Overview

The Role of Intergovernmental Fiscal Transfers in Improving Education Outcomes

Samer Al-Samarrai and Blane Lewis, Editors
The Role of Intergovernmental Fiscal Transfers in Improving Education Outcomes

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INTRODUCTION

Access to schooling in developing countries has increased rapidly over the last 20 years with many more children, and particularly poor children, starting earlier and staying in school for longer than ever before (World Bank 2018). These improvements have been due in part to greater investment in education. Global public spending on education has more than doubled in real terms since the early 2000s. The largest increases have been registered in low-income countries where public education spending increased from 3.5 percent of gross domestic product (GDP) in 1998–2001 to 4.1 percent in 2014–17 (Al-Samarrai, Cerdan-Infantes, and Lehe 2019).

Despite increases in investment and improvements in access, many countries continue to face a learning crisis. Across the world, 53 percent of all 10-year-old children are unable to read a short age-appropriate text with comprehension. The proportion of children in learning poverty increases to 90 percent in low-income countries (World Bank 2019). Changing this picture will require further increases in funding for education. Estimates show that low-income countries would have to increase public education spending to approximately 6 percent of GDP to provide good quality learning opportunities for all (Education Commission 2016). But spending more will not be enough. Research in many countries points to large spending inequalities and inefficiencies that limit the effectiveness of education funding. Addressing the twin financing challenges of inadequate and ineffective spending can support efforts to tackle the learning crisis and contribute to the achievement of national and international education goals (see figure O.1). The COVID-19 pandemic makes addressing these challenges even more critical to prevent the pandemic’s short-term economic shock from lowering long-term development prospects.

The vast majority of the world’s children live in countries where subnational governments are responsible for providing basic education services. Over the last 30 years, many countries have introduced reforms to decentralize basic public services. These reforms are expected to improve service delivery outcomes because subnational governments are better placed than central governments to understand what types of services are needed and how best to provide them.
Because citizens are closer to their subnational governments, they are also better able to hold them accountable for the services available. Education, and basic education (preprimary, primary, and lower secondary schooling) in particular, have been at the forefront of decentralization reforms. Recent estimates indicate that 84 percent of the world’s children live in countries where government primary and secondary schools are run by subnational governments.

Given the central role subnational governments play, the success of efforts to improve education outcomes will depend critically on how they use public funding to tackle the twin financing challenges of adequacy and effectiveness. In countries where education has been decentralized, a large share of public funding is managed and spent by subnational governments. Figure O.2 shows the share of total education spending in a selection of countries that have decentralized basic education services. It shows that in most countries, subnational governments account for over 50 percent of total public education spending. If the focus is narrowed to basic education only, this share would be significantly higher. For example, subnational governments account for over 80 percent of government spending on primary and secondary education in Uganda. How effectively subnational governments are able to translate these funds into good-quality education services will determine to a large degree the proportion of children in primary and secondary school that leave with the skills they require to continue to learn and lead productive lives.

Although subnational governments manage and make decisions on the use of public education funding, they often rely on transfers from the central government. In decentralized countries, intergovernmental fiscal transfers account for a large share of subnational government revenues. This dependence on transfers extends to subnational education funding. In Sudan, for example, central government fiscal transfers provide states with approximately three-quarters of all public education funding. In Indonesia, two-thirds of all public education...
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Funding in 2013 was allocated through fiscal transfers between the central government and provincial and district governments. Beyond core funding, transfer systems can also provide an effective system for channeling funds to protect education systems during times of crisis. For example, in the United States, federal stimulus packages have used existing transfer mechanisms to provide additional financial support to local education systems during the financial and COVID-19 crises.

ASSESSING THE USE OF FISCAL TRANSFERS TO ADDRESS EDUCATION FINANCE CHALLENGES

Because transfers account for a large share of subnational spending, the way they are designed and implemented can help address key financing challenges. Most countries use a combination of general- and specific-purpose transfers to support subnational governments’ delivery of education services (see table O.1). General-purpose transfers are unconditional fiscal transfers that subnational governments may allocate across their responsibilities, including education, according to their own preferences and needs. Central governments often complement these general transfers with conditional or specific-purpose transfers. These transfers to subnational governments are targeted for use in particular sectors and relate to providing certain inputs or are tied to improvements in sector-specific outputs or outcomes.

