

## Identifying the Impact of Education Decentralization on the Quality of Education

### Introduction

Low-quality education is an endemic problem in most developing countries. International tests of student achievement consistently show that developing countries score at the bottom of the performance scale. In many countries, raising education quality has replaced expanding coverage as the principal challenge facing education ministries. In fact, a recent study by Hanushek titled “The Long Run Importance of School Quality” shows large economic gains associated with improvements in education quality. The U.S.-based study finds that a one standard deviation increase in student achievement—enough to lift U.S. school performance to that of the best-performing European educational systems—would yield a 1 percent increase in the rate of per capita economic growth and, in 30 years, would generate a \$1.4 trillion change in gross domestic product (GDP).

The importance and the impact of raising education quality gives added weight to the question, “Can education decentralization raise quality?” Education decentralization policies are prevalent around the world. The objectives of such policies—especially those increasing school autonomy and local governance—may include improving service delivery, but more commonly involve shifting political power or funding responsibilities. Whatever the motivation for education decentralization, such policies may lead to improvements in the quality of education.

This paper examines the potential of education decentralization to improve performance, as reflected in educational outcomes and changes in the determinants of those outcomes in three parts:

- The conceptual arguments for such a relationship
- The empirical evidence of the impacts of education decentralization
- Better design and implementation of decentralization policy to leverage its impact on quality

### Conceptual Arguments for the Relationship between Education Decentralization and Quality

Decentralization does not need or always have a positive influence on education quality. To the extent education finance is decentralized, differences in fiscal capacity at the local level may generate increased disparities in spending and educational outcomes. To the extent decentralization reduces the power of central education ministries, centrally-run information systems that feed education policy decisions may collapse. Decentralization can also lead to confusion over education



management, causing conflicting decisions or failure to carry out functions, with adverse effects on quality and efficiency. A number of other variables affect the impact of decentralization, as well:

- Whether elected school committees reflect their communities or are dominated by political elites.
- Whether newly empowered decentralized units have the capacity to carry out their new functions.
- Whether central education ministries provide the technical and information support necessary for good governance and accountability.

However, if designed and implemented well, decentralization has the potential to improve service delivery and education quality. This paper, therefore, focuses on the potential for decentralization to strengthen accountability in public education and, thus, provide strong incentives for better performance to lead to improvements in variables that are determinants of student achievement.

