

The background of the cover is a dark, textured purple. In the center is a large, circular, light-purple globe. On the globe, there is a faint map of Latin America. A cartoon girl with brown hair in a ponytail, wearing glasses and a pink dress, is sitting cross-legged on top of the globe, reading an open book. The globe is surrounded by dark, stylized trees. At the bottom of the globe, there is a small illustration of a girl's head and shoulders, also wearing glasses and reading a book.

IS SCHOOL FUNDING UNEQUAL IN LATIN AMERICA?

EDUCATION DIVISION, SOCIAL SECTOR

INTER-AMERICAN DEVELOPMENT BANK (IDB)

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KEY MESSAGES

Amid the economic crisis triggered by the COVID-19 pandemic, there is a risk that the inequality of opportunity in education may increase in Latin American and Caribbean (LAC) countries unless well designed, properly evaluated, and progressive school finance policies are implemented. Based on a comparative analysis of data from Argentina, Brazil, Chile, Colombia, Ecuador, and Peru, this report provides insights on how school funding policies can either mitigate or aggravate such inequalities. The following summarizes the report's conclusions:

1

In some Latin American countries, local revenues are crucial to financing education. In the absence of adequate redistributive policies, such revenues could, however, become the main source of inequality among regions, as those of higher socioeconomic status (SES) are more capable of raising taxes and, as a result, can invest more in education. These inequalities tend to be more pronounced in federal countries such as Brazil and Argentina, where states or provinces have a greater degree of autonomy in financing their education systems.

2

Progressive school finance policies are necessary, but may not be enough to eliminate school funding inequalities. In Brazil, for example, the redistributive resources of the Fund for the Maintenance and Development of Basic Education (FUNDEB) are

highly progressive, but only represent a small portion of total revenues for education, and are thus insufficient to close the funding gap between states. Chile's Preferential School Subsidy Law (SEP) has been more effective at reducing funding inequalities as it transfers a larger portion of the educational budget to the low SES population.

3

A school funding system can be equitable and yet be based on overly discretionary decisions. Ecuador provides a clear example. The Andean country lacks objective rules to guide resource distribution and, as a result, the system fluctuates with every change of government or economic situation. Peru, meanwhile, has no legal guidelines for the regional distribution of resources, but has institutionalized monetary incentives for teachers working in more disadvantaged areas, a key driver of the country's progressive school funding.

4

School financing policies should promote redistribution not only between regions, but also within them. In this sense, it is recommended that governments increase the monitoring of public spending at the school level to ensure that funds reach the most vulnerable students. For example, Pernambuco, Brazil, in collaboration with the IDB, has developed a cost information system at the school level that helps administrators identify ine-

quities and inefficiencies in the distribution of resources among institutions of different SES.

5

Money alone will not guarantee more fairness in school results – public policies must also aim to protect the pupils most at risk. Recent research has shown that one of the most effective approaches consists of investing in the quality of teachers by means of training and capacity building, particularly of those who teach the most vulnerable students.¹ In Peru, monetary incentives for teachers working in disadvantaged schools play a key role in the advancement of spending progressiveness, though they do not necessarily reward the most qualified professionals.²

6

In order to guarantee that an increase in resources translates into better and more equitable school results, stronger accountability is necessary. This would reduce the misuse of funds and ensure that school funding policies benefit underprivileged schoolchildren.³ Chile stands out to this regard, as the enactment of the SEP law has increased the monitoring of the use of funds.

7

The COVID-19 pandemic makes the implementation of school finance policies oriented towards improving equal opportunities for all students more urgent than ever. It has been shown that education spending for low-income sectors of society tends to

be particularly affected in times of economic downturn. In the current scenario, a spike in demand for public education can be expected since crisis-hit families may seek to migrate from the private to the public sector. In addition, the performance gap between children of different SES is expected to widen due to students from more affluent families having better access to online learning services and other educational resources during school closures. For all these reasons, LAC countries require financing policies specifically tailored to ensuring that vulnerable students are not affected by a lack of funding in these difficult times.

INTRODUCTION

In recent decades, public spending on education has increased dramatically in LAC countries. It rose from 3% of the gross domestic product (GDP) in the 1990s to 5% in 2017, reaching similar levels to that of the Organization for Economic Cooperation and Development (OECD) countries. Average spending per student in both primary and secondary education exceeds \$2,000 a year, which in real terms represents three times as much as the spending in the 1990s. Yet, as economic growth in the region slows, governments may reconsider spending priorities and reduce education budgets. Moreover, the loss of government revenues due to COVID-19 and the reallocation of resources towards healthcare-related spending could lead to unprecedented cuts in funding for public education.

Crucially, studies show that economic recessions tend to affect the distribution of resources, particularly harming students living in economically depressed regions.⁴ The economic impact of COVID-19 could also increase the migration of children from the private to the public-school sector, especially in areas where a high percentage of students attend the former. This is the case of the cities of Cali and Bogota, in Colombia, where these percentages are 51% and 41%, respectively, or Lima and Arequipa, in Peru, both with percentages around 48%. A change in demand may require additional investments in public education.

The situation is particularly concerning in a region where students were already experiencing marked socioeconomic-related inequalities even before the pandemic.

Box 1. Impact of the pandemic on school funding in Brazil

To better understand the impact of the COVID-19 pandemic on school funding in Brazil, Afonso et al. (2020)⁵ simulate education spending under five scenarios of social isolation and their respective impact on economic activity. The scenarios are defined according to three factors: whether the spread of new coronavirus varies between seasons, whether an increase in hospital capacity is considered, and whether a vaccine is going to be available at the beginning of 2021. In the most pessimistic scenario, the estimated cumulative decline in education spending between 2019 and 2021 would be approximately 32%, while in the most optimistic scenario, the decline is estimated to be about 11%.

A number of studies show that students in privileged areas of LAC countries not only attend schools with more qualified teachers⁶ but are

twice as likely to finish high school⁷, whereas pupils from vulnerable sectors lag behind their more affluent peers by more than two academic years.⁸ Within the context of the current pandemic, these inequalities will tend to widen, given that more advantaged students have greater access to online courses and other educational resources during school closures.⁹

School financing is a crucial policy tool for promoting equal opportunities. Recent research demonstrates that an increase in education spending improves the performance of students—in particular those from disadvantaged backgrounds¹⁰—, has a positive impact on inter-generational economic mobility,¹¹ and raises the chances of earning higher wages in adulthood.¹² Yet, while necessary, more spending alone is not enough to guarantee equal educational opportunities.