This study consists of seven country case studies that explore how fiscal transfers affect education sector financing and ultimately sector outcomes. Country case studies were conducted in Sudan, Uganda, Indonesia, Colombia, Brazil, Bulgaria, and China. The selection of case studies was driven primarily by the need to cover a broad set of country experiences and to capture countries at different stages of economic development and decentralization. As a
result, the case studies provide a broad set of examples of how fiscal transfers have been used to address education sector challenges at different stages of development.5

### Challenge 1: Providing adequate resources for education

Transfers can play a critical role in helping subnational governments adequately fund the services for which they are responsible, including the provision of basic education. Although all transfers provide subnational governments with additional resources, they do not automatically result in higher spending on education. General transfers increase the overall amount of revenue available, but subnational governments can, and often do, choose to use these funds on other priority sectors. Even conditional or specific-purpose transfers may not increase overall spending on education because fiscal resources are fungible.

The evidence from the case studies generally shows that intergovernmental fiscal transfers are successful at increasing subnational spending on education. The analysis in the case studies show that the receipt of general- and specific-purpose transfers resulted in subnational governments spending more

<table>
<thead>
<tr>
<th>FINANCE CHALLENGE OR TRANSFER OBJECTIVE</th>
<th>RELATED FISCAL TRANSFER OBJECTIVE</th>
<th>TRANSFER APPROACHES TO SUPPORT EDUCATION CHALLENGE IN CASE STUDY COUNTRIES</th>
</tr>
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<tbody>
<tr>
<td>Resource mobilization</td>
<td></td>
<td>Most countries use a combination of general and specific transfers to increase subnational resources for education, although the mix varies considerably among Sudan, Colombia, Indonesia, Brazil, and China. Others, such as Uganda, rely almost exclusively on specific-purpose transfers, and in Bulgaria these transfers are designed to provide subnational governments with minimum levels of funding for education based on estimates of per student costs.</td>
</tr>
<tr>
<td>Effective use of education funding</td>
<td></td>
<td>All case study countries use general-purpose transfers to address inequalities in revenue between subnational governments. However, their design can sometimes be an important driver of subnational spending inequalities, as in Sudan and Indonesia. Most case study countries, including Brazil, Colombia, Bulgaria, and China, also use specific-purpose transfers to address equity issues, and these transfers provide more education funding to poorer subnational governments and narrow spending inequalities. In Uganda, specific transfers allocated on the basis of the student, rather than the school-age population, drive education spending inequalities.</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Ensuring that spatial spillovers and other externalities are accounted for and promoting the efficient use of inputs to deliver outputs demanded by citizens</td>
<td>Inefficiency in the education sector is tackled mostly through specific-purpose transfers. Transfers based on per capita or per student allocation mechanisms are common, as in Uganda, Colombia, Brazil, Bulgaria, and China, and ensure there is a link between spending and outputs such as enrollment. In Indonesia, the main transfer associated with efficiency supports capital spending and includes a requirement that subnational governments contribute to the overall transfer allocation. Other transfers, with different objectives, can sometimes include perverse incentives that make education spending inefficient, such as in Indonesia and Colombia.</td>
</tr>
<tr>
<td>Performance</td>
<td>Improve results or outcomes by linking transfers to results</td>
<td>Performance-based specific-purpose transfers for education are used in Uganda, Indonesia, and Colombia. The state of Ceará in Brazil uses a general-purpose transfer that is allocated on the basis of performance in the education sector.</td>
</tr>
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on education, although specific-purpose transfers often had a larger effect. For example, in Brazil and China, the estimated marginal effect for education-specific conditional transfers was higher than that for unconditional transfers. However, differences in the effect of general- and specific-purpose transfers on subnational education spending is likely to be dependent, to an extent, on their relative size. For example, specific-purpose transfers had a greater effect on subnational spending in Brazil, where these transfers made up approximately 62 percent of municipal spending, than in Indonesia, where they accounted for only 11 percent.

