprise visits, letters

accompanying enumerators should instruct head teachers to cooperate with the visit despite its being unexpected. Surveys are completed, collected and compiled into data sets. Typically, the pay and travel expenses of enumerators and data entry personnel comprise the majority of a PETS budget.

Monitoring and supervision. Cost may limit the study team's ability to monitor the data collection process continuously. In this case, the team should do spot checks during the early stages of data collection to discover possible problems and make the necessary adjustments in time. The team will also need to scrutinize the completed questionnaires and data files and where necessary request return visits to schools or to various levels of the government.

Data entry and cleaning. Data entry is often seen as a non-skilled job. In practice, this pool is often drawn from the list of interviewers who did not perform well as enumerators. If possible, avoid this trap. If individuals could not make it as interviewers, the chances that they could be good data entry agents are slim. The Census and Survey Processing System (CSPro) available for free download from the US Census Bureau is one programme which can be used for data entry.⁶

Once all the data has been entered, a first-pass redress or 'cleaning' of the data should be performed. This involves the production of summary statistics of all numerical variables and verification that the statistics generated are appropriate and plausible. To control for errors it may be necessary, either manually or with the help of a computer programme, to perform range checks in order to exclude implausibly high or low values for some variables. Although expenditure and other quantitative values may vary widely according to the source, a tired or careless interviewer may, for example, enter '30,000' instead

6. <http://www.census.gov/ipc/www/cspro>

of '300,000' or *vice versa* and the loss of a few outlying data points may be a price worth paying to prevent typographical errors from distorting the data.

The output from this stage is the complete data set. It is also important to prepare comprehensive documentation of the survey soon after its completion. Too often, once the survey is done and perhaps the initial analysis over, the data set is stored somewhere and forgotten until someone makes a request for it. While every survey is unique, as some aspects generally remain the same it is quite likely that future and related research will find the data sets from current surveys useful. However, users who were not involved in the original design and implementation of the survey may have a difficult time understanding the data set. This issue becomes more pronounced the further a user is from the surveys as even individuals associated with the survey implementation may have moved on to other tasks. Consequently, it is useful to produce a document 'Data User Guide' that explains key information about the survey. This data user guide should be comprehensive. The following is an outline of how it should be written:

1. Introduction and objective of the survey;
2. Survey plans and key concepts;
3. Description and presentation of the survey instruments;
4. Description of the fieldwork and methodology including all technical reports;
5. Description and presentation of all data processing programmes and unusual actions undertaken;
6. Description and presentation of all files and variables used;
7. Evaluation of data quality.

4. Analysis, report, dissemination and impact

Analysis is typically carried out either by the study team or by the survey consultant in collaboration with the team. The reports and analysis should be widely disseminated to encourage debate and discussion to facilitate the alleviation of the problems highlighted in the survey.

As the study moves from data entry and cleaning into the analysis phase, it is important to establish or renew contacts with the government, align the course of the analysis with its concerns and in some cases involve government personnel. This will build ownership and increase the chances that the policy recommendations that emerge from the analysis will be realistic and suited to achieving the government's goals. Analysts may find the conceptual framework of public sector incentives and accountability described above useful. Referring to the 'consultations' phase, they should try to answer the research questions and test the hypotheses developed at the earlier stage of the study.

In most cases, a diagnostic (or summary) report is produced first. Later on, analysis of cause and effect issues can usefully supplement the initial evidence.

Section II

Country case studies

To date, PETS have been conducted or are in the process of being conducted in many countries including Ghana, Honduras, Kenya, Madagascar, Mozambique, Papua New Guinea, Peru, Rwanda, Senegal, Tanzania, Uganda and Zambia. This report showcases three surveys. *Chapter 5* describes the original PETS conducted in Uganda in 1996, along with the initiatives that followed it, with an emphasis on the impact of the studies. *Chapter 6* describes a PETS conducted, for diagnostic purposes, in Peru in 2002. *Chapter 7* describes how an expenditure service delivery survey (ESDS – a combined PETS and QSDS) conducted in Zambia extended the scope of the methodology by fusing it with household surveys and child testing of pupils for learning outcomes.

Chapter 5

The impact of the Uganda PETS

Between 1995 and 2001, leakage of capitation grants to schools in Uganda fell from 80 per cent to 20 per cent. While some of this improvement may have occurred without the PETS, it seems more likely that the decrease of leakage was mainly a result of the PETS and the policy changes that it triggered. In particular, a study conducted in 2002 using a repeat PETS estimated that as much as 75 per cent of the improvement was due to an information campaign in which the government published figures for the funds to which schools were entitled in the newspapers and on the radio. The success of this campaign is an impressive tribute to the value of transparency and the efficacy of mobilizing civil society against corruption. The intervention was not only effective but also admirably cheap.

1. Background and motivation

Uganda was the first country to implement a PETS in 1996. The study was motivated by the observation that despite a substantial increase in public spending on education, official reports showed no increase in primary enrolment. The hypothesis was that actual service delivery, proxied by primary enrolment, was worse than budgetary allocations implied as public funds were subject to capture (by local politicians and public officials) and did not reach the intended facilities (schools). To test this hypothesis, a PETS was conducted to compare budget allocations to actual spending at various tiers of government including primary schools (Ablo and Ritva, 1998; Reinikka, 2001).

A substantial increase in public expenditure had taken place in Uganda since the late 1980s as the government led by President Museveni, with the support of the donor community, implemented a wide range of economic and public policies in an effort to spur economic growth and reduce poverty after a long and devastating period of conflict. Investment in education is a critical part of post-conflict strategy and making economic recovery a lasting development advance.

These increases in public spending were expected to translate into improvements in education indicators, e.g. increase in enrolments, pupil-teacher ratios and pupil-classroom ratio. This did not seem to occur. Instead, according to official statistics enrolment remained stagnant at around 2.5 million children during the early part of the 1990s. There were many children studying under trees and a significant number of untrained teachers. This gave rise to a suspicion that funds were not reaching their destinations. While budgetary allocations for priority programme areas such as primary education were more or less released in full by the end of each fiscal year, there was less systematic information about how the funds released by the Ministry of Finance, Planning and Economic Development (MOFPED) were actually spent. Tracking public expenditures was developed as a way to find out.

2. Procedure

A new method is developed

At the beginning of the study, there was no clear-cut design for the PETS as this was the pioneer PETS. The goal was to avoid becoming preoccupied with a lack of specific research methods but rather start gathering data while improving on the methodology and questionnaires along the way. For instance, data from the Ministry of Local Government was first collected without a questionnaire. After establishing the type of data available, the questionnaire was prepared for further information collection. Issues arising from the study

were dealt with as work progressed. For instance, when spending data for primary teacher salaries was not possible to determine (as primary teachers were not separated out in the national payroll), tracking for such funds was abandoned. Instead, teachers were asked questions about punctuality in wage payment and other payments made to teachers from parent contributions.

The other guiding principle for the PETS was to build on what was available while keeping the overall goal of tracking specific parameters. What was certain in the course of the PETS was that funds were disbursed to districts and the amounts known (established from the Ministry of Local Government) and receipts acknowledged by districts and verified by the survey consultant through records available in the districts. Also known were the amounts received by schools (established through the diligent work of the enumerators visiting the schools). What were lacking in terms of records were the funds sent by districts to individual schools. PETS compared what schools received with what they were expected to receive from districts based on enrolment and per pupil capitation. Leakage was defined as:

$$\frac{\text{Capitation grants received}}{\text{Intended capitation grants from the centre}}$$

where a low value indicates extensive capture.

Collection of data

Adequate public accounts on actual spending were not available so the survey collected 5 years of data on spending (including in-kind transfers), service outputs and school characteristics. Data was gathered at three levels: 250 government primary schools, 18 local governments (districts), and the relevant central government ministries.

Two general criteria governed the selection of the sample of schools to be surveyed from the set of eligible (i.e. government) schools (see Reinikka, 2001 for details). First, the sample was to have broad regional coverage.

Second, it was to be representative of the population of schools in the selected districts. To account for these considerations, a stratified random sample was chosen. Specifically, for each region, two (or three) districts were drawn with a probability proportional to the number of schools in the district, yielding a sample of 18 districts (out of 39). In the selected districts, the number of schools visited ranged from 10 to 20 depending on the total number of schools in the districts. Enumerators were trained and closely supervised by a local research team and survey experts from the World Bank to ensure quality and uniformity of data collection and standards for assessing record keeping at the schools. In addition to collecting detailed information on financial and in-kind receipts and enrolment data, interviews with headmasters and PTA members provided qualitative information to supplement the quantitative data.

As discussed earlier, a preliminary step of any PETS must be to ascertain the structure of the education hierarchy and rules for funding flows within this hierarchy and track spending accordingly. In Uganda there are no provinces, only districts, so the path was relatively short. Where there are several administrative levels before funds reach the school, the tracking path becomes longer.

