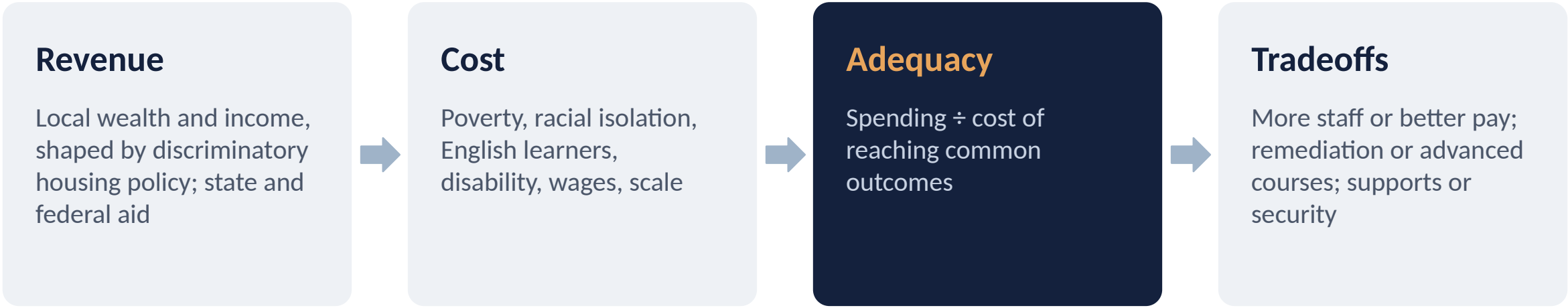
SCHOOL FINANCE INDICATORS DATABASE · NCYL

Why cost matters

Funding adequacy, racial disparities, lost instruction to suspension, and access to AP math

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Conceptual framework: adequacy shapes practice



1 Hypothesis 1 · School climate

Thinly stretched, less well-paid staff → harsher environments → more instruction lost to out-of-school suspension

2 Hypothesis 2 · Opportunity

Pressure to meet minimum standards → resources pulled from advanced courses → less access to AP math

Research questions

A · FUNDING

How do racial disparities differ when we measure nominal spending vs. cost-adjusted adequacy?

Across districts nationally; across schools in five states; within large and midsized NY and NJ districts

B · SUSPENSION

How does adequacy relate to learning lost to out-of-school suspension?

District adequacy across and within states; school adequacy across and within districts

C · AP MATH

How does adequacy relate to AP math enrollment rates?

Same structure: across and within states; across and within districts; by student subgroup

Data: SFID and National Education Cost Model (districts, 2018–2023); school-level cost models for CO, DE, NJ, NY, OR; Civil Rights Data Collection 2017–18 and 2021–22, by subgroup

School-level cost predictions correlate .80–.94 with the national model when aggregated to districts

THE QUESTION WE USUALLY ASK

Do high-need schools get more money?

➡ *The question we should ask: do they get enough to reach common goals?*

Two ways to measure fairness

SPENDING MODEL · “PROGRESSIVENESS”

How does spending vary with need and cost factors?

- Input prices (competitive teacher wages)
- Student needs: poverty, English learners, disability
- Scale and grade range

Tells us direction. Not whether it’s enough.