Although transfers generally increase public education spending, only a few countries use the transfer system to ensure that all subnational governments have adequate funds for education. Some countries have designed specific-purpose transfers that are based on the actual costs associated with providing education to each student. These schemes are distinctive because they provide guaranteed and predictable funding for education that is insulated, to a large degree, from government budget fluctuations. For example, in Bulgaria, the central government uses a unified per student cost standard to allocate specific-purpose funds for municipally owned schools.

In contrast to transfers based on cost standards, some countries have designed transfers so as to guarantee an annual minimum level of per student funding. For example, in Brazil, federal funds for education are allocated in a way that ensures a minimum level of per student funding in all states based on a set of specific annual revenues. Transfer schemes of this kind are not associated with the actual costs of service provision, but they aim to narrow spending inequalities by establishing a funding floor and ensuring through the transfer system that all subnational governments have adequate funds to reach this floor. However, because these types of transfers are funded through taxes, revenue can change from year to year, making overall funding levels volatile, leading to unpredictable and constantly changing minimum spending levels for education. This can make planning and budgeting difficult for subnational governments and affect how effectively public education spending is used.

**Challenge 2: Encouraging more effective use of public funding for education**

**Improving equity**

Education spending inequalities between subnational governments can be large (see figure O.3). In Sudan, the state with the highest funding per student spends approximately 21 times the amount spent in the state with the lowest funding levels. These subnational spending inequalities frequently reinforce patterns of poverty between subnational governments. World Bank public expenditure reviews and other studies have shown that, in approximately one-half of developing countries with available data, there was a negative and statistically significant relationship between subnational poverty rates and education spending (Manuel et al. 2019). A similar pattern was found in some of the case studies, including Sudan and Uganda (see figure O.3). There are relatively few countries that show an opposite and statistically significant relationship.

Because transfers can fund a large share of subnational education spending, the way in which they are distributed is critical to improving spending equity between subnational governments. Addressing horizontal imbalances in revenue between subnational governments is a major objective of most fiscal...
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transfer systems. Most of the case study countries have general-purpose transfers that are designed to reduce inequalities of this kind across the whole set of subnational responsibilities (see table O.1). For example, in China, equalization general-purpose transfers make up approximately two-thirds of all transfers to provinces and counties. These transfers are allocated according to formulas that include estimates of subnational fiscal gaps, which measure the gaps between subnational revenues and expenditure obligations, as well as population size and levels of economic development.

Most of the case study countries also have specific-purpose transfers that aim to narrow inequalities in subnational spending on education. In Brazil, the Fund for the Development of Basic Education (FUNDEB) addresses equity issues by guaranteeing minimum levels of education spending among municipalities. Prior to the introduction of the Fund for the Development of Primary and Lower Secondary Education (FUNDEF), FUNDEB’s predecessor, in 1996, there were large differences in education spending between municipalities, which were driven by the limited revenues of poorer municipalities. Before the program started, the wealthier South, Southeast, and Central West regions in Brazil were spending almost twice as much per student as the poorer regions in the North and Northeast (Gordon and Vegas 2005). These spending disparities led to significant differences in education outcomes and exacerbated more general socio-economic inequalities between regions. FUNDEB and its predecessor FUNDEF aimed to narrow spending inequalities by redistributing a portion of federal, state, and municipal tax revenues among all municipalities to guarantee a minimum level of spending per student across all municipalities. The funds have been successful at narrowing spending inequalities between municipalities and particularly in increasing the funding of education in the poorest states (Cruz and Silva 2020; Gordon and Vegas 2005). A World Bank simulation of per student funding also shows that inequality in per student spending has been significantly smaller since the introduction of FUNDEB (see figure O.4).
Improving efficiency

This section focuses on the extent to which transfers affect the spending efficiency of education funding. In the broader literature on intergovernmental transfers described in chapter 2, a key objective of an effective transfer system is to compensate subnational governments for benefit spillovers to neighboring jurisdictions. Clearly, if education investment decisions are made without accounting for the benefits that come from these investments outside the jurisdiction, subnational governments will underinvest.

