# When Resources Meet Relationships: The Returns to Personalized Supports for Low-Income Students

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# Motivation

- Individuals from low-income families earn less than peers from high-income families
  (Chetty et al., 2014; Solon, 1992)

- Gaps emerge early: lower test scores, high school graduation, and college attendance
  (Black et al., 2005; Chetty et al., 2020)

- Given returns to schooling, education is a key lever for reducing earnings disparities
  (Bhuller et al., 2017; Card, 1999; Fitzpatrick et al., 2011; Zimmerman, 2014)

- Policies expanding resources in high-poverty schools—better teachers, smaller classes, tutoring, equalized funding—show important benefits
  (Aizer et al., 2016; Chetty et al., 2014; Hyman, 2017; Jackson et al., 2016; Nickow et al., 2020)

- Low-income students face upstream barriers that limit access to these opportunities
  (Malkus, 2024; Robinson et al., 2025)

# Helping Students Overcome Barriers: Communities In Schools

- How can we help students overcome barriers to learning in high-poverty schools?
- One promising approach: combine traditional resources with personalized supports that help students navigate challenges and access services (e.g., Barr and Castleman, 2025; Bergman et al., 2024; Caspi and Rafkin, 2025; Espinosa et al., 2024; Katz et al., 2022; Weiss et al., 2019)
- **This paper:** Communities In Schools (CIS), which places a site coordinator in high-poverty schools
- Connect struggling students with in-school supports (tutoring, mentoring) and out-of-school resources (food, housing, health), tailored to individual needs
- CIS currently serves 2 million students annually; 3x the size of Head Start

# Roadmap

1. Academic Outcomes
   - Effect of CIS on test scores among students who struggle academically, have poor attendance, or face disciplinary problems
   - Staggered adoption of Texas CIS programs and K-12 admin data
2. Long-Run Effects
   - High school graduation and college attendance in Texas
   - Earnings from national CIS programs and linked Census and IRS data
3. Mechanisms and Persistence
   - Can we forecast long-run effects using intermediate short-run outcomes?
4. Program Costs and Scaling
   - How does CIS compare to reductions in class size?
   - Forecasted impacts of future expansions of the program

# CIS Intervention

- "Surround students with a community of support, empowering them to stay in school and achieve in life" (Communities In Schools, Inc., 2011)

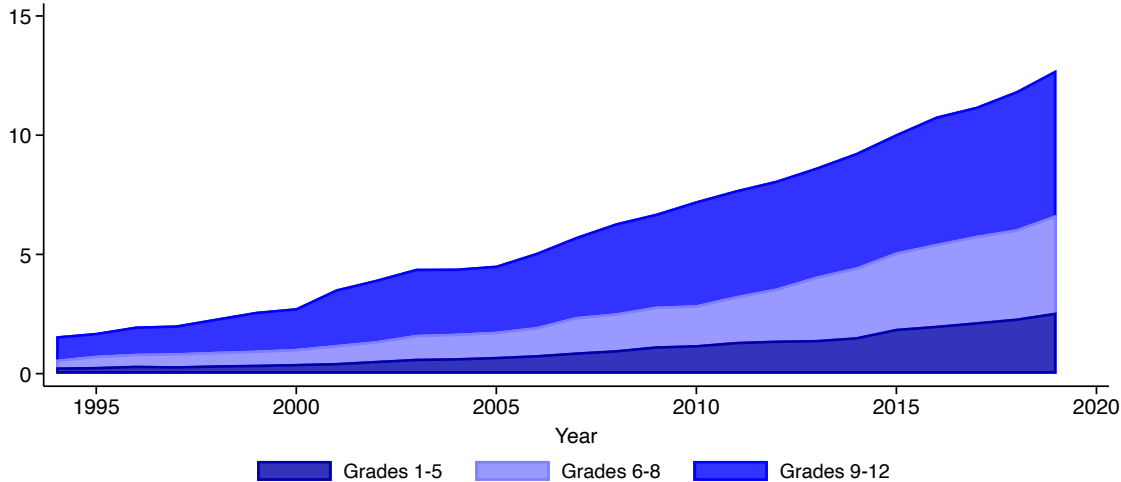
- Teachers and staff refer students with academic, behavioral, attendance, or basic-needs concerns to *case management*

- Case management: regular meetings with a site coordinator who connects students to in-school supports (tutoring, mentoring) and community resources (food, housing, health care, social-emotional support)

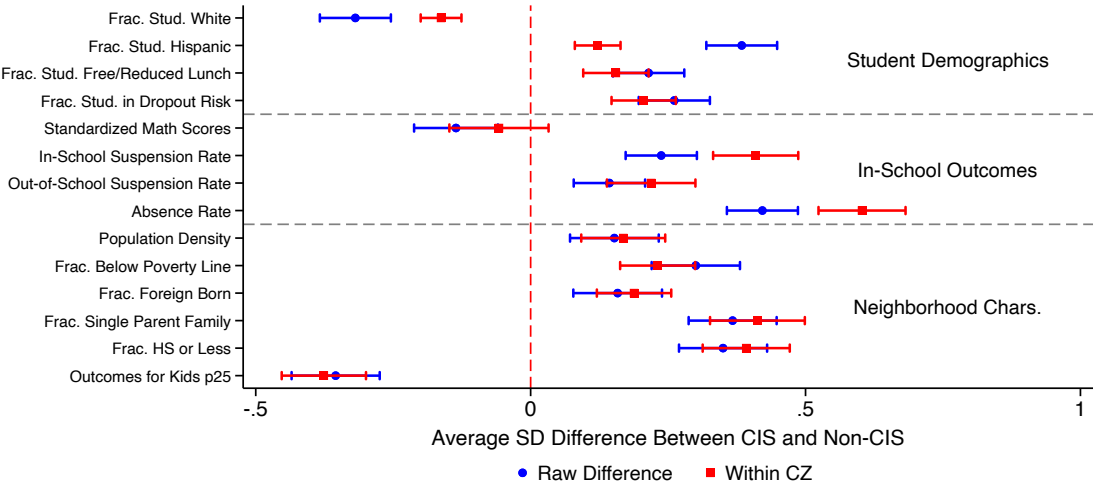
- In Texas, about 12.5% of students receive case management in a given year
  - The median case managed student meets with the site coordinator 29 times in a year

- Other students benefit from basic-needs services and school-wide initiatives (e.g., improving attendance culture)

# Percent of Texas Students in a CIS School



# Characteristics of CIS Schools



# Case Managed vs. Other Students in CIS Schools

| | Ever in School with CIS Program | Case Managed Students | Other Students in CIS Schools |
|---|---|---|---|
| Fraction White | 0.26 | 0.2 | 0.66 |
| Fraction FRPL | 0.52 | 0.77 | 0.07 |
| Std. Math Score in 6th Grade | -0.13 | -0.54 | -0.09 |
| Absence Rate in 6th Grade | 0.04 | 0.05 | 0.04 |
| In-School Suspension Rate in 6th Grade | 0.17 | 0.21 | 0.05 |
| Graduate from HS | 0.73 | 0.68 | 0.76 |
| N | 3,300,000 | 132,000 | 342,000 |