Collection of data began at the central level where it was undertaken by a team of local consultants. Central government records (made available to the consultants) provided data on capitation funds transferred to all the districts and enrolment figures that were used as a basis for computing capitation grant amounts to districts. With such figures in hand, the consultants supported by researchers and research assistants moved to the districts.

It was after collecting data at central government level that the refocus to non-wage spending was decided on as the records of salaries as kept by the Ministry of Education and Sports for the period 1991-1995 were in aggregated format and included wages for primary, secondary and tertiary institutions as well as non-teaching staff. This research would have required disaggregated

data for the primary teachers in order to allow this data to be tracked at the district and school levels.

School visits

During a standard visit to a school during PETS, a research assistant introduced himself/herself using appropriate letters of introduction provided by central ministry. In this case the letter was provided by MOFPED and briefly explained the purpose of the study and the type of data required.

The target person interviewed was the head teacher or his or her deputy. The questionnaire was filled out for all available information. For data that required extraction from school records, the researcher requested primary documents to extract appropriate data or worked with the head teacher or another person responsible.

Where information was not readily accessed (some school had no offices/stores and official data was kept at the head teacher's home or some official of the local government or member of PTA), another appointment was made to return. On their return, the research team scrutinized the documents with the help of the appropriate people. Where grants had been disbursed in-kind, the quantities were established and recorded for each year and later converted to monetary figures using the appropriate price for each item. One member of the World Bank team was involved in the conversion of in-kind quantities to monetary values.

Qualitative questions were also asked and responses recorded. Researchers were expected to prepare a qualitative report for each school. The researchers asked the head teacher to allow them to move around the school compound and visit some classes to appreciate some of the issues raised in the qualitative questions. Class visits helped researchers get general impressions about the schools. In the course of such visits, students and teachers were asked probing questions.

Researchers were expected to review the questionnaire and ascertain whether another visit was required and, if so, what additional information was needed. Obtaining all the data required two or three visits to many schools. At the time of the data analysis, some errors in the data were noted and some schools had to be revisited to verify data and make appropriate corrections.

During the return visits, researchers would meet members of the PTA and hold general discussions in the presence of the head teacher or his deputy. Where the head teacher was not familiar with matters of finance, a teacher and members of the PTA were interviewed in the presence of the head teacher.

3. Leakage

The most well known finding of the Uganda PETS was that on average only 13 per cent of the annual capitation grant (per student) from the central government reached schools in 1991-1995. District officials captured 87 per cent for purposes unrelated to education and considered 'leakage'. This figure served as a striking confirmation of initial suspicions that the finance link was failing. It led to policy changes in Uganda and to widespread emulation of the PETS in other countries. It is therefore worth taking a moment to focus on what the finding means.

The average across schools masks differences among schools. Most schools received very little or nothing. Based on yearly data, 73 per cent of the schools received less than 5 per cent while only 10 per cent received more than 50 per cent of the intended funds. The picture looks slightly better when constraining the sample to the last year of the survey period. Still, only 22 per cent of the total capitation grant from the central government reached the schools in 1995 (Reinikka and Svensson, 2001).

As mentioned above, the figure is derived in part from translating in-kind items into monetary values at the prevailing price level. Upfront loading

of quoted prices through the connivance of public officials (including audit and accounting staff) and suppliers is a way to deprive schools of resources intended for them while still fulfilling accounting requirements for funds. Losses due to corrupt or inefficient procurement practices are included in this figure. It seems that a good deal of resources were diverted through inflating the prices of procured items supplied for schools. Often, they were many times above prevalent retail prices. There were also admissions from staff of the district of how procurement systems worked and continue to work in Uganda. This is a common, endemic practice in many procurement systems in the developing world.

The figure does not tell us anything about where the funds went other than that they did not reach schools. Other than corruption in the procurement system, which was established, the common explanation offered with respect to diversion of funds is that districts reallocate capitation grants to other activities unrelated to education. However, there is no evidence that spending in other sectors increased, quite the contrary (Jeppson, 2001).

Although there is indirect evidence that part of the leakage was theft as indicated by numerous newspaper articles on indictments of district education officers after the survey findings went public, anecdotal evidence suggests that funds were largely used for patronage politics and the funding of political activities. For example, information collected during the survey suggests that funds were used to increase allowances for councillors and local officers. These anecdotes are consistent with case study evidence of (local) political financing and corruption in Uganda as reported in Thomas (1998, 1999). Thomas argues that power in local governments is concentrated in a small pool of elites interconnected by common schooling, marriage, friendships, shared ethnicities or religion. Sustaining this power balance is costly and public funds are fuelling a system of patronage politics whereby patrons give clients material rewards for their political loyalty and services (see also Bayart, 1993). The patronage system takes on different forms, including government

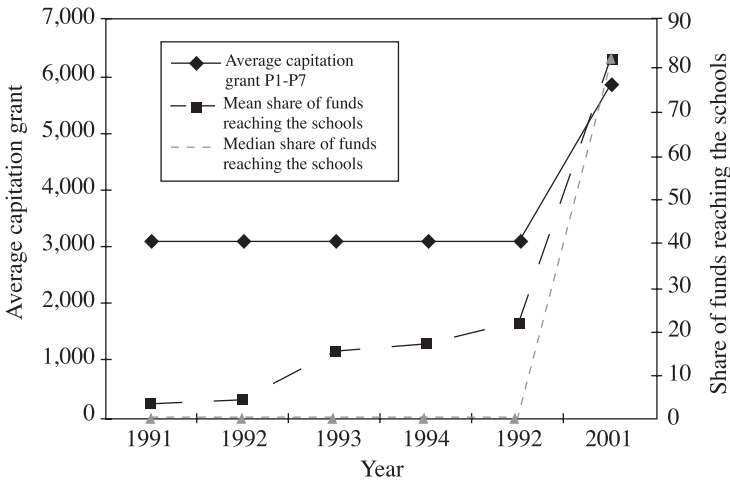
actors diverting public resources for their own campaigns and those of friends and family and financing of local and private causes, including distribution of private goods such as salt, sugar and beer to neutralize voter dissatisfaction. In a rural setting, an important way of maintaining an effective political organization is through personal presence, which means a well-staffed institutional hierarchy all the way down to the village level. This model assumes substantial resources and diversion of public resources is often the only source of funding available.

4. The impact of the information campaign

Of the three studies reviewed here, the first PETS in Uganda was initially the simplest. However, precisely because it was the first, it has taken more time for the impact of that PETS to work itself out. The other two surveys which we will review are more recent and the findings are still in the process of dissemination. None of the PETS (or QSDS) conducted to date has had an impact comparable to that in Uganda, but none has had as much time for impact. Uganda has also adopted PETS as its standard tool of public finance management in several sectors.

Following publication of the first PETS findings in 1996, the Ugandan 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 later on requiring primary schools to post information on inflows of funds for all to see. This not only made information available to parents but also signalled to local governments that the centre had resumed its oversight function. As discussed in *Chapter 2*, an evaluation of the information campaign – using a repeat PETS – reveals great improvement. While schools are still generally not receiving the entire grant (and there are delays), capture has been reduced from on average 78 per cent in 1995 to 18 per cent in 2001 (*Figure 5.1*).

Figure 5.1 Schools received what they were due after an information campaign



Note: Amount of capitation grant (Uganda shillings) that schools were supposed to receive and average (mean and median) percentage actually received by schools, 1991-2001.
Source: Reinikka and Svensson, 2001.

A key component in the information campaign was rendering public in newspapers monthly intergovernmental transfers of funds to the districts. Thus, schools with access to newspapers have been more extensively exposed to the information campaign. Interestingly, in 1995 schools with and without access to newspapers suffered just as much from local capture. From 1995 to 2001, both groups experienced a large drop in leakage, which is consistent with the before-after findings. However, the reduction in capture is significantly higher for schools with newspapers; these schools increased their funding by on average 14 percentage points more than the schools that lacked newspapers.

The results hold when controlling for differences in income, school size, staff qualifications and the incidence of supervision across the two groups.

Box 6. Cause and effect

To identify a causal effect we should be able to control for all time-varying factors – including policy changes – which have occurred since 1995 and may have influenced the relationship between schools and district officials. During this period Uganda’s education sector witnessed a number of other reforms, such as improved monitoring and supervision by the central government, increased capitation grants and reduction of school fees. It is possible that these policy measures or some other time-varying factor influenced the degree of capture of funds.

A way around the problem of identifying causality is to explore differences between schools in access to newspapers. As mentioned earlier, in 1995 the schools that received newspapers suffered just as much from leakage as schools that did not. Moreover, from 1995 to 2001, both groups experienced a large drop in leakage. However, the reduction in leakage was significantly higher for schools with access to newspapers (14 percentage points).