Transfers can be used to help subnational governments internalize externalities and invest in education in ways that are optimal for the nation as a whole. They can also improve the technical efficiency of education spending and improve overall spending efficiency. Figure O.5 shows scatter plots of learning outcomes compared with spending levels per student in Bulgaria and Colombia. In both countries, some municipalities appear to use their resources more effectively than others to deliver education services. Within each panel, municipalities in quadrant A spend less than the average municipality on education but have better than average outcomes. For example, Bello municipality in Colombia spends about 2.5 million pesos per student and has an average learning score of 40 percent, which is 8 percentage points higher than the average for all municipalities. In contrast, municipalities in quadrant C are relatively inefficient. They spend more than the average municipality but have outcomes below the national average for all municipalities. Clearly, other factors, such as cost differences across subnational governments, also explain some of the variation, but more detailed econometric work in the case studies, as well as other more rigorous approaches to measuring inefficiency, all demonstrate significant spending inefficiencies at the subnational level (De Witte and López-Torres 2017; Sutherland, Price, and Gonand 2010).
The design and implementation of fiscal transfers can sometimes drive inefficiencies in public education spending. For example, in Indonesia, the formula for the largest general transfers includes incentives for district governments to spend more on hiring civil servants than on nonsalary spending. In education, this has resulted in a tendency to hire more teachers than is required to comply with minimum service standards and maximum class sizes and is an important driver of inefficiency (Lewis and Smoke 2017; World Bank 2012).

However, carefully designed transfers can increase spending efficiency in education. In the early 1990s, the education systems in many countries in Europe and Central Asia were becoming more inefficient as a result of declines and changes in the school-age population. These demographic shifts often resulted in the existence of many small schools, small class sizes, and low student-teacher ratios. Moreover, the existing input-based funding mechanisms were giving municipalities and schools no incentives to adjust to the new reality. Per capita financing mechanisms were introduced that linked transfer allocations to student numbers. Municipalities could no longer afford to fund their existing school networks, which gave them an incentive to find ways to increase spending efficiency (Alonso and Sanchez 2011). In Bulgaria, the introduction of per capita financing has led to the merging or closing of some schools, which has significantly increased efficiency. Overall, the allocation of education funding on a per student basis has increased class sizes and student-teacher ratios and has put the education sector in Bulgaria on a more sustainable financial footing. Although some inefficiency in spending remains, per capita funding formulas also act as automatic stabilizers that adjust financing mechanisms immediately in response to demographic shifts and other factors that may drive spending inefficiency.

**FIGURE O.5**

Subnational learning outcomes and spending per student, Bulgaria and Colombia

- **a. Bulgaria, 2018**
  - Mathematics score (7th grade)
  - Primary and secondary learning score

- **b. Colombia, 2017**
  - Mathematics score (7th grade)
  - Primary and secondary learning score

Sources: Bulgaria: Expenditures are based on data received from the Ministry of Finance; data on the number of students and average test scores were provided by the Ministry of Education and Science. Colombia: Expenditure data from the Investment Expenditures Database, Unique Territorial Form (accessed October 2019), https://sisfut.dnp.gov.co/app/login; poverty index from the “Terridata” database from Terridata (database), National Planning Department, Bogotá (accessed October 2019), https://terridata.dnp.gov.co/index-app.html#descargas; Learning outcomes data from the Colombian Institute for Education Evaluation.
Strengthening the link between spending and sector results

Fiscal transfers can create incentives for subnational governments to expand access to education services and improve learning. As the country case studies and other research have shown, intergovernmental fiscal transfers increase subnational education spending, and this additional funding has the potential not only to increase access to education but also to improve learning outcomes (de Carvalho Filho and Litschig 2020; Olsson and Valsecchi 2015). Econometric analysis in the case studies in Brazil, Colombia, Indonesia, and Uganda shows that both transfers and subnational education spending have a positive and significant impact on student achievement. For example, in the Indonesia case study, a 10 percent increase in subnational per capita education spending increased students’ test scores by 0.6 percent. Although the relationship is significant, it is not very strong, and there is considerable variation in the effectiveness of subnational entities in translating funding into outcomes. In an effort to strengthen the link between funding and outcomes, fiscal transfers in some countries, particularly specific-purpose transfers, have been designed to include stronger incentives for subnational governments to focus on improving the performance of schools and students.

