Risk and Resources in French Public Collèges

Which needs predict lower outcomes, and do State-funded teaching resources follow them?

Bruce D. Baker · University of Miami · October 2026

Summary

This report applies the first step of the framework for evaluating and reforming education finance systems (Baker, Atchison & Levin, 2026) to France, following parallel analyses of Mexico and Brazil. **Risk modeling** identifies which measurable characteristics of pupils and communities most strongly predict lower outcomes. **Resource modeling** asks whether resources are greater where those risks are concentrated, after accounting for cost factors that are not need: school size, special units and remoteness. France has no open school-level spending data. However, the State pays teachers on national salary scales and allocates them to schools as weekly teaching hours, and the Ministry publishes those hours per pupil (H/E) for every public collège. The analysis therefore measures the dominant component of collège resources in hours rather than euros. It covers about 5,300 public collèges (lower secondary, grades 6–9) from the 2023 to 2025 school years. Département spending on collèges, the second layer of finance, is analyzed separately.

- **Pupils' social background dominates risk.** The Ministry's social position index (IPS) of each collège's intake alone explains 76% of the variation in a collège outcome index combining brevet (DNB) results and grade-6 entry tests. Collèges at the 90th and 10th percentiles of need differ by about 3.0 standard deviations in outcomes. Their average brevet written score is 8.7 against 12.4 out of 20.
- **State teaching resources are progressive.** Holding size, special units and remoteness constant, collèges at the 90th percentile of need receive 1.15 times as many teaching hours per pupil as collèges at the 10th, and the ratio is the same within académies (1.15). For a 400-pupil collège the difference is about 67 weekly teaching hours, or 3.7 full-time teachers.
- **The extra hours buy smaller groups.** Pupils in high-need collèges are taught in groups averaging 21.9 pupils, against 24.7 in low-need collèges. The weekly instruction each pupil receives is nearly the same.
- **Progressivity runs through the éducation prioritaire label, with steps rather than a slope.** REP collèges receive about 9% and REP+ collèges 13% more hours than otherwise similar collèges. Outside the label the gradient with need is much flatter. In 2025, 27% of collèges in the eighth tenth of need and 64% in the ninth were in the network, so many disadvantaged collèges receive ordinary allocations.
- **Between académies, the highest-need territories are not all served.** Académie hours rise with need in metropolitan France, but Mayotte, the highest-need académie, receives only the national average number of hours per pupil (1.18), and its collèges are not differentiated by need.
- **The département layer is unequal and need-blind.** Département spending on collèges averaged €1,641 per pupil in 2020–2025. It ranges by a factor of 2.1 between the 90th and 10th percentiles and is unrelated to collège need (r = -0.10) and to département revenue.

Hours are not euros. Teachers in high-need collèges are on average less experienced and more often on contract, which lowers the salary cost of each hour. REP+ weighting of teaching hours and priority-education

allowances raise it. The hours-based ratios are therefore a good guide to the allocation of teaching positions but not an exact measure of spending.

1. Framing: Equal Opportunity, Risk and Resources

1.1 The purpose of a school finance system

This report starts from the purpose of school finance systems as Baker, Atchison and Levin (2026) define it: to deliver the resources schools need to give every child an equal opportunity to achieve common, adequate outcome goals. **Equal opportunity** holds when children's chances of reaching common goals do not depend on their backgrounds or where they attend school. **Adequacy** holds when those goals are high enough for children to become productive, self-determined and civically engaged adults. The two objectives are separable, and equal opportunity can be pursued even where adequacy goals are loosely defined or unfunded. The framework rests on the now well-established evidence that money spent on schooling affects children's achievement, attainment and later-life outcomes (Baker & Knight, 2025; Jackson & Mackevicius, 2024).

1.2 From spending parity to equal opportunity

Early school finance standards focused on fiscal neutrality, the principle that the quality of a child's education should not depend on local wealth (Coons, Clune & Sugarman, 1969), and on horizontal and vertical equity, the equal treatment of equals and unequal treatment of unequals (Berne & Stiefel, 1984). As common standards and assessments spread, attention shifted to outcomes (Clune, 1994; Underwood, 1994). Critiques of those frames showed that measured horizontal equity penalizes differentiation, that vertical equity requires arbitrary categories, and that minimal adequacy leaves those who receive only the minimum at a positional disadvantage (Koski & Reich, 2006; Baker & Green, 2008, 2012). The unified framework treats the common outcome goals as the point of equal treatment. Children expected to meet the same standards are similarly situated with respect to them, and equal opportunity requires differentiating resources by the obstacles they face. A group whose chances of meeting common goals are systematically lower has a claim on additional resources, and the evidence for that claim is the relationship between the group's characteristics and its outcomes.

1.3 France's commitments and finance system

The Preamble of the 1946 Constitution, part of the current constitutional order, provides that the Nation guarantees equal access of children and adults to instruction and that free, secular public education at all levels is a duty of the State. The Code de l'éducation (art. L111-1) adds that the distribution of the public education service's means takes account of differences in situation, particularly economic and social ones. French law thus names both a common standard (the socle commun of knowledge, skills and culture assessed at the end of collège through the brevet) and an explicit principle of differentiated resources.

The finance system differs from Mexico's and Brazil's in ways that shape the analysis. The State recruits and pays teachers on national statutory scales, so there is no local labor-cost variation to adjust for, except overseas allowances. Each year the Ministry distributes teaching hours to académies, and each rectorat allocates a global hours endowment (DGH) to its collèges, largely according to the number of classes, with supplements for priority education and other needs. Since 2015 the éducation prioritaire map has distinguished about 1,090 collèges in REP and REP+ networks. These receive additional hours and smaller classes, and their staff receive annual

allowances (about €1,734 in REP and up to €5,816 in REP+); in REP+ collèges each teaching hour counts as 1.1 hours of service (Ministère de l'Éducation nationale, Eduscol). Départements, under the decentralization laws, own and maintain collèges, fund their operating budgets, catering and technical staff, and contribute to private collèges under contract. About a fifth of collège pupils attend private schools under contract, whose teachers are also paid by the State. Spending on these schools is not analyzed here.

1.4 Risk and resource analysis

- **Step 1a: risk (needs) analysis.** Construct a comprehensive outcome measure and test which candidate measures of pupil and community need most strongly predict lower outcomes: Outcomes = f(Needs, Context). Measures must be consistently available across schools and years and usable in policy.
- **Step 1b: spending analysis.** Relate current resources to need while accounting for contextual cost factors such as scale and remoteness: Resources = f(Needs, Context). A system in which resources rise with need is progressive; one in which they fall is regressive. In France the resource measure for the State layer is teaching hours per pupil. For the département layer, it is spending per pupil, for which a fiscal-neutrality test relating spending to département revenue is also reported.

Step 2, cost modeling and the translation of costs into allocation weights, is left for subsequent work.