To assess the impact of the information campaign, however, it is not enough to simply compare schools with and without newspapers as newspaper access may be endogenous and there may be a spillover effect from schools that are informed about their entitlement to those that are not. If a district official responsible for sending funds to schools cannot distinguish between informed and uninformed schools or if teachers learn about a school’s entitlement from their peers in other schools, then a simple comparison of schools with and without newspapers will severely underestimate the impact. Using an instrument (distance to the nearest newspaper outlet) to address endogeneity and taking these spillover effects into account, we find that the information campaign can explain nearly 75 per cent of the reduction in capture of funds since the mid-1990s.

5. Lessons from Uganda

The Ugandan information campaign represents a new approach to public accountability. Traditionally, the government and legal institutions of a country are left to devise and enforce public accountability. The Ugandan experience questions this one-sided approach. With an inexpensive policy action – the provision of mass information – Uganda dramatically reduced the capture of public funds. As poor people were less able than others to claim their entitlement from district officials before the campaign, they benefited most from it.

The Ugandan study also shows the value of client empowerment. Collusion, inefficiencies, abuse and lack of responsiveness to citizens' needs cannot be easily detected and rectified even with the best of supervision. When institutions are weak, the government's potential role as auditor and supervisor is even more constrained. It is therefore important to complement these with measures empowering beneficiaries and to monitor and discipline providers and local officials when necessary. Such measures can significantly strengthen the accountability relationship between providers and users at little cost.

Chapter 6

A diagnostic PETS in Peru

The PETS in Peru tracked public spending through a highly complicated bureaucracy to generate a full diagnostic report on public spending in the education sector. It detailed how nongovernmental sources were stepping in to serve schools' needs in a system where state funding was not meeting them. The study was useful in particular for exposing administrative disarray in the education system. As Peru carries out plans for decentralization, the results of the PETS will be a useful guide.

1. Background and motivation

Before the PETS, very little was known about how Peru's education budget was formulated, how resources were allocated and used and what opportunities for corruption the budget process creates. A set of surveys was therefore designed to track and evaluate public expenditures in the education sector. Researchers hoped to make policy recommendations that would improve the process of transfers to schools. The study first analysed the organization of the public education sector and identified governmental procedures and mechanisms for the budgeting, allocation and transfer of funds. It investigated, at Implementing Unit (IU) level, the mechanisms by which they channel resources to schools in order to find out about the delays, inefficiencies and leakages associated with these resource transfers and compare information provided by the IUs with information collected at the schools.

2. Procedure

The following information provided the basis for the analysis:

- Preliminary interviews with government officials from the Ministry of Economics and Finance (MEF), the Ministry of Education (MED) and the Regional Administration Councils (CTARs).
- Government reports and various education studies.
- SIAF (Integrated system of financial management) statistics from the MEF.
- Exploratory visits to CTARs, IUs and schools.
- Fieldwork that included 5 CTARs, 25 IUs and 100 schools in the seven selected departments.

A team of survey specialists, mostly social science professionals, was selected to conduct fieldwork for the PETS in 2002.⁷ Twelve experts, professionals with previous experience, were in charge of interviews with the CTARs and IUs. Six of them were the Instituto Apoyo core technical team. In addition, 13 evaluators (professionals or social science students with some experience in survey work) were in charge of the school surveys.

Prior to the fieldwork the team received special training from the core technical team (two training sessions were conducted). Survey personnel coordinated with the Vice Ministry of Regional Development (Ministry of the Presidency, in charge of CTARs), the Ministry of Economics and Finance and MED in order to obtain introductory letters and ensure their general support.

7. In many cases it was necessary to visit IUs and schools several times in order to complete information and co-ordinate interviews with IU employees and school directors.

Due to their complexity of the IU and CTARs interview, the core technical team of Instituto Apoyo mostly conducted these. Portions of the survey were answered by representatives from the budget, human resources, institutional management, international control, payroll and supply and acquisitions areas. School surveys were conducted by the evaluators and in some cases by the experts and were addressed to the school director (principal).

3. General findings

The resources transferred to the IU are allocated mainly to payroll (over 90 per cent) and then, to a minor extent, goods and services and administrative expenses. Goods, a category whose top items include brooms, white chalk, detergent, colour chalk, disinfectant, dustpans, bond paper, bleach and pens make up only 5 per cent of the total of primary and secondary education programmes and about 15 per cent of total spending on pre-primary education.⁸ As only 18 per cent of even this small figure goes to consumables, per student spending on goods and services is extremely low. On average, students received 2.75 soles (or US\$0.80) per year in consumption goods during 2001 and the allocation per student ranged from 0.05 soles (US¢ 1.7) in Cuzco to 80.66 soles (US\$27.73) in Canta! (The average in Lima, 4.91 soles or US\$1.69 per student is higher than any other department average.) Donations and assistance (both monetary and in-kind) were from local governments, NGOs and other non-profit organizations as well as parental contributions (both through formal association APAFAs and informally). This assistance is used among other purposes for the hiring of additional staff, purchase of consumer goods or capital assets and payment of public utilities. Studies indicate that parental contributions total approximately 50 per cent of public resources.

8. As mentioned, pre-primary education does not have formal teachers but rather has 'animadoras' who are paid via the expense category 'tips'. This category falls under the generic expense group of goods and services and therefore inflates its number.

Payroll and benefits

While payroll and benefits constitute 90 per cent of total spending, they proved elusive to investigate. As cases have been detected in which teachers who do not teach or are even dead have continued receiving their salaries as well as cases of teachers in urban areas receiving benefits for working in rural zones, the researchers were eager to study this topic in detail. Unlike in Honduras (discussed in *Sections 2 and 3*), it was not possible to carry out a thorough exploration of payrolls in Peru due to ‘sensitivities’ associated with these payments and unwillingness of the IU employees to share payroll rosters. In an attempt to obtain an indicator of leakages that could exist in this category of expenditures, researchers did compare school personnel rosters that the IU maintains for payroll purposes with the actual number of teachers and school administrators employed at a given school. However, officials from the Ministry of Education and other education experts strongly discouraged the team from pursuing this avenue as teachers’ salaries and payments were at that time a very sensitive issue and they believed that even our evaluators’ safety could be at risk.

Goods and services expenditures

Utilities, consumables such as office furniture and cleaning items, facility maintenance and ‘tips’ to unofficial staff account for 5 per cent of the total primary and high school education programmes budget. They are generally provided according to the IU’s arbitrary decision, sometimes on the request of the school. Electricity, water and telephone bills, which constitute a major cost for schools, were not legally required to be paid by IUs until 2002. Some IUs paid them, others did not. Fortunately, expenditures in the goods and services category leave a paper trail that was not too ‘sensitive’ for the PETS to track, making the calculation of leakage figures possible.

Education expenditure by other non-public organizations

In addition to the MED and IUs, schools received in-kind resources from municipal governments to improve school equipment and facilities as well as sponsorship for education programmes and projects from both local and international nongovernmental organizations and especially from parent associations (APAFAs). Funds raised by these organizations through contributions and social functions are used for purchasing consumer and capital goods or for school and facility maintenance and rehabilitation. Occasionally, they are used to hire teachers. Parent associations are not the only way in which parents participate in funding their children's education. Recent studies (Saavedra, 2001) have identified that households' current expenditures on education per primary school student are equivalent to 50 per cent of the government per-student expense.

There is an APAFA organization in all schools visited. However, not all of them report incomes. Where they do report incomes, these are mainly obtained through payments made by parents for school enrolment. In addition to this payment, these associations carry out fundraising activities throughout the year or request additional contributions from parents. According to the survey results, 79 per cent of APAFAs had incomes last year (95 per cent urban schools compared to 62 per cent of rural schools) and nearly 90 per cent of APAFAs have incomes under 15,000 soles per year, with APAFAs concentrated in Lima and in urban areas reporting much higher resources. On average, APAFAs resources are equivalent to an annual allocation per student of 12.6 soles (US\$3.60).

4. Leakage estimation

To estimate leakages associated with the transfers of goods and services from the IU to the schools, the study developed a two-pronged approach.

Utilities. The leakage of funds associated with payment of public utilities of the schools was defined as the fraction of schools within a given IU that report not having their utility bills paid for by the IU while the IU reports paying them. The study found that 25 per cent of schools for which the IU claimed to pay electricity did not receive such payment. For water, the percentage was 30 per cent.

Consumption goods. The leakage of consumption goods is a figure more closely related to the 13 per cent figure derived in Uganda (or, rather, 87 per cent leakage with 13 per cent being the amount received) but the method of calculating it was somewhat different. The study selected the four most frequently distributed goods in each IU according to the latest distribution roster and compared the amounts the school director reported to have received with the amounts the IU reported to have transferred. The leakages of the four schools in each IU were averaged to yield a single leakage at the IU level.

Peru's considerably lower level of leakage probably owes much to the SIAF system of the MEF, which renders the budget disbursement process quite transparent in the education sector. The SIAF system provides an automatic yet cursory means of supervising the IU's finances. Each IU expense must be registered through the SIAF in order for the resource to be transferred. These amounts are known real-time and can be accessed via an electronic query system by the general public. Nevertheless, there may be forms of corruption the PETS was not able to expose. Anecdotally, there are cases where IUs have distributed goods to school directors who have then proceeded to resell the goods rather than supply their schools. Moreover, the wide variation observed in the prices of some goods purchased may be a sign of illegal activity.

