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From the Right to Education to the Distribution of Resources: Testing U.S. School Finance Equity Metrics in Mexico, Brazil and France

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Most national constitutions and international treaties guarantee a right to education, and the Committee on Economic, Social and Cultural Rights has warned that sharp geographic disparities in spending may constitute discrimination. Yet rights monitoring rarely tests whether resources within a country follow children's needs. U.S. school finance research offers a transferable method for doing so. A framework that moves from risk analysis (which conditions predict lower outcomes?) to spending analysis (do resources rise with those conditions?) to cost modeling is applied, with public data only, to Mexico's federally paid basic-education payroll, Brazil's municipal school networks and France's centrally allocated teaching hours in public lower-secondary schools. Within states or académies, resources at the 90th percentile of need are 0.77 times those at the 10th in Mexico, 0.96 in Brazil and 1.15 in France. Risk analysis is feasible in all three, but outcome data limit it in Mexico. Cost-based adequacy, the indicator most directly tied to rights, requires cost models that are feasible in Brazil, possible in France in teaching hours and not yet possible in Mexico. The paper proposes a minimum data standard for monitoring the equitable financing of the right to education.

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Abstract

Most national constitutions and international treaties guarantee a right to education, and the Committee on Economic, Social and Cultural Rights has warned that sharp geographic disparities in spending may constitute discrimination. Yet rights monitoring rarely tests whether resources within a country follow children's needs. U.S. school finance research offers a transferable method for doing so. A framework that moves from risk analysis (which conditions predict lower outcomes?) to spending analysis (do resources rise with those conditions?) to cost modeling is applied, with public data only, to Mexico's federally paid basic-education payroll, Brazil's municipal school networks and France's centrally allocated teaching hours in public lower-secondary schools. Within states or académies, resources at the 90th percentile of need are 0.77 times those at the 10th in Mexico, 0.96 in Brazil and 1.15 in France. Risk analysis is feasible in all three, but outcome data limit it in Mexico. Cost-based adequacy, the indicator most directly tied to rights, requires cost models that are feasible in Brazil, possible in France in teaching hours and not yet possible in Mexico. The paper proposes a minimum data standard for monitoring the equitable financing of the right to education.

Keywords: right to education; education finance; equity; adequacy; cost function; comparative education; Mexico; Brazil; France

JEL codes: I22, I24, I28, H52, H75, K38

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1. Introduction

The right to education is among the most widely codified social rights. It is guaranteed by Article 13 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) and Article 28 of the Convention on the Rights of the Child, and roughly four in five national constitutions protect it in some form (Heymann, Raub & Cassola, 2013; UNESCO, 2017). Much of the monitoring of that right concerns access: enrolment, completion and the removal of fees. Increasingly, however, attention has turned to finance. The Education 2030 Framework for Action asks governments to allocate at least 4–6% of GDP and 15–20% of public expenditure to education (UNESCO, 2015), and UNICEF (2023) estimates that across 102 countries the poorest fifth of learners benefit from only 16% of public education spending, against 28% for the richest fifth.

Aggregate benchmarks and benefit-incidence shares capture important dimensions of the financing of rights, but neither answers the question at the core of equal educational opportunity: are resources distributed in proportion to what children need to reach common goals? A country can meet the 4–6% benchmark while concentrating resources in its most advantaged regions, and an equal share of spending per child can be deeply unequal if some children face greater obstacles than others. The Committee on Economic, Social and Cultural Rights (CESCR) recognized this when it wrote that "sharp disparities in spending policies that result in differing qualities of education for persons residing in different geographic locations may constitute discrimination" (CESCR, 1999, para. 35). Turning that principle into evidence requires methods for measuring need, relating resources to it and estimating what equal opportunity would cost.

Such methods have been developed most fully in U.S. school finance, where state constitutional litigation over five decades created demand for them. Baker, Atchison and Levin (2026) codify them as a framework with two steps: evaluating the existing system through risk and spending analysis, and then estimating costs to calibrate funding formulas. A national indicator system, the School Finance Indicators Database (SFID), reports fiscal effort, cost-based adequacy and the progressivity of funding with respect to poverty for every U.S. state, drawing on a national education cost model (NECM) (Baker, Di Carlo & Weber, 2020; Baker, Weber & Srikanth, 2021).

