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## Long-Run Effects of High-Quality Pre-K: What Does Research Show?

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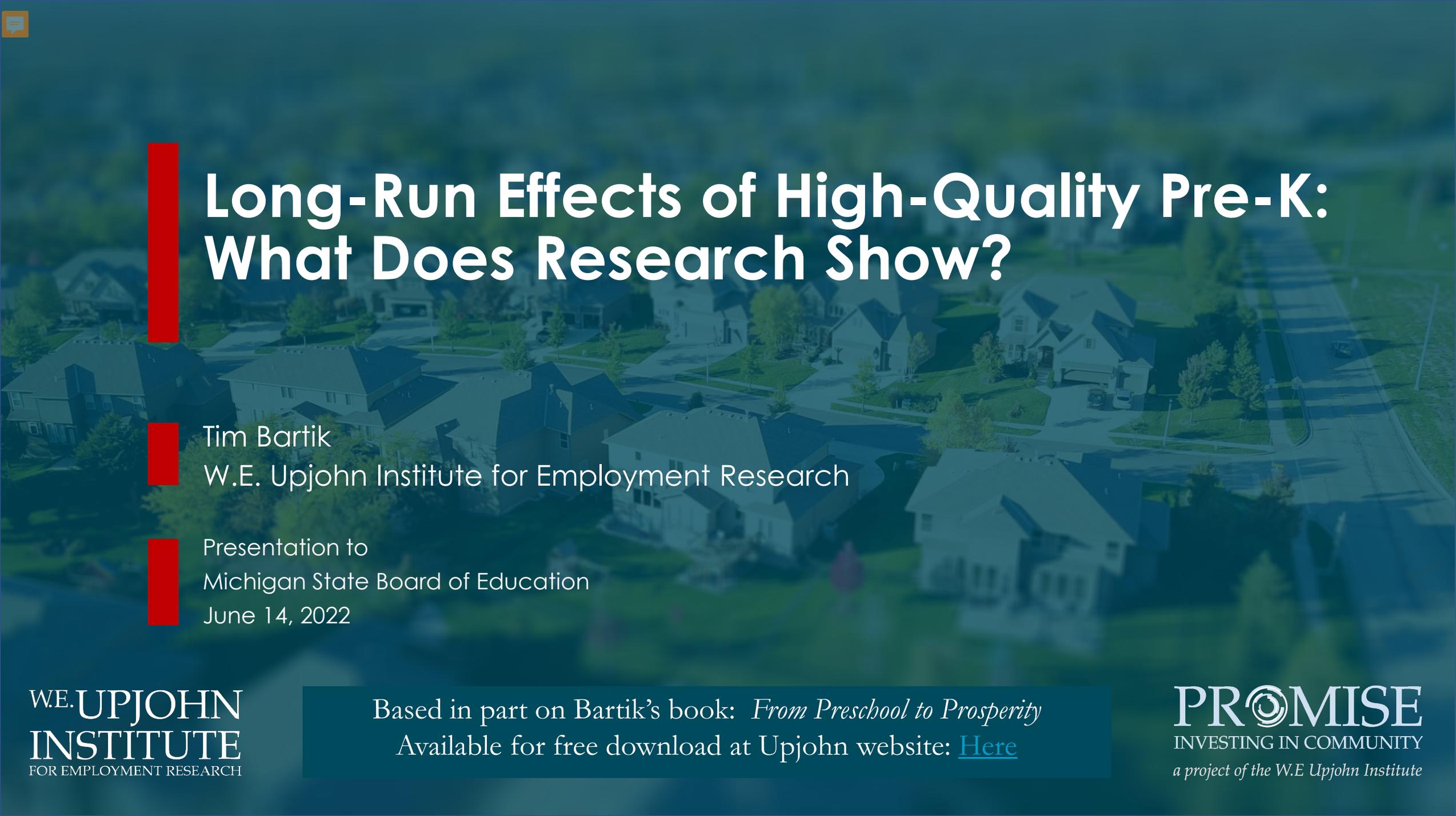
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# Long-Run Effects of High-Quality Pre-K: What Does Research Show?