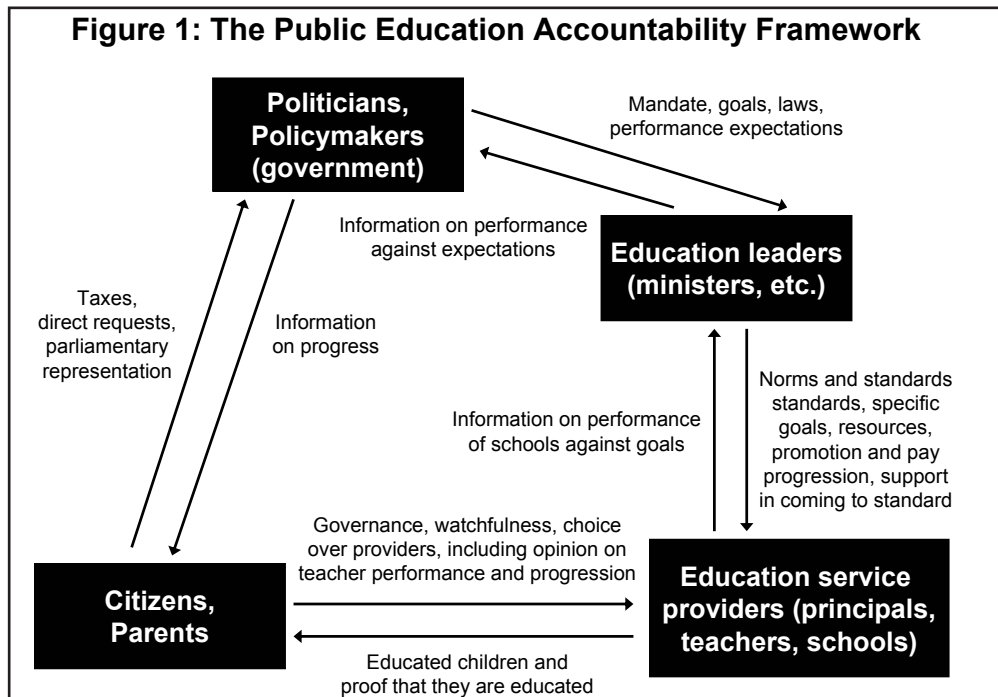
### *Accountability Framework*

The 2004 World Development Report provides a framework for determining how decentralization may affect accountability. As shown in Figure 1, the framework, as adapted by Crouch, illustrates how any publicly provided good or service is delivered within a centralized education system. Citizens lack the private market's direct relationship between customer and provider and between consumer demand and provider supply. Thus, the citizen expresses demand for education by voting for politicians who determine how much education and education quality to provide and who direct the education ministry to operate schools and deliver services to the voter's children. The ministry does this by establishing policies, specifying standards, and transferring resources to schools. Finally, the education service provider—the school and the teacher—delivers instruction to the citizens' children.

The problems with the centralized, public provision of education are well-known: citizens may lack adequate voice in making their preferences known to politicians, political leaders may pass ambiguous legislation and give unclear mandates to the education ministry, the education ministry may be unable to translate policy and program objectives into the necessary resources and capacities, and the service provider may have weak incentives to directly respond to parental pressure. Additionally, most developing countries lack the following information mechanisms required to ensure accountability:

- Schools may fail to provide information to the ministry on the extent to which their performance meets ministry standards and expectations.
- The ministry may fail to inform elected leaders of its success in meeting legislative goals and objectives.

- The elected government may fail to inform citizens about its success in providing the services demanded by voters.
- Parent-citizens may lack a mechanism to give feedback to the school on its performance, and the school may not inform parents and citizens of its successes and failures in educating children.



### *How Can Decentralization Affect Accountability and Service Delivery?*

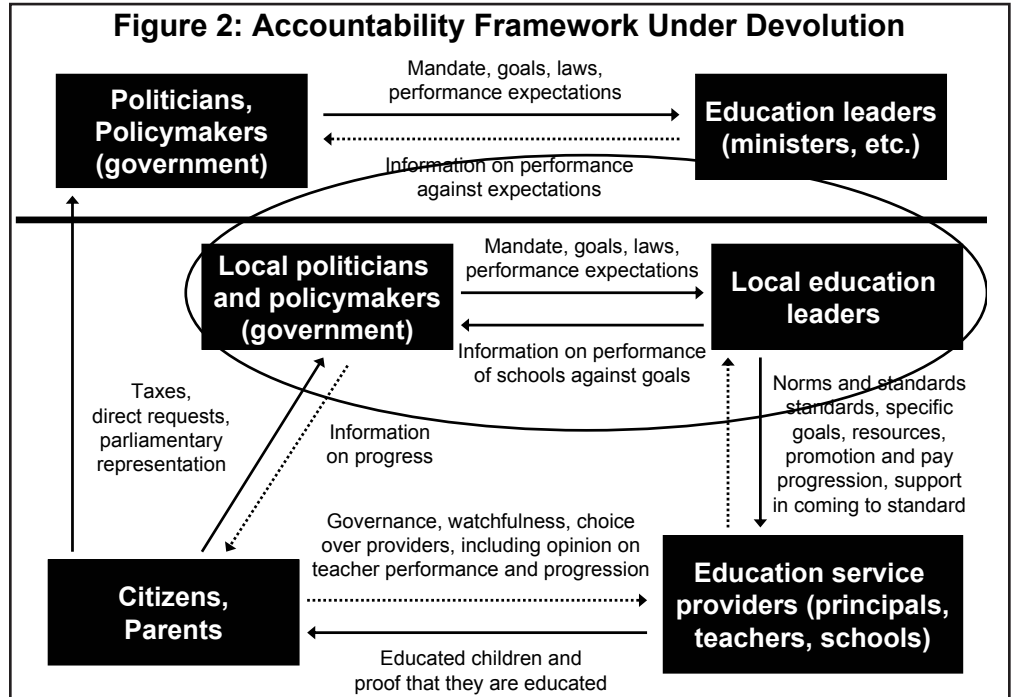
Education decentralization takes three principal forms. The first, deconcentration, is the reallocation of decision making within the education ministry and bureaucracy—deconcentration is not discussed in this paper. The second, devolution, is the permanent transfer of decision-making responsibilities in education from the central government to lower levels of government: provinces, municipalities, or districts. The third, delegation, or school autonomy, is the administrative or legal transfer of responsibilities to elected or appointed school governing bodies such as school councils, school management committees, and school governing boards.