It is essential that school financing policies target students from less affluent backgrounds. An equitable distribution of resources can help reduce the gap between pupils of different socioeconomic backgrounds.¹³ Moreover, such policies should

increase investments in areas shown to have a greater impact on school performance, such as teacher quality.¹⁴

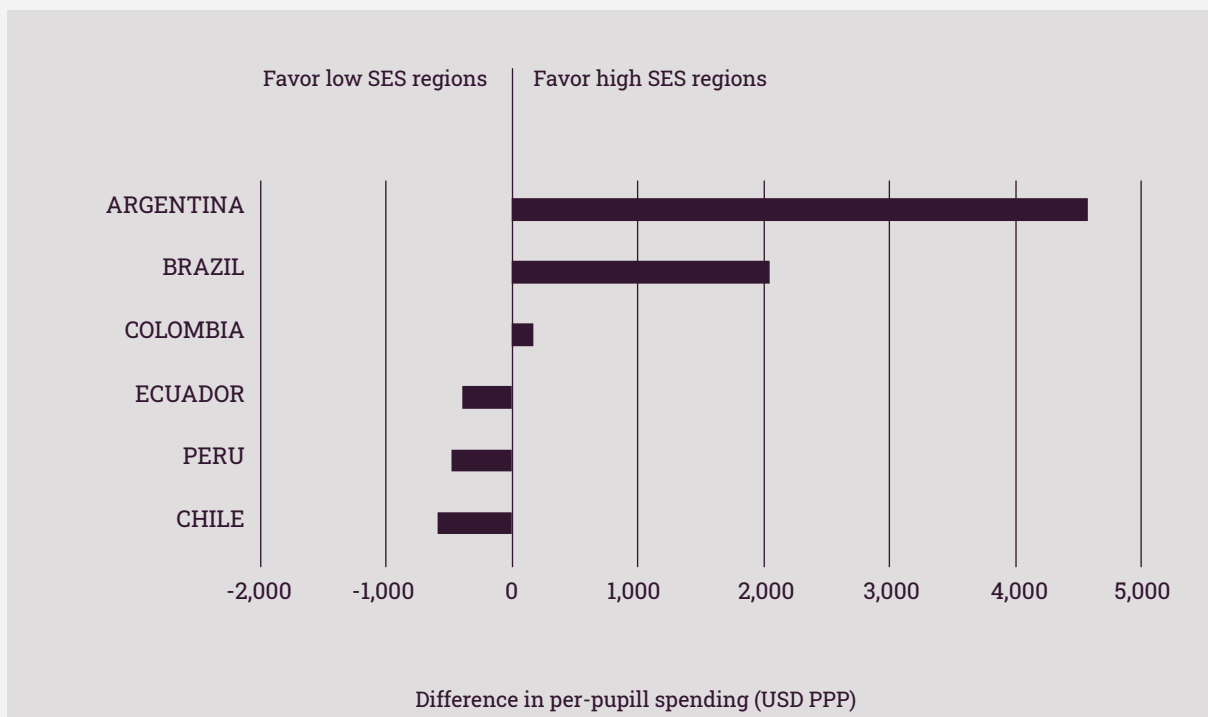
This report aims to inform policy makers in LAC countries about the current distribution of resources for public education within countries in the region, and to contribute to the debate on how school financing policies can mitigate or aggravate spending inequalities.

IS SCHOOL FUNDING FAIRLY DISTRIBUTED ACROSS REGIONS WITHIN LATIN AMERICAN COUNTRIES?¹⁵

A comparison of six Latin American countries (see Figure 1) shows that Argentina and Brazil have the widest gap in per-student spending between high and low SES regions. This is largely due to the fact that they are federal countries characterized by considerable regional differences, with educational systems that are, to a great extent, funded by local governments.¹⁶ Though to a much lesser degree, financing is also regressive in Colombia, in that high SES regions spend more per student, thus widening the socioeconomic funding gap relative to other regions. On the contrary,

Ecuador, Peru, and Chile present a progressive distribution of education spending per student. Inter-governmental transfers for education in some Latin American countries, such as Ecuador and Peru, are based on discretionary and historical criteria.¹⁷ In contrast, in Argentina, Brazil, Chile, and Colombia, the decision on how much funding goes to each region is based on objective parameters. When included in funding formulas, these parameters provide more transparency and objectivity, though they do not guarantee a more equitable distribution of education spending.

Figure 1. Differences in per-pupil spending between regions with lower and higher SES



HOW DO SOURCES OF FUNDING IMPACT THE DISTRIBUTION OF RESOURCES?

In this section, we look separately at each of the 6 countries, comparatively examining the role of three sources of funding for education: local revenues, general transfers, and progressive transfers, which include an equity component.¹⁸

ARGENTINA

In Argentina—a federal country comprising 23 provinces and the Autonomous City of Buenos Aires (CABA)—the public education budget is executed at the provincial level and is composed of local revenues and transfers from its co-participation regime. The federal co-participation of taxes consists of a system of fund sharing (not limited to education) among the different levels of government. Taxes subject to this regime, such as income and value added taxes, are first distributed between the national government (which in 2017 received 38% of the funds), the provinces (61%), and the Fondo de Aportes del Tesoro Nacional a las Provincias (Fund for National Treasury Contributions to the Provinces, 1%), a process known as the “primary distribution.” In a “secondary distribution,” the 61% province portion is divided following fixed quotas determined by law. In general, provinces with lower capacity to raise taxes (such as Catamarca, Formosa, and La Rioja) receive more funds per capita than better-off jurisdictions like the CABA, Cordoba, and Mendoza. The southern provinces in the Patagonia region are an exception to this, in that despite being among the richest regions in the country, they receive a greater per capita share to make up for their higher cost of living, services, and transportation.

In Argentina, school funding inequities are mainly explained by local revenue differences, with the

richer provinces that have a greater capacity to raise local revenues typically spending more on public education. The co-participation regime was, in fact, designed to benefit the lesser developed provinces, but—as Figure 2 shows—the distribution of such funds ends up being regressive. That said, when the southern provinces are excluded from the analysis, educational funding becomes progressive.