COST MODEL · EQUAL OPPORTUNITY

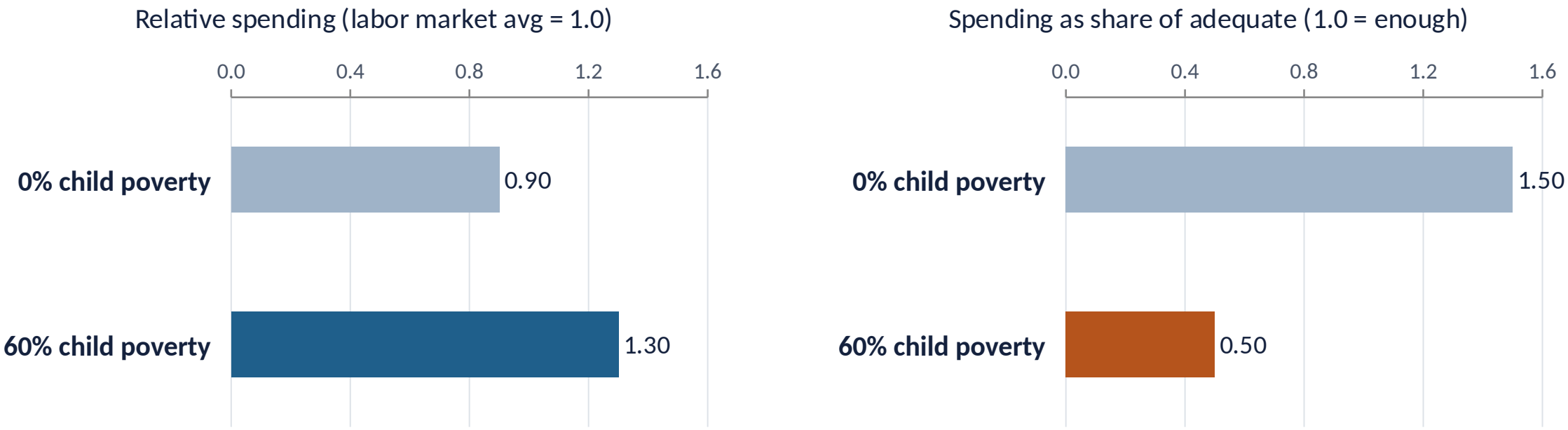
…holding outcomes constant

- Same factors, plus an outcome target
- Plus controls for inefficiency
- Yields predicted cost of common outcomes

Adequacy = actual spending ÷ predicted cost

Duncombe & Yinger (1999); Baker, Atchison & Levin (2026)

Progressive in dollars, regressive in adequacy



Higher-poverty districts spend more than their neighbors, yet only about half of what common outcomes require. By race, nominal slopes are near flat (Black 0.95 → 1.10), while adequacy falls steeply as Black and Hispanic enrollment rises.

Predicted values, U.S. districts, SFID & National Education Cost Model, 2018–2023 (Figure 4)

Adequacy is the measure that predicts outcomes

~5%

of outcome variation explained by relative spending, and with the wrong sign: higher-spending districts score lower

~40%

explained by spending adequacy, with the expected sign: more adequate funding, higher outcomes

85% vs. 6%

of majority Black/Hispanic vs. majority white districts that are both underfunded and below U.S. average outcomes

Spending adequacy, not relative spending, is the valid measure for comparing access to resources across children and settings.

U.S. districts, 2023 (Figure 3); Baker, Di Carlo & Green (2023)

The within vs. between problem

91%

of the Northeast's Black–White school spending and poverty gap lies **between** districts, not within them (97% of the Hispanic–White gap)

Title I comparability and most within-district audits look only inside district lines. When every school in a district is high-need and underfunded, a district can be "equitable" and still fail its students.

Bifulco & Souders (2024); Baker & Weber (2016)

In many cities, nearly every school is underfunded

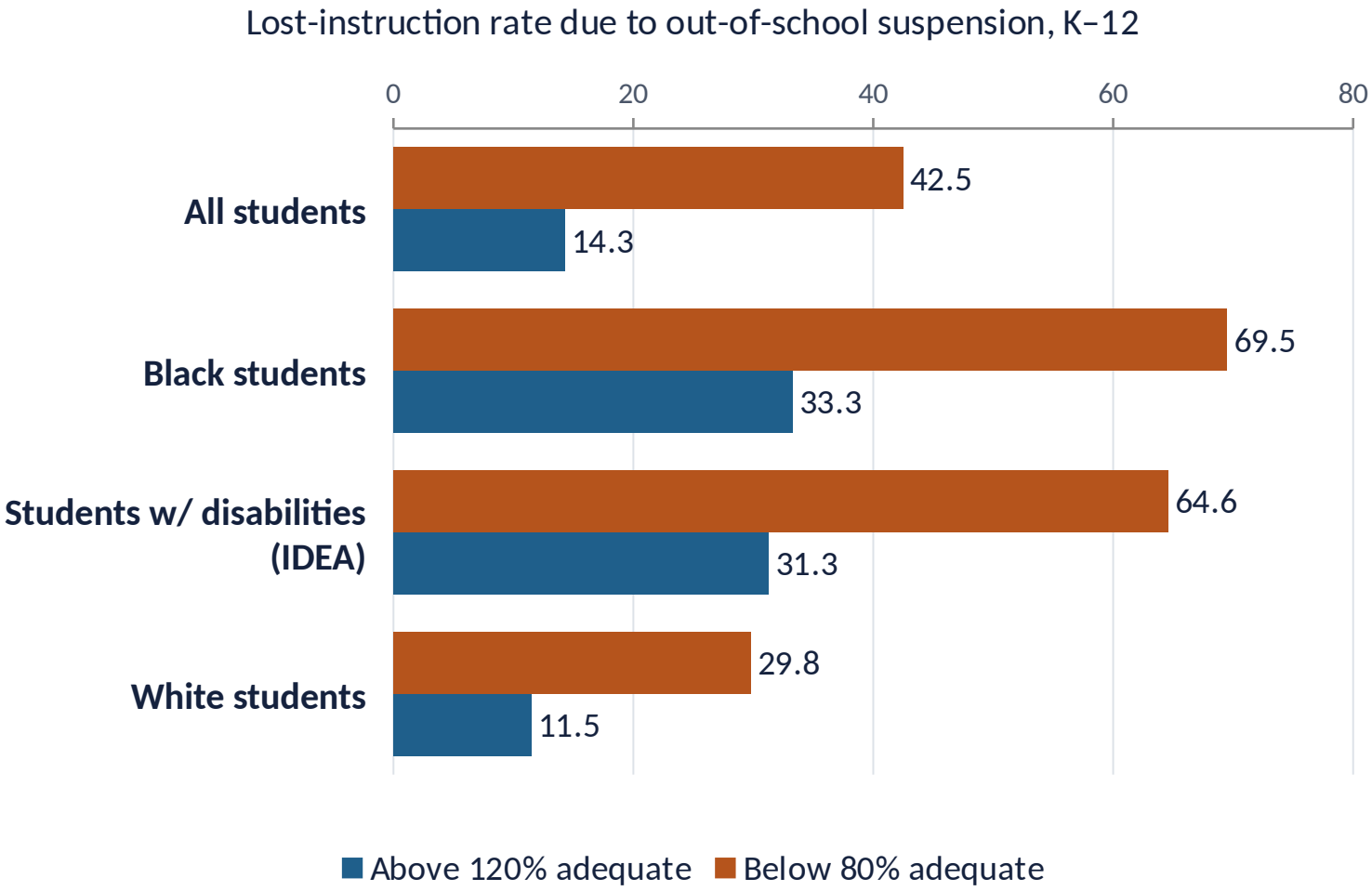
Share of students in schools below 80% of adequate spending to reach state average outcomes