# Distribution of Top Services

| Cognitive | Non-Cognitive | Other |
|---|---|---|
| Academic Skills | Social Skills | Food Assistance |
| Tutoring | Self-Esteem | Enrichment Incentives |
| Grades | Character Building | |
| Academics Encouragement | Attendance | |
| Homework Assistance | Mentoring | |
| | Supportive Guidance | |

# Data

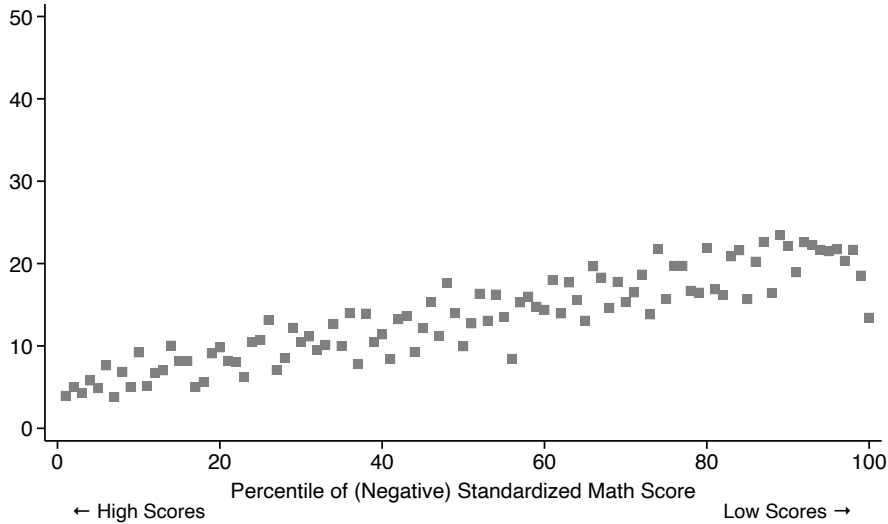
- Texas Education Research Center administrative records: K–12, postsecondary, and labor market outcomes
- All Texas public school students, 1995–2019
- CIS program data: school participation (all active schools in 2019–20 with start dates) and student-level case management, 2014–2019
- Focus on middle school CIS programs; use elementary records for pre-period outcomes and universal test scores
- 16 million unique students, including 3 million who ever attended a CIS school
- Census data (2000, 2010) linked to federal income tax records, 1979–2019
  (Chetty, Dobbie, Goldman, Porter, and Yang, 2025)

1. **Academic Outcomes**
2. **Long-Run Effects**
3. **Mechanisms and Persistence**
4. **Program Costs and Scaling**

# Predicting Case Management

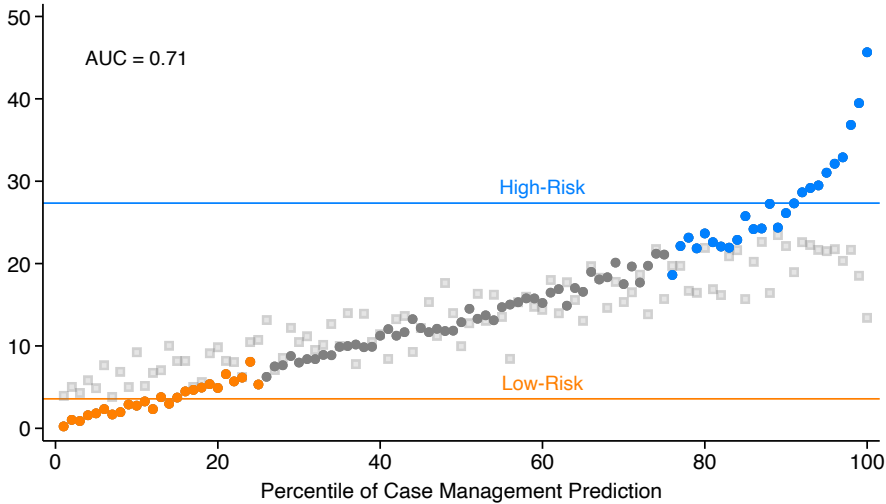
- Goal: identify students most likely to receive intensive CIS services
- Only 12.5% of students are case managed in a given year
  - 18% “ever case managed” in middle school
- Compare outcomes to “likely case-managed” students in non-CIS schools
- Strategy avoids bias from unobserved shocks that trigger case management

# Percent of Students Case Managed in Middle School



# Percent of Students Case Managed in Middle School

## Out-Of-Sample Prediction from GBM Model



# Outcomes for High-Risk v. Low Risk Students

| | High-Risk Students | Low-Risk Students |
|---|---|---|
| Std. Math Score in 6th Grade | -0.69 | 0.78 |
| Absence Rate in 6th Grade | 0.046 | 0.027 |
| Graduate from HS | 0.60 | 0.86 |
| Enroll in TX Colleges (18-22) | 0.33 | 0.74 |
| Employed at Age 27 | 0.59 | 0.65 |
| Average Earnings at Age 27 | $15,847 | $35,260 |
| N | 1,968,000 | 1,986,000 |

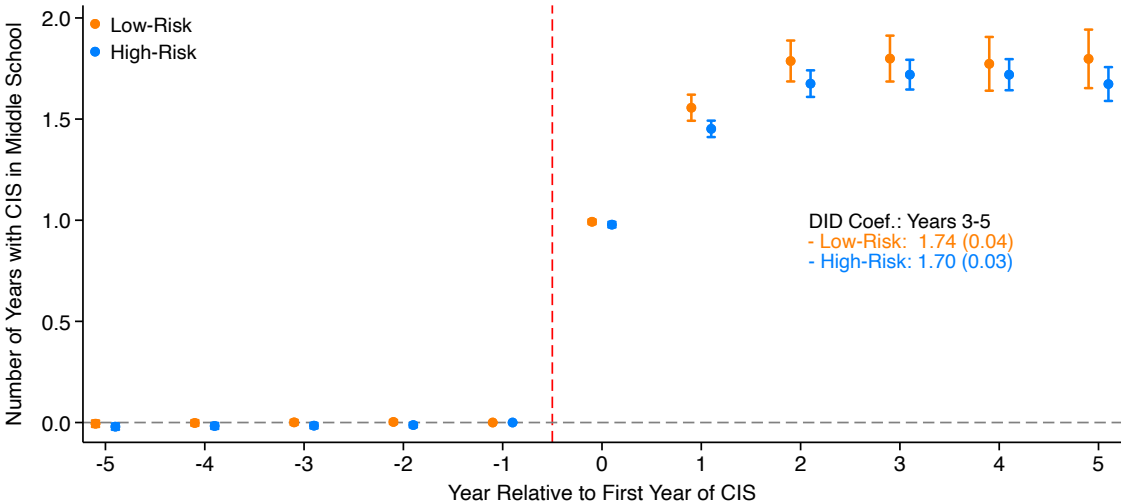
# Empirical Approach

- Stacked event study comparing CIS schools to “never treated” control schools
  (Sun and Abraham, 2021)