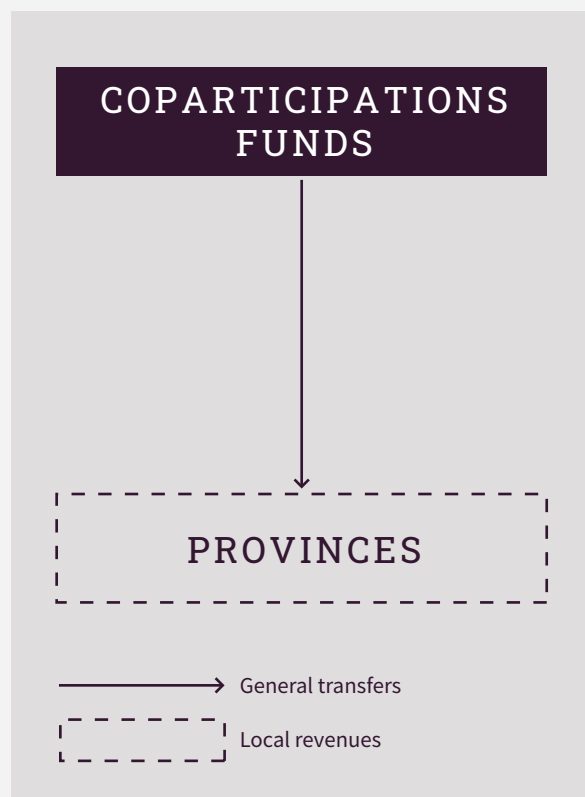
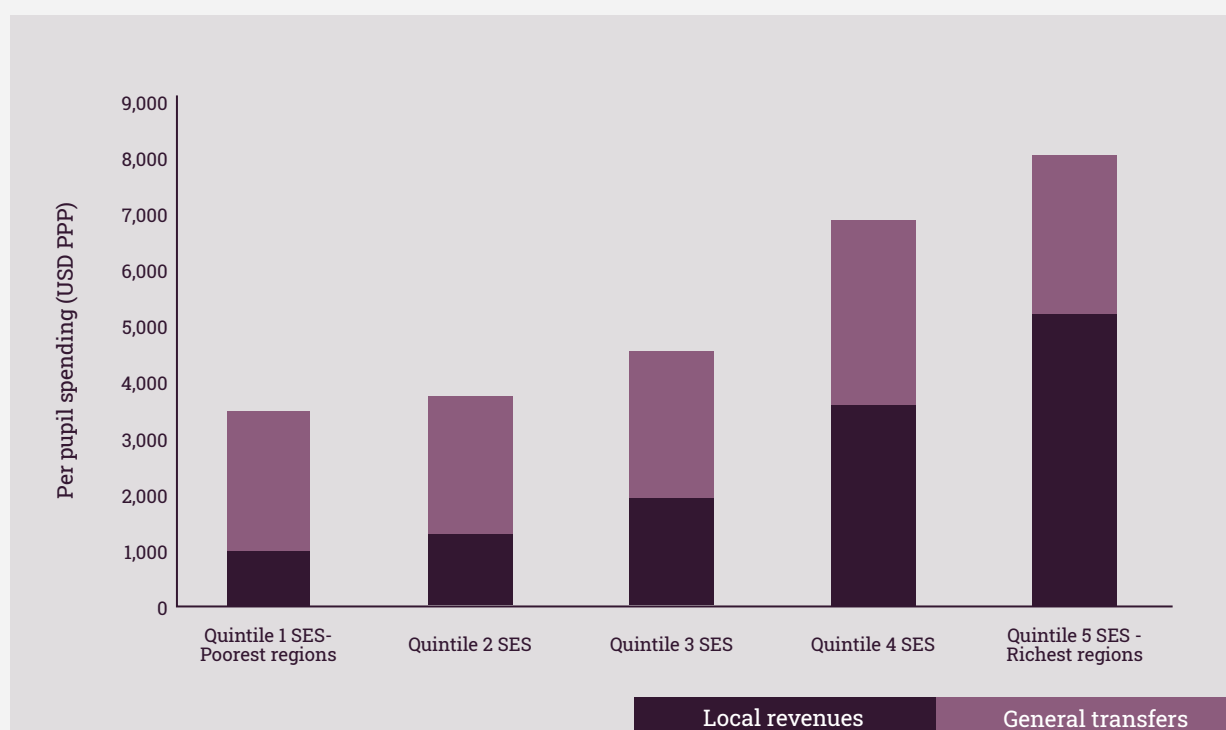


Figure 2. School funding inequality by revenue source and SES – Argentina, 2015

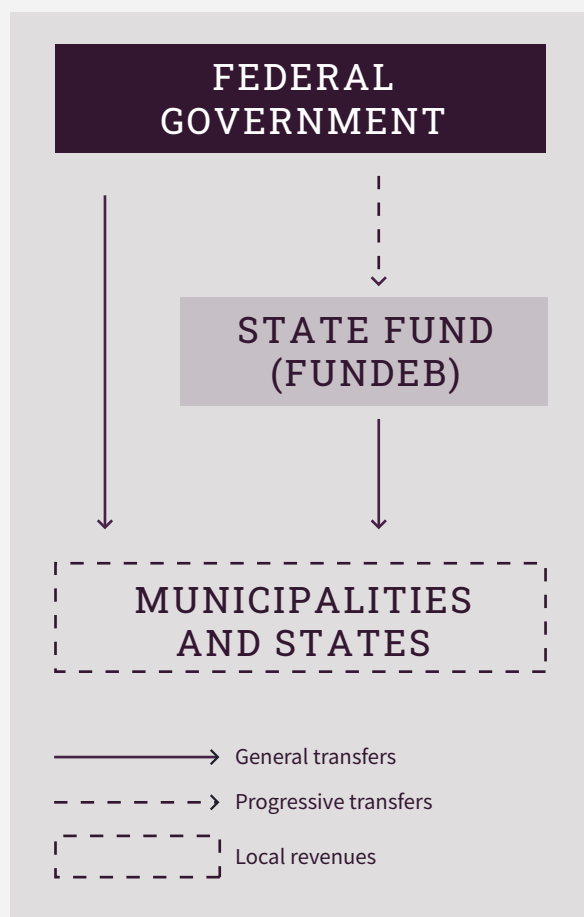


BRAZIL

In Brazil, municipalities and states are responsible for providing and financing k-12 education. The former are mostly in charge of pre-primary, primary, and lower secondary education, and the latter lower and upper secondary education. While municipalities and states can raise their own revenues, they also receive transfers from the federal government and from an inter-state fund known as FUNDEB, comprising state and municipal taxes that are distributed among the different school systems based on student enrollment. As FUNDEB revenues are collected and distributed within each state, funds are higher in a rich state like São Paulo than in a poorer one like Alagoas. Whenever the per pupil FUNDEB fund in a state does not reach a minimum

threshold determined at the national level, the federal government transfers additional resources, known as Complementação (supplementation). States and municipalities also receive federal transfers in the form of discretionary initiatives and educational programs, such as food and school transportation. Figure 3 shows how the different sources of funding are distributed among regions with higher and lower SES, where federal and FUNDEB transfers are classified as “General Transfers,” while the FUNDEB Complementação is labelled as “Progressive Transfers” because it targets poorer states.