In Syracuse, Buffalo and Rochester, there is little left to redistribute. The state, not the district, holds the remedy.

District	All	Black	Hispanic
Syracuse, NY	93%	94%	96%
Buffalo, NY	88%	90%	91%
Rochester, NY	85%	85%	87%
Mt. Vernon, NY	81%	82%	81%
New York City	73%	88%	83%
Paterson, NJ	60%	69%	61%
Newburgh, NY	58%	59%	60%
Newark, NJ	35%	41%	32%
Jersey City, NJ	11%	15%	13%

School-level cost models, NY & NJ, average 2019–2023 (Table 4)

Underfunded districts lose ~3× more time to suspension



~3×

the lost-instruction rate for all students in districts below 80% adequacy vs. above 120%

Every subgroup shows the gap. School-level models show 5.5× in New Jersey and 2.5× in New York.

CRDC 2017–18 & 2021–22 linked to NECM district adequacy (Table 2). Underfunded districts: 30% Black, 36% Hispanic vs. 7% and 16%.

Holding poverty and race constant, adequacy still matters

−6.4 days

lost per one-unit rise in district adequacy (50% → 150%) nationally; −4.1 within states, −12.1 across New York districts

+25 days

from 0% to 100% Black district enrollment, with adequacy and poverty held equal; +33 within states

~28 days

more lost by Black students than white students in districts with the same adequacy and demographics

Adequacy explains part of the gap. A large racial disparity remains that funding alone does not account for, a civil rights concern in its own right.

Regressions of school-by-subgroup lost instruction on NECM district adequacy, poverty, race, grade level, year (Tables 4–5); n ≈ 1.5 million

Within districts the adequacy link is mixed; race is not

School-level model	Adequacy	% Black school
5 states, all schools	−11.1	+14.5
5 states, within districts	+5.8 (n.s.)	+30.5
NJ, within districts	−13.1	+26.7
NY, within districts	+12.2	+26.3
NYC, across schools	−11.6 (n.s.)	+19.8