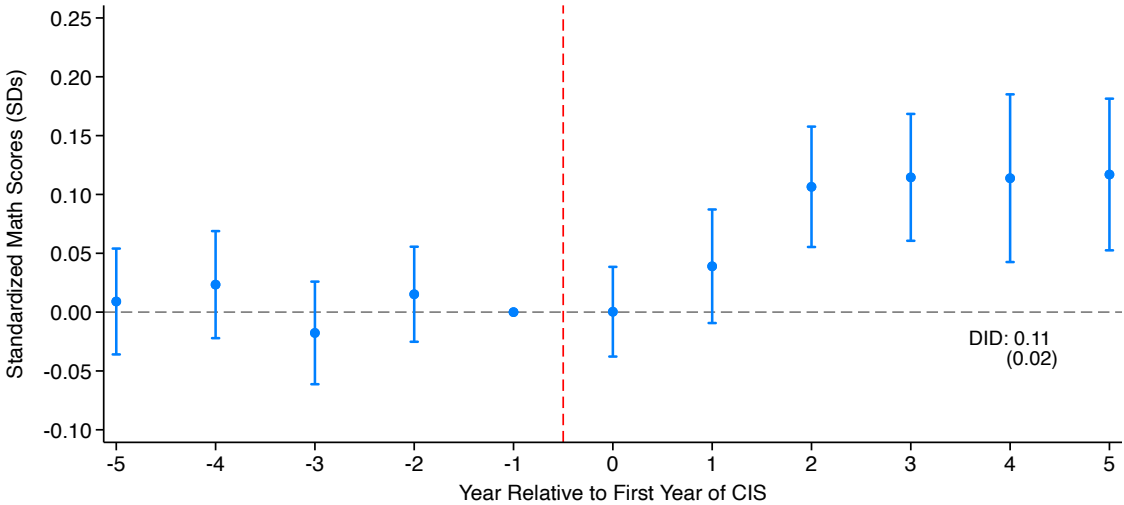
- Control schools chosen based on pre-entry characteristics and outcomes more than five years prior to CIS

$$y_{i,t} = \sum_{\substack{\tau=[-5,5] \\ \tau \neq -1}}^{5} \beta_\tau \, \mathbf{1}[t - T(s) = \tau] \cdot CIS_s + \lambda_{s,r,m} + \gamma_t + \epsilon_{i,t}$$

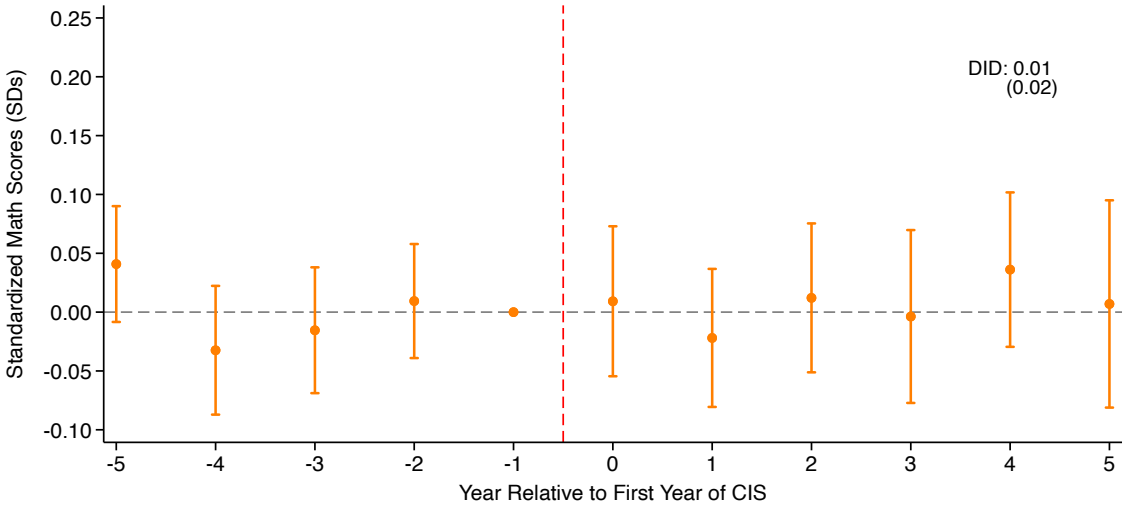
# Cumulative Exposure to CIS by Year



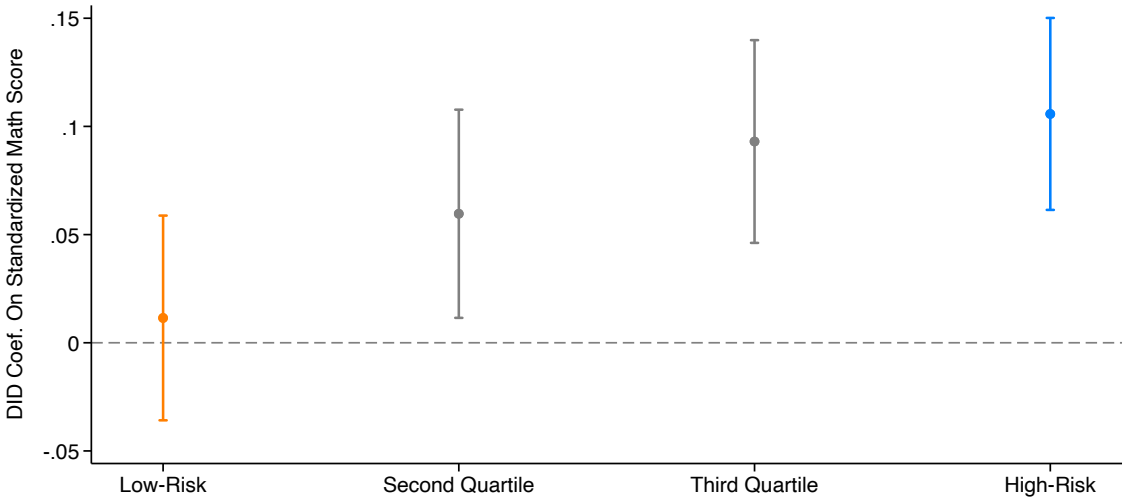
# High-Risk Students: Effect on Math Scores