Tim Bartik  
W.E. Upjohn Institute for Employment Research

Presentation to  
Michigan State Board of Education  
June 14, 2022

# What is the research consensus on pre-K?

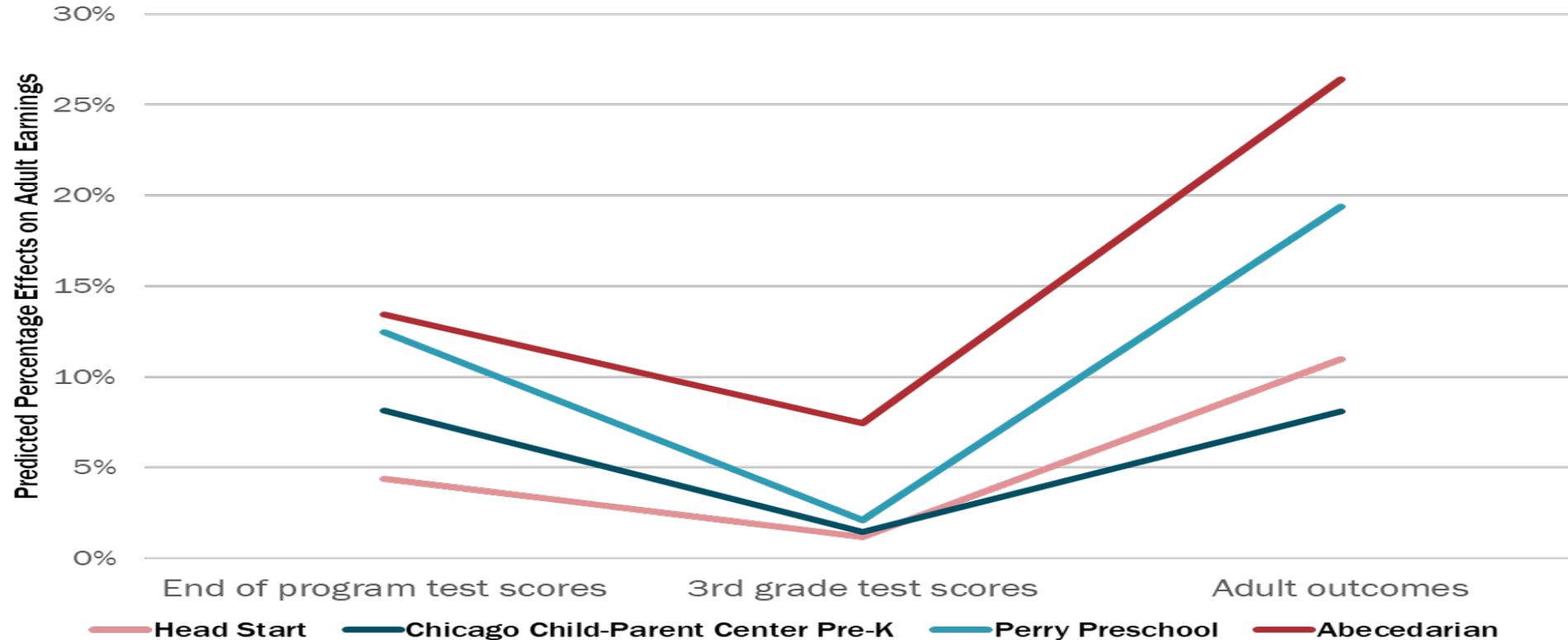
- **Recent Tennessee study:** the state's pre-K program as of 6th grade had zero or negative effects on test scores and behavior.
- **Recent Boston study:** Boston Public Schools' pre-K program increases high school grad rates by 6 percentage points, college grad rates by 5 percentage points.
- **Can these studies be reconciled with each other and with the broader research literature?** Yes. There is a broad research consensus that **high-quality** pre-K programs have large **long-run effects** on “authentic” adult outcomes: increased adult earnings, increased educational attainment, reduced crime.