1.5 Data

Table 1. Data sources

Domain	Source	Level / years	Use
Outcomes	DEPP indicateurs de valeur ajoutée des collèges (DNB)	Collège; sessions 2023–2025	Written score, pass rate, mentions
Outcomes	DEPP national evaluations at entry to 6e	Collège; 2022–2024	French and maths mean scores
Pupil SES	DEPP indice de position sociale (IPS)	Collège; 2016–2025	Need measure
Enrolment and units	DEPP effectifs des collèges; éducation prioritaire	Collège; 2019–2025	Size, SEGPA, ULIS, REP/REP+
Teaching resources	DEPP H/E and E/S indicators (public sector)	Collège; rentrée 2023–2025	Hours per pupil; pupils per group
Location	DEPP remoteness index; QPV and zoning; geolocation	Collège	Context and need measures
Community	INSEE Filosofi 2021	Commune, département	Poverty rate, median living standard
Département spending	OFGL functional accounts (function 221, collèges)	Département; 2020–2025	Spending per pupil; revenue

Note: All data are open data from data.education.gouv.fr, insee.fr and data.ofgl.fr, retrieved October 2026. School years are identified by the autumn of entry (rentrée); DNB session t+1 is assigned to rentrée t.

2. Risk Modeling

2.1 The outcome factor score

Outcomes are summarized in a collège outcome factor score. It combines five components, each standardized within year and averaged over 2022–2024: the mean brevet written-exam score, the brevet pass rate, the share of candidates earning a mention bien or très bien, and mean scores in

French and mathematics on the national tests taken at entry to sixth grade. The entry tests measure the attainment of the pupils each collège serves when they arrive, so the index describes the outcomes of a collège's pupil population rather than the collège's own contribution. The rate of access from sixth to ninth grade loads weakly (0.38) and is excluded. Weights are Thurstone factor-score weights from a one-factor model on the correlation matrix.

Table 2. Outcome factor score: components, loadings and weights

Component	Factor loading	Score weight	Collèges
DNB written exam score	0.95	38.3%	5,296
DNB pass rate	0.80	5.8%	5,296
DNB mentions bien/très bien (%)	0.92	23.0%	5,296
Grade 6 entry test, French	0.86	3.1%	5,322
Grade 6 entry test, maths	0.91	29.7%	5,322
Access rate 6e→3e	0.38	excluded	5,288

Note: Public collèges with a published IPS. Index available for 5,296 collèges. The equal-weight version correlates 0.99 with the factor version.

2.2 Candidate need measures

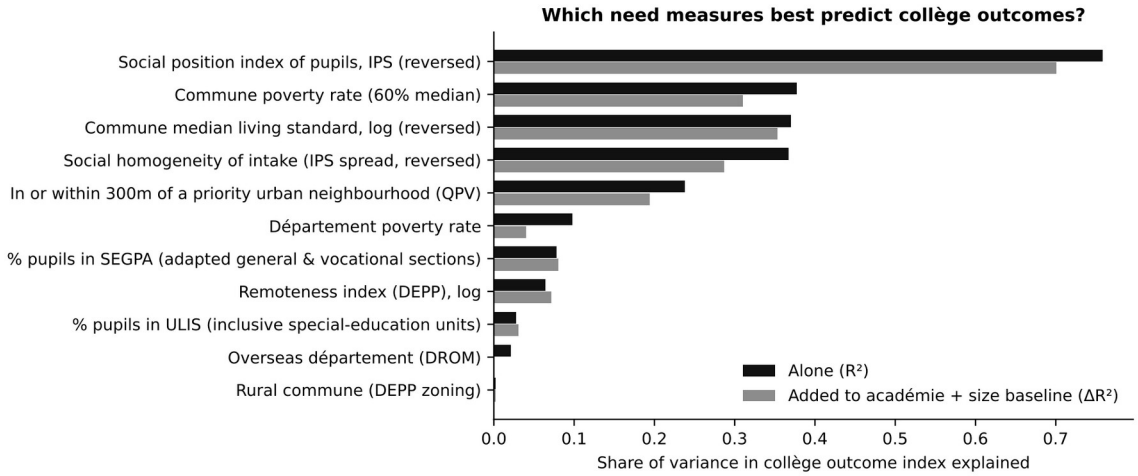
Candidate measures include the collège's IPS (the mean social position of pupils' families, derived from parents' occupations) and its spread, the shares of pupils in SEGPA (adapted sections for pupils with persistent learning difficulties) and in ULIS (inclusion units for pupils with disabilities), location in or near a priority urban neighbourhood (QPV), overseas location, and the poverty rate and median living standard of the commune and the poverty rate of the département. Rurality and the DEPP remoteness index are reported as context factors but are not used in the need index. All measures are oriented so that higher values mean more need.

Table 3. Predictive validity of need measures (univariate)

Need measure (higher = more need)	Std. β	R^2	Std. β, controlled	Incr. R^2	Shapley share
Social position index of pupils, IPS (reversed)	-0.87	0.759	-0.920	0.701	45%
Commune poverty rate (60% median)	-0.61	0.377	-0.649	0.310	11%
Commune median living standard, log (reversed)	-0.61	0.370	-0.709	0.353	12%
Social homogeneity of intake (IPS spread, reversed)	-0.61	0.367	-0.584	0.287	15%
In or within 300m of a priority urban neighbourhood (QPV)	-0.49	0.238	-0.453	0.194	7%
Département poverty rate	-0.31	0.098	-0.389	0.041	2%
% pupils in SEGPA (adapted general & vocational sections)	-0.28	0.078	-0.290	0.080	2%
Remoteness index (DEPP), log	0.25	0.064	0.334	0.072	4%
% pupils in ULIS (inclusive special-education units)	-0.17	0.028	-0.185	0.031	1%
Overseas département (DROM)	-0.15	0.021	-0.089	-0.000	1%
Rural commune (DEPP zoning)	0.05	0.002	0.056	0.002	0%

Note: Enrollment-weighted regressions of the outcome index on each measure (5,200 collèges). Controlled = with académie fixed effects and a quadratic in log enrollment (base R^2 0.15). Shapley share = share of the R^2 of all measures jointly (0.79) attributed to each. Negative standardized β means higher need predicts lower outcomes; positive values for IPS spread, remoteness and rurality mean those are associated with better outcomes.

Figure 1. Variance in collège outcomes explained by each need measure



The IPS is by far the strongest predictor, explaining 76% of the variance on its own and 70% beyond académie and size, and it accounts for 45% of the jointly explained variance. Commune poverty and median living standard each explain about 37%, and location in or near a QPV about a quarter. Collèges with a more homogeneous, disadvantaged intake do worse than their mean IPS alone would predict in simple comparisons, but this effect disappears once the IPS level is controlled. Remote and rural collèges do slightly better than other collèges with the same intake, so remoteness is treated as a cost factor rather than a need.