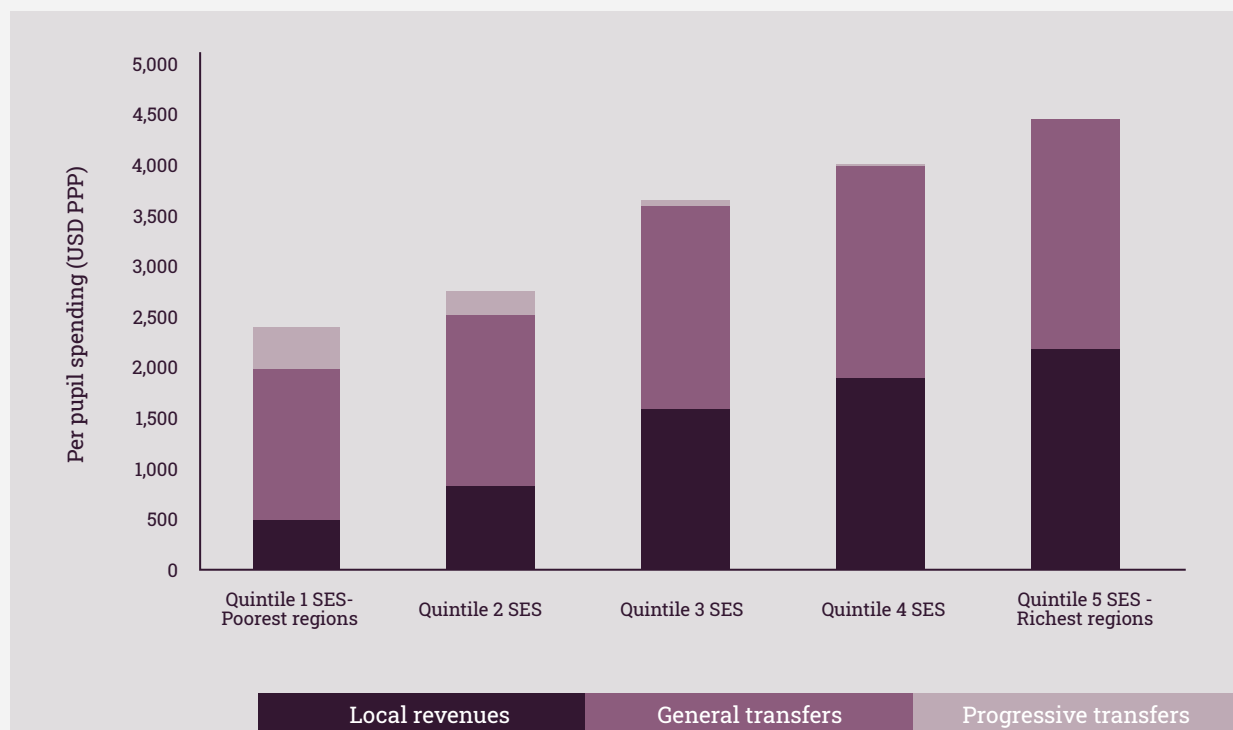
Results show that the regional inequality in school funding in Brazil is mainly caused by an unequal



distribution of local revenues from both states and municipalities, given that richer regions have greater fiscal capacity to invest in education.

General transfers, including FUNDEB, are also unevenly distributed. Indeed, being a state-specific fund, FUNDEB has a limited ability to reduce spending inequality among regions. Moreover, the design of the Fund, as well as that of other federal transfers (e.g., school food programs), give greater weight to enrollment in certain educational levels, such as preschool and secondary education, which are precisely those most sought by well-off families. Richer regions are also likely to have greater political influence, which may secure them more resources via discretionary federal transfers.¹⁹ In sum, Brazil's financing system appears to be regressive. Indeed, despite the fact that FUNDEB's *Complementação* is highly progressive, it only accounts for a small portion of total spending and is therefore insufficient to significantly reduce inequality between regions.

Figure 3. School funding inequality by revenue source and SES – Brazil, 2016



CHILE

Since 1980, Chile has financed two types of institutions with public funds through a voucher system: public schools, which are run by municipalities or by Local Educational Services (SLE), and private schools managed by private administrators but that receive public subsidies. The voucher system rests on a per capita funding formula at the school level, which provides a universal subsidy to public and private schools based on their student enrollment and attendance. This formula takes into account particular features of each school and the population it serves, such as education level, modality, geographic location, rurality, and special learning needs. Since the SEP law was enacted in 2008, schools also receive an additional transfer when they serve disadvantaged students. While joining SEP is voluntary, by 2015 virtually all public schools and 78% of the subsidized private institutions participated in the program and received the additional subsidy.²⁰

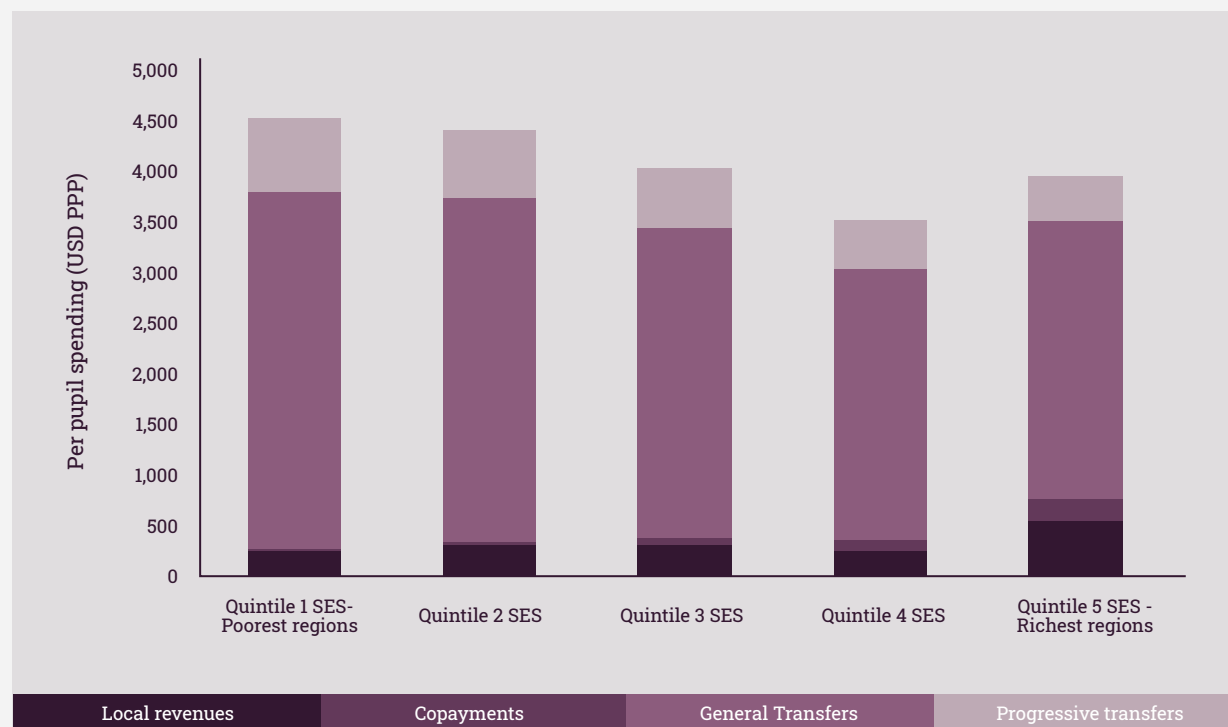
In addition to these central transfers, school administrators can raise education revenues using their own resources. Municipalities, for example, can tap their own local tax resources, which means richer municipalities can devote more revenues to education. Meanwhile, private schools can charge families an additional fee of up to \$100 a month in the form of copayment. However, the higher the copayment, the lower the per-pupil subsidy.²¹