# High-quality pre-K programs often show fading & then recovery

**Test scores generally underpredict the actual long-run earnings effects of high-quality pre-K programs.**

Predicted Percentage Effects on Adult Earnings based on Outcomes at Various Times



SOURCE: Bartik's calculations, based on research described in text and notes, 2014

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# How to explain fading & recovery of pre-K effects

- **Soft skills are an important part of pre-K effects.** Pre-K affects both “hard skills” (literacy, math) & “soft skills” (social skills, such as getting along with peers, teachers)
- **“Skills beget skills”** (quote from Nobel Prize-winning economist James Heckman). Child who learns both hard skills & soft skills in pre-K does better in kindergarten, and gets more skills, and so on through higher grades. This may be particularly true for soft skills.
- **Soft skills very important for adult success.** For example, a worker will be more successful if better able to deal with coworkers, customers, and supervisors.



# Other research findings

- **Quality matters.** Programs with long-run success are all high-quality.
- **Pre-K has intergenerational benefits:** The children of former child participants in pre-K also do better – benefits of pre-K are passed on.
- **Pre-K & K-12 investments are synergistic:** More \$ for pre-K has higher returns when K-12 is well funded, and vice versa.
- **Pre-K has similar adult benefits for children from low-income & middle-class families.** But greater % benefits for low-income.
- **Universal programs are more effective than targeted programs.** Due to peer effects? Parent pressures for quality? Greater political support?



## Why did Boston's program have long-run effects? High quality of program

- **Reminder of key evaluation findings:** Boston's preschool program increased high school graduation rates and college graduation rates, by 6 percentage points and 5 percentage points respectively.
- **Teacher quality:** Same educational requirements and pay scale as K-12 teachers.
- **Frequent teacher coaching:** pre-K teachers receive weekly or biweekly on-site support from early childhood coach trained in the curriculum.
- **High spending per student.** Adjusted to 2022 Michigan prices, \$12,000/student.
- **Universal access.** All Boston residents eligible. Lottery when slots scarce.
- **Boston had test-score fading.** Pre-K test score effects faded to zero by 3rd grade.
- **High school behavioral effects:** Even without test score effects, pre-K led to better high school behavior, such as fewer suspensions.