2.3 Multivariate risk models and the composite need index

Table 4. Regression models of the collège outcome index on need measures

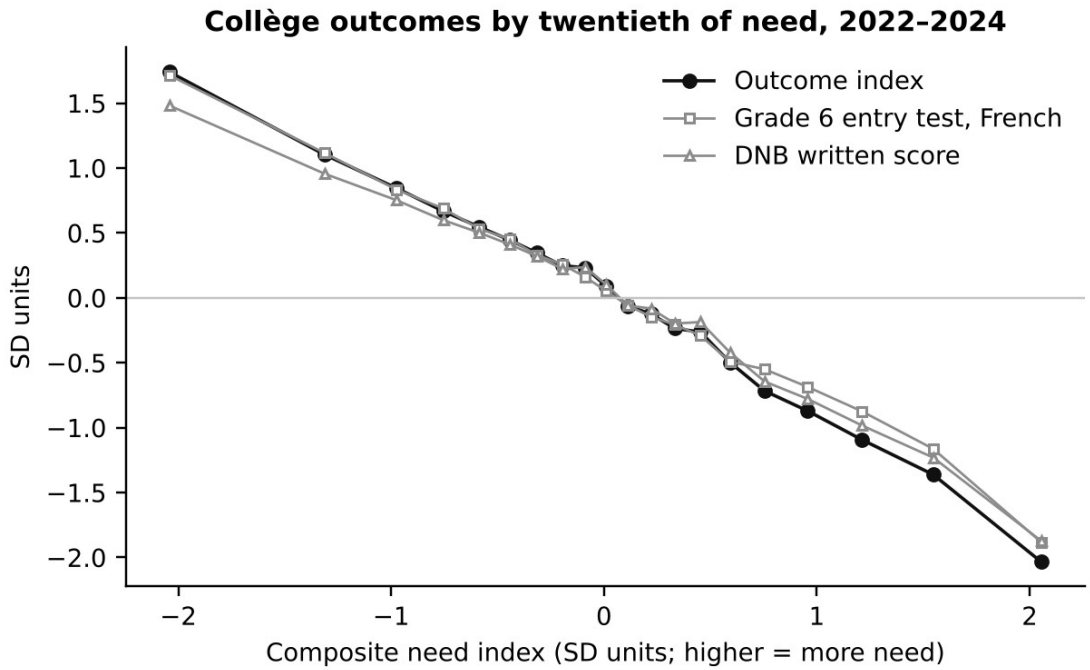
Measure	M1: all	M2: community	M3: IPS only	M4: composite
IPS (per 10 points)	0.579***		0.583***	
	(0.011)		(0.005)	
IPS spread (per 10 points)	0.038			
	(0.026)			
% SEGPA pupils	0.003*			
	(0.001)			
% ULIS pupils	0.005			
	(0.004)			
Commune poverty rate (%)	-0.003	-0.001		
	(0.002)	(0.004)		
Commune median living standard (log)	-0.198*	3.485***		
	(0.098)	(0.206)		
Département poverty rate (%)	0.001	0.008*		
	(0.003)	(0.004)		
In or near a QPV	-0.000	-0.547***		
	(0.019)	(0.049)		
Rural commune	0.086***	-0.002		
	(0.026)	(0.035)		
Remoteness index (log)	0.657***	1.802***		

	(0.155)	(0.246)		
Composite need index (SD)				-0.877***
				(0.008)
R^2	0.854	0.565	0.852	0.846
R^2, base (académie FE + size)	0.152	0.152	0.152	0.152
Collèges	5,200	5,200	5,200	5,200

*Note: Dependent variable: outcome factor score (SD). All models include académie fixed effects and a quadratic in log enrollment, weighted by enrollment, with standard errors clustered by commune. *** p<.001, ** p<.01, * p<.05.*

Need measures raise explained variance from 0.15 (académie and size alone) to 0.85. The IPS alone (M3) reaches 0.85, nearly all of it. Community measures alone (M2) reach 0.57. The composite need index was built by forward selection on five-fold cross-validated R^2, with folds grouped by commune, admitting a measure only if all coefficients kept the expected sign. It retains the IPS and QPV location (cross-validated R^2 0.76). No other measure adds as much as 0.002. A community-only alternative (commune poverty, QPV and median living standard) reaches 0.47. Moving from the 10th to the 90th percentile of the composite index is associated with outcomes about 2.3 standard deviations lower (Figure 2).

Figure 2. Collège outcomes by twentieth of the composite need index



Note: Enrollment-weighted means within 20 equal-count bins; components in SD units.

Table 5. Outcomes of collèges at the extremes of need, 2022–2024

	Lowest-need tenth	Highest-need tenth
Mean IPS	129	76
Grade-6 entry test, French (mean score)	277	232
Grade-6 entry test, maths (mean score)	277	225
DNB written score (out of 20)	12.4	8.7
DNB pass rate	92%	77%
Candidates with mention bien or très bien	65%	34%

Note: Enrollment-weighted means of collèges at or below the 10th and at or above the 90th pupil-weighted percentiles of the composite need index. National entry tests are scaled to a mean of 250 and standard deviation of 50 in their base year.

The composite index aligns closely with the éducation prioritaire map, which was drawn in 2014–2015 from similar social criteria. Mean need is -0.24 for collèges outside the network, 1.05 for REP and 1.82 for REP+. Only 23 of 1,093 REP and REP+ collèges fall below the median of need. The reverse is not true: many high-need collèges lie outside the network (section 3.6).

3. Resource Modeling

3.1 The resource measure

The State's teaching resources are measured by the DEPP indicator H/E, the number of weekly teaching hours delivered to pupils divided by the number of pupils in the collège's classes, for the general collège track. A companion indicator, E/S, is the average number of pupils per teaching group, weighted by hours. The product of the two is the weekly instruction a pupil receives. H/E therefore rises either because pupils are taught in smaller groups or because they receive more hours of instruction (options, support, split classes). SEGPA sections are reported separately and are included in a robustness check. The analytic sample contains 15,940 collège-years for 5,323 public collèges at rentrée 2023, 2024 and 2025. Collège-years with fewer than 60 pupils, or with H/E below half or above 2.5 times the académie median, are excluded (26 observations). The pupil-weighted mean is 1.18 hours per pupil and 23.4 pupils per group. An hour of H/E per pupil is a substantial resource: at 18 statutory teaching hours per week for a certified teacher, 0.1 H/E in a 400-pupil collège corresponds to about 2.2 full-time teachers.

3.2 Descriptive patterns

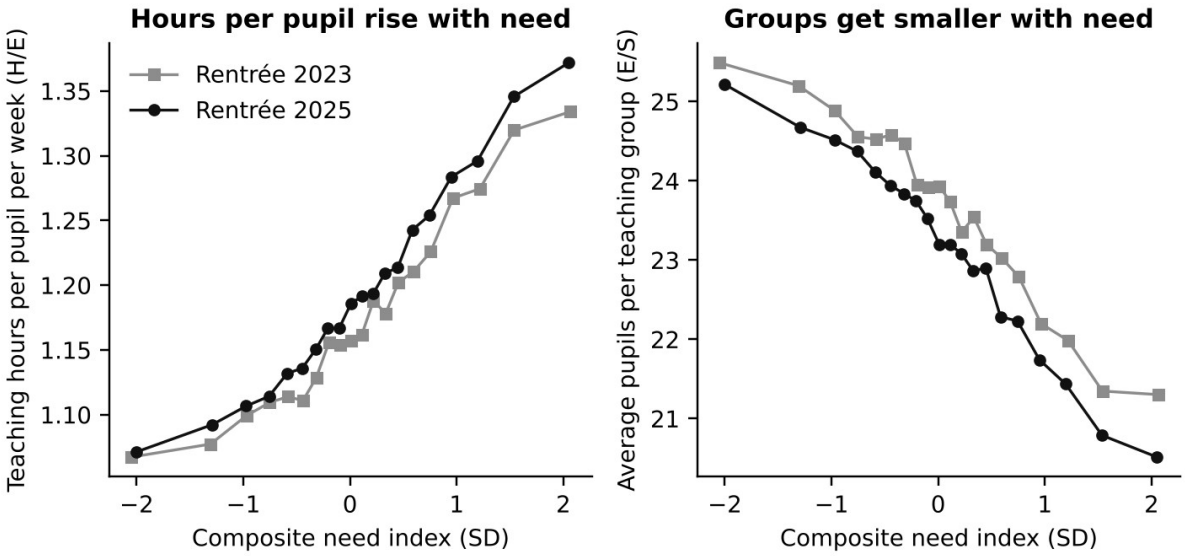
Table 6. Public collèges by quintile of need, rentrée 2025

Need quintile	Mean need	Mean IPS	Hours per pupil (H/E)	Pupils per group (E/S)	Weekly instruction hours	Median enrol.	REP	REP+	Rural
Q1 (lowest need)	-1.27	121	1.10	24.7	27.0	557	0%	0%	3%
Q2	-0.40	107	1.15	23.9	27.3	477	1%	0%	14%
Q3	0.06	100	1.18	23.3	27.4	419	3%	0%	23%
Q4	0.53	93	1.23	22.6	27.6	408	18%	1%	19%
Q5 (highest need)	1.45	80	1.33	21.1	27.8	479	46%	33%	4%

Note: Quintiles contain equal numbers of collèges; other figures pupil-weighted except median enrollment and shares of collèges.