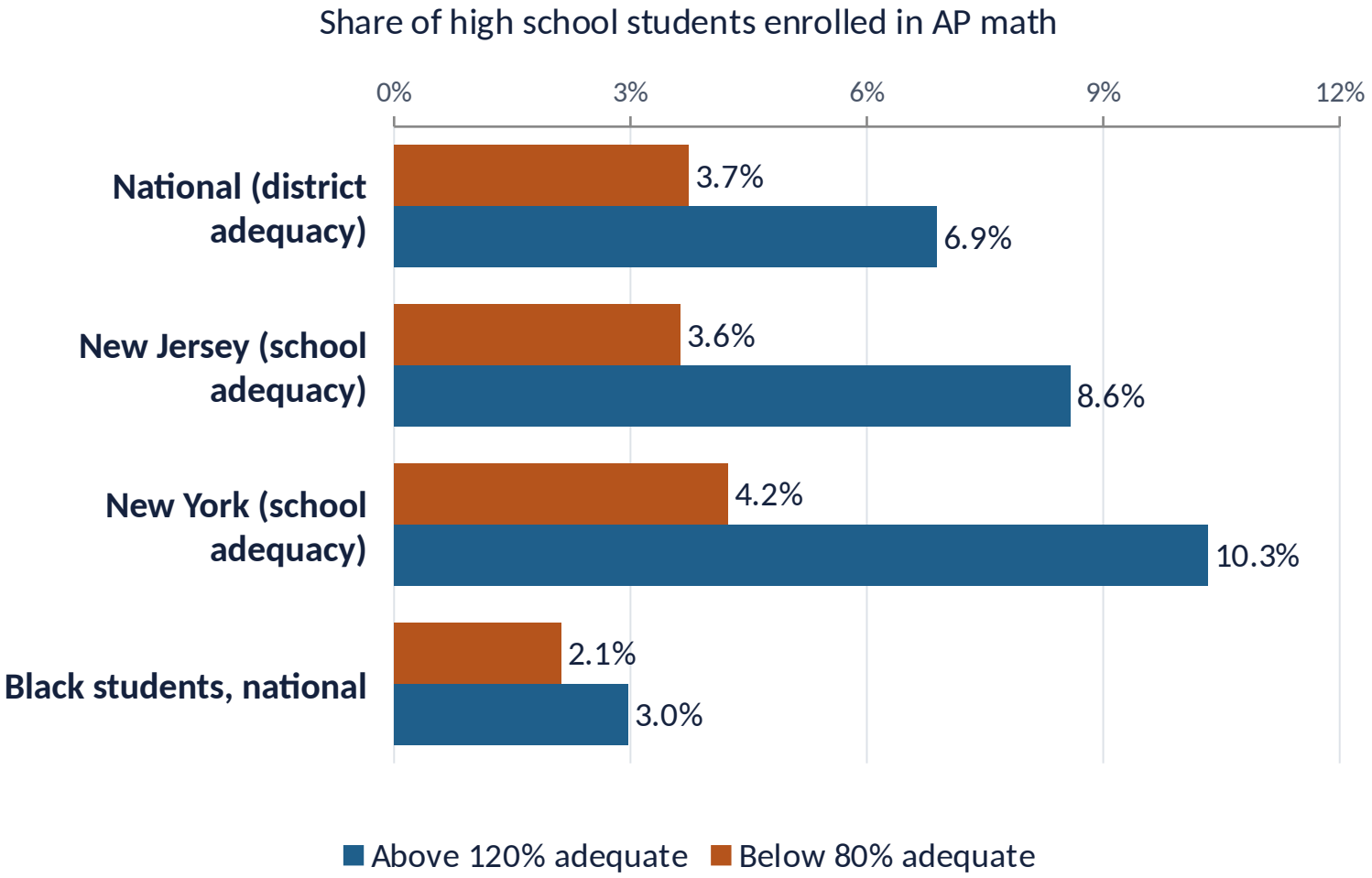
Districts may already be steering resources to higher-need schools, but not enough to close the gap.

NYC middle schools: **35.4** days below 80% adequacy vs. **2.3** above 120%.

Schools with more Black students lose 20–30 more days, in every model.

State school-level cost models linked to CRDC (Tables 6, 7, 15). Days per one-unit change in adequacy, or per 0→100% Black enrollment. n.s. = not significant.

Adequate funding roughly doubles AP math access



2.4×

the AP math rate in New York's adequately funded schools (10.3% vs. 4.2%)

Black students gain about 40% in better-funded districts, but most attend the underfunded ones.

CRDC 2017–18 & 2021–22; NECM and NY/NJ school cost models (Tables 8–9)

AP math tracks adequacy, even within districts

+1–3 pts

AP math enrollment per one-unit rise in district adequacy: +1.1 nationally, +2.3 within states, +2.9 in New York

+10–19 pts

across schools within districts: +9.9 in the five-state model, +15.9 within NY districts, +19.0 in NYC

–1.3 pts

lower rate for Black students (Hispanic −0.7 to −1.0) than peers in districts with the same adequacy and demographics

Jersey City: 18.8% AP math in its most adequately funded high schools (Black students 12.6%) vs. 1.1% in the rest (0.4%). Selective magnets pair low-cost student populations with similar or higher dollars.

Percentage points of high school enrollment; CRDC linked to NECM and state school cost models (Tables 10–13, 16)

Implications

1

Measure against cost

Progressiveness and comparability measures can mask, or even reverse, racial inequity. Cost-adjusted adequacy is the valid benchmark.

2

States hold the main remedy

Where nearly every school is underfunded, as in Syracuse, Buffalo and Rochester, local reallocation can’t create opportunity that isn’t funded.

3

Districts remain accountable

At equal adequacy, Black students still lose more instruction to suspension and enroll less in AP math. That is a civil rights enforcement matter.

4

Federal policy should follow

Title I comparability, OCR analysis and federal allocation should look across district lines and against cost, not within districts on nominal dollars.