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MARYLAND EQUITY PROJECT

# Expanding Pathways into Teaching: Descriptive and Causal Evidence

David Blazar

Max Anthenelli, Wenjing Gao, and Francisco Lagos // University of Maryland College Park
Ramon Goings // University of Maryland Baltimore County
Seth Gershenson // American University and IZA

## MLDS Research Series

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# Motivation from the Literature

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1. Critical shortage of teachers and imbalanced teacher-student race ratio
(e.g., Schwartz et al., 2022; Sutcher et al., 2016)

2. Benefits of teacher-student race/ethnicity-matching on student outcomes
(e.g., Dee, 2004; Easton-Brooks, 2019; Goldhaber and Hansen, 2010; Harbatkin, 2021; Holt and Gershenson, 2015; Lindsay and Hart, 2017; Blazar, 2021; Blazar and Lagos, 2021; Gottfried et al., 2021; Shirrell et al., 2021; Gershenson et al., 2019)

3. Early exposure to teaching in high school might help expand teaching pathway overall, as well as decrease barriers to entry that could be particularly important for individuals of color
(e.g., Goings et al., 2018; Goings & Bianco, 2016; White et al., 2013)

However, the causal evidence is quite limited

# Motivation from the Blueprint

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PILLAR 2

**HIGH-QUALITY AND DIVERSE TEACHERS AND LEADERS**

Highly qualified and well-prepared teachers and leaders who reflect a school's population enable all students to perform at their highest level.

## The Expected Outcome

Maryland has a high-quality and diverse teacher and leader workforce that:

- approximates the diversity of Maryland students statewide and by district;
- is sufficient to fill all needed positions and roles in schools and districts across the State; and
- provides teachers with professional learning opportunities to improve student outcomes and additional responsibility, authority, status, and compensation as they gain expertise.

## Pillar Goals

- Teacher preparation candidates and graduates increasingly reflect the diversity of students in the State, and by 2032 these candidates approximate that diversity, are in sufficient supply to meet Maryland's workforce needs, and meet new rigorous graduation standards.
- Teacher preparation graduates—including student groups and across programs — are licensed at an increasingly high rate (although there may be an initial dip when the new, more rigorous licensure tests are introduced) and following full implementation of the Blueprint in 2032 all graduates meet rigorous standards and earn licensure.
- The supply of highly qualified and diverse teachers increasingly meets demand statewide and by district, including for high needs (low performing, high concentration of poverty) schools and for new roles in schools (such as mentoring of new teachers) and meets demand by 2032.

# Motivation from the Data

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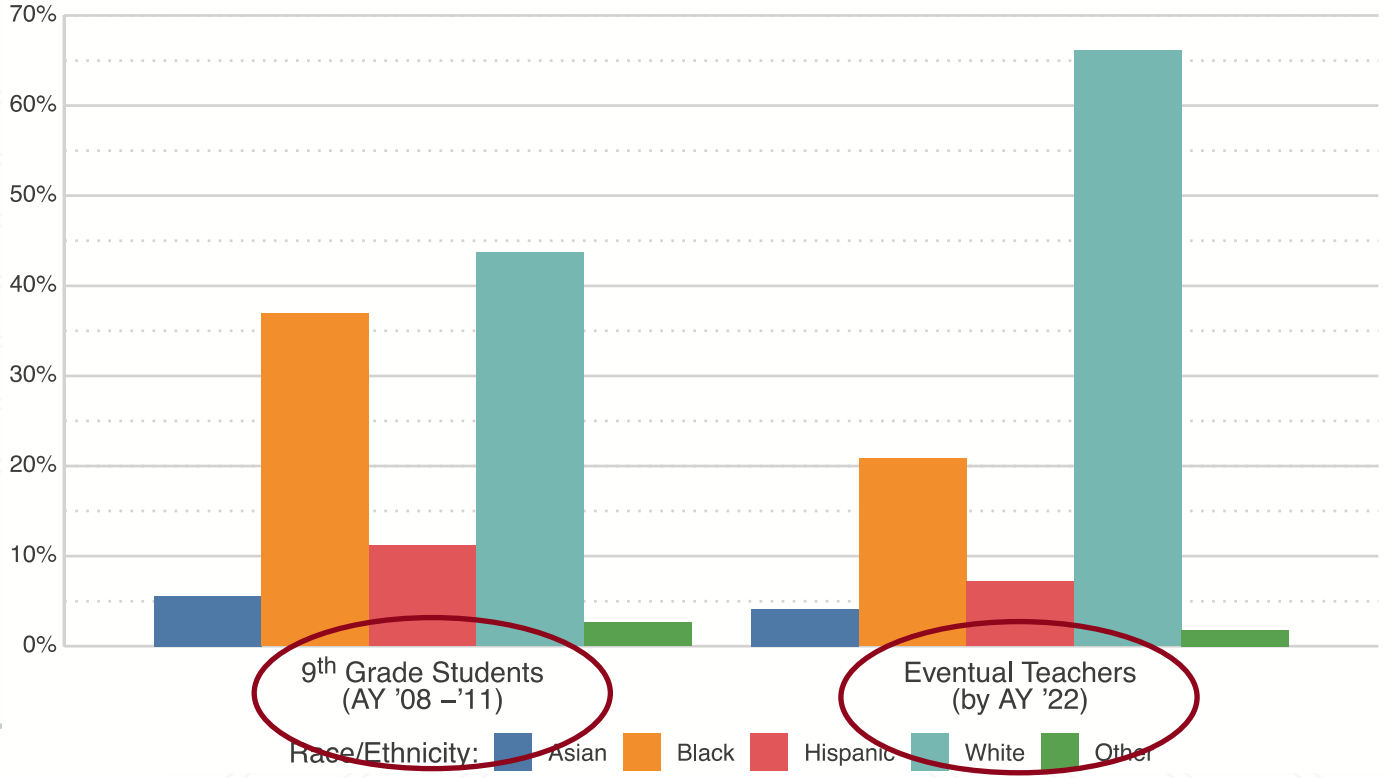