Transfers can be designed to provide direct incentives to encourage subnational governments to expand education access. In particular, transfers that include a per student allocation can act as a strong incentive for subnational governments to enroll more students. When education transfers include a per student element, subnational governments know that if they expand access, they will receive funding from the central government to help cover the costs of providing more school places. This has had the effect of reducing the cost burden on subnational governments and, in turn, on households, while also narrowing inequalities in access to basic education. Many countries use these types of transfers to encourage and sustain widespread access to basic education (OECD 2017).

China’s New Mechanism to Guarantee Rural Compulsory Education Financing, introduced in 2006, strengthened the incentives for provincial governments to increase access to basic education. The New Mechanism introduced a specific-purpose transfer that was allocated to provinces on a per student basis and was designed to cover elements of nonsalary funding and to compensate subnational governments for the revenue they lost as a result of the abolition of tuition fees, which was implemented at the same time. The share of per student funding covered by the transfer varied depending on the socioeconomic characteristics of each province. For example, the central government transfers covered 80 percent of the administrative expenses and lost fee income of the least developed provinces in the west and 60 percent of those of the central provinces. Initially, the wealthier eastern provinces did not receive any funds through the compulsory specific-purpose education transfer, but this changed in 2015 when they received transfers amounting to 50 percent of their total expenses.

The New Mechanism reforms have been credited with contributing to the increases in enrollment and completion rates in basic education since the early 2000s. Moreover, spending inequalities between provinces have narrowed since the introduction of the reforms, but the evidence is mixed on whether this was the direct result of the reforms. Nevertheless, the reforms appear to have increased levels of enrollment in primary and secondary education and narrowed enrollment outcomes between provinces and counties. There is also evidence that the reforms had positive effects on attainment and learning outcomes and that these effects were larger for students from disadvantaged backgrounds (Ha and Yan 2018; Xiao, Li, and Zhao 2017).
The FUNDEB and FUNDEF transfers in Brazil also improved education outcomes particularly in poorer municipalities. Research studies have also shown that these funds have increased enrollment in basic education particularly in poorer municipalities, improved education quality, and narrowed achievement gaps (Cruz 2018; Cruz and Rocha 2018; Gordon and Vegas 2005). A recent study exploring the impact of FUNDEB on student achievement in upper secondary schools found that it had increased average achievement in both Portuguese and mathematics and that the gains were greater for poorer students (Silveira et al. 2017).

In some countries, the transfer system has also aimed to incentivize improvements in education quality and student learning outcomes. Compared with transfers that support increasing access to schooling, there is less evidence available on the effectiveness of performance-based transfers that focus on learning outcomes, particularly in developing countries. However, recent evidence from the use of performance-based transfers in the state of Ceará in Brazil show that they can be an effective tool to improve performance, but their effectiveness depends on solid and comprehensive information systems, good implementation capabilities of subnational governments, and careful design to avoid any negative consequences such as the risk of transfers of this kind widening existing inequalities (see box O.1)

**BOX O.1**

**Using performance-based incentives to improve education outcomes in Brazil**

In 2008, an innovative reform of the fiscal transfer system in the state of Ceará in Brazil linked an important general transfer to learning outcomes. States are obligated to transfer 25 percent of consumption tax revenues to their municipalities as a general-purpose transfer. A funding formula dictates how most of these funds are transferred but states have discretion over how they transfer a quarter of the total transfer. Since 2008, the state of Ceará has allocated 72 percent of these discretionary funds based on municipalities’ performance in the education sector. These transfers are a very significant revenue source for municipalities and represent as much as one-third of all revenue for poorer municipalities in Ceará (Loureiro and Cruz 2020).