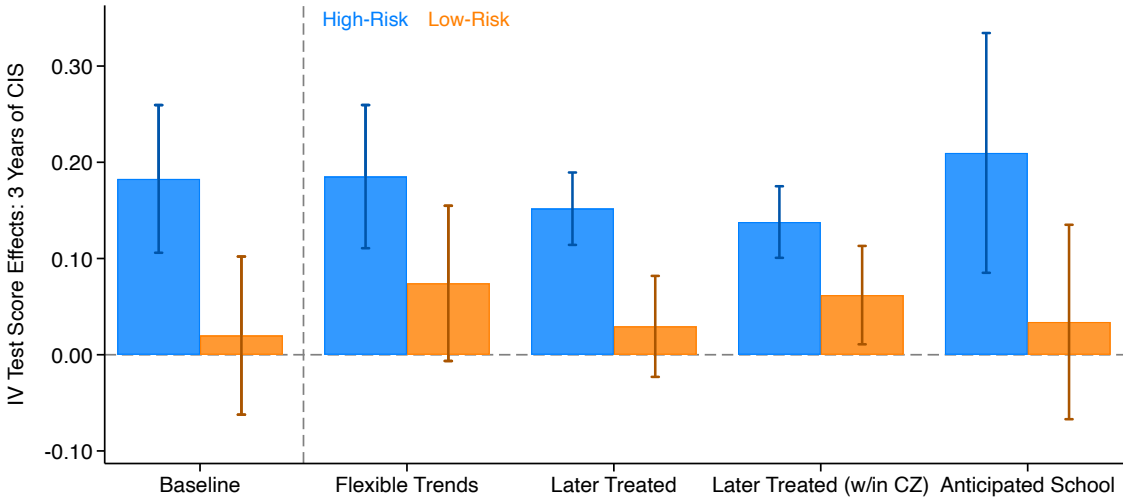
# Low-Risk Students: Effect on Math Scores



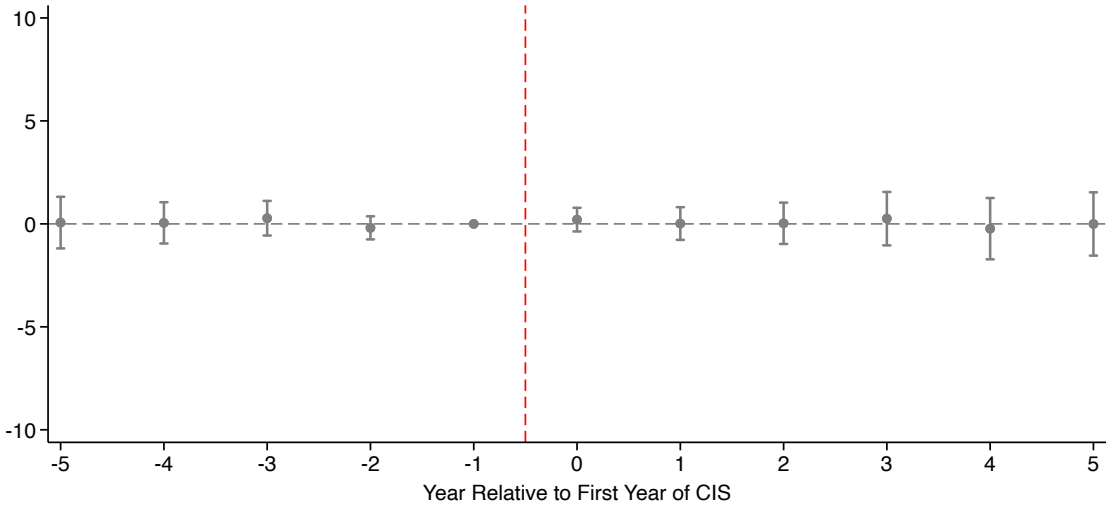
# Test Score Effects by Risk Quartile



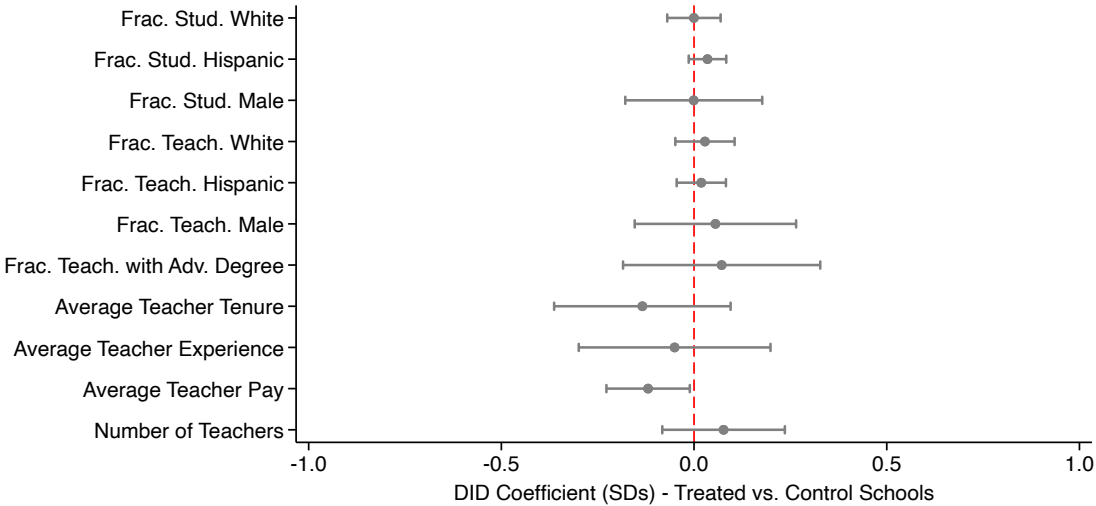
# Alternative Identification Assumptions



# Percent of Students who are White



# Effects on Student and Teacher Characteristics



1. Academic Outcomes

2. **Long-Run Effects**

3. Mechanisms and Persistence

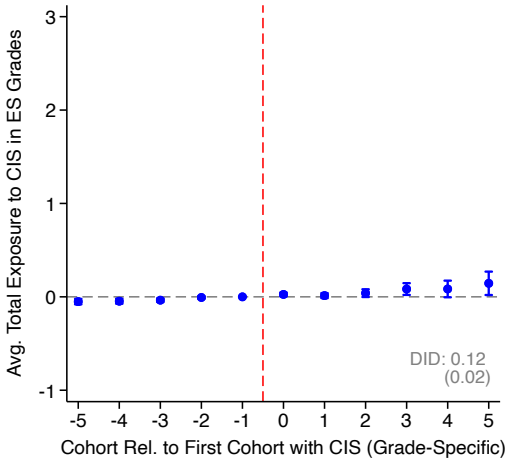
4. Program Costs and Scaling

# Estimating Long-Run Effects

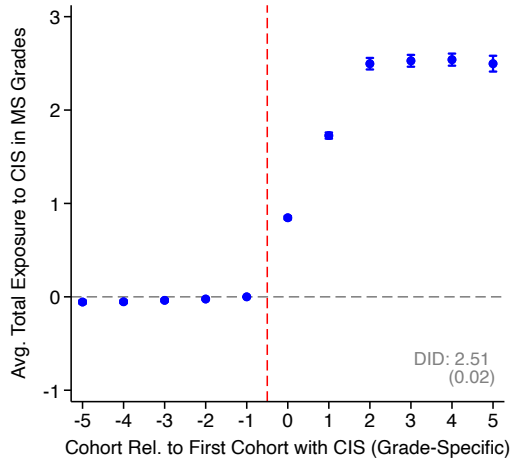
- **Year-based:** Compare outcomes within a school before and after CIS entry to outcomes in control schools
- **Cohort-based:** Compare outcomes within a school of exposed vs. unexposed cohorts to outcomes in control schools
- One outcome per student; equivalent to running grade-level estimates and stacking across grades
- First stage accounts for total years of CIS exposure