As shown in Figure 2, devolution not only shortens the distance between the citizen-parent and policymaker but also shortens the distance between policymaker and the school. The former arguably increases the voice of parents, who can more effectively demand better education in return for the taxes they pay. Shortening the distance between the policymaker, who is responsible for managing the educational system, and the school, which is responsible for directly delivering instructional services, arguably strengthens education system management through easier communication



and less evasion by schools of policymaker directives. The extent to which devolution increases accountability greatly depends on the ability of the political system to respond to voters and the capacity of local officials to manage the delivery of educational services.

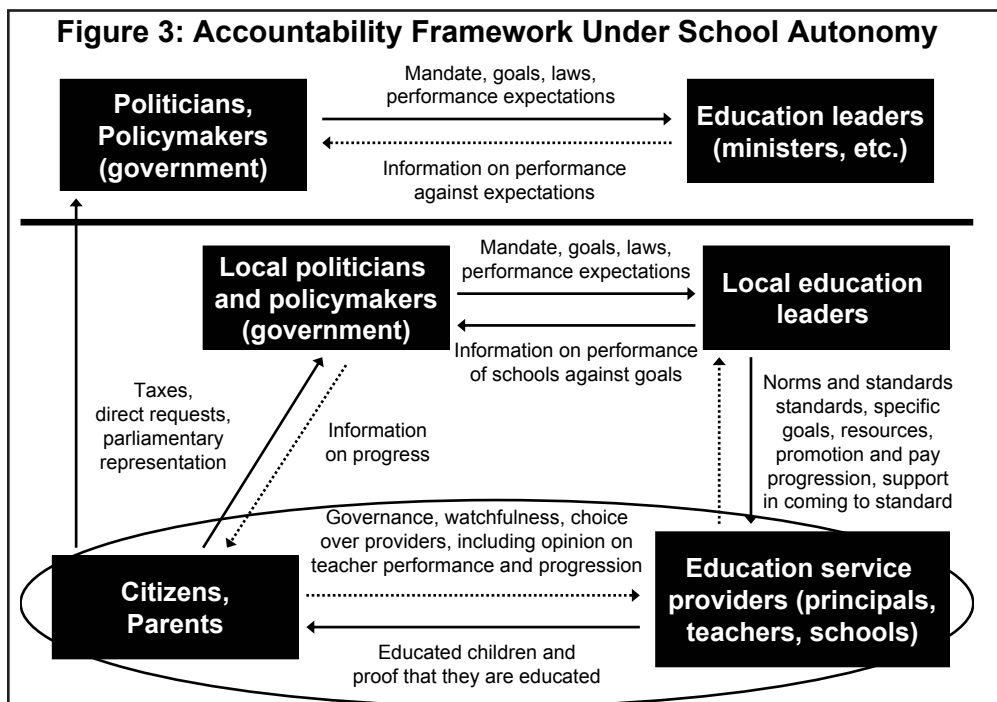
Delegation, at least in its most common form of empowering elected local governing boards, shortens the distances in Figure 1 even more, as shown in Figure 3. In addition to responding to voters, school councils periodically meet with and, thus, give voice to participating parents. Council members who fail to respond to their clients' interests are likely to be voted out of office. School councils also work directly with school directors on planning and budget issues, creating a strong link between the two entities. Delegation can, in principle, strongly increase accountability for those functions and responsibilities delegated to the school. However, under delegation, many important functions and responsibilities usually remain with higher levels of government, including decisions on per-pupil spending, teacher salaries, and teacher training. Thus, while delegation increases the orientation of schools to their clients, important decisions remain at the higher levels.