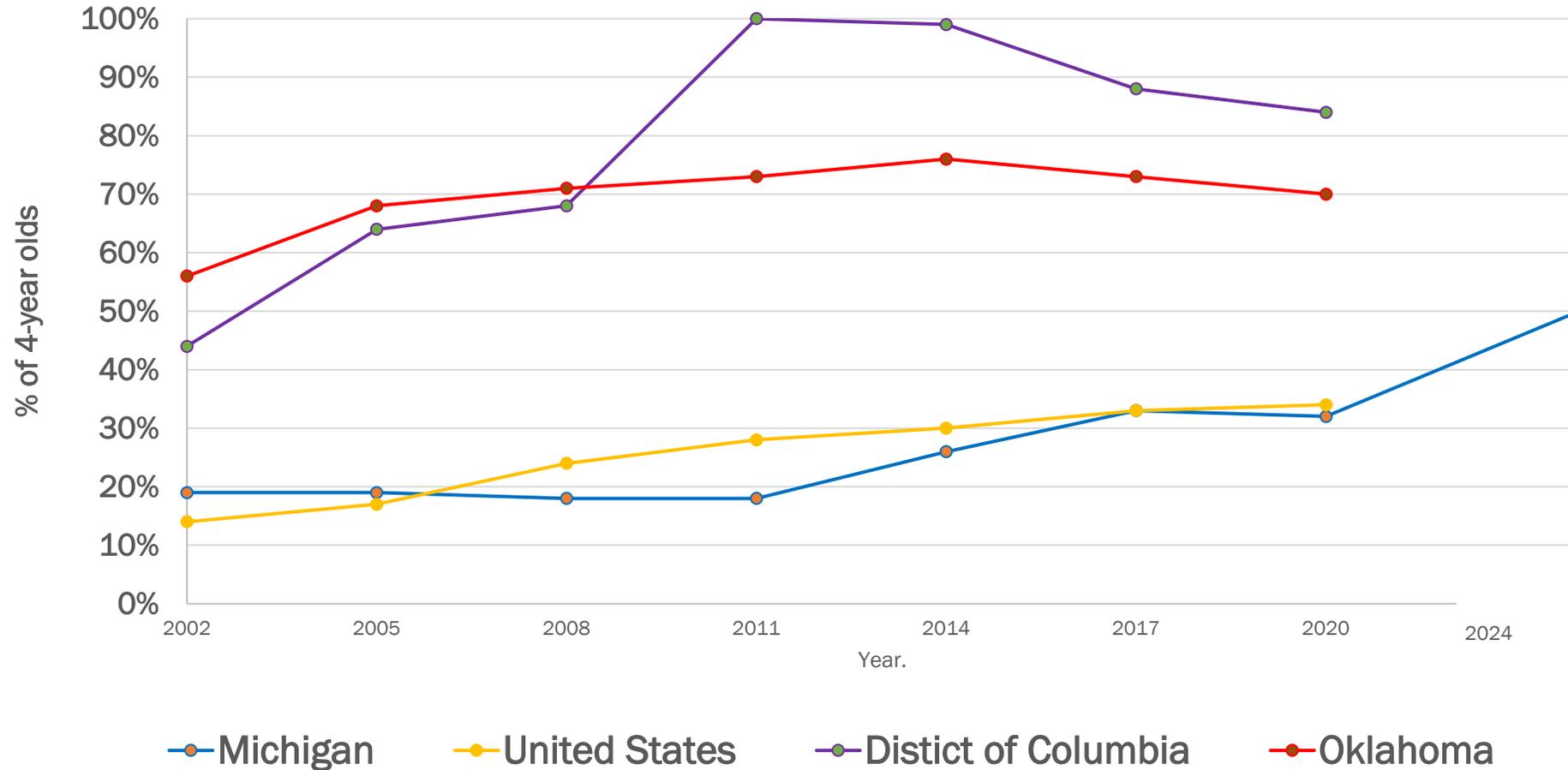
## Why did Tennessee's programs not have positive effects at 6<sup>th</sup> grade? Possible explanation: Tennessee's program lacked some key quality features

- **Reminder of key evaluation findings:** At 6<sup>th</sup> grade, Tennessee pre-K found to have zero or negative effects on test scores and behavior.
- **Initial effects did occur:** Tennessee's program increased test scores by end of pre-K.
- **Tightly income-targeted:** Less than 185% of poverty line.
- **Evaluators found program was poorly organized:** “The state didn't have a coherent vision...Each teacher was inventing pre-K on their own.”
- **Classroom observations found low quality.** 85% of classrooms rated less than “good” during 2009-2011 study period.
- **K-12 follow-through may have been weak.** K-12 quality probably less than in Boston.