# Cumulative Exposure to CIS

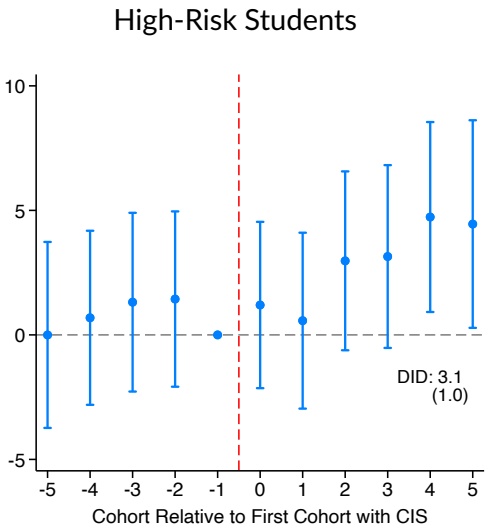
## Elementary School Exposure

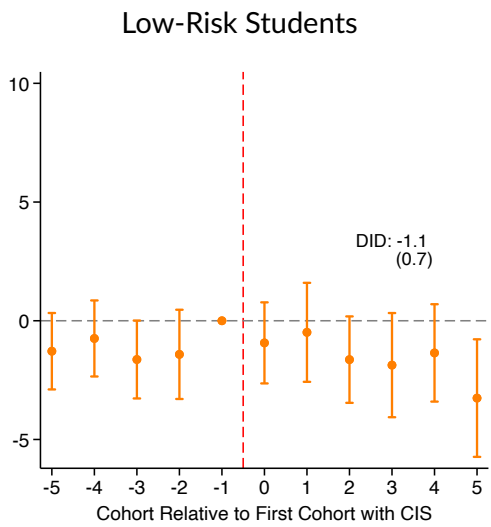



## Middle School Exposure

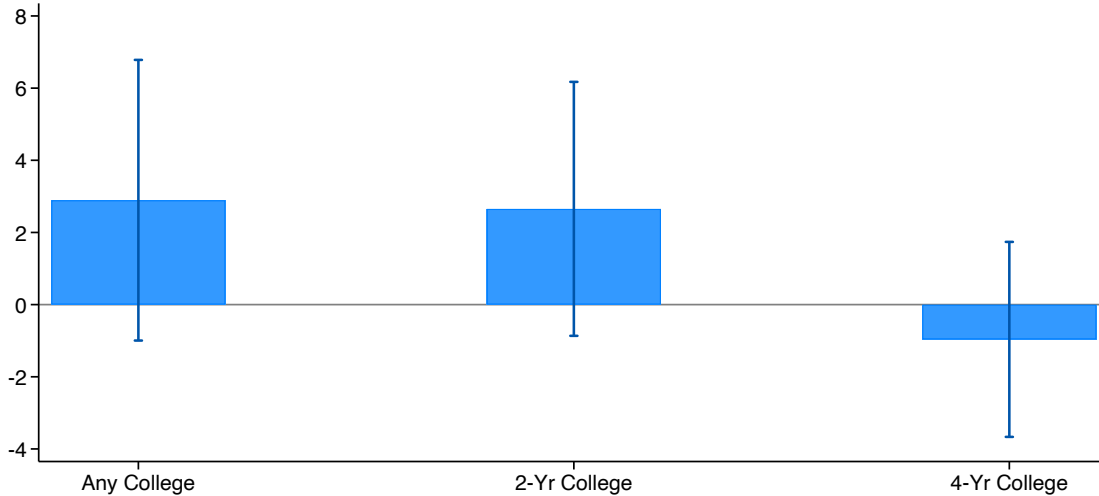


# Percent Graduated from High School



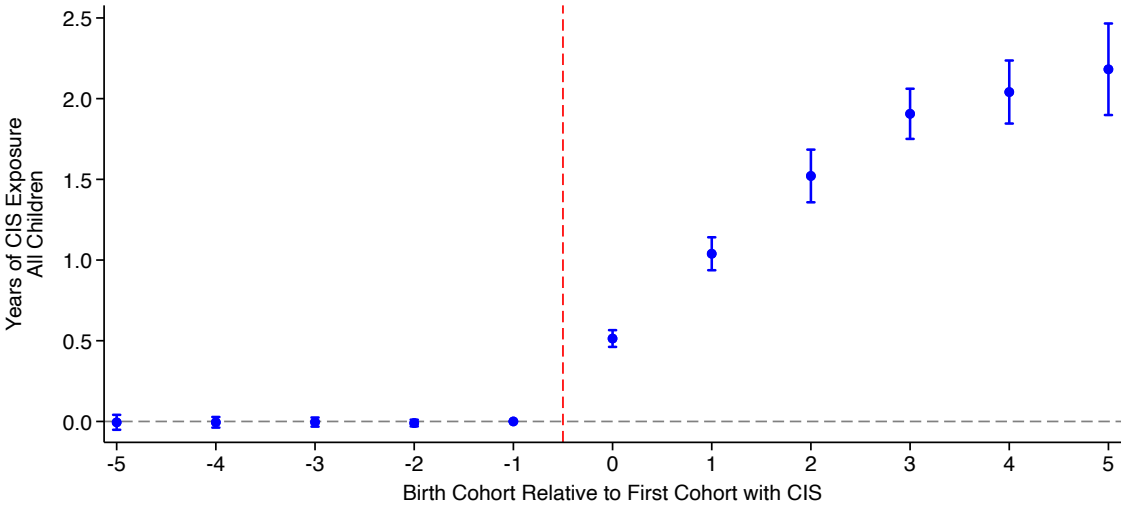
# Effects on College Attendance (pp) for High-Risk Students