Decentralization policies that strengthen accountability for performance are often accompanied by other policies that improve quality by strengthening voice, improving information, or contributing additional resources. Voice can be further strengthened through participatory budgeting and the creation of elected sub-

national education councils. The information required by voters to hold schools accountable can be improved by producing and disseminating school report cards, such as those highlighted in Don Winkler’s 2005 study of Parana, Brazil’s, report cards that include budget and performance data. Additional resources often accompany education decentralization in the form of special school grants to fund school development plans prepared by the school community. Improved governance and accountability may lead to higher efficiency in the use of resources, which contributes to improved school performance. However, they do not inherently lead to the changes in school organization and teaching practices that are necessary for significant learning improvements. Are there reasons to believe these characteristics of schools may change with decentralization?

**Figure 3: Accountability Framework Under School Autonomy**



### *How Can Decentralization Affect the Characteristics of Effective Schools?*

The variables that affect quality are usually classified as system and community factors, which are not discussed here, and school and classroom factors. In the school and the classroom, the ways a school is organized, teachers teach, and parents interact with the school all affect education quality. In a number of studies across several countries and two decades, education researchers have identified the school that highly effective schools have in common as illustrated in the following box. Several of these characteristics are influenced by decentralization policies. In particular, decentralization that gives schools autonomy and responsibility for their performance appears to generate the characteristics of highly effective schools.



Perhaps this is best stated by Raczynski and Munoz, who summarize their study titled “Effective Schools in Poverty Areas in Chile: Keys and Challenges” as follows:

Educational policy has to recognize that effective schools are schools that are responsible for their own future. Their development is affected by external actions and resources, but policy has to assure that the school internalizes and makes endogenous what it receives from the outside. External support facilitates change, but change will only occur when agents within the school champion it.

#### Characteristics of Effective Schools

- Achievement, orientation, high expectations
- Educational leadership
- Consensus and cohesion among staff
- Curriculum quality/opportunity to learn
- School climate
- Orderly atmosphere
- Effective orientation and good internal relationship
- Evaluative potential
- Parental involvement
- Classroom climate
- Effective learning time

Decentralization, especially manifested through school autonomy, has the potential to affect several of the characteristics of effective schools:

High expectations: By empowering parents and giving them information about the school’s performance relative to national standards or benchmarks, decentralization may increase parents’ participation in school governance, raise their expectations of school performance, and lead to increased pressure on teachers and schools to perform.

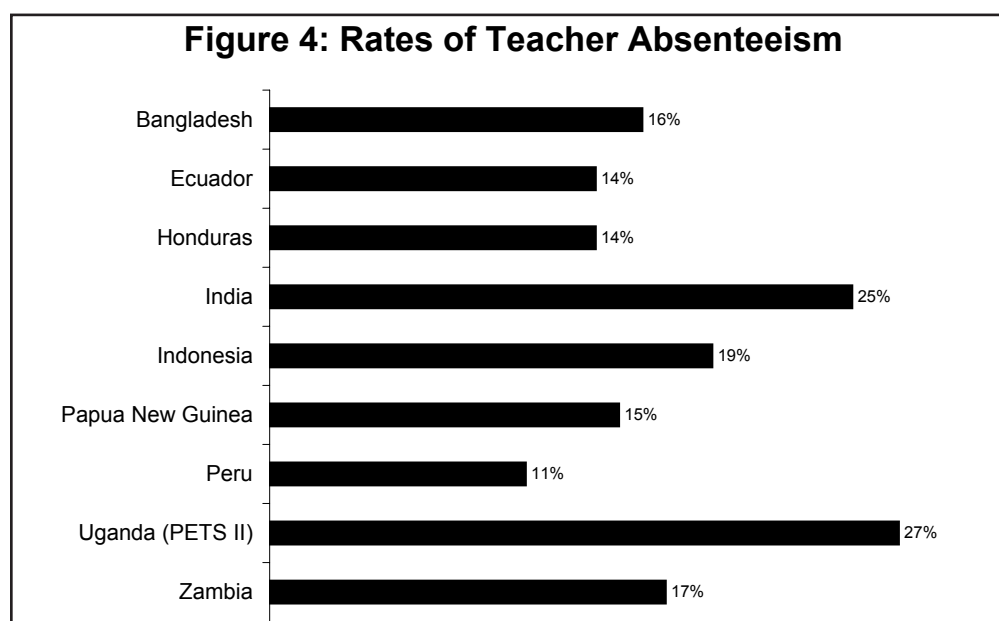
Educational leadership: School autonomy gives headmasters and school administrators the tools and the responsibility to effectively lead the school. Headmasters can encourage school-based reform when they display good leadership and receive sufficient training to lead and manage the school community and, especially, the teacher corps.