# Michigan pre-K access is up, but behind leading states

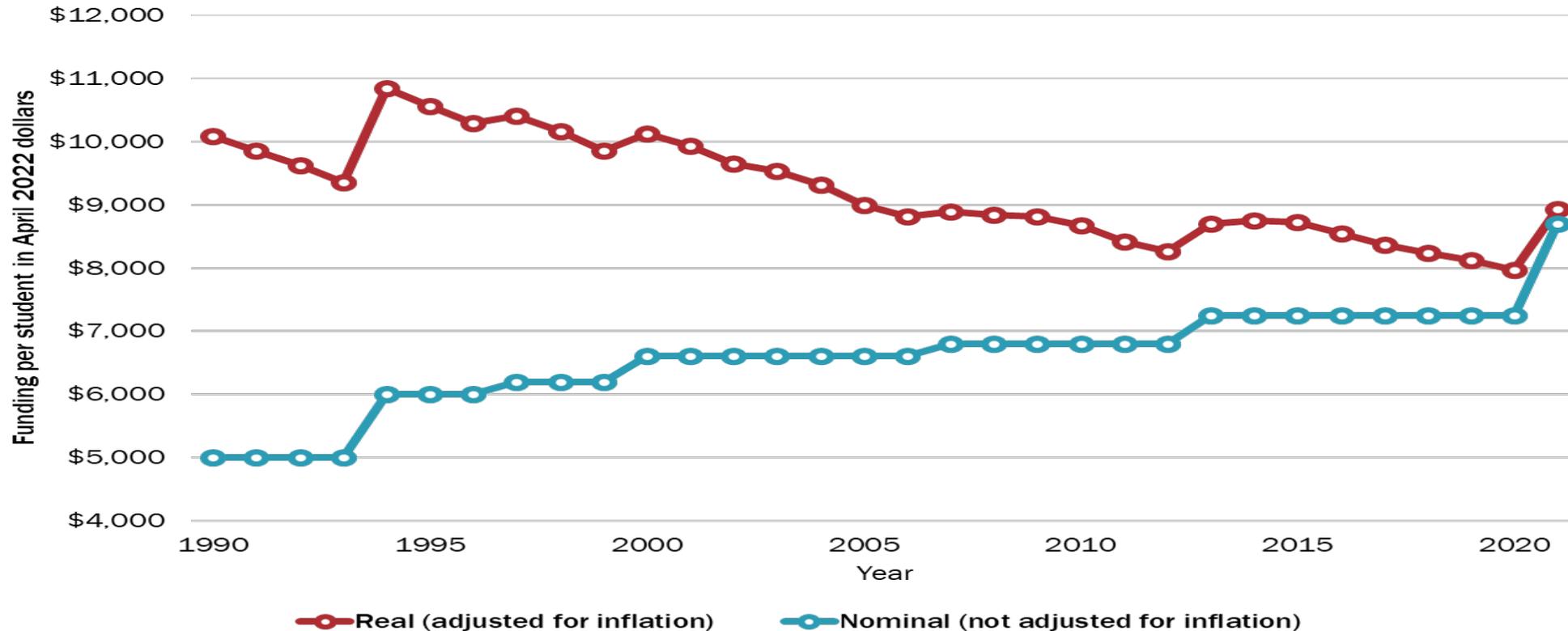
Although Michigan Has Kept Pace with National Trends in State Pre-K Enrollment, It Has Lagged Leading States



# Michigan's real funding per full-day GSRP slot has declined until recently

**Real funding for the Great Start Readiness Program has significantly declined since the 1990's.**

Full-Day Equivalent Great Start Readiness Program (GSRP) Funding per Student



SOURCE: Bartik's calculations using GSRP historical data and Detroit CPI (real in April 2022 \$)

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# Michigan's program meets basic standards that allow for high-quality, but more teacher coaching/mentoring would help.

- **High NIEER ratings:** Michigan meets 10 out of 10 quality standards of National Institute for Early Education Research (NIEER). These standards include curriculum, training, and class size. Among top 5 states.
- **NIEER standards are minimum.** Standards do not cover intensity and quality of particular activities to ensure quality.
- **Recommendation: improve teacher mentoring/coaching.** Fund a sufficient number of teacher mentors/coaches to do *weekly* visits to pre-K classrooms. This is particularly important because of high turnover in this sector (pandemic, inflation), and many new teachers. Possible models: Boston pre-K; Kalamazoo County Ready4s.



# Summary

- **Research consensus:** *high-quality* pre-K pays off in *long-run* effects on former child participants as adults: higher educational attainment, lower crime, higher earnings.
- **High-quality pre-K** is made more likely by programs with broader access, higher funding, and more support for teachers.
- **High-quality pre-K** increases effects of improvements in K-12, and vice versa.
- **Michigan's pre-K program** has recently made progress in access and funding, and this progress needs to continue.
- **Specific recommendations:** tie funding to some *multiple (one-third greater)* of foundation grant; support for *weekly* teacher coaching/mentoring.