The discretionary transfer amount is determined by a primary “education quality index” that is designed both to improve performance and to increase equity between students within municipalities. A comprehensive census-based learning assessment is used to calculate the index. The assessment consists of indicators on early grade literacy, learning measured at the end of primary school, and the proportion of children transitioning to the next grade. Municipalities are allocated transfer resources based on their scores on these indicators as well as on the magnitude of their educational improvements over the preceding year.

Rigorous evaluations have shown that the performance-based reform to the fiscal transfer program has improved learning outcomes in most municipalities in Ceará. Even though the transfer was not a specific-purpose transfer, evidence shows that it led municipalities to increase their spending on basic education and narrowed per capita differences in transfers between municipalities (Franca 2014). Moreover, it appears that the transfers also narrowed learning gaps between poor and wealthy municipalities (Brandão 2014). Because these outcomes were based on the use of existing revenue sources, the reforms have also increased the overall efficiency of spending in the state of Ceará and its municipalities (Loureiro and Cruz 2020; Wetzel and Viñuela 2020).

Based on the successful experience in Ceará, a recent amendment of the Brazilian constitution has changed the allocation mechanism for FUNDEB (the main education fund transfer) to introduce a mandatory results-based component to the formula. In particular, the amendment includes an allocation of federal top-up funds to states based on improvements in results.
Strengthening fiscal transfer mechanisms to tackle financing challenges and improve education outcomes is difficult. In the absence of conflicting objectives between central and subnational governments, differences in subnational government capacity, and externalities and information asymmetries, a single general transfer may provide the optimal system. However, these conditions are rarely met, and a country’s overall political and economic context plays an important role in both how the intergovernmental transfer is set up and the opportunities that exist for reform.

The case studies show that countries typically use a mix of different transfers to address different objectives in the education sector. There is no one-to-one correspondence between specific finance challenges and particular transfers. For example, faced with inadequate subnational government funding for education, central governments may use a combination of general and specific transfers to increase general levels of funding and to ensure that specific inputs are funded. Tackling education spending inequalities across subnational governments may in some cases require changes to allocation rules for general transfers and in other cases require the design of a specific education transfer that aims to compensate subnational governments that are unable to fund education adequately. The choices that countries make will depend on both the technical and political feasibility of different options.

The study draws its findings from the case studies and the broader literature to identify a set of guiding principles to help strengthen education finance in decentralized systems (see figure O.6). The reform of fiscal transfer systems frequently involves changes that do not align with the interests of all stakeholders. Existing weaknesses in transfer systems often are not the result of poor design and execution but rather reflect a suboptimal equilibrium based on past and current economic and political factors. Given the different starting points of countries and their potential for reform, it will not always be possible to apply all the principles, particularly in the short term. However, they provide a roadmap for the direction toward which reforms should move as well as a set of principles against which an existing system or any proposed reforms can be assessed.

Drawing on the findings of the study, the following are the main guiding principles for the effective design of intergovernmental fiscal transfers for education:

- **Align transfers with national objectives and subnational responsibility.** It is critical to align the incentives inherent in fiscal transfer systems with national education goals, which requires a good understanding of how fiscal transfer systems work and how they affect the decisions subnational governments make in delivering education services.

- **Avoid perverse incentives.** In designing and implementing transfers, it is important to eliminate or reduce any perverse incentives that can limit funding effectiveness (Lewis and Smoke 2012). For example, transfers can sometimes encourage subnational governments to devote a large share of spending on particular inputs, resulting in large spending inefficiencies.

- **Define clear, focused, and nonconflicting transfer objectives.** Transfers that have unclear aims or try to achieve multiple objectives often fail to improve outcomes effectively.
• **Make funding predictable and limit fragmentation.** Transfers that rely on government revenues can be unpredictable, but there are often other factors that make education funding volatile. Reducing the volatility of transfers can ensure that public funding for education is used effectively. The study shows that in many countries education systems are funded by multiple transfers, often with similar objectives, which can make it difficult for subnational governments to budget, plan, and execute the use of these funds. For many countries, reducing the number of intergovernmental transfers for education, by, for example, consolidating transfers with the same objectives, has the potential to improve both the adequacy and effectiveness of education spending.