A large proportion of the funds disbursed at the central level were absorbed in administrative costs at the IU level. No figure directly comparable

to Uganda's 13 per cent could be calculated as disbursement rules against which spending outcomes could be compared were less clear. Such a figure, however constructed, would find that about half or more than half of the funds disbursed at the centre reached the schools. Nonetheless, to distinguish corruption from waste and legitimate administrative expense would be a complex task.

As in Uganda, the leakage figures calculated in Peru deal only with non-wage spending. However, this can be a weakness. In Peru, wrongdoing may be more serious in the area of teachers and personnel. Qualitative investigation conducted by the PETS team found major irregularities: a hiring process corrupted by favouritism, IUs whose assignment of personnel were clearly governed by something other than the schools' needs, major holes in record-keeping with payroll databases conspicuously absent, infrequent and cursory visits by supervising officials and so on. In some cases, the obstacles that hindered the PETS from acquiring hard evidence strongly suggest a pattern of something to hide. Administrative expenditures are also uneven and sometimes absorb more money than what ultimately reaches the schools.

5. 'Inadequate' funding

The survey found that the supply of goods and services to Peru's schools is uneven and 'inadequate'. Most often due to the inertia that characterizes the budget process, 96 per cent of IUs told the researchers that the amount of resources allocated was insufficient to address the needs of the schools under their responsibility. While IUs take school size into account, there are large differences in per student allocation. IUs do not respond much to schools' needs but supplies are so insufficient that anything they get is almost always useful. The supply shortage forces them to turn to APAFAs, municipalities, churches and their own fund-raising efforts.

6. Administrative organization

The PETS in Peru had to cope with a very complicated education hierarchy. While it made the design stage of the PETS more challenging, untangling and exposing the administrative disarray of the system became one of the most beneficial aspects of the PETS. Until that time, just how anomalous and poorly organized Peru's education system was had not been fully understood.

There are a number of tiers in Peru's education hierarchy, some of which are designated as 'Implementing Units' by the Ministry of Economy and Finance (MEF) and authorized to administer budgets. IUs enjoy a large degree of discretion. They receive funds earmarked by five generic expenditure groups established by the MEF: 'payroll and benefits', 'goods and services', 'other current expenditures', 'investments' and 'other capital expenditures'. However, they have complete authority as far as subdividing the generic expenditure class into specific expenditures is concerned and among schools in their jurisdiction.

Oddly, IU status may appear at any of several different tiers: Regional Directorates, Sub-Regional Education Directorates, Educational Service Units or Educational Development Areas. IUs receive funds earmarked by level of education and general expenditure category and they pay teachers and make other transfers to the schools *in kind* only (with no monetary funds included).

The revelation by the PETS of the administrative system and its confusion comes as a process of decentralization is underway. Regional governments were elected a year ago and a calendar for the transfer of responsibilities and resources to the recently installed regional governments and municipal governments has been officially established. Hopefully, this time of administrative flux will prove to be a good moment to rationalize the bureaucracy and develop the 'efficient organizational model' with 'systematic

and transparent auditing and supervision” recommended by the researchers. The argument for decentralization – and even more, for an increase in client power – is strengthened by the PETS’ evidence of heavy involvement of APAFAs in an effort to compensate for inadequate funds from the government.

Chapter 7

Extending the scope of PETS in Zambia

The expenditure and service delivery survey (ESDS) conducted in Zambia beginning in 2001 extended the scope of PETS-QSDS by combining several different surveys (school and household surveys and testing of pupils for learning) to answer a number of research questions. It offers several lessons for policy-makers who wish to translate increased education spending into better outcomes. Policy-makers must consider issues of leakage, targeting and household responses. Is funding disbursed at the central level reaching the schools? Is more funding disbursed to those who ‘need it more’ (usually the poor)? How will households respond to increases in funding and what effect will their responses have on outcomes? The study in Zambia represents a further stage in the development of the PETS-QSDS methodology. The study involved highly skilled statistical expertise on the part of the World Bank team to accomplish this.

1. Background and motivation

The ESDS was undertaken to evaluate the impact of funds provided to schools through the Basic Education Sub-Sector Investment Programme (BESSIP) launched in 1998 (see *Box 7*). Education has been recognized, by the 2001 Poverty reduction strategy paper (PRSP) for example, as a key part of development not only through the benefits of skills acquisition but in the struggle against AIDS. However, while education in Zambia expanded exponentially in the decades after independence, this growth stalled or was reversed in the 1990s.

Box 7. The challenges for Zambian education

Zambian education is a casualty of wider economic problems. Zambia is one of the poorest countries in southern Africa, with a GDP per capita that has hovered at around US\$450 for the past few years after shrinking during the 1990s. A programme of economic liberalization first implemented in 1991 has had disappointing results, bankrupting firms and accelerating the rising incidence of poverty. Zambia's chief source of foreign exchange, the mining industry, has seen revenues fall over time due to a downward trend in international prices and obsolete equipment. The budget allocation to education was about 2 per cent of GDP in the 1990s, less than in any of Zambia's neighbours.

Two reforms punctuated the growth of Zambian education in the post-independence years: in 1969, an emphasis on 'education with production'; and in 1977 a new ideological emphasis on humanism and socialism. In 1996, a new reform called 'Educating our future' took shape in the wake of the Jomtien Conference and the Education for All goals. This programme called for 'liberalization and democratization', i.e. the broadening of access and enhancement of equity; better quality and relevance; and for partnerships with stakeholders and accountability. There was a plan for decentralization mandating that decisions be taken as far as possible down the administrative ladder and shifting to a model of cost sharing between parents and the state. Adverse enrolment trends continued.

BESSIP, which targeted grades 1-7 with a time frame of 4-5 years, was a programme designed to reverse a pattern of under-investment in basic education. The goals were 100 per cent enrolment and an improvement in learning achievement. Interventions were targeted to rural areas where most of Zambia's poor live. To prepare the way for BESSIP, analysis was undertaken of the condition of the schools and of factors influencing enrolment, performance and learning. BESSIP also included an enhancement of monitoring and assessment capacity: a national assessment of pupil learning achievement, surveys on living conditions and an annual school census.

In contrast to the post-independence decades and despite 'Educating our future' and BESSIP, absolute enrolment was stagnant in the years up to 2002 and the enrolment rate was declining. The causes of the downward enrolment

trend seem to be the increasing incidence of poverty and a decline in quality as perceived by parents and guardians. ESDS took place in the context of these adverse trends and recognition by the Ministry of Education of the need for more monitoring and assessment.

2. Procedure

While the procedure of the PETS portion of the Zambia survey followed the pattern of Uganda and Peru, its scope was expanded by adding a household survey and testing of children. In four deliberately selected provinces, in two consecutive years, the same children were given the same tests along with accompanying surveys. By comparing test scores from these two years, the team was able to derive a variable indicating learning achievement for each student. This is the first attempt in the PETS-QSDS context to directly measure educational outcomes. Learning achievement was then tested against the two kinds of funds. The results, which were rather surprising, will be discussed in the ‘household responses’ section below. First, however, we will take a look at the surveys findings about leakage and targeting.

3. Leakage

The Zambia study distinguishes funds by their mode of disbursement and this distinction played a large role in the analysis. The study began by identifying and characterizing the two channels through which public funds are disbursed. First, some funds were disbursed to provincial and district offices and then allocated to schools at the discretion of district educational officers. Second, some funds were allocated through a simple legislated rule:

US\$600 per school, *irrespective of enrolment*. The study labelled the first of these ‘discretionary funding’ and the second ‘rule-based funding’. The Zambia study examined how each of these two types of funds faced the problems of leakage, targeting and household responses. The study found highly contrasting results from the two types of funds, suggesting that variables related to administrative organization such as the mode of disbursement can have a major effect on outcomes.

While the study found that less than half of the funds allocated to the provinces (discretionary and rule-based together) reached the schools overall, the amount that did reach the schools depended heavily on how it was allocated. Of discretionary funds, less than 20 per cent reached the schools. Of rule-based funds, however, more than 90 per cent of all schools received the funds exactly as earmarked. To generate these results on leakage, the Zambian ESDS had a PETS component that tracked the executed budget all the way through the administrative hierarchy to the school level.

In Uganda, a coherent figure for leakage in non-wage spending could be constructed because the centre had set a fixed rule. In Peru, only measures of leakage for certain budget items (such as utilities) could be published. In Zambia, some funds were allocated according to a rule and some were not, which interfered with the focus on leakage. The study describes its methodological adaptation to this situation as follows:

“Following the methodology used in Uganda, we define leakage in the Zambian education system as the ratio of what schools *actually* receive to what they were *supposed to receive*. The exact equivalent of the per-pupil funding in Uganda is the fixed-school grant in Zambia ... This report, however ... examines *all* sources of funding for the school instead of restricting attention to those components that are clearly defined with an allocation rule. Thus, in the case of *discretionary components* where this methodology fails (since there is no rule about the amounts that schools are supposed to receive in the first instance, it is not possible

to determine what constitutes ‘leakage’ in the system) we track the amounts that schools receive, and then directly examine the *equity* implications of such allocations” (Das *et al.*, 2004).