This paper asks whether those tools can be used to monitor the equitable financing of the right to education outside the United States. It makes three contributions. First, it maps the obligations that international and national law attach to the right to education onto empirical questions that the framework can answer. Second, it presents proof-of-concept applications in three countries whose finance systems differ sharply from the U.S. model and from each other: Mexico, where the federal government pays most basic-education teachers; Brazil, where municipalities finance most preschool and primary schooling through state-level equalization funds; and France, where the national government allocates teachers to schools as teaching hours. Third, it assesses which components of the U.S. indicator system can be constructed from public data in each country and proposes a minimum data standard for monitoring.

2. From Rights to Testable Financing Obligations

2.1 International obligations

The ICESCR obliges states to take steps "to the maximum of [their] available resources" toward the progressive realization of the right to education (art. 2(1)), and to make primary education compulsory and free and secondary education generally available and accessible (art. 13). The CESCR's General Comment No. 13 interprets the right through four features, availability, accessibility, acceptability and adaptability, drawing on the work of Tomaševski (2001). It treats non-discrimination as an immediate obligation, not subject to progressive realization, and extends it to the distribution of spending across places (CESCR, 1999, paras. 31 and 35). The Convention on the Rights of the Child adds that states should make education available "on the basis of equal opportunity" (art. 28).

These provisions imply three distinct financing obligations. The first concerns the level of resources: whether a state devotes the maximum of its available resources to education and whether that level is sufficient for the education the right requires. The second concerns distribution: whether resources reach children in proportion to their needs, or at least do not systematically favor the advantaged. The third concerns independence from local wealth: whether a child's schooling depends on the fiscal capacity of the place where she lives. Rights-monitoring guidance has generally operationalized the second and third obligations through simple comparisons of spending per child across districts with different demographic compositions (Right to Education Initiative, n.d.). Such comparisons do not distinguish cost differences arising from scale, remoteness or labor markets from discrimination, and they do not ask how much more children with greater needs require.

2.2 National commitments in the three countries

Each of the three countries has written comparable obligations into its own law. Mexico's Constitution, as amended in 2019, provides that education shall be equitable and that the State will implement measures favoring the full exercise of the right and combating socioeconomic, regional and gender inequalities in access; it calls for actions to improve conditions in basic-education schools in highly marginalized areas (Constitución Política de los Estados Unidos Mexicanos, art. 3, sec. II(e)). Brazil's 1988 Constitution guarantees equal conditions of access and a standard of quality (art. 206), assigns the Union a redistributive and supplementary function to equalize educational opportunities (art. 211, §1) and, since Constitutional Amendment 108 of 2020, establishes a permanent equalization fund (FUNDEB) with the Custo Aluno Qualidade as the reference for a minimum quality standard (art. 212-A). In France, the Preamble of the 1946 Constitution guarantees equal access to instruction, and the Code de l'éducation provides that the distribution of the public education service's means takes account of differences in situation (art. L111-1). All three thus commit the state not only to provide education but to distribute it in a way that addresses inequality.

2.3 Translating obligations into tests

Table 1 maps these obligations onto empirical questions and onto the steps of the framework described in Section 3. Level obligations correspond to measures of effort and adequacy. Distributional obligations correspond to risk analysis, which identifies the children whose chances of reaching common goals are lowest,

Table 1. Financing obligations of the right to education and corresponding empirical tests

Obligation	Legal source (examples)	Empirical question	Framework step and metric
Maximum available resources	ICESCR art. 2(1); Education 2030 benchmarks	Does the state devote an adequate share of its capacity to education?	Effort: spending as % of GDP or of public expenditure
Non-discrimination; equal opportunity	ICESCR art. 13; GC 13 paras. 31, 35; CRC art. 28; Mexico art. 3	Which children face the greatest obstacles to common goals?	Step 1a: risk analysis; outcome gap by need
Equitable distribution	GC 13 para. 35; Brazil art. 211; France L111-1	Do resources rise with need, net of costs that are not need?	Step 1b: progressivity ratio (need p90 ÷ p10)
Independence from local wealth	Brazil art. 211–212-A (FUNDEB)	Does spending depend on local revenue capacity?	Step 1b: fiscal-neutrality elasticity
Adequacy and minimum quality	Brazil art. 212-A (CAQ); availability (GC 13)	Are resources sufficient to reach common goals, given need?	Step 2: cost model; spending ÷ cost

Note: GC 13 = CESCR General Comment No. 13 (1999); CRC = Convention on the Rights of the Child; CAQ = Custo Aluno Qualidade.

and to spending analysis, which tests whether resources respond. Obligations of independence from local wealth correspond to fiscal-neutrality analysis. Only cost modeling can show whether a given level and distribution of resources is sufficient.