The lowest-need fifth of collèges receives 1.10 teaching hours per pupil and the highest-need fifth 1.33, 21% more. The difference is almost entirely in group size (24.7 against 21.1 pupils); weekly instruction per pupil differs by less than one hour. Figure 3 shows a smooth gradient in hours and group size across the range of need, steepening in the highest-need fifth, and a slight increase in progressiveness between 2023 and 2025.

Figure 3. Teaching hours per pupil and pupils per group by twentieth of need, 2023 and 2025



Note: Pupil-weighted means within 20 equal-count bins.

3.3 Model specification

ln Hours per pupil(c,t) = f(Need(c,t), Size(c,t), Units(c,t), Remoteness(c), Year(t), Académie(a))

- **Need:** the composite need index, computed each year from the collège's IPS and QPV location.
- **Size:** enrollment bands (under 200 to 800 or more pupils). Allocations by class mechanically favor small collèges, whose last class is incomplete.
- **Units:** indicators for SEGPA sections and ULIS units, which carry their own staffing.
- **Remoteness:** the DEPP remoteness index (log), rural zoning and an overseas indicator. No labor-cost adjustment is needed because teachers are paid on national scales.
- **Year and académie fixed effects.** Académie effects (Model S4) restrict comparisons to collèges served by the same rectorat, which allocates the hours.

Models are estimated by pupil-weighted least squares on the collège-year panel, with standard errors clustered by collège. Progressiveness is summarized as predicted hours per pupil at the 90th percentile of need divided by predicted hours at the 10th (pupil-weighted percentiles), with other variables at their means.

3.4 Results

Table 7. Resource models: log teaching hours per pupil on need and cost factors

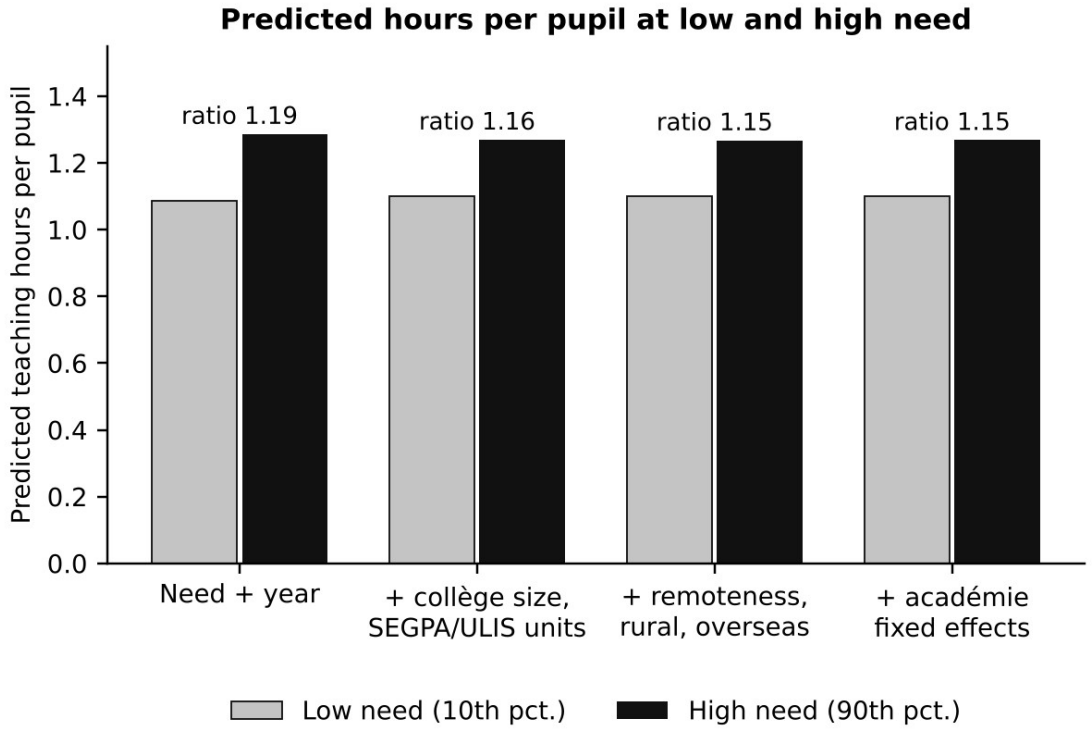
	S1: Need, year	S2: + Size, units	S3: + Remoteness	S4: + Académie FE
Need index (per SD)	0.064***	0.055***	0.053***	0.054***
Under 200 pupils (vs. 800+)		0.256***	0.265***	0.263***
200–299 pupils		0.153***	0.154***	0.152***
300–399 pupils		0.104***	0.102***	0.097***
400–499 pupils		0.075***	0.071***	0.068***
500–599 pupils		0.052***	0.047***	0.046***
600–799 pupils		0.030***	0.023***	0.023***
Has SEGPA section		0.019***	0.017***	0.016***

Has ULIS unit		0.018***	0.015***	0.016***
Remoteness index (log)			-0.116***	-0.131***
Rural commune			0.000	0.000
Overseas			0.052***	0.046***
Rentrée 2024	0.012***	0.011***	0.011***	0.011***
Rentrée 2025	0.016***	0.013***	0.013***	0.013***
Académie fixed effects	No	No	No	Yes
R^2	0.42	0.61	0.63	0.66
Predicted H/E, p10 need	1.09	1.10	1.10	1.10
Predicted H/E, p90 need	1.29	1.27	1.27	1.27
Ratio, p90 ÷ p10	**1.19**	**1.16**	**1.15**	**1.15**

*Note: 15,940 collège-years, 5,323 public collèges, rentrée 2023–2025. Pupil-weighted least squares; standard errors clustered by collège (*** p<.001, ** p<.01, * p<.05). Need percentiles are pupil-weighted (p10 = -1.25, p90 = 1.39). S3 and S4 also include an indicator for a missing remoteness index.*

With only need and year (S1), collèges at the 90th percentile of need receive 1.19 times the hours per pupil of those at the 10th. Small collèges receive many more hours per pupil (26% more below 200 pupils than above 800 in S4), and because high-need collèges are slightly smaller on average, size accounts for a small part of the raw gradient: the ratio is 1.16 in S2 and 1.15 after remoteness. Restricting comparisons to the same académie (S4) leaves it at 1.15. Each standard deviation of need adds about 5.4% to hours per pupil. Unlike Mexico and Brazil, then, France's central allocation of teachers is progressive with respect to need, and the progressivity operates within académies rather than arising from differences between them.