4. Targeting and equity

The equity impact of rule-based and discretionary funds received some emphasis in one of the papers from the Zambia study (Das *et al.*, 2004). The paper finds that rule-based funding is progressive in the sense that more funds go to poor children than to rich children. However, the study goes on to report that “for discretionary funding, our findings suggest a disturbing trend: When tracking expenditure to the districts, provinces allocate discretionary funding only slightly more to poorer districts. As a result, for total receipts at the district level, the progressive nature of funding patterns is retained, albeit smaller than what it would be under rule-based funding only.” The study also finds differences in staff compensation across the country which are more ‘regressive’, as poor and rural schools tend to have a larger share of lower-paid teacher-trainees on the payroll (some policy-makers would probably find this pattern of distribution – with funds slightly favouring poorer students but better teachers gravitating to richer areas – acceptable.)

To generate these targeting results, the Zambia study included a component where the children who were tested were also administered a questionnaire which requested, among other things, information on household assets. One result emerging from the Uganda survey was that more money went to schools in better-off communities but the study had to rely on more aggregated household expenditure data to obtain this result as the survey collected no data on the household income or wealth of students at the sample schools. The household survey conducted as part of the ESDS was not used to test equity as this information was available from the questionnaire that students took at the time of being tested, however it did provide direct

information on household assets. To study targeting and equity, information on household assets (or wealth, income or some other consumption poverty indicator) is needed.

5. Household responses

Up to this point, the implications of the survey appear straightforward. Rule-based funds are far more likely to reach the schools and are also more equitably distributed. A simple policy recommendation is to increase the supply of rule-based findings relative to discretionary funds. Yet as it turned out, there was *no improvement* in test scores as a result of the rule-based grants. Despite being efficiently channelled and targeted to the poor, there is no evidence that rule-based funds affect learning outcomes.

Why did even a well-designed policy fail to improve outcomes? The reason becomes clear when household responses are taken into account. This was done by means of a household survey, with respondents matched to schools. Households were selected in the vicinity of the school. Among the information requested was whether the household possessed each item of a list of durable goods and other assets. These were used to construct an asset index as well as to provide figures on household private spending and other detailed information.

It turns out that households devote significant quantities of private spending to their children's education. When the government begins spending more money on education, households respond by cutting back their spending. Household cutbacks offset new public funds so that the poor families' share of *total educational expenditure* did not increase as a result of the rule-based grant. Given that the rule-based grant did not boost total education expenditures on poor children, it is not surprising that they did not boost test scores.

Whether to interpret the household spending effect as a problem depends on one's perspective. Rule-based funds did not improve learning outcomes but they served as a transfer to poor households with children. In some cases, this may be justification enough for the policy. In any case, however, governments may want to know what the effect of their policy is and, in particular, whether offsetting cutbacks on education spending by households will cancel out the effects of new funding on learning outcomes. The research team proposes two reasons why rule-based funds did not affect test scores. These may help to gauge the extent to which the finding may be applicable elsewhere.

High household involvement in education

One reason that substitution effects were particularly strong in Zambia seems to be that households were highly involved in education. They spend a lot and participate to a strong degree in school governance, so they were in a strong position to know what funds were coming in, to plan around these public funds and to channel them to uses which gave households financial relief.

The survey found that 64 per cent of all adults had voted in the last Annual General Meeting of the school, 58.3 per cent had voted for the last PTA election, and 60 per cent had home visits from teachers in the school to discuss their child's performance. This contrasts with Uganda where households were unaware of public resources that schools were supposed to receive, so that merely providing this information dramatically increased efficiency in the disbursement of funds. Thus, the cutbacks that we see in the Zambia case may be particular to an environment in which parents' involvement in their children's education is particularly high, perhaps even by high-income country standards. Yet even in Uganda, parents' role was critical; among other things, they funded over 60 per cent of total school expenditure on average.

The difficulty of investing in teachers and infrastructure

The second reason relates to exactly how schools could spend the money that was given to them. In particular, if they ‘could’ spend on inputs that households were unable to buy on their own, then substitution might have been less.

There are two major problems that head teachers identified in their schools: One was poor infrastructure and the other was lack of teachers. Very similar results arose when the survey asked households what they thought determined child performance. Just over 50 per cent responded that the ‘ability of the child’ was the critical determinant but 30 per cent replied that it was ‘teacher quality’. Interestingly, only 5 per cent thought that educational materials were the most important inputs for child performance.

This then raises a critical question: Why did schools not spend on teachers and infrastructure with the money that was given to them? In the case of teachers, the answer is simple. In general there were very few trained and educated personnel available in the village that could be hired by schools as teachers. In the two cases where this was tried, the experiment failed miserably. The hired teachers (called ‘community volunteers’) were very poorly trained and educated and both parents and head-teachers expressed considerable dissatisfaction with their teaching. The exact same problem was also encountered in a completely different context in India, where a scheme to increase the number of teachers in village non-formal education schools failed completely due to a lack of trained individuals.

Infrastructure was equally hard to provide, particularly in the context of poor public goods such as roads to transport building materials, for example. In one school that the team visited, building materials had arrived a year earlier but the school was unable to transport them to the site due to the lack of any available means.

Effects of teacher absenteeism

The Zambia study also offered interesting results on the effect of teacher absenteeism. One of the papers (Das *et al.*, 2003) based on the ESDS in Zambia explores the relationship between teacher absenteeism and student learning. There is considerable emphasis on the absence of employees in the public sector and the study shows that the consequences of absenteeism can be severe: a child with a frequently absent teacher may fail to improve on test scores *at all* over a year of learning. The results suggest that absenteeism in Zambia arises due to severe shocks such as illness or death that teachers have little control over rather than an overall lack of motivation. Teachers in fact work harder to overcome the negative effects of such absences. In terms of policy this may suggest adapting to an uncertain environment by providing greater cushion for teachers at the school level, possibly by allocating extra teachers who can act as substitutes.

Data requirements for measuring household responses

To measure household responses, it is necessary to collect *direct* measures of outcomes *matched* to schools. Data must be structured so that students can be identified with the schools they attend and school effects can be assumed in the analysis. In the case of Zambia, the measure of educational outcomes used was a pair of tests, one in English and one in mathematics, conducted in consecutive years to see improvements. In other cases, the education outcomes of interest might be aspects of participation, such as for example enrolment, retention or dropout. The tests were specially administered as part of the survey in Zambia. If regular, standardized tests are conducted, these may also be used.

9. In Uganda, the cost of the PETS was just under US\$100,000, while in Zambia it was over US\$300,000, including data analysis.

6. To sum up

In the Zambia ESDS, a more extensive system of monitoring was applied than what was developed in Uganda or Peru. This system included more data and made it possible to test more things, albeit at much greater expense.⁹ The ESDS in Zambia represents an expansion of the PETS methodology capable of providing a picture of the whole accountability system in education and its results, from policy-makers' plans all the way down to actual student learning.

The 'Free basic education' policy announced in 2002 was not influenced by the study but it seems to anticipate on some of its findings. If households make a large contribution to their children's education, the government cannot expect to improve quality by contributing more funds as such funds will simply displace private expenditure. The 'Free basic education' policy had the explicit purpose of displacing private expenditure – user fees were abolished, uniforms were not compulsory and while PTAs and education boards could raise funds through various activities, no child could be denied access to school for not contributing. The goal of the programme was not to improve quality or performance but rather attendance and it was successful in triggering a marked increase in enrolment growth, from 2 to 7 per cent. When Zambia has displaced most private expenditure on education, it will be easier for additional government funding to boost educational quality.

Chapter 8

Concluding remarks

The countries of the world have unanimously committed themselves to the Millennium Development Goal of EFA of achieving universal primary enrolment by 2015. The most natural way of doing this is to increase public spending on education. Yet, the evidence from PETS suggests that in many cases it may not be effective if not combined with other measures to improve efficiency of spending.

There are good reasons for public finance and provision of education rather than, for example, financing schools through user fees. Children have no resources or access to credit with which to pay for the acquisition of skills that will make them productive members of society. To entrust financing of education with parents imprints the differences of income and wealth that characterize the present adult generation onto their children. This is both inequitable, as the children of the poor suffer severely curtailed opportunities, and inefficient as much talent remains undeveloped and lost to society as those who are born with it happen to be among the lower classes and their parents cannot afford to educate them. Education is also considered to have a wide range of externalities. It reduces population growth, contributes to public health and makes better citizens. In a democracy, education creates more informed voters (in non-democratic regimes, public provision of education may be useful in instilling the dominant ideology). It propagates moral values, contributes to a sense of national identity and reduces crime. For all these reasons, public finance and provision of education is widely accepted as appropriate even by those who oppose public provision in most other spheres.