3. Measurement Tools from U.S. School Finance

The framework of Baker, Atchison and Levin (2026) starts from the outcome goals a jurisdiction sets for all children and proceeds in two steps. In **Step 1a**, candidate measures of student and community need are tested for how strongly they predict lower outcomes (Outcomes = f(Needs, Context)), borrowing the logic of risk factors from public health. Measures intended for use in policy should come from audited public sources, be updated regularly and be predictive of outcomes. In **Step 1b**, current spending is related to need while controlling for cost factors that are not need, such as scale, grade range, remoteness and labor costs (Spending = f(Needs, Context)), and, for units with taxing authority, to local revenue capacity (Spending = f(Income, Tax price, Tastes)). In **Step 2**, a cost function (Spending = f(Outcomes, Needs, Context, Input prices, Efficiency)) estimates the spending required to reach target outcomes in each school or district, and a simpler weights model translates those costs into a funding formula.

The SFID applies parts of this framework annually to every U.S. state (Baker, Di Carlo & Weber, 2020). Its **effort** indicator is K–12 spending as a share of state economic capacity. Its **progressivity** indicator compares revenue predicted for a district with 30% child poverty with that predicted for a district with none, holding labor costs, density and size constant. Its **adequacy** indicator compares each district's spending with the cost, estimated by the NECM, of reaching national-average outcomes on a common achievement scale (Baker, Weber & Srikanth, 2021; Reardon, Kalogrides & Ho, 2021). In the most recent SFID-based calculations, enrolment-weighted spending across U.S. districts was 93% of the cost of national-average outcomes in 2024 and 79% in the highest-poverty fifth of districts; funding has been roughly neutral with respect to poverty on average, with high-poverty districts receiving less than low-poverty districts in more than half of states (Baker, Di Carlo & Weber, 2020; author's calculations).

Table 2. Finance architecture and data used in the three applications

	Mexico	**Brazil**	**France**
Scope	Public preschool, primary and lower-secondary schools (113,221)	Municipal school networks (5,560) and their schools	Public collèges, grades 6–9 (5,323)
Main payer of teachers	Federal government (FONE); states	Municipalities (FUNDEB and own revenue)	National government
Resource measure	FONE payroll per pupil by school, 2019–2023 (SEP)	Municipal basic-education spending per pupil, 2019–2023 (SIOPE)	Teaching hours per pupil, 2023–2025 (DEPP); département € per pupil (OFGL)
Outcomes	PLANEA school results, 2015–2019	SAEB school results, 2017–2023; approval rates	Brevet (DNB) results; national grade-6 tests
Need measures	Census 2020 locality measures; PLANEA family resources	School socioeconomic index (INSE); Cadastro Único poverty; Census 2022	School social position index (IPS); INSEE Filosofi; priority neighbourhoods
Cost factors	School size, modality, remoteness, state wages (ENOE)	Network and school size, distance, density, municipal wages	Collège size, special units, remoteness index
Revenue capacity	Not applicable to federal payroll	Tax and transfer revenue base per resident	Département revenue per resident

Note: SEP = Secretaría de Educación Pública; SIOPE = Sistema de Informações sobre Orçamentos Públicos em Educação; DEPP = Direction de l'évaluation, de la prospective et de la performance; OFGL = Observatoire des finances et de la gestion publique locales. Country details are reported in Baker (2026a, 2026b, 2026c).

These tools rest on features of U.S. districts that are uncommon elsewhere: local units that receive formula aid and raise some of their own revenue, report audited spending annually and administer assessments that can be linked to a national scale. Testing their transfer therefore requires cases that depart from those features in different ways.