Figure 4. Predicted hours per pupil at the 10th and 90th percentiles of need, by model

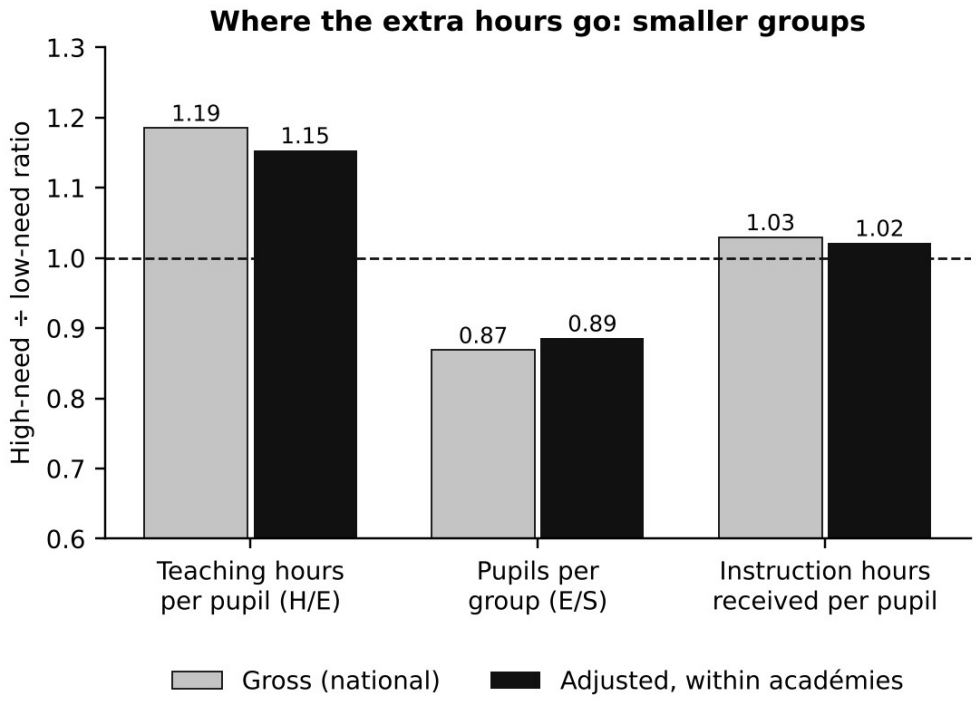


Note: Log models; predicted values at pupil-weighted means of other covariates.

3.5 What the extra hours buy

Decomposing hours per pupil into group size and instruction per pupil shows that the progressivity is almost entirely in group size (Figure 9). Within académies, high-need collèges have groups about 11% smaller (21.9 against 24.7 pupils), while weekly instruction per pupil is only 2% higher. This is consistent with the design of éducation prioritaire, which caps class sizes rather than adding instruction time, and with the Cour des comptes' (2018) observation that collèges in REP+ averaged about 21 pupils per class against 25 outside priority education.

Figure 5. Hours per pupil, group size and instruction per pupil: high-need ÷ low-need ratios



3.6 The éducation prioritaire label and its thresholds

Adding REP and REP+ indicators to Model S4 shows how much of the progressivity runs through the label. REP collèges receive 9% and REP+ collèges 13% more hours per pupil than collèges with the same continuous need, size and remoteness in the same académie. The remaining slope on need falls from a p90/p10 ratio of 1.15 to 1.07. Allocation is therefore stepped: a continuous gradient by need (mainly through rectorats' own allocation models and class-size effects), plus discrete steps at the REP and REP+ labels.

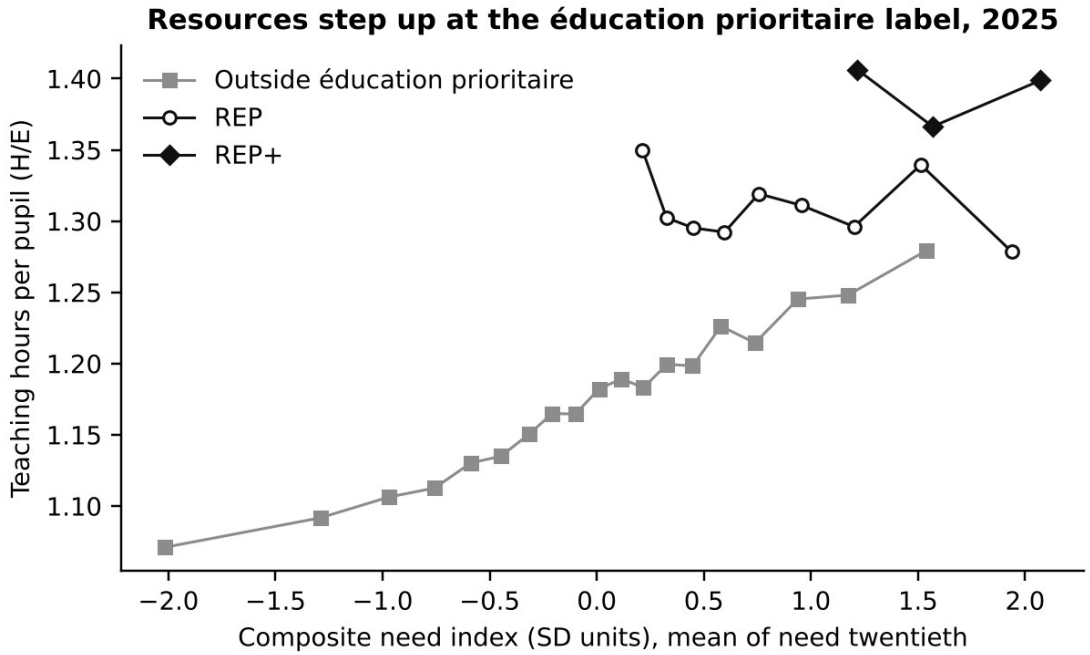
Steps create cliffs. Figure 5 compares collèges at similar levels of need inside and outside the network in 2025. In every band of need, collèges outside the network receive fewer hours than REP collèges, and REP+ collèges receive the most. The network covered 95% of collèges in the highest tenth of need but only 64% in the ninth and 27% in the eighth. The map has not been revised since 2015, while collège intakes have shifted. The Cour des comptes (2018) found that most disadvantaged pupils are schooled outside priority education and recommended modulating allocations to reach them.

Table 8. Hours per pupil by need and éducation prioritaire status, rentrée 2025

Need index band	Outside EP: H/E	n	REP: H/E	n	REP+: H/E	n
Below 0.75	1.21	473	1.29	113	1.51	5
(0.75, 1.0]	1.23	171	1.32	152	1.33	8
(1.0, 1.25]	1.26	84	1.30	144	1.42	20
(1.25, 1.5]	1.26	23	1.31	129	1.37	44
Above 1.5	1.29	17	1.32	119	1.39	283

Note: Collèges with need above the 10th percentile of REP collèges. Pupil-weighted means. Not adjusted for size or académie.