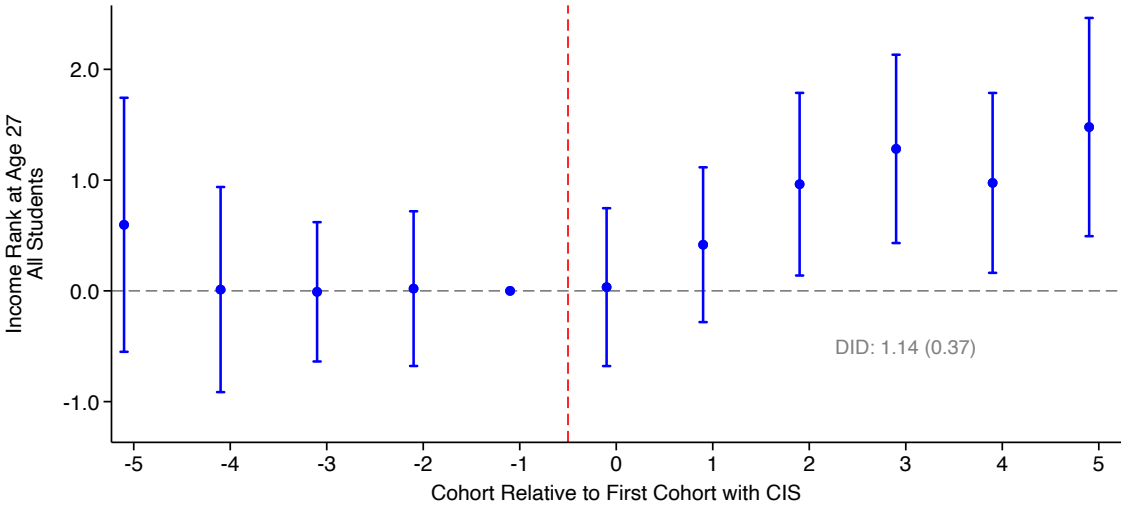
# Economic Outcomes

- Most Texas CIS programs are too recent to see students in their late 20s or early 30s
- Instead, use CIS programs outside Texas linked to Census and IRS data
- Assign students to schools based on neighborhood catchment zones
- Compare outcomes in CIS neighborhoods to those in later-treated neighborhoods
- Cannot distinguish high- vs. low-risk students (we later compare to Texas estimates)
- Outcome: income percentile at age 27