4. Cases, Data and Methods

4.1 Three finance architectures

Mexico, Brazil and France were chosen for the diversity of their finance architectures rather than for regional representativeness (Table 2). In Mexico, most public basic-education teachers are paid through a federal payroll fund (FONE) by school and position, and states pay additional staff from their own budgets. In Brazil, the 5,570 municipalities operate most preschools and primary schools; they must spend at least 25% of their tax and constitutional-transfer revenue on education, a large share of which is pooled in a FUNDEB fund for each state, redistributed by weighted enrolment and topped up by federal complementation, including since 2021 a component (VAAT) targeted at networks with the lowest total resources per pupil. In France, the national government pays teachers on national scales and allocates them to académies and, through each rectorat, to lower-secondary schools (collèges) as weekly teaching hours; collèges in the priority-education networks (REP and REP+) receive additional hours. Départements own and operate collèges and fund their buildings, operating budgets and technical staff. All three are upper-middle- or high-income countries with national assessment systems, which makes them plausible tests of feasibility; lower-income systems would face additional constraints discussed in Section 7.

4.2 Methods

The same procedure was applied in each country so that differences in results reflect systems and data rather than methods. An outcome factor score was built from all available school-level outcome measures using Thurstone weights from a one-factor model. Candidate need measures were tested for univariate and incremental predictive power and their share of jointly explained variance (Shapley decomposition), and a composite need index was selected by forward selection on five-fold cross-validated R^2, with folds grouped by locality, municipality or commune. The index is the standardized, reversed prediction of the selected model.

Resources were then regressed, with pupil weights and clustered standard errors, on the need index in four specifications: need with grade level or mix and year (S1); adding size (S2); adding remoteness and, where teachers are paid on local labor markets, a wage index (S3); and adding state or académie fixed effects (S4), which restrict comparisons to units within the same jurisdiction. The principal summary is the ratio of predicted resources at the 90th to the 10th pupil-weighted percentile of need, with other covariates at their means: values above one indicate progressive distribution and values below one regressive distribution. Where the unit has taxing authority (Brazilian municipalities and French départements), spending was also regressed on revenue capacity. National effort was taken from World Bank and UNESCO Institute for Statistics data.

Use of AI tools. Identifying and assembling the data was assisted by Claude (Anthropic), a large language model, used with web search and code execution. Claude was used to search for public sources of school- and network-level outcome, need, spending and cost-factor data in each country. It wrote scripts that retrieved and compiled files from government portals, including SEP, INEP, SIOPE, DEPP, INSEE and OFGL. It also assessed candidate sources for coverage, unit of observation, years available and consistency of definitions over time. The author selected the sources used, specified all models, and reviewed the code and results; Claude also wrote and ran analysis code under the author's direction, and the scripts are included in the replication package.

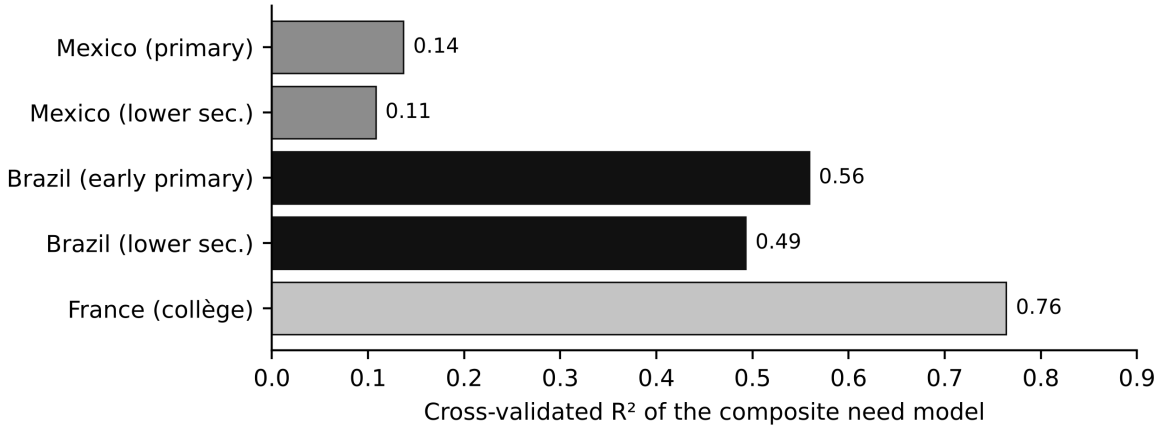
5. Proof-of-Concept Results

5.1 Who faces the greatest obstacles?

In all three countries, the strongest predictors of lower outcomes are measures of the socioeconomic composition of a school's own pupils: family resources reported in PLANEA questionnaires in Mexico (R^2 0.20 in primary schools), INEP's school socioeconomic index in Brazil (0.51 in early primary) and the Ministry's social position index in France (0.76). Community poverty measures follow: the share of the municipal population registered as poor in Brazil's Cadastro Único (0.36) and commune poverty in France (0.38). In Brazil, racial composition adds independent predictive power after poverty is accounted for.