Figure 6. Teaching hours per pupil by need and éducation prioritaire status, 2025

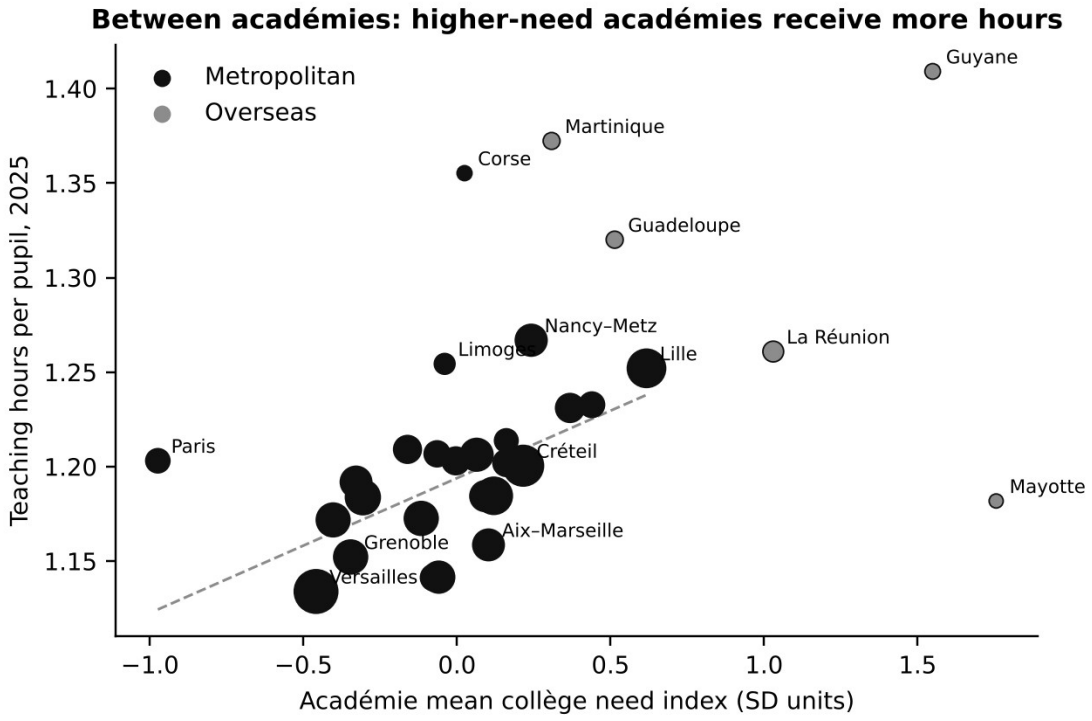


Note: Pupil-weighted means within twentieths of need, shown where a group has at least 8 collèges.

3.7 Between académies

The Ministry's allocation to académies is also broadly progressive. Across académies, mean hours per pupil correlate 0.48 with mean need (0.39 in metropolitan France). Lille, Nancy-Metz, Amiens and Reims receive more hours than Versailles, Grenoble or Nantes (Figure 7). Small académies with many small rural collèges, notably Corsica and Limoges, receive more than their need would suggest. Paris receives more hours than its low average need predicts, reflecting both small collèges and its pronounced internal social divides. The overseas académies show the largest departures. Guyane, Martinique and Guadeloupe receive the most hours in France, but Mayotte, whose collèges have by far the lowest IPS (70), receives 1.18 hours per pupil, about the national average, with groups of 22.8 pupils. Mayotte's rapid enrollment growth, shortage of buildings and teacher-recruitment difficulties leave its collèges with no more teaching resources than an average metropolitan collège.

Figure 7. Académie mean need and teaching hours per pupil, 2025

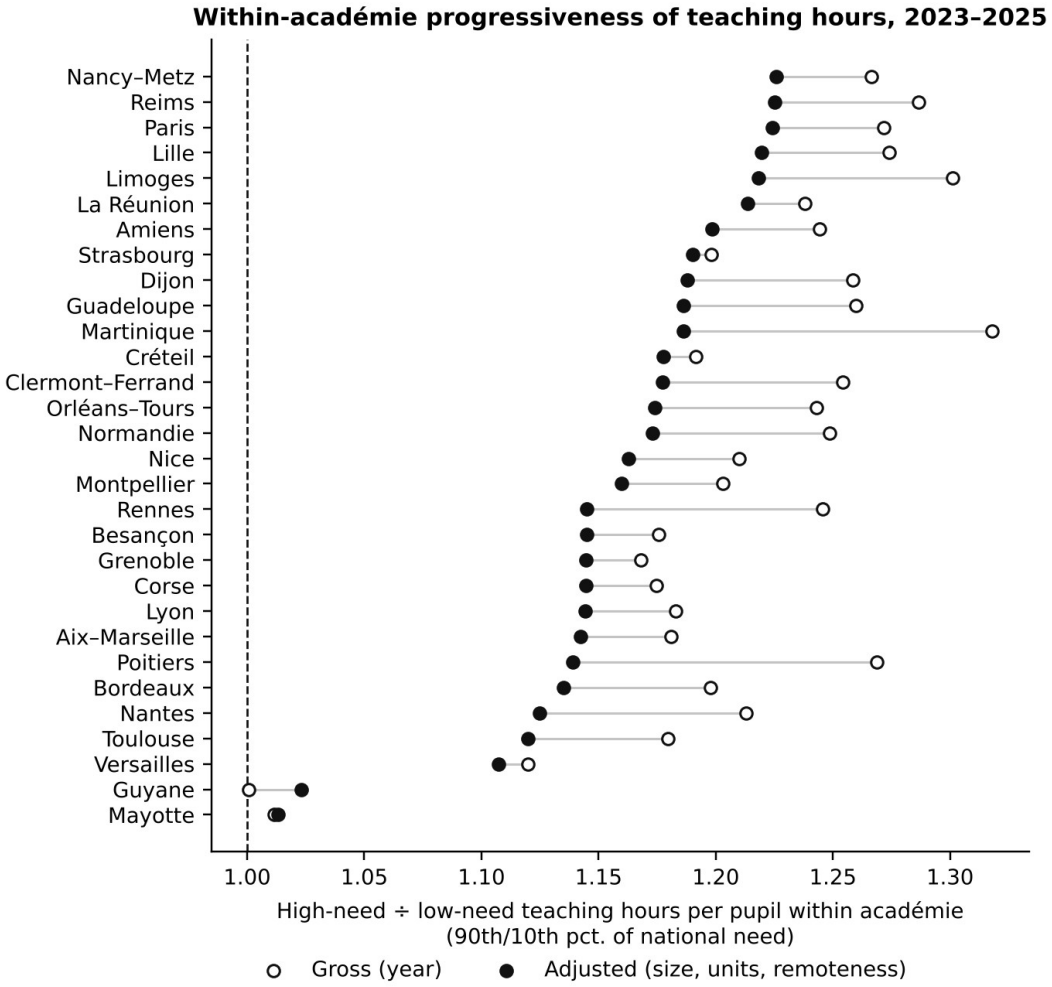


Note: Circle size proportional to collège-year observations. Dashed line: pupil-weighted fit for metropolitan académies.

3.8 Within académies

Within-académie ratios range from 1.11 in Versailles to 1.23 in Nancy–Metz in metropolitan France (Figure 6), with every académie progressive. The most progressive include Nancy-Metz, Reims, Paris, Lille and Limoges. Versailles, Toulouse, Nantes and Bordeaux are the least progressive. In Mayotte (1.01) and Guyane (1.02), where nearly all collèges are in the network, hours are not differentiated by need at all.

Figure 8. Within-académie progressiveness of teaching hours, by académie, 2023–2025



Note: Need-by-académie interactions in Model S4 (adjusted) and in a model with year and académie effects only (gross). National need percentiles.