As Figure 4 shows, Chile's school financing system manages to be progressive for the first four regional socioeconomic quintiles. It becomes more regressive for the highest income quintile as richer regions have access to more resources and are more likely to charge fees. In addition, since central government transfers are tied to attendance rates, higher SES



regions tend to receive more funding as they generally have higher attendance rates. For all of these reasons, while SEP transfers do play a key role in the system's progressiveness, they are not enough to make up for the territorial inequalities of the highest quintile.

Figure 4. School funding inequality by revenue source and SES – Chile, 2015



COLOMBIA

Colombia has established a General System of Participation (SGP) whereby the central government transfers resources to Certified Territorial Entities (ETCs). These transfers, primarily used to pay teaching and non-teaching personnel salaries, are determined through a formula that takes into account certain regional features, including the proportion of rural schools and the distribution of students in different school levels and types. A portion is channeled to those ETCs with fewer resources, thereby introducing an element of progressiveness into the system. Yet, this represents only a small part of the general SGP budget (about 6%). Moreover, funding is tied to each ETC's academic performance and, therefore, only the few regions with a low socioeconomic level but high school performance benefit from these progressive transfers. Another source of funding consists of *regalías*, or royalties, derived from the



extraction of natural resources such as oil and natural gas, which are transferred to the ETCs. Finally, ETCs can also raise revenues for education through local taxes.

For the purposes of this paper, we designate royalties, SGP revenues, and other types of central government transfers to local authorities as “general transfers.” Overall, general transfers

appear to be progressive. This is mainly due to the fact that the SGP transfers more resources to regions with a greater proportion of rural schools, and to those with a low socioeconomic level but high school performance. As Figure 5 illustrates, the school funding gap in favor of richer regions in Colombia can therefore be explained by the unequal distribution of local revenues.

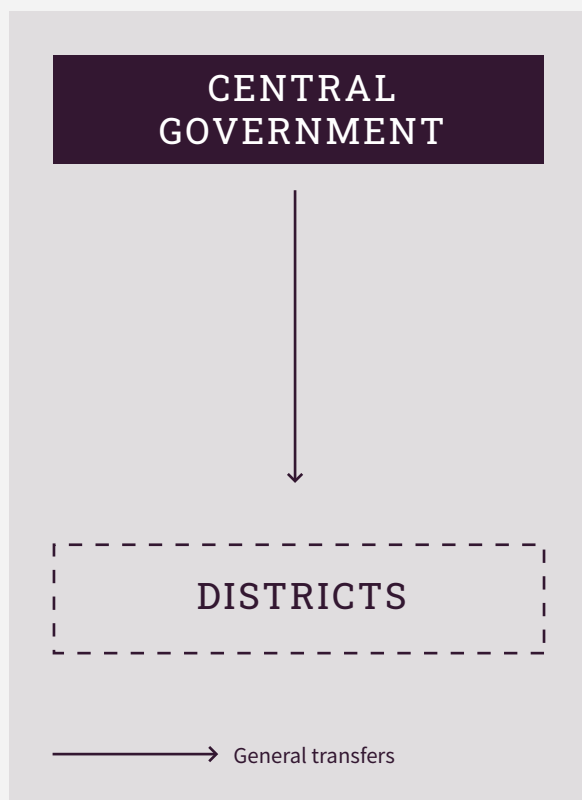
Figure 5. School funding inequality by revenue source and SES – Colombia, 2017



ECUADOR

In Ecuador, public schools are centrally financed through discretionary transfers, mainly based on historical criteria, to the Ministry of Education district-level offices. The districts are in charge of the operation of schools, including the managing and

financing of school personnel and the provision of educational resources. Additionally, the zones, or the intermediate level between the central government and the districts, are responsible for coordinating the school districts and providing