The precision with which risk can be measured differs more than its structure (Figure 1). Brazil's and France's census-based assessments yield school outcomes that are highly consistent across years and components (factor loadings of 0.80–0.95), and the composite need models predict 49–76% of out-of-sample variation. Mexico's PLANEA results load only 0.5–0.7 on a common factor and were discontinued after

Figure 1. Out-of-sample predictive power of composite need models



Note: Cross-validated R², five folds grouped by locality (Mexico), municipality (Brazil) or commune (France).

2019, and the need models predict 11–14% of out-of-sample variation. Where outcome data are strong, the gaps are large: schools at the 90th percentile of need score about two standard deviations below those at the 10th in Brazil and about three in France, a gap already visible in French national tests at entry to lower-secondary school.

5.2 Do resources follow need?

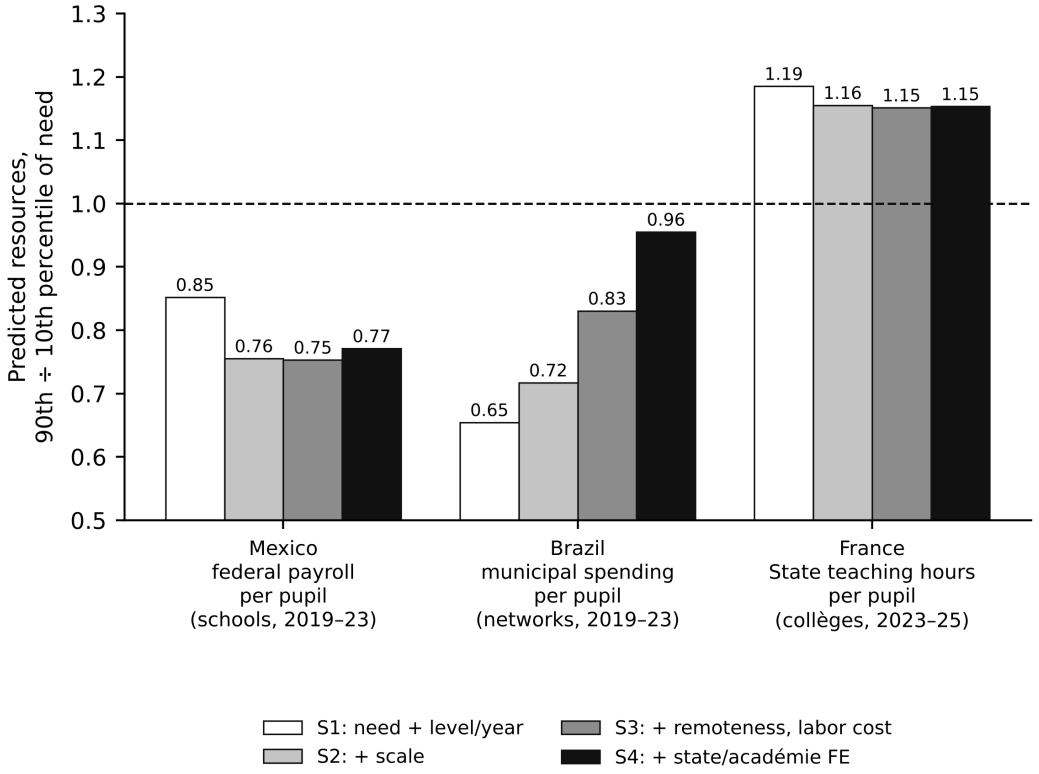
Figure 2 reports progressiveness ratios across the four specifications. The three systems span the range from regressive to progressive.