3.9 Changes over time

The three available years show a small increase in progressiveness. The adjusted ratio rose from 1.143 at rentrée 2023 to 1.156 in 2024 and 1.161 in 2025 (gross: 1.175, 1.188, 1.193). The change coincides with the introduction of ability groups in French and mathematics for grades 6 and 7 from rentrée 2024, which may have been staffed more generously in high-need collèges, and with falling enrollments, which reduce class sizes unevenly.

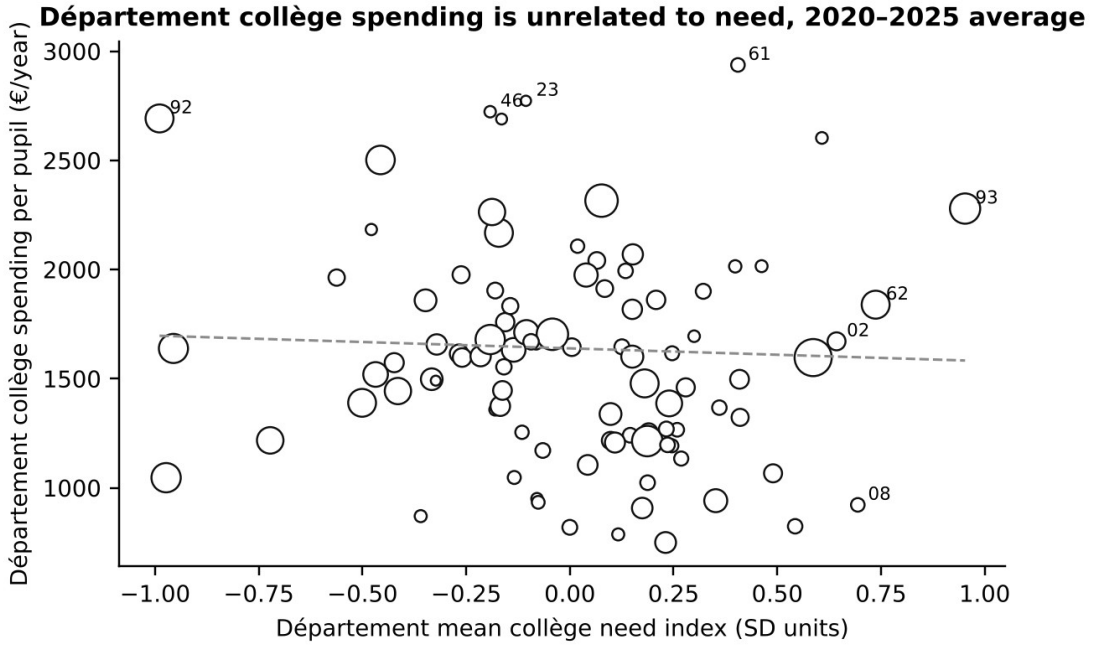
3.10 Département spending on collèges

Départements fund the buildings, equipment, operating budgets, catering and technical staff of public collèges and contribute to private collèges under contract. Their spending on collèges (function 221 in their functional accounts) averaged €1,641 per collège pupil, public and private, in 2020–2025, compared with total spending per collège pupil from all sources of about €10,070 in 2023, most of it State-paid staff (INSEE, 2024, from the DEPP education accounts). The département layer is thus roughly a sixth of the total. It is also far more unequal than the State layer: the 90th-percentile département spends 2.1 times as much per pupil as the 10th-percentile

département, with a coefficient of variation of 0.27. Much of this reflects lumpy investment in construction and renovation and differences in accounting classification, but operating spending alone is still more dispersed (coefficient of variation 0.37).

Département spending is unrelated to need. Across metropolitan départements, the correlation between six-year average spending per pupil and mean collège need is -0.10 (Figure 8). In a panel model with year effects and an overseas indicator, the p90/p10 need ratio is 0.83 and not statistically significant (SE of the need coefficient 0.17). Nor is spending related to département revenue per resident: adding log operating revenue per resident, the revenue elasticity is -0.12 (SE 0.26). The département layer is thus neither progressive nor clearly wealth-related. It is idiosyncratic, varying with local investment cycles and choices.

Figure 9. Département collège spending per pupil and mean need, 2020–2025 average

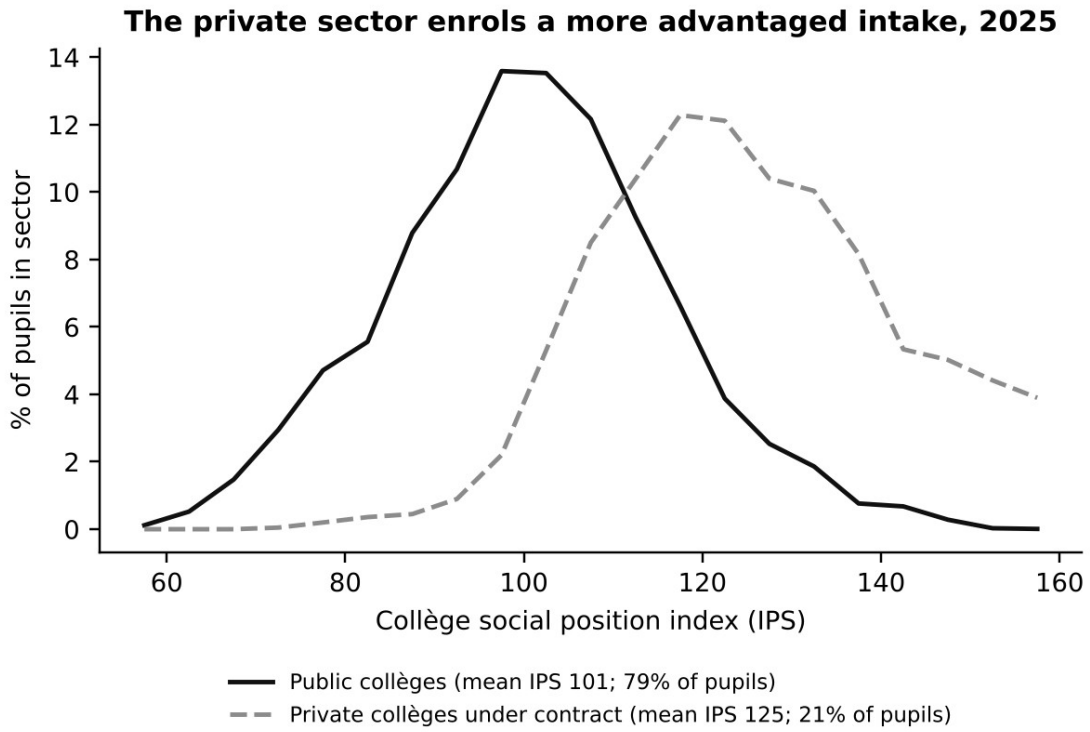


Note: Metropolitan départements; Corsica and the Collectivité européenne d'Alsace (Bas-Rhin and Haut-Rhin combined) and the Métropole de Lyon (combined with Rhône) adjusted as described in the technical notes. Circle size proportional to collège enrollment. Numbers are département codes.

3.11 The private sector

About 21% of collège pupils attend private collèges under contract, whose teachers are paid by the State. These collèges enrol a markedly more advantaged intake: pupil-weighted mean IPS is 125 in private collèges and 101 in public collèges in 2025 (Figure 10). Because private collèges are not covered by the published H/E indicators, they are excluded from the resource analysis. Their intake nonetheless shapes the need public collèges face: by drawing advantaged pupils, private enrollment concentrates disadvantage in nearby public collèges.