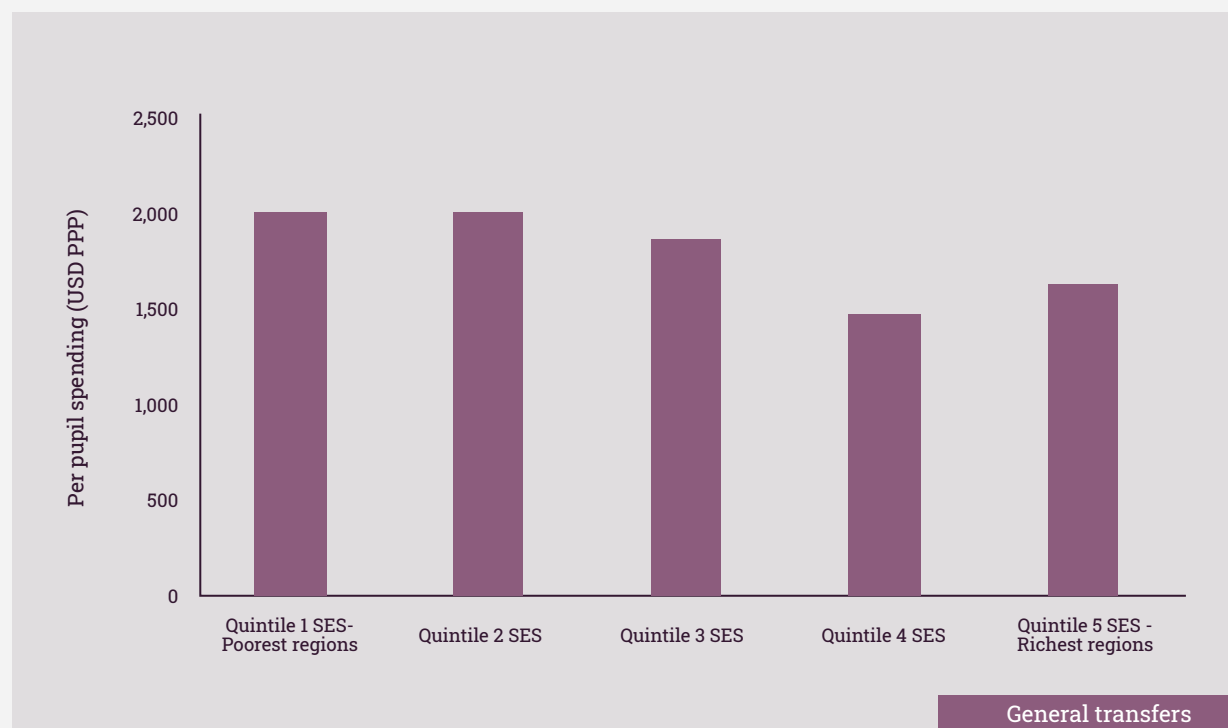


them with technical support.

While the government transfer of funds for education in Ecuador does not follow objective criteria, the hiring and assignment of teachers—i.e., the most expensive education input—is implemented using an "Optimal Staff" (Plantilla Óptima) approach, where the distribution of the teaching staff is determined by tangible measures such as class size, student-teacher ratios, and the number of teachers per specialty, among others. This method is not, however, institutionalized by law.

Figure 6 shows the distribution of general transfers across districts. We see that, in Ecuador, central government transfers to districts appears to be progressive, given that they favor lower SES regions, and benefit rural areas with more dispersed and isolated schools, helping to reduce the rural-urban educational gap.

Figure 6. School funding inequality by revenue source and SES – Ecuador, 2018



PERU

Like Ecuador, government transfers to fund public education in Peru are also discretionary, being based mainly on historical budget criteria. They depend mostly on the central government and are implemented by local Executing Units, which assign about 80% of the funds to non-teaching and teaching staff salaries. Local revenues account for less than 1% of public spending on education and are not considered here.

Peru presents a progressive distribution of school funding across regions with different SES. This progressiveness comes from the provision of monetary incentives to teaching and non-teaching staff who work in disadvantaged schools, particularly in rural areas and poorer zones.²² However, given that other expenditure items do not follow equity criteria, spending per student would turn regressive when controlling for other school characteristics, such as school size and the share of hours taught by temporary teachers.

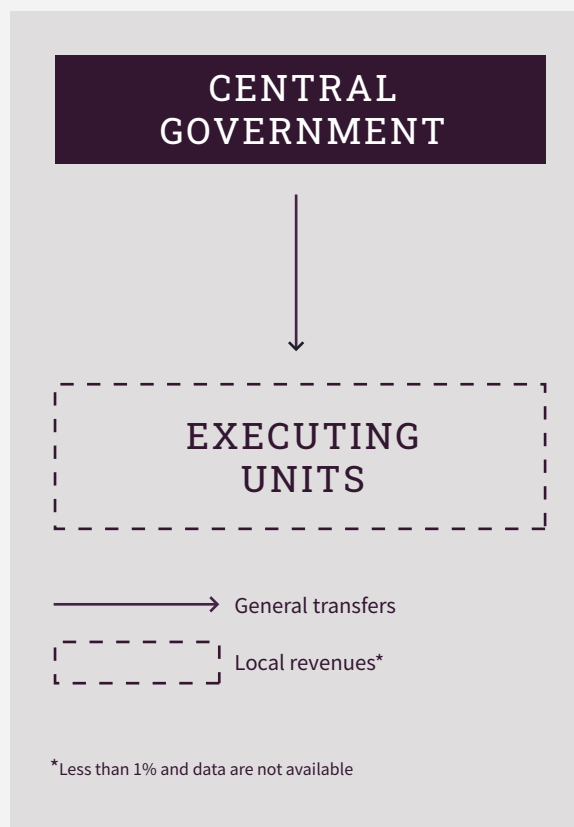
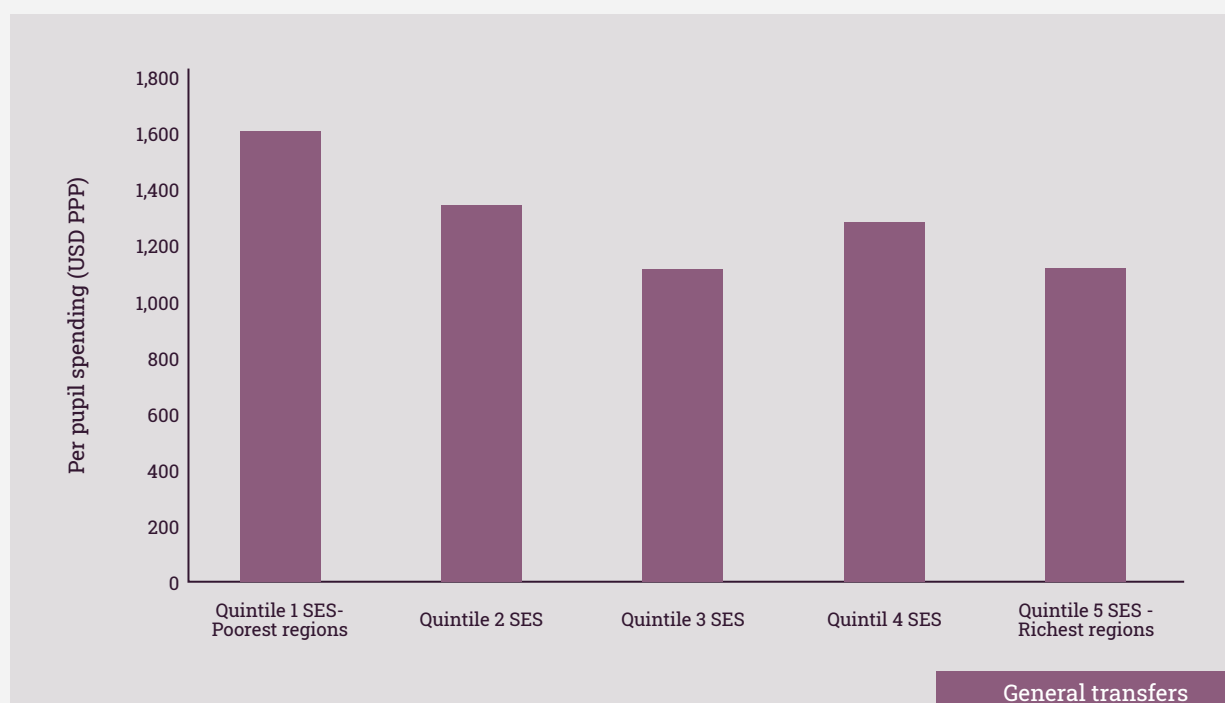


Figure 7. School funding inequality by revenue sources and SES – Peru, 2019



IS FUNDING DISTRIBUTED EVENLY AMONG SCHOOLS AND STUDENTS?