Consensus and cohesion: School level decentralization is often accompanied by policies requiring teachers, parents, and administrators to jointly prepare school improvement plans, with grant funding provided on a competitive basis by the education ministry. The joint preparation of school improvement plans can create a shared commitment to raise quality as well as incentives to work together to implement it. Teachers who shirk this duty may face disapproval from their colleagues. In addition, the increased power given to headmasters under

decentralization gives them the opportunity, if not the obligation, to develop a vision and mission for the school that is shared by both the faculty and the community. Under school autonomy, headmasters often acquire increased management powers to recruit, select, monitor, evaluate, and train teachers and to use the school's discretionary monies to fund that training. This combination of new powers allows headmasters to select teachers who share values and a common vision for the school's development. They also provide incentives for teachers to improve their classroom performance.

Parental involvement: Decentralization often promotes both the formal and informal participation of parents in the school. Formally, parents participate in meetings to select their representatives on the school management committee. Informally, parents are encouraged to donate money to the school, gaining a stronger interest in monitoring its finances and becoming more involved in their children's education. Involving parents more directly in the education of their children may also lead to changed behavior in the home, resulting in parents more closely monitoring their children's study habits.

Effective learning time: Decentralization is unlikely to have a large impact on how teachers use classroom time, but it can have an important effect on teacher attendance. Teachers may be pressured by parents to reduce their absenteeism from the classroom and parents may play a role in monitoring teacher attendance. The potential gains from reducing teacher absenteeism are given in Figure 4, which shows the absenteeism rates found in seven public expenditure tracking surveys.



Source: Winkler (2005)





## Empirical Evidence on Impact

Decentralization has the potential to improve accountability, increase parental participation, strengthen the leadership role of school directors, and increase teamwork among the teaching faculty. If these arguments are true, countries that decentralize should show improvements in educational outcomes or the characteristics of effective schools.

Studies of the impact of education decentralization on educational outcomes follow three different methodologies. First, large scale evaluations compare experimental schools following a nationally implemented decentralization policy with a control group not yet following the policy. Second, several studies analyze time-series and cross-sectional observations and statistically isolate the impact of decentralization. Third, other studies are qualitative examinations of particular cases, including pilot experiments.

### *Large Scale Evaluations*

Studies of El Salvador's Education with Community Participation Program (EDUCO) in 2000 by King and Ozler and studies of Nicaragua's autonomous schools program in 1999 by Jiminez and Sawada have received considerable attention because they carefully followed control and experimental schools, carried out surveys of schools and families, and administered academic achievement tests.

In the case of EDUCO, community-managed schools achieved similar academic results to traditional public schools while serving poorer students with fewer resources. Teacher absenteeism was also found to be lower in the community-managed schools. These results were attributable in part to the high level of participation by parents in the EDUCO schools, the close monitoring of the school by the community, and the strong incentives to EDUCO teachers to perform well or lose their jobs.

The Nicaragua evaluation found that autonomous schools make significantly more decisions than do traditional schools, especially on personnel, school plan, and budget matters. However, even the autonomous schools seldom make teacher training decisions. The evaluation also found that the degree of decision making exercised by autonomous schools varies greatly and that there is a positive and statistically significant relationship between the degree of decision making exercised and student achievement. Furthermore, the strongest positive relationship to learning was found for variables measuring decision making on teacher staffing and monitoring of teacher activities.