Figure 10. Distribution of collège pupils by IPS, public and private sectors, 2025



3.12 Robustness and limitations

- **Weighting.** Weighting collèges equally gives an adjusted ratio of 1.16, against 1.15 pupil-weighted.
- **SEGPA.** Including SEGPA hours and pupils gives ratios of 1.21 (S1) and 1.15 (S4). SEGPA sections are more common in high-need collèges and are generously staffed, but they are captured by the units control in S2–S4.
- **Hours versus euros.** H/E measures teaching hours. It omits support staff (CPE, assistants d'éducation, AESH), REP and REP+ allowances and the REP+ weighting of teaching hours, all of which add to the progressivity of spending. It also omits teacher seniority and status. The Cour des comptes (2018) reported that teachers in priority education are the least experienced and more often on contract, which lowers the salary cost of each hour. The net effect on euro spending cannot be estimated from open data.
- **Need index.** The composite index is dominated by the IPS, which the Ministry itself uses in allocation and in drawing the priority-education map. A need index based only on community measures would be less precise but less exposed to that circularity.
- **Coverage.** Collège sections of lycées (cités scolaires) without a published IPS are excluded, as are overseas collectivities outside the académies covered.

4. Conclusions and Implications

Risk in French collèges is concentrated and well measured. The social composition of a collège's intake alone accounts for three-quarters of the variation in a combined measure of entry attainment and brevet results. Collèges at the extremes of need differ by about three standard deviations, and

the differences are present at entry to sixth grade. In the framework's terms, the obstacles to equal opportunity are visible before collège begins and persist through it.

Unlike Mexico and Brazil, France allocates its main educational resource progressively. Because the State pays teachers on national scales and distributes their hours from the center, there is no local tax-base effect in the State layer, and within académies high-need collèges receive about 15% more teaching hours per pupil than low-need collèges, mostly as smaller groups. Two weaknesses stand out. First, progressivity is delivered largely through labels drawn in 2015, which produce cliffs: collèges just outside the network, with needs comparable to many REP collèges, receive ordinary allocations. A continuous allocation by IPS, as recommended by the Cour des comptes and partly practiced by rectorats, would reach them without abandoning the network. Second, the magnitude of differentiation is modest relative to the gap in outcomes it addresses, and the hours measure likely overstates differentiation in euros, given the less experienced staffing of high-need collèges. Cost modeling would be needed to judge whether a 15% differential is anywhere near sufficient.

Two further gaps lie outside the State's main teaching allocation. Mayotte, the highest-need académie, receives no more hours per pupil than the average collège, and its collèges are not differentiated by need. Départements, the second layer of collège finance, spend very different amounts per pupil for reasons unrelated to need or capacity. Equal opportunity in collège would require extending need-based differentiation to Mayotte and, through equalization of département resources, to the buildings, operating budgets and support staff that départements provide.

Technical Notes

- Outcome index: one-factor model (iterated principal axis) on the correlation matrix of components standardized within year and averaged over 2022–2024; Thurstone weights, negatives set to zero and normalized; components with loadings below 0.4 excluded.
- Risk models: enrollment-weighted least squares on public collèges with a published IPS; académie fixed effects and a quadratic in log enrollment; standard errors clustered by commune.
- Composite need index: forward selection on 5-fold cross-validated R^2 (folds by commune), requiring all coefficients to keep the expected sign and stopping when the gain falls below 0.002; index = minus predicted outcome, standardized; inputs bounded to the 0.5th–99.5th percentiles of the estimation sample; recomputed each year from that year's IPS.
- Teaching resources: DEPP indicators d'encadrement H/E and E/S for the collège level (niveau "Collège") of public établissements; SEGPA reported separately (niveau "Segpa"). Instruction hours per pupil = H/E × E/S.
- Commune poverty: INSEE Filosofi 2021 poverty rate at 60% of the median, with the département rate substituted where the commune rate is suppressed (about 15% of collèges); Paris, Lyon and Marseille arrondissements mapped to the commune.
- Département spending: OFGL ofgl-base-departements-fonctionnelle, budget principal, function 221 (collèges), total spending excluding debt repayment, divided by collège enrollment (public and private) weighted 2/3 previous and 1/3 current rentrée for each fiscal year. The Collectivité européenne d'Alsace is matched to Bas-Rhin and Haut-Rhin combined, and the Métropole de Lyon is combined with Rhône. Corsica, Martinique and Guyane (single territorial collectivities) are not in the file.
- Data files: fr_college_panel.dta (collège-year, 2019–2025) and fr_departement_panel.dta (département-year), with variable labels.

References

Baker, B. D. (2026). Risk and spending in Brazilian municipal school networks. University of Miami.

Baker, B. D. (2026). Risk and spending in Mexican public basic education. University of Miami.

Baker, B. D., & Green, P. C. (2008). Conceptions of equity and adequacy in school finance. In H. F. Ladd & E. B. Fiske (Eds.), Handbook of research in education finance and policy (pp. 203–221). Routledge.

Baker, B. D., & Green, P. C. (2012). Conceptions of equity and adequacy in school finance. In Handbook of research in education finance and policy (2nd ed., pp. 225–243). Routledge.

Baker, B. D., & Knight, D. (2025). Does money matter in education? (3rd ed.). Albert Shanker Institute.

Baker, B. D., Atchison, D., & Levin, J. (2026). Framework for evaluating and reforming education finance systems (EdWorkingPaper No. 25-1127, revised). Annenberg Institute at Brown University.

Berne, R., & Stiefel, L. (1984). The measurement of equity in school finance. Johns Hopkins University Press.

Clune, W. H. (1994). The shift from equity to adequacy in school finance. Educational Policy, 8(4), 376–394.

Coons, J. E., Clune, W. H., & Sugarman, S. D. (1969). Educational opportunity: A workable constitutional test for state financial structures. California Law Review, 57, 305–421.

Cour des comptes (2018). L’éducation prioritaire. Rapport public thématique, octobre 2018.

France. Préambule de la Constitution du 27 octobre 1946, alinéa 13; Code de l’éducation, art. L111-1.

INSEE (2024). Dépenses d’éducation. Tableaux de l’économie française (from DEPP, Compte de l’éducation).

INSEE. Revenus, pauvreté et niveau de vie en 2021 (Filosofi), base communale.

Jackson, C. K., & Mackevicius, C. L. (2024). What impacts can we expect from school spending policy? American Economic Journal: Applied Economics, 16(1), 412–446.

Koski, W. S., & Reich, R. (2006). When “adequate” isn’t. Emory Law Journal, 56, 545–617.

Ministère de l’Éducation nationale (Eduscol). Travailler en éducation prioritaire.

Ministère de l’Éducation nationale, DEPP. Open data: indicateurs d’encadrement H/E et E/S; indices de position sociale des collèges; indicateurs de valeur ajoutée des collèges; évaluations nationales de 6e par établissement; effectifs des collèges; éducation prioritaire; indice d’éloignement des collèges (data.education.gouv.fr).

Observatoire des finances et de la gestion publique locales (OFGL). Comptes des départements, présentation fonctionnelle, 2018–2025.

Underwood, J. K. (1994). School finance adequacy as vertical equity. University of Michigan Journal of Law Reform, 28, 493–519.