# Data and Sample

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We use Maryland statewide data from public websites (TAM rollout) and the Maryland Longitudinal Data System (MLDS), which **links student student records over 11-year period** for 5 cohorts of entering 9th graders (SY 08-09 to 12-13).

Data sources include:

- K12 data from MD State Department of Education
- College data from MD Higher Education Commission and National Student Clearinghouse
- Teacher employment data also from State Department of Education
- Wages from Unemployment Insurance records from MD Department of Labor

# *Descriptive* Research Questions



Where along the pathway from high school to career are barriers to entry highest for prospective teacher candidates of color?

What is the (likely) magnitude of policy impacts that we would need to see for these barriers to be reduced and to create a more demographically diverse teacher workforce?

# Where do Disparities Emerge on the Pathway from HS to Teaching?

UNIVERSITY OF MARYLAND 1856
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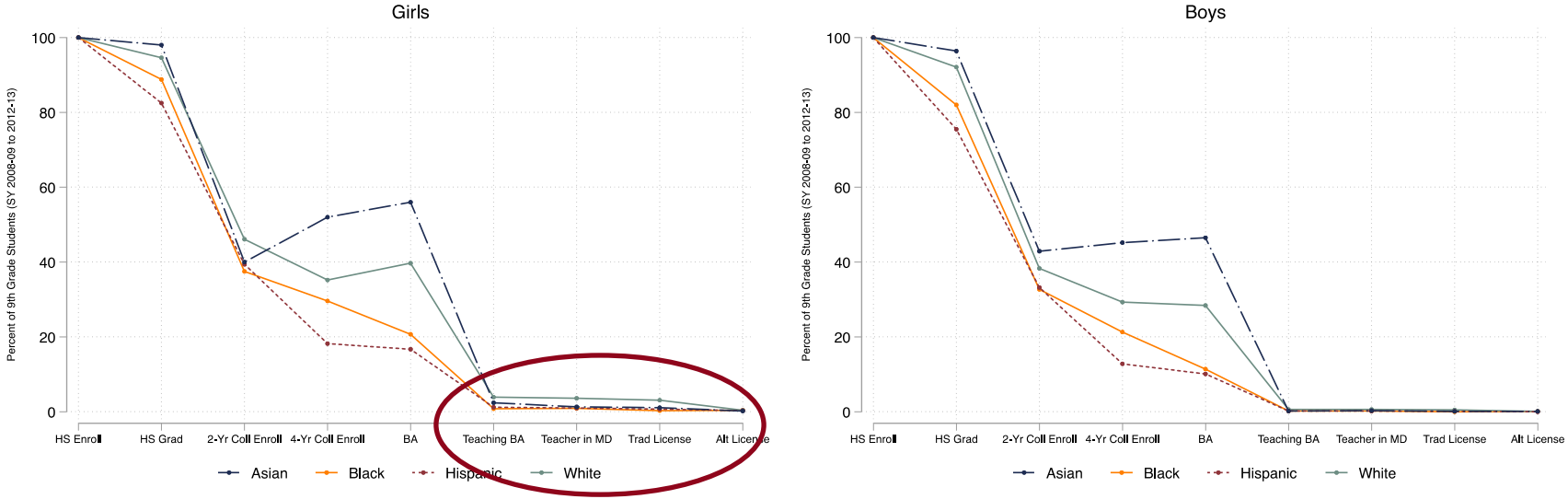
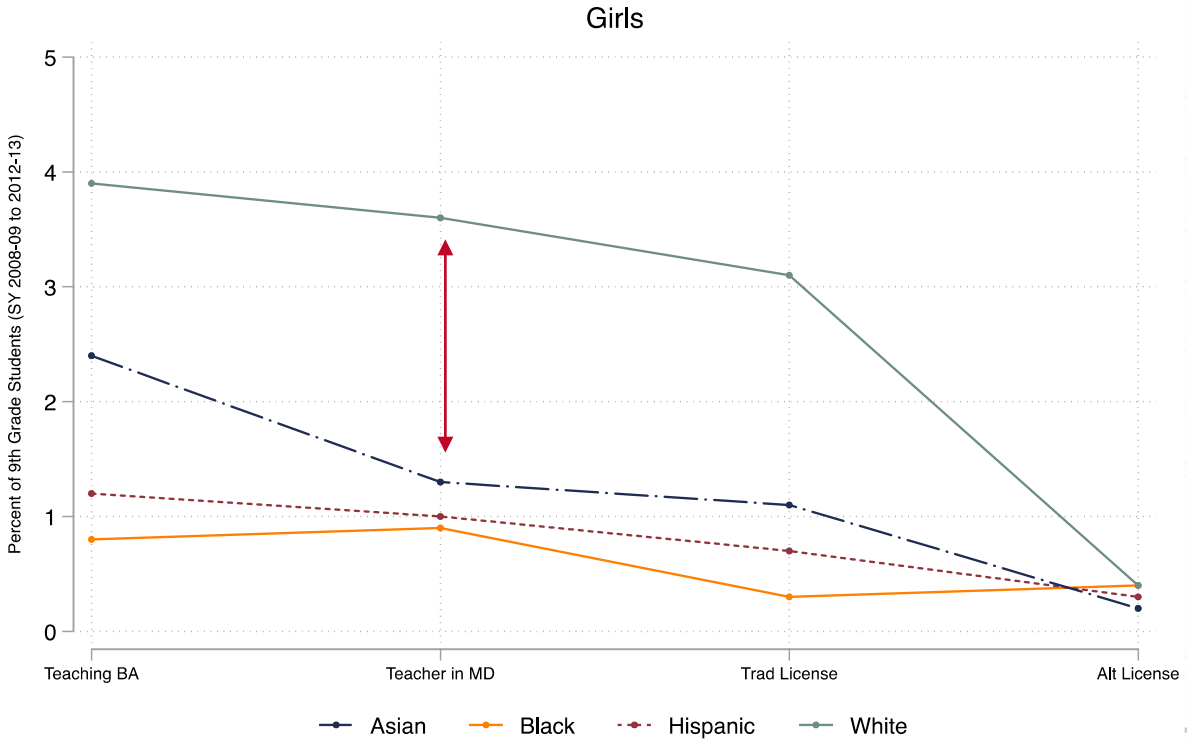


# Zoom in on Teaching Stages





# Where do Disparities Emerge on the Pathway from HS to Teaching?

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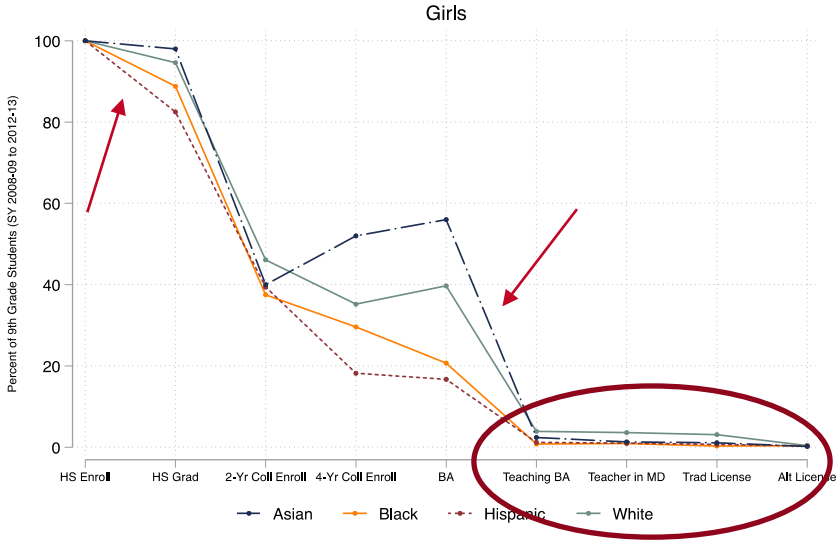