While the previous results help to understand how resources are distributed across regions, they may mask inequalities in per-pupil spending at the school level.

When, for example, the United States implemented Title I—a program that awards funds to districts with high child poverty rates—studies showed that the program’s resources were not, in fact, being used to benefit the most disadvantaged students as intended, leading the government to adopt more strict fiscal rules.²³ Recently, in an effort to unmask inequalities at the micro level, the *Every Student Succeeds Act* (ESSA) requires school districts in the United States to provide information on per-pupil spending at the school level. Local information on education spending in Latin American is, however, scarce. We address this gap by providing unique data on funding inequalities at the micro level for Chile and for the state of Pernambuco, Brazil.

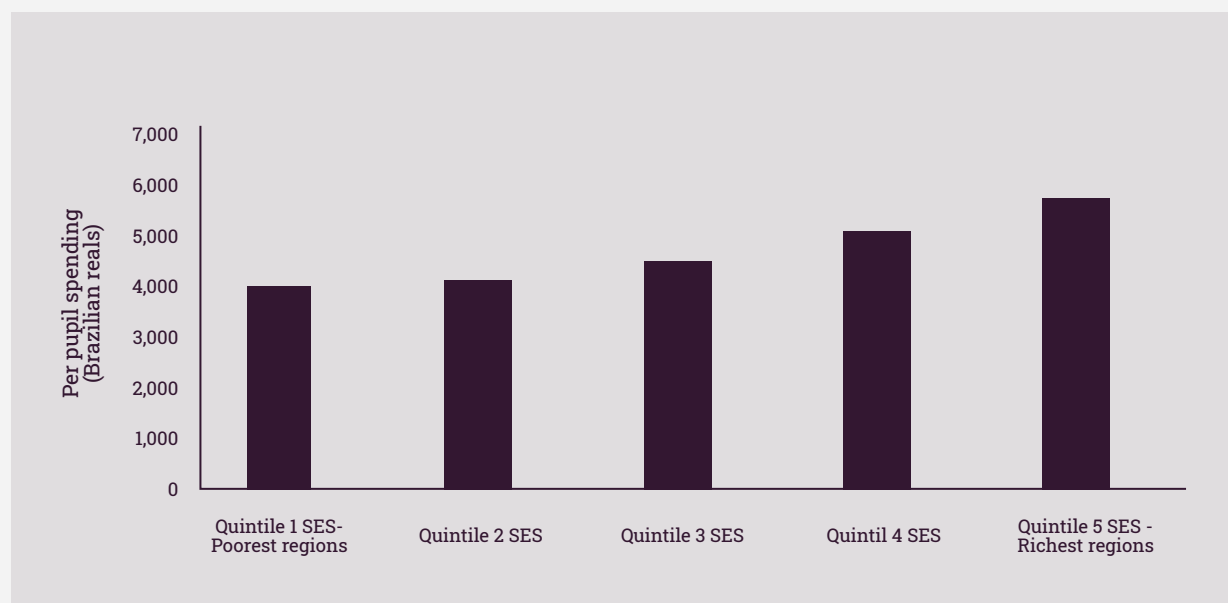
PERNAMBUCO

Despite being one of Brazil’s poorest states, in just one decade Pernambuco has made unprecedented progress in its educational indicators. Ranked 21 out of 26 states on the 2007 national standardized exam, it has since risen to the highest performing state and

displays the lowest dropout rates in secondary education. Yet, spending inequality between schools with differing SES remains a challenge in Pernambuco (see Figure 8), mostly because upper-income families favor prestigious full-time secondary schools, which offer longer school days, more skilled teachers, and better equipment.²⁴ Oftentimes, low SES children are forced to divide their time between school and work and are therefore unable to attend full-time schools. In addition, the expansion of full-time schools has taken place mostly in high SES areas. Care must be taken that these expansions are accompanied by careful educational planning in order to avoid school segregation and ensure improved access of vulnerable students to full-day institutions.

To improve the redistribution of school resources, the state of Pernambuco has developed, in partnership with the IDB, a cost monitoring system that provides detailed information on expenditures and budgets at the school level. In addition to improving transparency, it enables educational administrators to identify inefficiencies, such as the misassignment of teachers or waste of specific school supplies. For example, simulations show that addressing school water waste would save R\$ 5 million per year (approximately 36% of total annual spending on water).

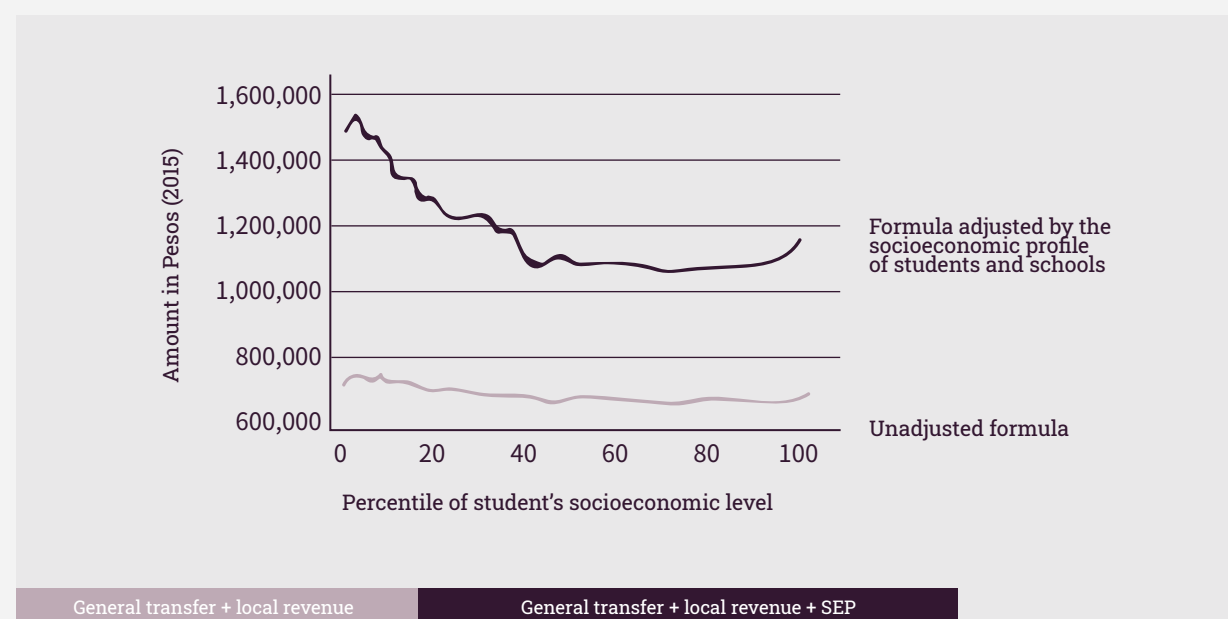
Figure 8. Funding inequalities between secondary schools – Pernambuco (Brazil), 2016