Yet public provision comes at a price: Without market competition and discipline, it is far more difficult to create the relationships of accountability that align actors' incentives and generate good performance. Market discipline helps to purge private sector industries of inefficiency, rigidity, waste and corruption. In the absence of market discipline, many public education systems suffer from these very problems. To create accountability relationships and incentives in education as effective as those that characterize the market is an institutional design problem that even developed countries are far from solving completely.

This monograph seeks to inform policy-makers of two survey approaches available to them in their efforts to use provider organizations and teachers and mobilize parents, students and civil society in order to achieve their goals in the education sector, particularly Education for All and the Millennium Development Goals.

The PETS conducted so far, along with other research, have already shown that the translation of new funds and resources into improved educational outcomes cannot be taken for granted. They have shown some of the reasons why service failures such as that witnessed in Uganda in the mid-1990s may occur. Funds may be stolen by bureaucrats (or politicians) or diverted to other purposes. They may be poorly targeted, reaching schools and students who were already doing well and therefore useless in helping those disadvantaged groups whom the EFA goals focus on. They may displace private spending, preventing them from affecting outcomes even if they are well executed and well targeted. They may be targeted to the wrong goods, contributing to resource categories that are not the critical determinants of learning outcomes. The prime need of the school system may not be more resources at all but rather better supervision to prevent shirking and absenteeism on the part of teachers or better mechanisms to respond to unavoidable absences.

In a given country context, any or all of these flaws may hinder the effectiveness of the education system. Anecdote and cultural awareness give local personnel an advantage in guessing which problems are dominant in their own countries. PETS are useful in diagnosing the diversion of funds. Targeting concerns may be better dealt with by a QSDS, probably containing a PETS exercise. The instrument should be designed with a given country and well thought-out hypotheses in mind. In this report, we have seen how school surveys were undertaken in three countries with different backgrounds, different hypotheses and different goals. We have seen how leakage statistics were constructed and what they mean. We have had a glimpse of how teams are assembled and fieldwork conducted, data analysed and hypotheses tested. We have seen, finally, the impact of an information campaign and the way in which researchers used PETS findings to design recommendations for reforms of institutional design. We hope that this monograph will inspire similar efforts and innovations in other countries and aid policy-makers in providing the world's children with better and more equitable education.

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Appendix 1
Sample questionnaire

Public expenditure tracking survey
Primary school survey

International Institute for Educational Planning
World Bank

Section I. Identification

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. Sample code	Code	
2. Name of school	name	
3. Province	name	
4. District	name	
5. Day or boarding	1=Day, 2=Boarding 3=Mixed	
6. Private, public, religious	1=Public (Government) 2=Private 3=Religious 4=Community 5=Other	
7. How long is the school day? a. for grades 1-3 b. for grades 4-5 c. for grades 6-7	Number of hours	
8. Boys or girls	1=Boys, 2=Girls, 3=Mixed	
9. Date of interview	day, month, year (dd,mm,yyyy)	
10. Starting time of interview	(e.g., 14.00)	
11. Telephone number	Telephone number 0=No phone	

Section II. Number of students in the school

(to be obtained from the school records)

<i>Question</i>	<i>Unit</i>	<i>Value</i>		
At this school, what is, or was, the number of at the start of 2003?	... at the end of 2003?	... at the start of 2004?
1a. ... students in grade 1 ...	no. students			
1b. Of these, how many were girls?	no. students			
2a. ... students in grade 2 ...	no. students			
2b. Of these, how many were girls?	no. students			
3a. ... students in grade 3 ...	no. students			
3b. Of these, how many were girls?	no. students			
4a. ... students in grade 4 ...	no. students			
4b. Of these, how many were girls?	no. students			
5a. ... students in grade 5 ...	no. students			
5b. Of these, how many were girls?	no. students			
6a. ... students in grade 6 ...	no. students			
6b. Of these, how many were girls?	no. students			
7a. ... students in grade 7 ...	no. students			
7b. Of these, how many were girls?	no. students			
8. ... total students in class today ...	no. students			
9a. Total number of students participating in primary leaving exam in 2003	no. students			
9b. Of these, how many were girls?	no. students			
10a. How many students received a passing mark on the primary leaving exam in 2003?	no. students			
10b. Of these, how many were girls?	no. students			

Section III. Personal information about head teacher (to be obtained from the school records)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. Name		
2. Gender	1=Male 2=Female	
3. Age	Years	
4. Are you the head teacher?	1=Yes 2=No	
5. If not, what is your position?	1=Deputy head teacher 2=Teacher 3=Other	
If respondent is not head teacher, fill in questions 6-9 <i>about the head teacher</i> , or leave them blank if the information is not known for certain.		
6. Number of years teaching	Years	
7. Number of years as head teacher	Years	
8. Number of years as a head teacher at this school?	Years	
9. Highest level of education completed?	1=high school 2=1-year teacher diploma 3=2-year teacher diploma 4=some university 5=university degree 6=post-graduate work	

Section IV. Teachers

(to be obtained in consultation with the head teacher with access to school records)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. How many teaching positions are officially allocated to this school?	Number	
2. How many of the official positions are actually filled?	Number	
3. How many teachers are present and teaching in this school <i>today</i> ?	Number present	
4a. Have any teachers been fired or laid off in the past twelve months? How many?	Number fired	
4b-d. For each of the teachers most recently fired (up to three, from the past twelve months as stated in 4a), what was the reason for firing the teacher?	4b 1=Absenteeism 2=Abuse of children 3=Bad teaching 4c 4=Services no longer needed/redundant 4d 5=Conflicts with staff 6=Other	

5. Please fill out the table below for all the school's teachers

ID	5a#	5b#	5c#	5d#	5e#	5f#	5g#	5h#	5i#
	Name	What grade does he/she teach?	Gender	Age	Position	Years employed at this school	In-depth interview	At school today?	If no, why is the teacher away?
		Grade	1=M 2=F	Years	1=Senior teacher 2=Teacher 3=Trainee 4=Other	Years	1=Yes Others blank	1=Y 2=N	1=Sick 2=Training 3=Administrative duties 4=Approved leave 5=Don't know 6=Other
1	(Head teacher)								
2									
3									
4									
5									
6									
7									
8									
9									
10									

Continuation of Question 5

5a#	Name	5b#	What grade does he/she teach?	5c#	Gender	5d#	Age	5e#	Position	5f#	Years employed at this school	5g#	In-depth interview	5h#	At school today?	5i#	If no, why is the teacher away?
			Grade		1=M 2=F		Years		1=Senior teacher 2=Teacher 3=Trainee 4=Other		Years		1=Yes Others blank.		1=Y 2=N		1=Sick 2=Training 3=Administrative duties 4=Approved leave 5=Don't know 6=Other
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

Continuation of Question 5		5a#	5b#	5c#	5d#	5e#	5f#	5g#	5h#	5i#
ID	Name	What grade does he/she teach?	Gender	Age	Position	Years employed at this school	In-depth interview	At school today?	If no, why is the teacher away?	
		Grade	1=M 2=F	Years	1=Senior teacher 2=Teacher 3=Trainee 4=Other	Years	1=Yes Others blank	1=Y 2=N	1=Sick 2=Training 3=Administrative duties 4=Approved leave 5=Don't know 6=Other	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

From the teacher list above, select *two* teachers if your school has *less than ten teachers* altogether, *three* teachers if your school has *between ten and twenty* teachers, and *four* teachers if your school has *more than twenty* teachers. We want to select teachers randomly but also to get a sample that covers different grade levels. Start with the teachers that appear *last* in an alphabetical list. Select the number specified by the size of your school, but do not select two teachers that fall into the same column in the table below. For example, if the last two teachers in the alphabet teach in grades 5 and 6, drop the second one and select the next teacher. Thus in large schools, all four columns will be filled in, but in smaller schools one or two at random will be left blank

IF THE DESIGNATED TEACHER IS NOT PRESENT, PLEASE DO *NOT* SELECT ANOTHER TEACHER INSTEAD. This interferes with the study's techniques of statistical randomization.

		a	b	c	d
Units		Grade 1 or 2 teacher	Grade 3 or 4 teacher	Grade 5 or 6 teacher	Grade 7 teacher
6. Born in this province?	1=Yes 2=No				
7. Born in this district?	1=Yes 2=No				
8. What is the highest level of education completed by each of these teachers?	1=Less than high school 2=High school diploma 3=Some college 4=College degree 5=Beyond college				
9. Is this teacher present today?	1=Yes 2=No				
If no:	10. How long has the teacher been away?	Number of days			
	11. Why is the teacher away?	1=Sick 2=Training 3=Administrative duties 3=Approved leave 4=Don't know 5=Other			
	12. How is the school covering classes?	1=Use relief teacher 2=Combine classes 3=Set the students unsupervised work 4=Set the students work and visit now and then 5=Let them play sports 6=Send students home			