### *Time-Series and Cross-Sectional Studies*

Other studies have tested the relationship between educational outcomes—usually test scores—and decentralization. The following box summarizes Galiani and Schargrodsy's evaluation of the decentralization of secondary education in Argentina. Those provinces exhibiting good public sector management—as proxied by size of the fiscal deficit—demonstrated significant and positive gains in test scores. Test scores in provinces with poor public sector management, however, deteriorated. In other words, decentralization increased school performance but at the cost of greater inequality. A 2006 evaluation of Mexico's Quality Schools Program (PEC) by Skoufias and Shapiro found similar results of increased disparity. Repetition, dropout, and failure rates decreased overall in schools where parents and teachers jointly developed school improvement programs except in indigenous areas.

Most other cross-sectional research on the impacts of decentralization analyzes how particular aspects of school autonomy, such as degree of managerial control and parental participation in governance, affect educational outcomes. In a 1998 study, Paes de Barros and Mendonca examined how the Brazilian state government innovations of school grants, school councils, and election of the school principal affected several school outcome measures over time, including performance on the national examination. They concluded that these decentralization innovations very modestly improved educational outcomes, with school grants (i.e., the transfer of funds to schools to manage themselves) having the largest impact. Another evaluation of a Mexican intervention called Support for Scholar Management (AGE) by Gertler, Patrinos, and Rubio-Codina in 2006 examined how providing training and funding to empower parent associations in Mexico affected the educational outcomes of children in highly disadvantaged areas. The study found that both grade repetition and failure rates declined as a result and concluded that such training and funding is highly cost-effective. Skoufias and Shapiro obtained similar findings in their aforementioned study of Mexico's PEC.

In a 2002 analysis, Di Gropello looked at the effects of decentralization variables on student test performance in Chile. The Chilean federal government transferred the responsibility of funding primary and secondary education in the 1980s to municipalities, which could spend additional monies as desired. Later, the central government initiated a policy to fund school development projects as a means of stimulating greater management and participation at the school level. Di Gropello's in-depth study of 50 Chilean schools found that schools with school development projects have better student performance, but those in municipalities that fund a higher share of total education expenditures did worse. Furthermore, schools' involvement in municipal education finance, pedagogical, and curricular decisions has a positive and significant impact on student test performance.



### Decentralization and School Quality in Argentina

A wide range of literature discusses the pros and cons of decentralization, but few evaluations have been carried out to show the causal impact of national-level school decentralization programs on educational quality. Between 1992 and 1994, Argentina decentralized educational services by giving provincial government the authority to manage secondary schools with the objective of increasing efficiency. This example of devolutionary decentralization involves transferring budget, personnel, and many other important decision-making authorities from the national government to the provinces.

Galiani and Schargrodsky's 2002 study "Evaluating the Impact of School Decentralization on Education Quality" examines the causal effect of secondary school decentralization on educational quality as measured by mathematics and Spanish standardized tests administered by the National System of Educational Quality Evaluation (SINEC). Due to limited data availability and the simultaneous transfer of responsibilities between levels of government, it was not possible to measure the impact of decision-making authority on the quality of education. In order to estimate the effect of education decentralization on the quality of education, the authors compared the change in the average test scores of students in federal-administered schools (i.e., treatment group) to the change in the average test scores of students in schools always administered by provincial government (i.e., control group).

In general, controlling for other variables that could affect test outcomes, such as household real income, teachers' wages, unemployment rates, and provincial inequality measures, the authors found that secondary school decentralization improves student performance. Although bringing decision-making authorities closer to clients may generally yield positive results, Galiani and Schargrodsky found that the advantages of decentralization may be weakened when local governments lack technical capabilities. The analysis shows that the effect of decentralization on test scores is positive and stronger in provinces that are fiscally better managed. On the other hand, the effect can be negative for schools located in poor and badly administered provinces, as measured by fiscal deficits. In fact, results show that schools located in provinces with fiscal deficits performed worse than under centralization. Without taking local government capacity into consideration, these results imply that decentralization can lead to an increase in regional inequality and fiscal instability.