Mexico. Federal payroll per pupil is regressive in every specification: 0.85 with only level and year held constant, and 0.75–0.77 once school size, remoteness, wages and state are accounted for. Small rural schools receive more payroll per pupil because they are small, which masks the regressive pattern in raw comparisons. No state is progressive, and the highest-need state, Chiapas, has the lowest payroll per pupil in the country. The constitutional instruction to favor highly marginalized schools is not visible in the distribution of the largest federal education transfer.

Brazil. Municipal spending is sharply regressive nationally (0.65) but close to neutral within states (0.96). State averages of need and spending per pupil are strongly negatively correlated ($r = -0.78$): municipal networks in São Paulo spend about 45% more per pupil than the national average, and those in Maranhão, Amazonas, Alagoas and Pará 25–30% less. FUNDEB's equalization within states removes much of the within-state regressivity, and within-state neutrality improved after the 2021 reform introduced VAAT complementation, but the system does not yet direct more resources to higher-need networks.

France. State-allocated teaching hours are progressive: collèges at the 90th percentile of need receive 1.15 times the hours per pupil of those at the 10th, both nationally and within académies. Most of this differential is delivered through the REP and REP+ labels, which add about 9% and 13% to hours beyond what continuous need predicts. The labels, drawn in 2015, cover 95% of collèges in the highest tenth of need but only 64% in the ninth and 27% in the eighth, so many disadvantaged collèges receive ordinary allocations.

Figure 2. Ratio of predicted resources at high (90th percentile) to low (10th percentile) need



Note: Log models; other covariates at pupil-weighted means. Mexico: 627,124 school-years; Brazil: 27,718 network-years; France: 15,940 collège-years.

Table 3. National effort and outcomes

	Education spending, % of GDP	Education spending, % of public expenditure	GDP per capita, PPP $ (2025)	PISA 2022 mathematics
Mexico	4.1	14.2	25,900	395
Brazil	5.6	12.9	23,400	379
France	5.3	9.1	64,000	474
United States	5.4	11.3	90,000	465
Education 2030 benchmark	4–6	15–20	—	—

Sources: World Bank, World Development Indicators (SE.XPD.TOTL.GD.ZS, SE.XPD.TOTL.GB.ZS, NY.GDP.PCAP.PP.CD), latest year 2021–2022, accessed October 2026; OECD (2023); UNESCO (2015).

Between académies, hours generally rise with need, but Mayotte, the highest-need académie, receives only the national average.

5.3 Quantity and price of staff

Decomposing resources shows that the mechanisms differ as well as the levels (Figure 3). In Mexico, high-need schools have fewer staff per pupil (0.81) and slightly lower pay per worker (0.95). In Brazil, teachers per pupil are nearly equal within states (0.95), but teacher pay standardized to 40 hours is lower in high-need networks (0.74 nationally and 0.89 within states). In France, where pay is set nationally, differentiation takes the form of smaller groups, about 11% smaller in high-need collèges, with nearly the same instruction time per pupil. For rights monitoring the distinction matters: allocation formulas govern quantities, while pay scales and assignment rules govern prices. In France, where teachers in priority-education schools are on average less experienced and more often on contract (Cour des comptes, 2018), progressivity in hours likely overstates progressivity in euros.