Public expenditure tracking surveys in education

13.	How many days has this teacher been absent this year?	Number of days
14a.	How much does the teacher receive in salary each month?	Currency figure
14b.	How much does the teacher receive in allowance each month?	Currency figure
14c.	How much is deducted from each payslip automatically?	Currency figure
14d.	So the total amount is [add 14a and 14b, then subtract 14c]	Currency figure
15.	How is the teacher paid?	1=Check 2=Direct deposit 3=Cash
16.	Who pays the teacher's salary?	1=Natl. govt. 2=School 3=Community 4=Other
17.	Who pays the teacher's allowance?	1=Natl. govt. 2=School 3=Community 4=Other
18.	Prices and wages vary considerably across different parts of this country? What is a typical hourly wage for a manual laborer in this area?	Currency figure
19.	Do you think it is possible to support a family only on the salary that this teacher earns?	1=Yes 2=No

20. Does the teacher live in school-provided housing?	1=Yes 2=No
If yes 21. What is the rental value of the house per month?	Currency per month
22. In your estimate, how many hours per week does this teacher work <i>at this school</i> ?	Number of hours
23. How many hours per week is this teacher supposed to work <i>in the classroom</i> ?	Number of hours
24. Does this teacher have another job outside of school?	1= Yes 2=No

Section V. Facilities

(to be obtained in consultation with the head teacher)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. How many classrooms made of high-quality materials are there in this school?	Number	
2. How many classrooms made of low-quality materials are there in this school?	Number	
3. How many classrooms have a blackboard?	Number	
4. How many classrooms have a roof that leaks when it rains?	Number	
5. How many classrooms have a chair <i>and</i> a table for the teacher?	Number	
6. How many classrooms have storage space that can be locked at night?	Number	
7. Does this school have a library?	1=Yes 2=No	
If yes 8. Estimate the number of books.	Number	
9. Who owns the land used by the school?	1=Customary 2=State 3=Church 4=Board of Management member 5=School 6=Other	
Utilities		
10. Are there enough working toilets for the students to use?	Number	
11. Are there separate toilet facilities for girls?	Number	

12. How many of the classrooms in this school have electricity?	Number
13. How many days last month did you experience some kind of power shortage?	1=None 2=One 3=Two to eight 4=About half the time 5=Most of the time 6=No power at all
14. What is the main source of drinking water at this school?	0=None 1=Rain water tank 2=Spring/lake/river 3=Well/bore hole 4=Piped 5=Other
15. Are the students able to drink water from that source today?	1=Yes 2=No
16. Was water available all year round from that source in 2002?	1=Yes 2=No
17. Does the school have a playground or a sports area?	1=Yes 2=No
18. Is the school surrounded by a wall or fence?	1=Yes 2=No
19. Does the school have a specialist science classroom?	1=Yes 2=No
20. Does the school have a kitchen or a cafeteria?	1=Yes 2=No
21. How do the students each lunch? (NOTE: If the answer differs by grade level, answer for students in grade 5.)	1=Free school lunch provided at cafeteria 2=Students may pay for school lunch or bring their own 3=Students bring their own lunch and eat at school 4=Students are sent home for lunch and then come back 5=School day ends before lunch time 6=Other
22. Does the school have a staff-room?	1=Yes 2=No
23. Does the school receive a newspaper?	1=Yes 2=No

Section VI. Location, distance and school choice

(to be obtained in consultation with the head teacher)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. Is this school located in an urban or a rural area?	1=Urban 2=Rural	
2. What is the population of the village or town in which this school is located?	1=Not in village or town/less than 100 2=Between 100 and 500 3=Between 500 and 2,000 4=Between 2,000 and 5,000 5=Between 5,000 and 20,000 6=More than 20,000	
3. What other villages or towns do students at this school come from? (List up to three, ranked according to which send the largest number of students to this school.)	Town name	a. b. c.
4. About how many students come from each of the villages listed in question 3?	Number	a. b. c.
5. How far away is each of the villages listed in question 3?	Kilometers	a. b. c.
6. How would you get to each of the villages listed in question 3?	1=Walk 2=Bus 3=Train 4=Car 5=Animal 6=Other	a. b. c.
7. Using the mode of transportation chosen in question 6, about how long would it take to get to each of the villages listed in question 3 from this school?	Hours and minutes	a. b. c.

How far from this school is the nearest of each of the following:

8. high school or secondary school	Kilometers
9. public transport	Kilometers
10. health post / clinic	Kilometers
11. public transport	Kilometers
12. paved road	Kilometers
13. bank	Kilometers
14. Are there any schools that local children could go to instead of this one?	1=Yes 2=No 99=Don't know

If yes

15. Please list the nearest ones (up to three)	School name	a. b. c.
16. What kind of school is each of these three schools, day or boarding?	1=Day 2=Boarding 3=Mixed	a. b. c.
17. What kind of school is each of these three schools, private, public, or religious?	1=Public (Government) 2=Community 3=Private 4=Religious 5=Other	a. b. c.
18. How far away is each of these three schools?	Kilometers	a. b. c.
19. What are the main reasons that parents or children choose this school?	1=Proximity 2=Academic reputation 3=Ethnicity or religion 4=Cost 5=Other (specify)	

Section VII. Organization and governance

(to be obtained in consultation with the head teacher)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. Does the school have a Board of Management (BOM)?	1=Yes 2=No	
If yes		
2. How many times did the BOM meet in 2002?	Number of meetings	
3. How many times had the BOM met in 2003?	Number of meetings	
4. When was the last BOM meeting?	Day, month, year (dd,mm,yyyy)	
5. How many people are on the BOM?	Number	
6. Which of these are represented on the BOM?	a. Teachers b. Other staff c. District representative d. Parent representative e. Churches / NGOs f. Local politicians	1=Represented 2=Not represented a. b. c. d. e. f.
7. What were the top two issues discussed at the <i>most recent</i> BOM meeting?	1=Discipline 2=Finance issues 3=Fees 4=School budget 5=Staff issues 6=Curriculum matters 7=Fundraising 8=Projects 9=Maintenance 10=Other	#1 Issue #2 Issue
8. Does the school have a Parent Teacher Association (PTA)?	1=Yes 2=No	

If yes

- | | |
|---|---|
| 9. How many times did the PTA meet in 2002? | Number of meetings |
| 10. How many times has the PTA met in 2003 | Number of meetings |
| 11. When was the last PTA meeting? | Day, month, year
(dd,mm,yyyy) |
| 12. What percentage of the parents attend? | 0=Very few
1=Less than half
2=About half
3=More than half
4=About all |

School decision making

Who has the most say in:

- | | |
|---|--|
| 13. Approving the budget | 1=Head teacher
2=Other teacher
3=Other staff
4=DEO or PEO
5=BOM
6=PTA
7=Local politician
8=Community
9=Other |
| 14. Designing the curriculum | |
| 15. Setting the level of fees at this school | |
| 16. Choosing the teachers to hire | |
| 17. Assessing teachers | |
| 18. Deciding on maintenance work at this school | |

Section VIII. Supervision and accountability
 (to be obtained in consultation with the head teacher
 with access to the school records if necessary)

<i>Question</i>		<i>Unit</i>	<i>Value</i>
1. How many visits were made to this school by outside officials?	a. 2002 b. 2003 c. 2004	Number of visits	a. b. c.
2. What outside officials made visits to this school?	MULTIPLE ANSWERS ALLOWED		
	a. 2002	1=District educational officer	a.
	b. 2003	2=Provincial educational officer	b.
	c. 2004	3=Representative of national education inspectorate 4=Other	c.
Consider only visits by the representative of the inspectorate:			
3. How many times did the inspector visit in:	a. 2002? b. 2003? c. 2004?	Number of times	a. b. c.
4. What was the purpose of the inspector's last visit?		1=Personal inspection 2=Advisory visit 3=Compulsory inspection 4=Other	
5. At that time, did the inspector:	a. Meet with the head teacher? b. Meet with teachers? c. Meet with the BOM? d. Meet with parents, the PTA or the community? e. Observe classes? f. Check school records?	1=Yes 2=No	a. b. c. d. e. f.
6. What kind of feedback was given at the end of that visit?	4a 4b 4c	0=None 1=Verbal report at staff meeting 2=Verbal report to head teacher only 3=Verbal reports to individual teachers 4=Written report for head teacher 5=Written reports to individual teachers	a. b. c.

