

Understanding the Effects of School Funding

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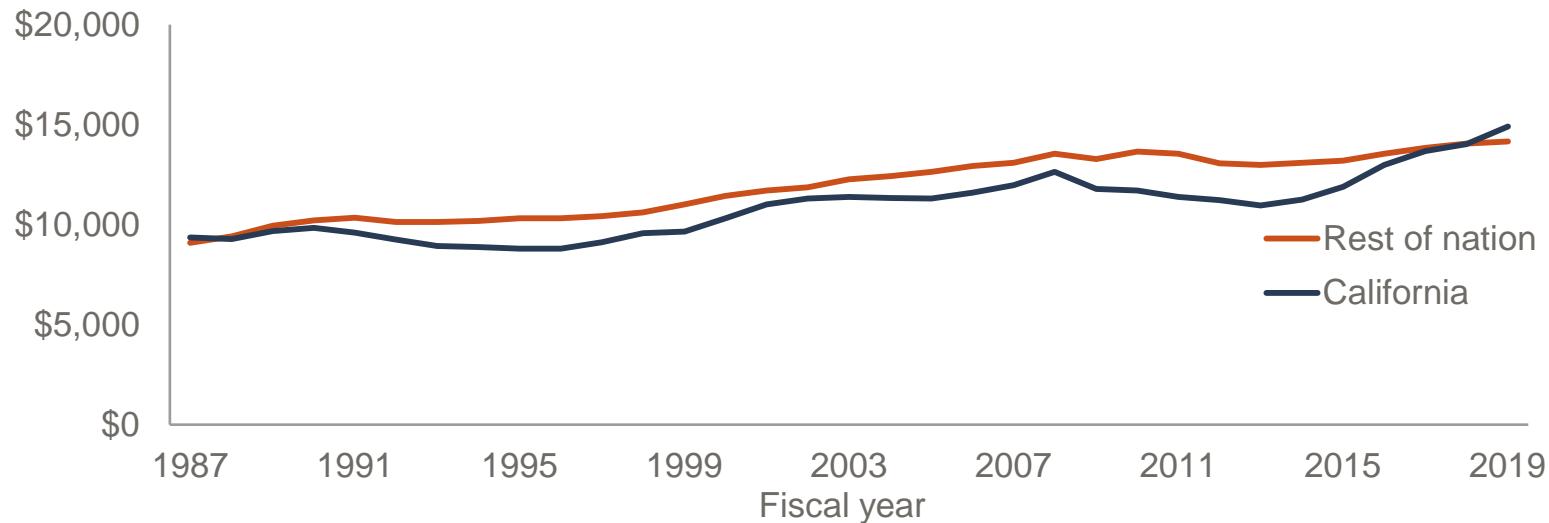
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Influential moment in California K–12 finance

- Record funding for K–12, with growing state revenues and billions in one-time federal aid
- Local Control Funding Formula (LCFF) more equity-focused
- However:
 - Pandemic caused severe disruptions, exacerbated longstanding inequities
 - Rising costs and declining enrollments
 - Concerns about how LCFF targets funding
- What can we learn from the school spending research?

California now spends slightly more than the rest of the nation

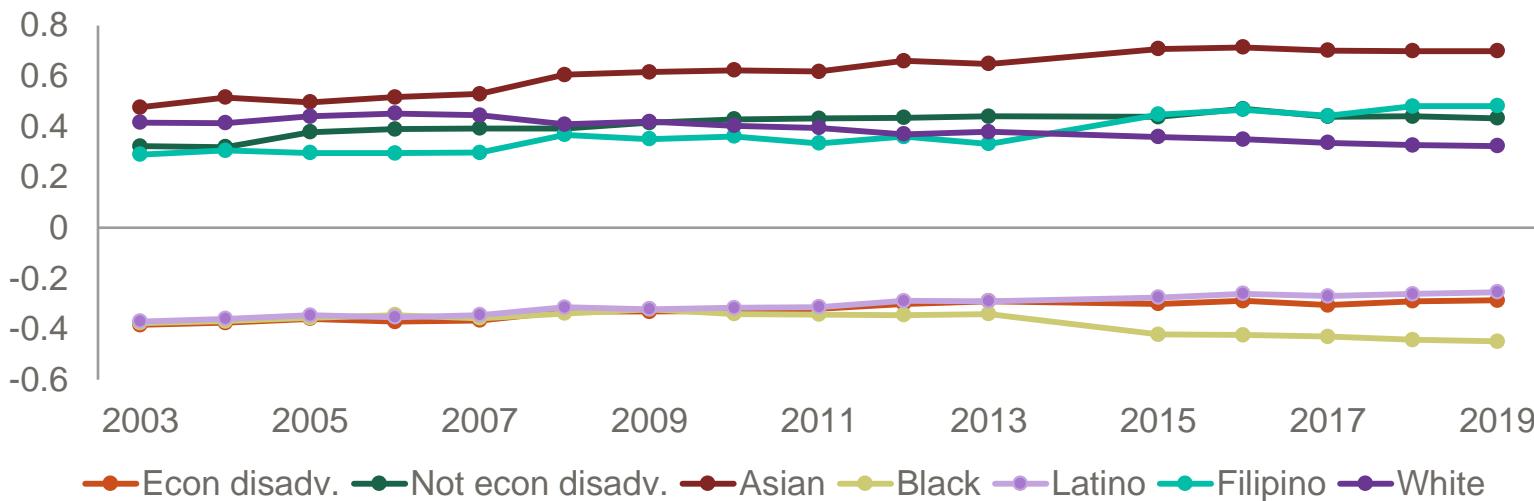
Current spending per pupil (2021 dollars)



Source: National Center for Education Statistics (F-33 survey); authors' calculations.