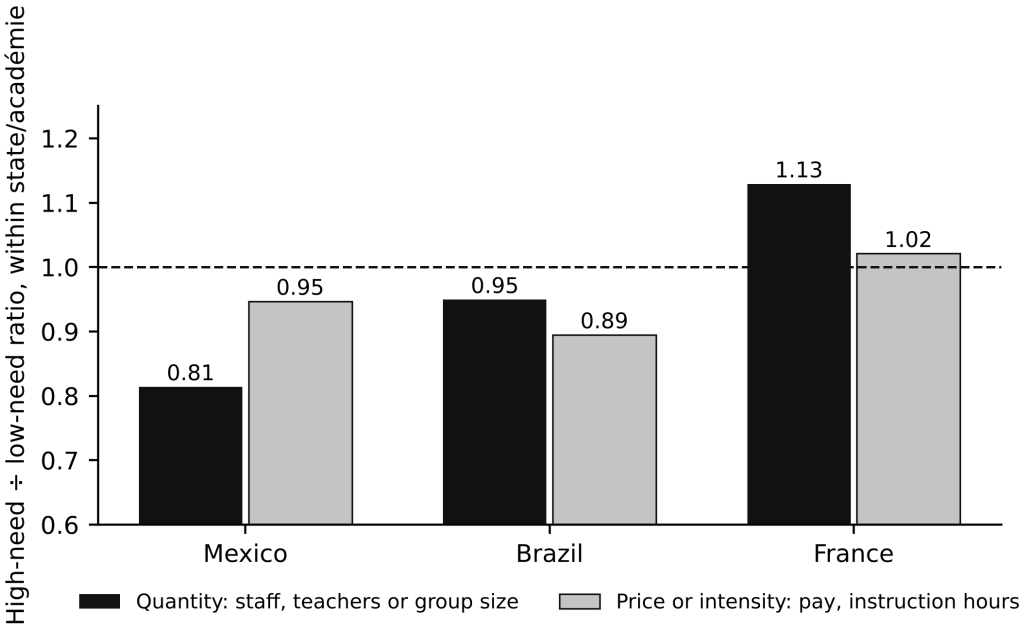
5.4 Independence from local wealth

Fiscal-neutrality analysis applies only where a unit raises revenue. Among Brazilian networks in the same state with similar need, size, remoteness and wages, 10% more tax and constitutional-transfer revenue per resident is associated with about 2.6% more spending per pupil (elasticity 0.26, standard error 0.025): the portion of municipal revenue outside FUNDEB keeps spending tied to local capacity. French départements spend about €1,640 per collège pupil per year, roughly a sixth of total spending per collège pupil. This spending varies by a factor of 2.1 between the 90th and 10th percentiles but is related neither to need ($r = -0.10$) nor to département revenue. In Mexico the test does not apply to the federal payroll, though it would apply to state-financed staff.

5.5 Effort

Measured against the Education 2030 benchmarks, all three countries fall within the range of 4–6% of GDP (Table 3): Brazil and France devote around 5.5%, similar to the United States, and Mexico 4.1%. None reaches the benchmark of 15–20% of public expenditure; Mexico comes closest at 14%, while France, with a large public sector, devotes 9%. These differences in effort bear no relation to the differences in distribution reported above, which illustrates why effort cannot stand in for distributional analysis.

Figure 3. Quantity and price components of differentiation by need, within states or académies



Note: Mexico: staff per pupil and payroll per worker; Brazil: teachers per pupil and teacher pay standardized to 40 hours (2021); France: inverse of pupils per teaching group and weekly instruction hours per pupil.

Table 4. Feasibility of framework steps and indicators with public data

Step or indicator	Mexico	Brazil	France
Effort (national)	Feasible	Feasible	Feasible
1a. Risk analysis	Feasible but weak (outcomes noisy, discontinued)	Feasible, strong	Feasible, strong
1b. Progressivity	Feasible for federal payroll by school	Feasible for municipal networks	Feasible in hours by collège; € for départements
1b. Fiscal neutrality	Not applicable (federal payroll)	Feasible	Feasible (départements)
2. Cost model and adequacy	Not currently feasible	Feasible at network level	Feasible in hours; € needs salary data

6. What Can Be Measured: Feasibility of the U.S. Indicators

Table 4 summarizes the feasibility of each step of the framework and of each U.S. indicator. Three conclusions stand out.

First, the framework's logic transfers more readily than U.S. indicator definitions. The SFID progressivity measure assumes a single poverty measure and fixed poverty reference points, and adequacy assumes a national cost model. The framework requires only that need be measured by its relationship to outcomes and resources by the mechanism through which they are allocated. With those adaptations, Step 1 was feasible in all three countries.

Second, the resource metric must follow the allocation mechanism. In Mexico the allocation unit is a position in a school, in Brazil a municipal budget and in France an hour of teaching. Each is the dominant

Table 5. A minimum data standard for monitoring the equitable financing of the right to education

Element	Minimum	Preferred
Unit	Level at which resources are allocated	School, nested in the allocating unit
Resources	Dominant resource stream at that level	All current spending by source and function
Outcomes	Census-based achievement, two grades, school level	Annual results on a common scale; attainment
Needs	School socioeconomic composition; community poverty	Student-level poverty, language, disability
Cost factors	Size; remoteness	Comparable-wage index; staff pay and experience
Capacity	Revenue base of units with taxing authority	Income, tax base and tax rates
Continuity	Three years	Ten years or more, consistent definitions

resource stream in its system, but none is the whole, and rights monitoring that relies on a single aggregate figure misses the stream where inequity originates.