CHILE

Chile's SEP law provides a good example of how a progressive funding formula can help mitigate school financing inequalities. The educational spending distribution among students of differing SES has, in fact, become much more progressive since the law was enacted in 2008 (see Figure 9). This is due to two main factors: vouchers were increased for about 40% of the most disadvantaged segment of the population^{25 26} and an extra subsidy was transferred to schools with a larger concentration of vulnerable students.

Figure 9. Funding inequalities between students – Chile



FINAL CONSIDERATIONS

The scenario of economic crisis posed by the COVID-19 pandemic risks exacerbating existing inequalities in educational opportunities in the LAC region, unless these countries implement progressive, properly designed, and effectively evaluated financing policies. Based on a comparative analysis of data from Argentina, Brazil, Chile, Colombia, Ecuador, and Peru, this study offers several recommendations on how education school funding policies can either mitigate or aggravate these inequalities. More than ever, this crisis scenario requires progressive financing policies that promote a more equitable distribution of resources, benefiting the most vulnerable students. Such policies include, for example, funding formulas that

assign greater weights to low-income students; monetary incentives to attract more qualified teachers to disadvantaged schools; and compensatory subsidies to help reduce fiscal inequalities among different local governments and increase spending on underprivileged students. Moreover, these policies need to be transparent and institutionalized by law in order to ensure a sustainable progressive school funding system. Finally, it is important that progressive school funding policies create incentives for greater financing efforts to be directed towards the most disadvantaged students in order to promote their learning, thus contributing to narrow existing learning gaps.

NOTES

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² Bertoni, E., Elacqua, G., Hincapie, D., Méndez, C., & Paredes, D. (2019). Teachers' preferences for proximity and the implications for staffing schools: Evidence from Peru (No. IDB-WP-1073). IDB Working Paper Series; Marotta, L. (2019). Teachers' Contractual Ties and Student Achievement: The Effect of Temporary and Multiple-School Teachers in Brazil. *Comparative Education Review*, 63(3), 356-376.

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⁷ IDB Portal de Estadísticas del Centro de Información para la Mejora de los Aprendizajes (CIMA), 2018.

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¹⁰ Card, D., & Payne, A. A. (2002). School finance reform, the distribution of school spending, and the distribution of student test scores. *Journal of public economics*, 83(1), 49-82; Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2018). School finance reform and the distribution of student achievement. *American Economic Journal: Applied Economics*, 10(2), 1-26; Candelaria, C. A., & Shores, K. A. (2019). Court-ordered finance reforms in the adequacy era: Heterogeneous causal effects and sensitivity. *Education Finance and Policy*, 14(1), 31-60.

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¹³ Card, D., & Payne, A. A. (2002). School finance reform, the distribution of school spending, and the distribution of student test scores. *Journal of public economics*, 83(1), 49-82.

¹⁴ Baker, B. D. (2017). *How money matters for schools*. Palo Alto, CA: Learning Policy Institute.

¹⁵ For more details on data, methodology and bibliographical references, view the study by Bertoni, E.; Elacqua, G.; Marotta, L.; Martinez, M.; Santos, H.; Soares, S (2020): "Is School Funding in Latin America unequal? A Cross-country Analysis." IDB. Forthcoming.

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¹⁸ This analysis is based on the work of Baker and Corcoran (2012) in "The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending."

¹⁹ Callegari, C. D. O. (2020). Equidade educacional na Federação brasileira: o papel das transferências federais aos municípios (Doctoral dissertation).

²⁰ For vulnerable students to receive SEP funds, they must attend a SEP school.

²¹ Traditionally, only subsidized private institutions charge tuition fees to families, while public institutions can only charge fees in secondary education and with the prior consent of the parents. In mid-2015, new legislation established that state funding would replace school fees. In 2016, copayments were frozen at the 2015 level, and schools charging less than the annual increase in public spending per student were not allowed to continue charging fees. In 2015, there were 2,155 co-pay schools. Over the following three years, that number respectively decreased to 1,410; 1,283; and finally, to 1,037.

²² Bertoni, E., Elacqua, G., Hincapie, D., Méndez, C., & Paredes, D. (2019). Teachers' preferences for proximity and the implications for staffing schools: Evidence from Peru (No. IDB-WP-1073). IDB Working Paper Series.

²³ Cascio, E. U., Gordon, N., & Reber, S. (2013). Local responses to federal grants: Evidence from the introduction of Title I in the South. *American Economic Journal: Economic Policy*, 5(3), 126-59; Gordon, N., & Reber, S. (2015). The quest for a targeted and effective Title I ESEA: Challenges in designing and implementing fiscal compliance rules. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 1(3), 129-147.

²⁴ Elacqua, G., Soares, S., & Brant, I. (2019). Em busca de maior eficiência e equidade dos recursos escolares: Uma análise a partir do gasto por escola em Pernambuco. IDB Technical Note.

²⁵ Mizala, A., & Torche, F. (2013). ¿Logra la subvención escolar preferencial igualar los resultados educativos? *Espacio Público*, 9, 1-36.

²⁶ In order to qualify to receive the additional SEP funding, students need to meet the following criteria: a) be enrolled in the Chile Solidario Social Protection System, the Ethical Family Income Program, or the Safety and Opportunity Subsystem; b) be among the most vulnerable one-third of the population, according to the Households Social Registry record; c) belong to Segment A of the National Health Fund (FONASA); d) be considered vulnerable by the Social Protection Ministry based on household income, education level of mother, father or guardian, and the community's poverty level.