Test score gaps are large and persistent

Mean test score (in standard deviations)



Sources: California Department of Education, California Standards Test (CST) and Smarter Balanced (SBAC); authors' calculations.

Historically, a lack of consensus on the effects of school spending

- Debates over whether “money matters”—inconsistent relationship between spending and outcomes
- Problem: difficult to determine cause and effect
 - School funding often compensatory; many other confounds
 - Infeasible to run experiments at scale
- Solution: “natural experiments”

State-level spending reforms improved outcomes

- Most prominent “natural experiments”: state-level reforms
 - Increased state aid for low-income districts
 - **Short- and long-run:** higher test scores, graduation, college, earnings, intergenerational mobility, house prices; lower crime
 - 10% increase in school spending for 12 years → 8% increase in wages in adulthood (Jackson et al. 2016)
 - Evidence nationally, in specific states, across decades

Positive effects on outcomes across a variety of settings

- School finance reforms
- Close school bond/tax elections
- Funding formula “quirks”
- Housing market dynamics and relationship with funding formula
- Spending cuts had a negative impact

Larger impacts for low-income students and districts

- When funding targeted to low-income districts and students, studies show larger impacts per dollar
 - For 10% higher spending, adult wage gains of 10% for low-income children; 6% for high-income children (Jackson et al. 2016)
 - On average, test score impacts 2x larger per dollar vs high-income (Jackson and Mackevicius 2021)
 - Over 75% of studies show larger impacts for low-income

Effects of capital spending are less consistent

- Higher test scores, attendance in district-level studies (e.g., LAUSD)
- Positive impacts for specific facility components (e.g., HVAC)
- Mixed findings at the state level; some positive, some null
- **Exception:** research in CA suggests larger positive effects here
 - Potential explanation: harder to raise funds, less state support than in other states → greater need

California-specific research shows nuances of statewide policies

- Class Size Reduction (CSR) of the 1990s: inconclusive on test scores; drop in teacher qualifications
 - Later research: lower teacher qualifications offset gains from smaller classes
 - Restricted spending increase at scale + supply constraints may diminish potential impacts of a policy
- LCFF: higher spending improved outcomes
 - But: imperfect targeting of funds to high-need students, schools

Contextualizing spending levels: What does the research imply?

- Why have test score gaps persisted despite rising spending?
- Simple comparison: examine *relative* differences in spending and scores between student groups
 - Extrapolate using estimates of per-dollar test score impacts

Higher spending for low-income, Black, and Latino students

	Low-income	Non-Low-income	Asian	Black	Latino	White
Total spending per pupil (2019–20)	\$19,142	\$18,335	\$18,622	\$20,254	\$18,930	\$18,337
Difference: vs. non-low-income	\$807	\$0				
Difference: vs. white			\$285	\$1,917	\$593	\$0

Source: California Department of Education, SACS files, enrollment files; authors' calculations.

Contextualizing spending levels: What does the research imply?

- Estimates imply closing income gap in 8th grade scores could require:
 - \$7,200 to \$10,200 for 8 years
 - Current spending progressivity only 8% to 11% of implied amount
 - At current levels: 70+ years to close income gaps in test scores
- **Many caveats!** Likely not linear, additive
- **Upshot:** Spending is effective per dollar (and passes cost-benefit), but current levels far from what *could* close gaps

How spending is targeted matters

- To target *student-level* gaps, need to know how funding reaches schools and students within districts
 - Many districts segregated across school sites
 - National: reforms led to improvements for low-income *districts* but not *students*
 - Michigan reform: larger increases for high-income *schools within districts*
 - LCFF: extent of targeting to school sites varies

How should we spend a given dollar?

- Current research provides little concrete guidance
 - Difficult to study: easier to find natural experiments on spending level than on composition
 - Exceptions: class size, smaller programs
- Staff quantity vs. “quality” can be a tradeoff
 - Low-income schools have smaller class sizes, but spend less per teacher
 - Is this the best use of funds?

Rising costs crowd out spending increases

- Benefit costs rising faster than inflation
- Rising cost of living, broad wage increases (“cost disease”)
- Pension contribution rate increases:
 - District contribution rate more than double since 2013
 - Crowds out roughly 25% of spending increase post-LCFF
- **Key:** is additional dollar buying same level of resources?

Declining enrollment poses immediate and long-term challenges

- State enrollment projected to decline 9% in next decade
 - Largely driven by demographics (migration; falling birth rates)
 - Pandemic accelerated trend; some increase in private school
- Adjusting to lower enrollment challenging for districts
 - Can lose efficiencies in downsizing; closing schools difficult choice
- **Silver lining:** more funding per student statewide

Conclusion

- Robust body of research finds that spending improves outcomes
 - Short- and long-run outcomes
 - *On average, not always or for all*
 - True across contexts—and when funding is unrestricted
 - Largest impacts for low-income students and districts
- Research less clear about specific inputs
 - Capital impacts generally smaller per dollar
 - Tradeoffs between staff quantity vs. quality may be consequential

Recommendations for policy and research

- Improve targeting to address inequities more efficiently
- Staffing differences across schools need more attention
 - Spending more via smaller classes but with novice educators?
- Better data can better inform what works—and for whom
 - Research often limited to test scores
 - Role of school has expanded (e.g., mental health; community schools)

Notes on the use of these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

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Thank you for your interest in this work.