Third, cost-based adequacy, the measure that most directly addresses whether resources are sufficient to fulfil the right, requires a cost model, and its feasibility varies. Brazil is closest: SIOPE provides audited annual spending by network, SAEB provides school outcomes on a common scale and INSE and the Cadastro Único provide strong need measures; the VAAT threshold introduced in 2021 could identify the effect of spending on outcomes. France could estimate costs in teaching hours, using the 2015 priority-education thresholds for identification, but converting hours into euros would require school-level data on teacher pay. Mexico would need resumed national assessment with school results and a fuller spending measure.

Table 5 proposes a minimum data standard that would allow rights-monitoring bodies and finance ministries to apply the framework.

7. Discussion

7.1 Implications for rights monitoring

Rights-monitoring practice has relied on aggregate effort benchmarks, benefit incidence and simple comparisons of spending per child across places. The applications here show what a need-based approach adds. All three countries meet or approach the Education 2030 effort benchmarks, yet their distributions range from clearly regressive to modestly progressive. Raw per-child comparisons would have misjudged Mexico, where the extra payroll per pupil of small rural schools hides a regressive pattern, and could not have distinguished Brazil's between-state inequity from its within-state neutrality. Risk analysis also identifies which children the non-discrimination obligation should protect, using measures with demonstrated predictive validity rather than administrative categories alone.

The results also connect directly to the CESCR's concern with geographic disparities. In Brazil, the largest inequities are between states, which only federal action can address; in Mexico, the federal payroll itself is regressive; in France, the national allocation is progressive but leaves the highest-need territory, Mayotte, with average resources. In each case, the level of government responsible for the inequity is identifiable from the gross and within-jurisdiction ratios, which is a precondition for accountability.

7.2 Labels, thresholds and continuous need

Two of the systems target additional resources through categories: priority-education labels in France and eligibility thresholds in Brazil. Categorical targeting is administratively simple, but it creates cliffs at the threshold, and labels drawn at one point in time drift away from need. Continuous need indices built in Step 1a offer an alternative, and the predictive power of ministry-built socioeconomic indices in Brazil and France suggests that such indices are practical. Because ministries construct these indices from administrative data, their use in allocation should be accompanied by safeguards against manipulation and by periodic validation against outcomes.

7.3 Transfer to lower-income systems

The three cases are middle- and high-income countries with national assessments and public financial reporting. In many lower-income countries, school-level outcome data are absent or sample-based, spending is not reported below the national or regional level, and household contributions finance a large share of schooling. In such settings, the framework's first step can still begin with the data available: household surveys can support risk analysis at the district level, and teacher payroll and deployment records, often the largest resource stream, can support spending analysis as Mexico's FONE payroll did here. Input-based national cost benchmarks, such as the minimum education package costs estimated for 162 countries by Baker, Angel-Urdinola and Zhorayev (2026), can establish whether aggregate resources are sufficient while distributional analysis is developed.

7.4 Limitations

The analyses are descriptive and rely on the dominant public resource stream in each country rather than total spending. The need indices are country-specific, so progressiveness ratios compare positions within each country's distribution of need, not identical circumstances across countries. Private schooling, which enrols a substantial share of pupils in all three countries, lies outside the analysis even though it shapes the concentration of need in public schools. The U.S. reference values come from different units and years. Cost models, which would establish adequacy, were assessed for feasibility but not estimated.

8. Conclusion

A right to education that includes equal opportunity implies obligations about the distribution of resources as well as their level. Methods developed in U.S. school finance can turn those obligations into evidence: identifying the children who face the greatest obstacles, testing whether resources follow them and, where data allow, estimating what equal opportunity would cost. Applied with public data in three very different systems, the first steps of that approach show that national effort benchmarks can be met while resources flow away from need (Mexico), that equalization within subnational units can coexist with large inequities between them (Brazil) and that progressive central allocation can still leave gaps at the edges of categorical targeting and in the highest-need territories (France). Extending cost-based adequacy measurement to such systems, beginning where the data are strongest, would give the right to education measurable content in the domain where it is most often unrealized: the distribution of public resources.

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