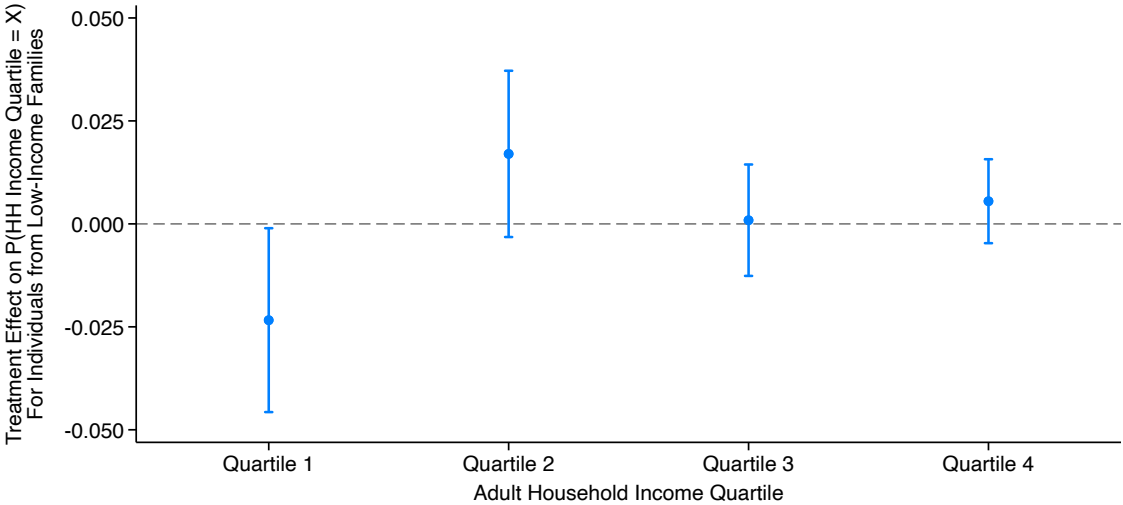
# Cumulative Exposure to CIS



# Household Income Percentile at Age 27



# Quantiles: Household Income Percentile at Age 27



1. Academic Outcomes

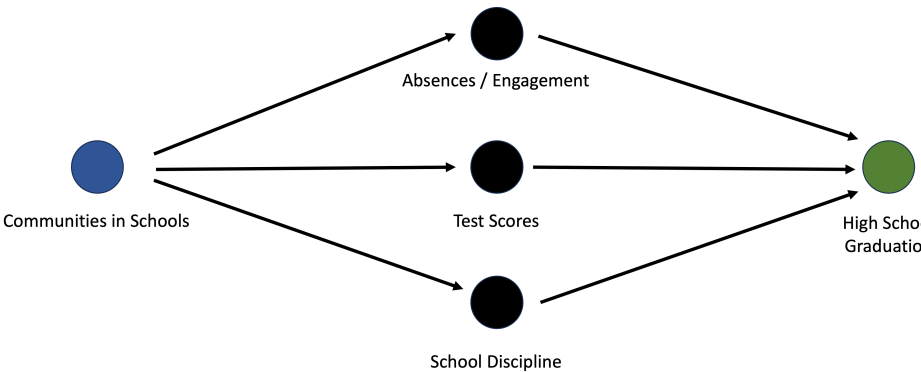
2. Long-Run Effects

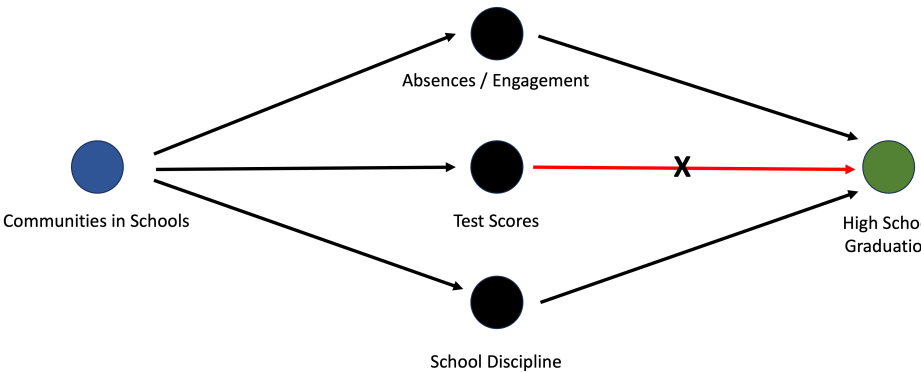
3. **Mechanisms and Persistence**

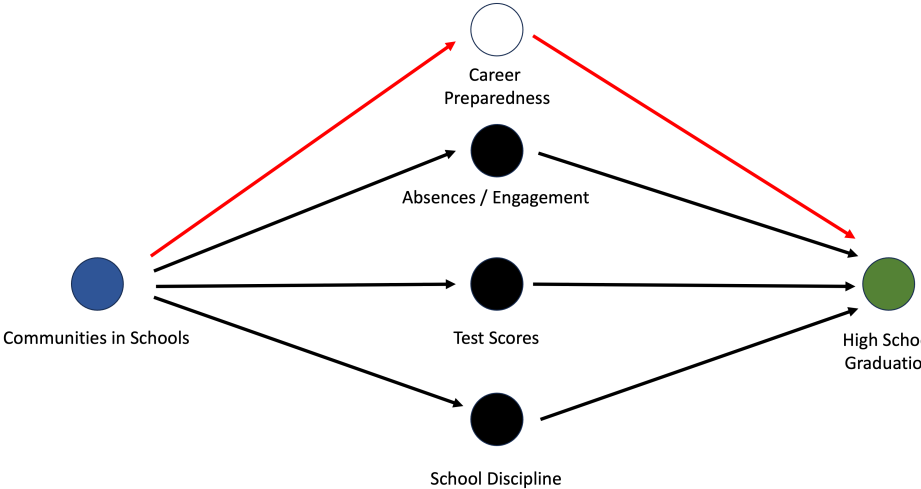
4. Program Costs and Scaling

# Were Long-Run Effects Forecastable?

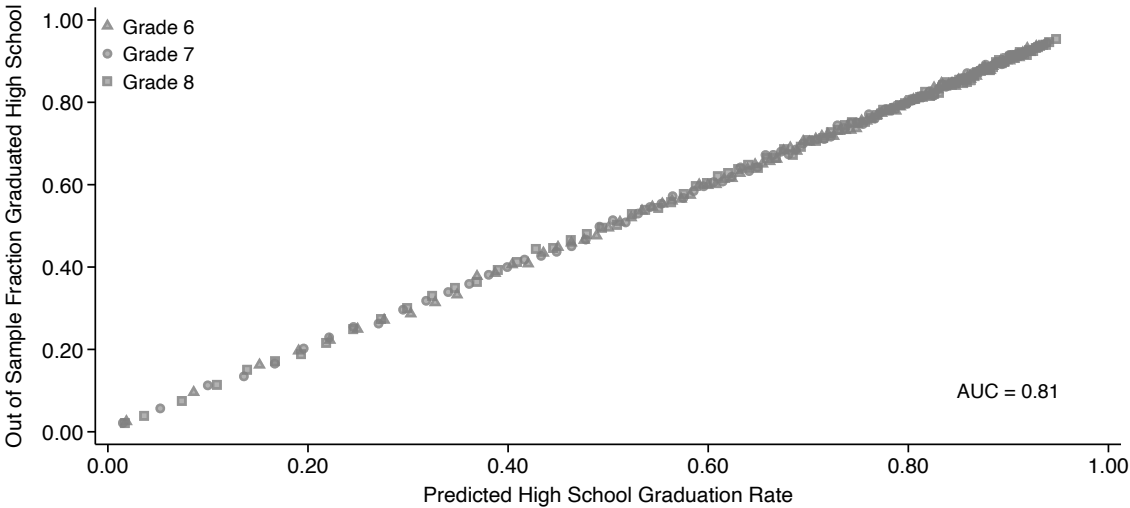
- How do predicted long-run effects from in-school outcomes compare to actual long-run effects?
- If predicted effects are larger: suggests fade-out (e.g., teaching to the test, later constraints offset gains)
- If predicted effects are smaller: suggests impacts through unobserved channels (e.g., grit, social capital, spillovers, complementarities)
- If predicted effects are accurate: supports validity of “statistical surrogates” (e.g., Athey et al., 2025; Prentice, 1989)
- Implication: future rollouts could be evaluated much more quickly


Absences / Engagement
Communities in Schools
Test Scores
High School Graduation
School Discipline

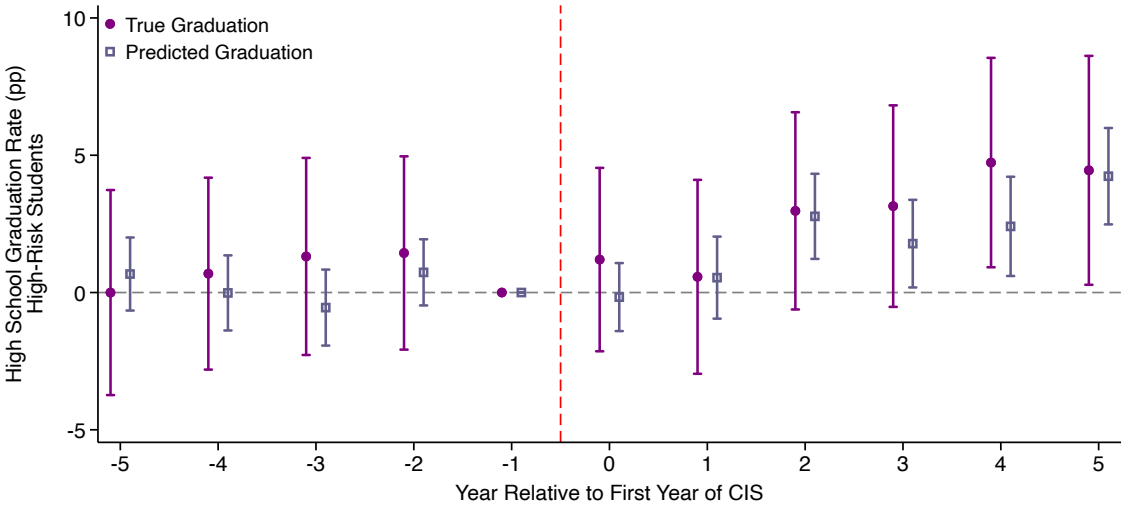

Absences / Engagement
Communities in Schools
Test Scores
X
High School Graduation
School Discipline


Career
Preparedness
Absences / Engagement
Communities in Schools
Test Scores
High School
Graduation
School Discipline

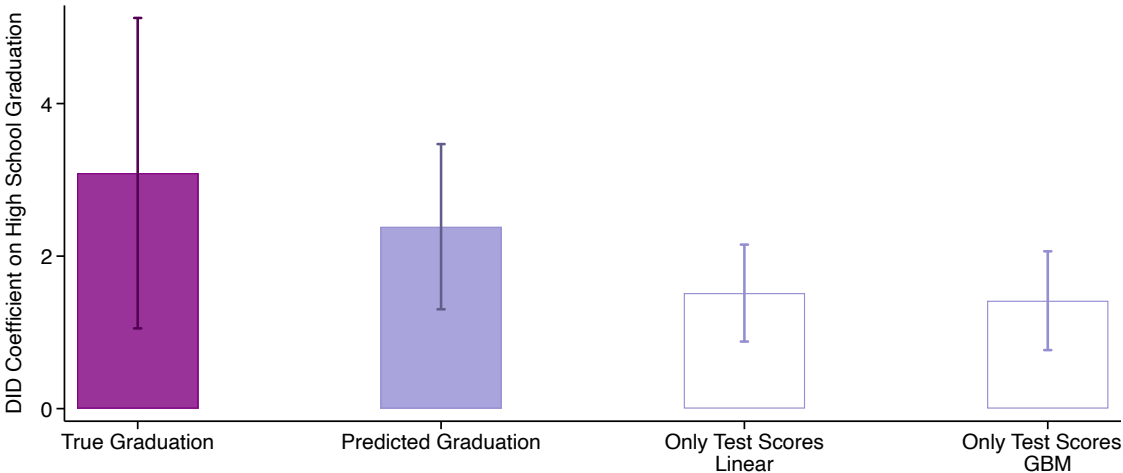
# Out-of-Sample Accuracy of HS Graduation Prediction