Several studies have attempted to analyze how decentralization variables may affect student performance on international tests. In his working paper "Schooling Resources, Educational Institutions, and Student Performance: The International Evidence" Wößmann examines the performance of 39 countries on the Third International Test of Mathematics and Science (TIMSS) using institutional settings information available from the Organization for Economic Co-operation and Development (OECD) survey included in Annex 1. By looking at the effect of available institutional settings variables on TIMSS results, Wößmann found that improvement in student performance can be explained by educational standards, curricula design, and size of school budget being set at the central level; personnel-management and process decisions being made at the school level; and

administration of education being managed at the intermediate level. Subsequently, Wößmann and Fuchs carried out a similar analysis of the 32 countries participating in the Programme for International Student Assessment (PISA) in “What Accounts for International Differences in Student Performance? A re-examination using PISA data.” The two studies found that test scores are higher when schools manage their own budgets and recruit and select their own teachers, but there is no impact on test scores when schools fire teachers and control teachers’ salaries. However, test scores are also higher when education ministries set central examinations and determine the curriculum. Furthermore, there is an improvement in student performance when teachers make decisions individually, but not through a teachers union, on class supplies and textbooks.

Other analyses of international tests provide somewhat conflicting conclusions. In a study of East Asian countries’ performances on TIMSS titled “Raising the Quality of Secondary Education in East Asia,” Nabeshima finds no relationship between teacher autonomy to select textbooks or set course content and student performance on TIMSS. Nabeshima explains that teacher autonomy does not automatically translate into changes in teaching content and methodology. Another study by King, Orazem, and Gunnarsson in 2003 examines how the performance of Latin American countries on the TIMSS and the United Nations Educational, Scientific and Cultural Organization (UNESCO) Latin American Laboratory for the Assessment of Education Quality (LLECE) examination is correlated with indexes of school autonomy and parental participation. The Latin American results suggest these relationships are complicated. School autonomy is positively associated with test scores, but the school autonomy index varies more within countries than across countries, suggesting that government policies do not always translate into practice. Parental participation in school activities is positively associated with test scores, while parental participation in curricular activities is not.

### *Qualitative Case Studies*

Large-scale empirical studies permit rigorous hypothesis testing but assume simplistic learning models that examine a restricted number of variables. Case studies, on the other hand, do not allow for rigorous hypothesis testing but do allow for more complex and realistic explanations of student achievement.

Mali. Research conducted by Joseph DeStefano in 2004 shows that the national public education system in Mali has failed to provide basic education to all children, accommodating only 22 percent of Mali’s school-age population. Similar to the case of EDUCO schools in El Salvador, community schools in Mali are started by communities themselves with very little governmental involvement. The community school model in Mali features school autonomy traits such as school management committees (SMC) made up predominantly of locally selected community members. The SMC has decision-making authority over teacher employment, school fees, and



the day-to-day operations of the community school. To date, no evaluation has been carried out to show which specific school autonomy features resulted in improved learning outcomes. However, not only are community schools effective at increasing access to basic education and raising the completion rate of primary education, but also students from community schools perform as well as or better than students in traditional public schools as measured by language and mathematics test scores.

Honduras. The *Educadores* program in Honduras is another case that demonstrates the effectiveness in increasing learning outcomes of community schools with school autonomy characteristics. The *Educadores* program was developed by the United States Agency for International Development (USAID) and the Honduran Secretary of Education in the early 1990s as an alternative mechanism for improving primary education completion rates. Some of the distinctive features of the *Educadores* program, as discussed by Audrey Moore in her 2005 study of the program, include the establishment of a wide network made up of existing local organizations, such as factories, micro-enterprises, and schools that house learning centers; the decentralized structure for promoting the *Educadores* program and monitoring the quality at the local level; and the volunteer teaching force of facilitators from the community. The *Educadores* program has successfully raised primary school completion rates, and studies show that students from *Educadores* have similar, and sometimes better, test scores than students in traditional public schools.

Ethiopia. In the early 1990s, Ethiopia was reorganized into a federation, and many education responsibilities devolved to regional governments. Through the Basic Education Strategic Objective (BESO) program, USAID supported the government's decentralization reforms in part by stimulating parent and community involvement and by providing resources to schools to develop and implement improvement strategies. According to World Learning's 2002 study, enrollment rates for school-aged children increased by over 40 percent after four years. An in-depth qualitative study of BESO found increased participation to have several important effects on school quality:

- Parents more closely monitored their children's attendance and school behavior.
- Increased parent-teacher collaboration resulted in greater security for and enrollment of girls.
- Parents contributed to strategies that improved school quality.