• **Use easy-to-understand and transparent transfer formulas.** The ability of subnational governments to understand allocation rules and how their own actions can affect the level of funding they receive is critical to good transfer design. Transparency in the design of transfers is also important to ensure
that stakeholders can hold different levels of government accountable. Both require good quality information on the characteristics of subnational populations and education systems.

- **Account for differences in the costs of education provision.** Ensuring that transfers account for differences in subnational characteristics that affect the costs of providing education can help narrow inequalities and improve national education outcomes.

- **Take account of subnational government capacity.** Subnational governments differ in their capacity to use funding effectively to improve education outcomes. Funding alone is not enough to support lagging regions in their efforts to improve outcomes and catch up with other parts of the country. Strengthening the capacity of subnational governments to improve education outcomes often goes hand-in-hand with reform of the transfer system.

- **Focus on equity and on education outputs and outcomes.** The study shows the potential that well-designed fiscal transfers have for improving equity between subnational governments. Many of the other guiding principles relate to equity by, for example, accommodating cost differences and strengthening the capacity of weaker subnational governments. However, it is important to keep a focus on equity and ensure that the overall system supports national goals to provide learning for all. Allocating transfers on the basis of outputs or outcomes is also important, providing subnational governments with more flexibility in how they deliver education services and helping ensure that education funding is used more effectively.

The reform of fiscal transfer systems is constrained by a variety of political economy factors. There are numerous stakeholders involved in the reform process, cutting across all levels of government and involving many nongovernment actors. Desirable changes frequently do not align with the interests of all concerned parties. Therefore, it may not always be politically feasible to implement technically viable and useful changes to fiscal transfers. Second-best solutions are often all that can be accomplished. However, the principles outlined here can provide a roadmap for the direction that reforms should take over the longer term and serve as a way of assessing the benefit of any proposed changes to existing fiscal transfer systems.

**NOTES**

1. See Dyer and Rose (2005) and Channa and Faguet (2016) for discussions of the potential benefits and actual effects of decentralization in the education sector.


3. See chapter 5.

4. Chapter 2 outlines the main transfer types and how they link to broad policy objectives.

5. Chapter 3 provides further details on the characteristics of the different case study countries.

6. The per student intergovernmental fiscal transfers analyzed in this section are similar in effect to per student transfers to schools. Evaluations have shown that providing transfers directly to schools has been successful in increasing access to education and attainment (McEwan 2015; Snilstveit et al. 2015).

7. See, for example, Shi (2016). Studies have shown that the impact of the reforms was different in different regions as well as for different levels of education. Ding et al. (2020) concluded that the new transfers did not lead to any significant increases in spending on
education because they substituted for other “off-budget” spending, including tuition fees. This may also help to explain their positive impact on outcomes since the burden of funding shifted from households to governments, which removed the cost constraints on households associated with school attendance.

8. The guiding principles focus on the education sector but are drawn from the broader literature on fiscal transfers (see, for example, Bahl (2000); Boadway and Shah (2007); and Smoke and Kim (2003)) as well as findings from the case studies and associated author workshops.

9. The summary provides a short description of the principles. See chapter 3 for further details and examples.

REFERENCES


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The majority of the world's children live in countries where local governments are responsible for the provision of basic education services. Although subnational governments manage their own education systems, they often rely on transfers from the central government for funding. The main purpose of this study is to assess how these fiscal transfers affect public funding for education and how they ultimately affect student schooling and learning outcomes.

Through a careful analysis of how fiscal transfers have affected education systems in different contexts, the investigation develops a set of principles to support improvements in the design and implementation of transfer systems with a specific focus on the provision of education services. The study is centered on seven country case studies that aim to answer a set of common research questions using a similar approach. Country case studies were conducted in Brazil, Bulgaria, China, Colombia, Indonesia, Sudan, and Uganda. The analysis shows that fiscal transfer mechanisms can improve the adequacy of public education spending, reduce spending inequalities between regions, and improve spending efficiency. Moreover, the study highlights that carefully designed and implemented transfer systems can help raise overall education outcomes and reduce education inequality.

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