7. Did you get any feedback in writing that was sent to the school at a later time? 1=Yes
2=No

If yes

8. How long did it take to receive the written report? Number of weeks after visit

Section IX. School's sources of funding (to be completed in consultation with head teacher and school records)

Source	Were funds received from this source?	How much was the school entitled to from this source	How much did the school <i>actually</i> receive from this source	a. (1) in 2003	b. (2) in 2004	c. (1) in 2003	d. (2) in 2004	e. (1) in 2003	f. (2) in 2004	g. On what schedule were the funds from this source disbursed?	h. How much delay was there in receipt of these funds?	i. What procedure did the school go through to get this kind of funds?	j. Did this come ear-marked for certain categories of spending?	k. If so, what category or categories was this source of funding intended for? (multiple answers permitted)
	1=Y 2=N	1=Y 2=N	Currency figure	Currency figure	Currency figure	1=All at once 2=Two or more tranches 3=Monthly 4=More often than monthly	1=None/ on time 2=Less than two weeks 3=Between two weeks and two months 4=More than two months	1=Automatic (sent by mail or direct deposit) 2=School responsible for pick-up paperwork 3=Significant burden	1=Yes 2=No	1=Paying staff 2=Scholastic materials 3=Maintenance 4=Administration 5=Special programs 6=Construction or expansion of facilities 7=Other				
1. National govt. capitulation grants														
2. Other national govt. programs														
3. Local govt. support														
4. PTA Fees														

Source	Were funds received from this source?	How much was the school entitled to from this source	How much did the school <i>actually</i> receive from this source	g On what schedule were the funds from this source disbursed?	h. How much delay was there in receipt of these funds?	i. What procedure did the school go through to get this kind of funds?	j. Did this funding come ear-marked for certain categories of spending?	k. If so, what category or categories of spending was this source of funding intended for? (multiple answers permitted)
	a. (1) in 2003 b. (2) in 2004	c. (1) in 2003 d. (2) in 2004	e. (1) in 2003 f. (2) in 2004					
	1=Y 2=N	Currency figure	Currency figure	1=All at once 2=Two or more tranches 3=Monthly 4=More often than monthly	1=None/ on time 2=Less than two weeks 3=Between two weeks and two months 4=More than two months	1=Automatic (sent by mail or direct deposit) 2=School responsible for pick-up 3=Significant paperwork burden	1=Yes 2=No	1=Paying staff 2=Scholastic materials 3=Maintenance 4=Administration 5=Special programs 6=Construction or expansion of facilities 7=Other
5. Other fees								
6. Churches/NGOs/donors								
7. Fundraising								
8. Other sources								

Section X. What did the school spend its money on?

	In 2003				In 2004			
	a. How much was spent <i>in the school budget</i> on the item on the left?	b. Was money spent on this item that was not included in the budget?	c. If so, how much?	d. Did school receive any of this item <i>in kind</i> from outside sources?	e. How much was spent <i>in the school budget</i> on the item on the left?	f. Was money spent on this item that was not included in the budget?	g. If so, how much?	h. Did school receive any of this item <i>in kind</i> from outside sources?
	Currency figure	1=Yes 2=No	Currency figure	1=Yes 2=No	Currency figure	1=Yes 2=No	Currency figure	1=Yes 2=No
1. Administrative costs								
Facilities-related expenses								
2. Rent on property								
3. Maintenance of school building								
4. Janitorial staff								
5. Security staff								
6. Utilities								
7. Scholastic materials (textbooks, pens, etc.)								
Staff-related expenses								
8. Teachers' salaries								
9. Teachers' bonuses								
10. Teacher training								

Section XI. Data sheet to calculate the value of in-kind support

From central government

<i>Subject</i>	<i>Number</i>
1. Textbooks	
a. English	
b. Science	
c. Social studies	
d. Mathematics	
2. Stationary	
a. Pens	
b. Chalk	
c. Notebooks	
d. Uniforms	
e. Other	

From local government

<i>Subject</i>	<i>Number</i>
3. Textbooks	
a. English	
b. Science	
c. Social studies	
d. Mathematics	
4. Stationary	
a. Pens	
b. Chalk	
c. Notebooks	
d. Uniforms	
e. Other	

Section XII. Quality of records

(To be completed after the rest of the interview has been conducted.)

<i>Question</i>	<i>Unit</i>	<i>Value</i>
1. Does the school keep detailed records of receipts from its spending?	1=Yes 2=No	
If yes		
2. Are these available for both 2003 and 2004?	1=Yes 2=No	
3. Does the school keep records of its receipts of income and subsidies from other sources?	1=Yes 2=No	
If yes		
4. Are these available for both 2003 and 2004?	1=Yes 2=No	
5a. Did the records kept at this school enable you to answer the questions in Section IX confidently and accurately?	1=Completely confidently and accurately 2=Figures may be approximate, but generally I am quite confident 3=There may be some holes in the records which compromise the figures' accuracy 4=Not confident of the accuracy of figures: specify problems with providing the requested data in part b of this question (in the space below)	
6a. Did the records kept at this school enable you to answer the questions in Section X confidently and accurately?		
7a. Did the records kept at this school enable you to answer the questions in Section XI confidently and accurately?		

5b. If you answered “4” to question 5a, specify problems with records:

6b. If you answered “4” to question 6a, specify problems with records:

7b. If you answered “4” to question 7a, specify problems with records:

Notes

About adapting the survey to your country: This sample questionnaire is designed to be rather abstract and general. Some of the specifics have been drawn from particular country experiences. In other cases, it used an abstract, general formulation of a question at the expense, perhaps of clarity. It is important that the questions be as clear as possible to respondents. Substitute local terminology as much as possible, to dispel any difficulty or ambiguity of interpretation that the questions as asked here may have in your country's context. The notes below give suggestions of specific ways in which the survey might be adapted to your country. They are not necessarily exhaustive.

- I. (1) Sample codes for each school should be created centrally at the time the school sample is being prepared. They help analysts organize the data.
(6) The 'types' of schools listed here draw from the experience of PETS in Uganda and Papua New Guinea. What are the main types of schools in your country? Adapt the answer choices so that they capture the major, clear distinctions in school types.
- II. (8) and (15) Schools in your country may not include grades 1-7. This section should be adapted, so that the grade levels it asks about correspond to those represented in primary schools (or secondary schools if that is the PETS's focus).
(16) Questions like this one are best answered while the school day is going on, so that students can be counted.
(17) We assume here that there is a more or less standardized practice of offering a leaving exam at the end of grade 7. The general goal is to measure a 'graduation rate' from primary school. In your country, leaving exams may not exist, or they may be highly standardized in which case it would be useful to get more detailed results in order to compare

academic achievement across the country. There may be other tests that are worth asking about. Adapt the questionnaire to your own circumstances.

- III. (6)-(8) These measure the head teacher's experience level. If there are other useful local ways to ascertain the head teacher's quality, adapt the questionnaire accordingly.
- (9) Vocational and higher education differs markedly across countries. Adapt the answer choices so that they will make sense to respondents in your country.
- IV. (1) and (2) These questions assume that the central government allocates a certain number of 'posts' to schools, which may or may not correspond at any given time to actual teachers teaching and getting paid. This system exists in many developing countries. If it exists in your country, there may be a way to use local terminology and make the question clearer. If it does not exist, these questions may not make sense, and information about the number of teachers will have to be requested in a different way.
- (3) and (4) Can teachers be fired? What for? A key part of an accountability system.
- (5) This is one of the most elaborately structured questions in the questionnaire as presented here. The answer to a single question within section IV consists of an entire matrix. We use this here to lead into our selection of two to four teachers for a more in-depth analysis in questions 6-23.
- (6) The process of selecting teachers offered here is rather complex and could be simplified. The advantage it offers is that analysts will be able to sort teachers by grade level, while it does not impose too large a burden on smaller schools participating in the survey. It also generates a natural 'weighting' scheme, with larger schools more heavily represented, but this weighting scheme is a rough one and may not be adequate for many purposes.

- V. Picture the buildings and grounds of a typical school in your country. What features would you expect to see? What features might vary? What would be the marks of a prosperous school? Of a disadvantaged school? Adapt the questionnaire accordingly.
(1) and (2) 'High-quality materials' and 'low-quality materials' are stand-ins for local materials: for example, 'concrete' may be a high-quality material in your country context, and 'bush material' a low-quality material. It is necessary to substitute specific physical materials here because the present categories are subjective.
- VI. (3)-(5) If you want to investigate the effects of school location more thoroughly, you might create village and town ID numbers, which would then help analysts explore the effect of distance and possibly of school choice more thoroughly.

Sections VII-XII: Issues of school governance and patterns of funding differ enough among countries that the sample questionnaire can only give general guidelines. This part of the question will require especially thorough and thoughtful adaptation.

- VII. (13)-(18) These questions make an effort to get a clear picture of the decision-making process within your school. However, in current form they remain somewhat 'subjective'. You can do better for your own country by coming to the process of questionnaire design with some knowledge of local procedures and practices. School governance is at the heart of issues of accountability, and go far to determine how many opportunities for corruption there are, and who gets them, so this question should be designed carefully to make sure the data generated are reliable and forceful.
- IX. After collecting the number of each of the items listed here, the price of these goods at the national level should be found out. The number of books purchased should be multiplied by the price to get a figure for the value of books purchased.

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