### *Summary*

The evidence to date on the impact of decentralization suggests that simply changing the organization of education—creating school councils or moving responsibilities to sub-national governments—has little, if any, impact on the delivery of education. It is the exercise of new responsibilities that has an impact. The effective exercise of those responsibilities may be dependent on the training and existing capacity

of school personnel. There is consistent evidence of the positive impacts of giving schools budget authority and of involving parents in school governance. The magnitude of the impact, however, depends on the details: the scope of budget authority, the type of training to manage funds, and the degree of parental involvement. There is also evidence that central government education ministries have important new roles to play in decentralized systems: setting standards, managing national examinations, and disseminating information to beneficiaries, which are positively related to school performance.

### **Conclusions: Learning to Design and Implement Decentralization to Positively Impact Education Quality**

Does decentralization lead to improvements in quality, fairness, or efficiency in the delivery of instruction? This question is foremost in the minds of educators. The evidence to date provides few answers to this question. One reason for this lack of resolution may be the political nature of decentralization reforms. The proponents of reform want them adopted and implemented but not necessarily evaluated. Thus, even when a developed country like New Zealand adopts decentralization reform policy, the policy change is not accompanied by any systematic effort to evaluate its effects. Another reason lies in the comprehensive nature of decentralization reforms, especially with regard to devolution. When a reform is implemented everywhere simultaneously, there is no possibility of adopting a rigorous evaluation research design.

Compared to devolution, there is better information on the effects of delegation on schooling outcomes. Evaluations of large-scale school autonomy policies in government financed community-managed schools in El Salvador and charter schools in Nicaragua show delegation has small but positive impacts on parental participation, teacher and student attendance, and learning. International cross-section studies yield tantalizing but somewhat conflicting results.

Clearly, there is a need for a more serious evaluation of education decentralization that focuses less on the question of whether decentralization is a good thing and more on the challenges of how decentralization should be designed and implemented to yield the best results and the conditions and supporting environment under which decentralization yields positive results. For new research to add value, it should focus on questions of the details of design and implementation. For example, what is required to transform a headmaster with limited management responsibilities into an effective leader of the school? Under what conditions do teachers become motivated to learn from each other and to improve their collective school performance? What is needed to increase citizens' demand for quality education such that they pressure schools to improve and increase their support for learning at home? Parker and Leithwood provide an example of this kind of detailed investigative work in their evaluation of school councils.



The evidence to date suggests that decentralization and, especially, school autonomy can improve the delivery of schooling, with some risk of increased inequality of outcomes. However, not enough is known about how to best realize this positive potential of decentralization, especially in poor countries and for poor clients.

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## Annex: Institutional Variables Included in the OECD Survey

Institutional Settings	Impact
Central examinations	+
Central control of standards	+
School autonomy in budgetary matters	-
<i>School responsibility</i>	
School budget	-**
Purchasing supplies	+
<i>School autonomy in personnel management</i>	
Hiring teachers	+*
Determining teacher salaries	+*
School autonomy in process decisions	+
Intermediate level of administration and funding	+
Private school management	+
Individual teachers' influence on teaching methods	+
<i>Teachers' responsibility</i>	
School budget	-*
Purchasing supplies	+*
Hiring teachers	-
Determining teacher salaries	-
<i>Class teacher has strong influence on</i>	
Curriculum	+
Money for supplies	-
Kind of supplies	-
Subject matter	-
Textbook	+
Teacher unions' influence on curriculum	-
<i>Scrutiny of student assessment</i>	
Parents' influence	+/-
Parents influence curriculum	+
Uninterested parents limit teaching	-*
Interested parents limit teaching	-*
Parent-teacher meetings	-*

Source: Wossman, Ludger (2000)

\* Significant at the 1 percent level based on robust standard errors

\*\* Significant at the 5 percent level based on robust standard errors

The + and – signs represent the institutional impact on learning achievements in math and science.



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