# True vs. Predicted Effects on HS Graduation



# Accuracy of Different Prediction Methods



# When Does Personalization Pay Off?

Different needs → Different services

**Efficient Personalization**

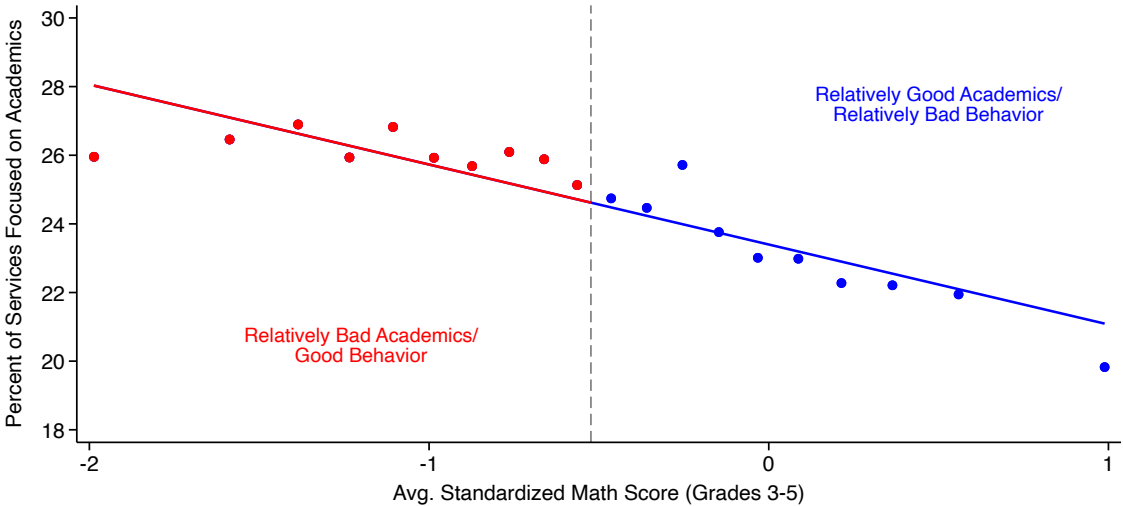
Similar Long-Run Outcomes

**Inefficient Personalization**

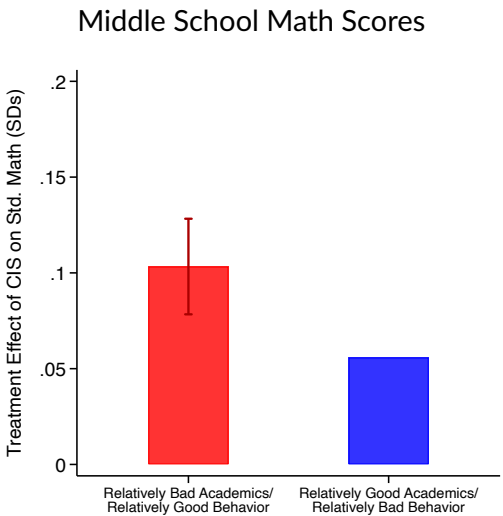
Divergent Long-Run Outcomes

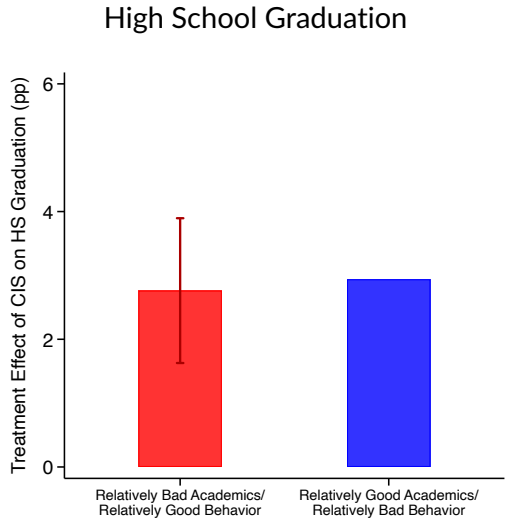
- Classify students based on whether primary needs are academic or non-academic

# Fraction of Services Targeted at Academics



# Treatment Effect of CIS by Student Type



1. Academic Outcomes

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# Conclusion

- Students from low-income families fall behind in school and in the labor market
- Communities In Schools (CIS)—the nation's largest integrated student support program—improves both in-school and long-run outcomes
- Cognitive *and* non-cognitive channels are important for explaining effects
- Relational model of support (dedicated navigator) improves outcomes cost-effectively
  - \$1,000 in CIS $\Rightarrow$ +\$406 in adult earnings
  - vs. +\$40 from class-size reductions (Chetty et al., 2011)
  - 3 years of CIS $\uparrow$ PDV of lifetime earnings by \$40k and tax revenue by \$7.2k per student
- Gains are concentrated among the most disadvantaged students
- Targeted expansion could nearly double CIS's overall impact

The Washington Post
Democracy Dies in Darkness

# MacKenzie Scott donates $133 million for in-school support services

February 3, 2022 More than **3 years ago**

# Communities In Schools receives $165 million commitment

**February 15, 2023**

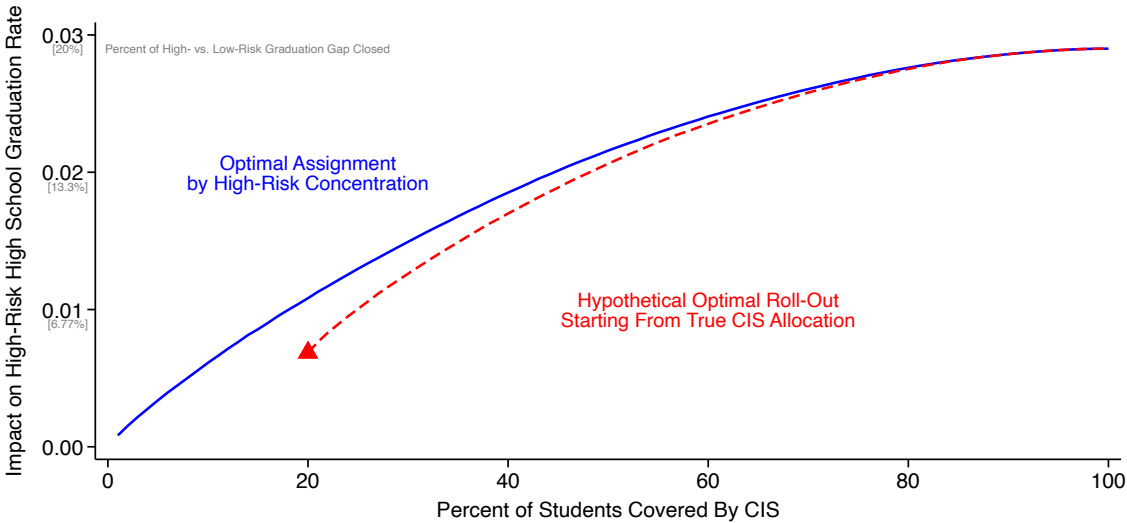
ballmer GROUP

## Communities In Schools of North Texas Prepares for New School Year Expanding Reach and Supports to 59 School Sites

Posted on August 22, 2024 by Communities In Schools of North Texas

**FOR IMMEDIATE RELEASE**
**August 22, 2024**

# Predicted Impacts of CIS Expansion on Graduation Rates



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