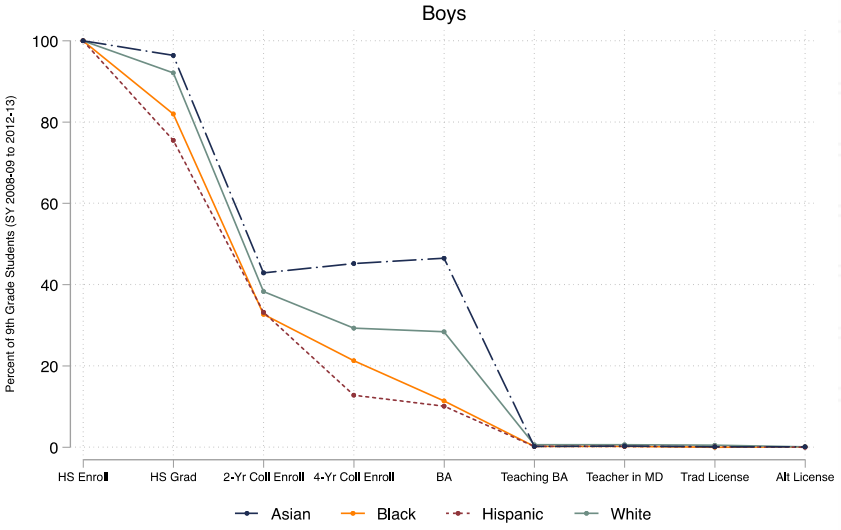

# Demographic Representation at Each Stage

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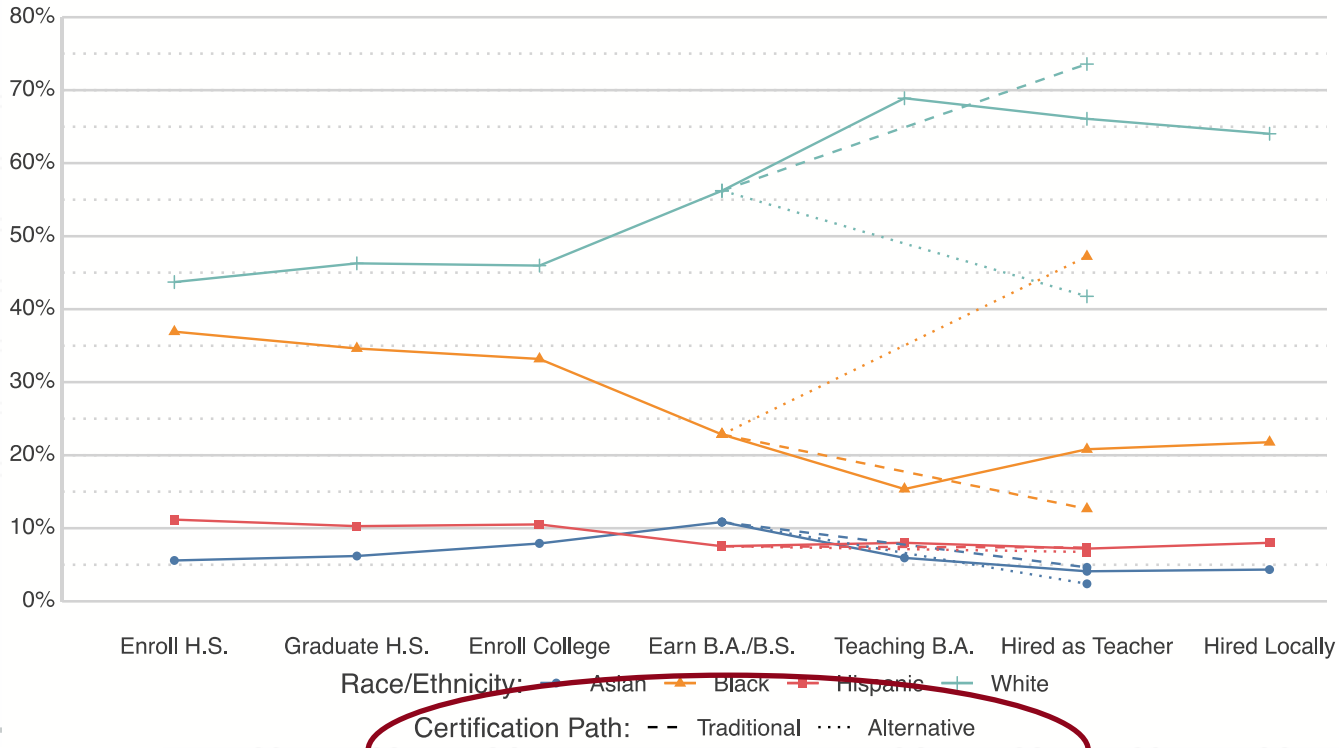

# Simulated Effects of Policy Shocks



If a policy were to increase high school graduation (or college enrollment, or college graduation, etc.) of Asian, Black, or Hispanic students by X%, how much would teacher demographics shift?

# Simulated Effect of Policy Shocks

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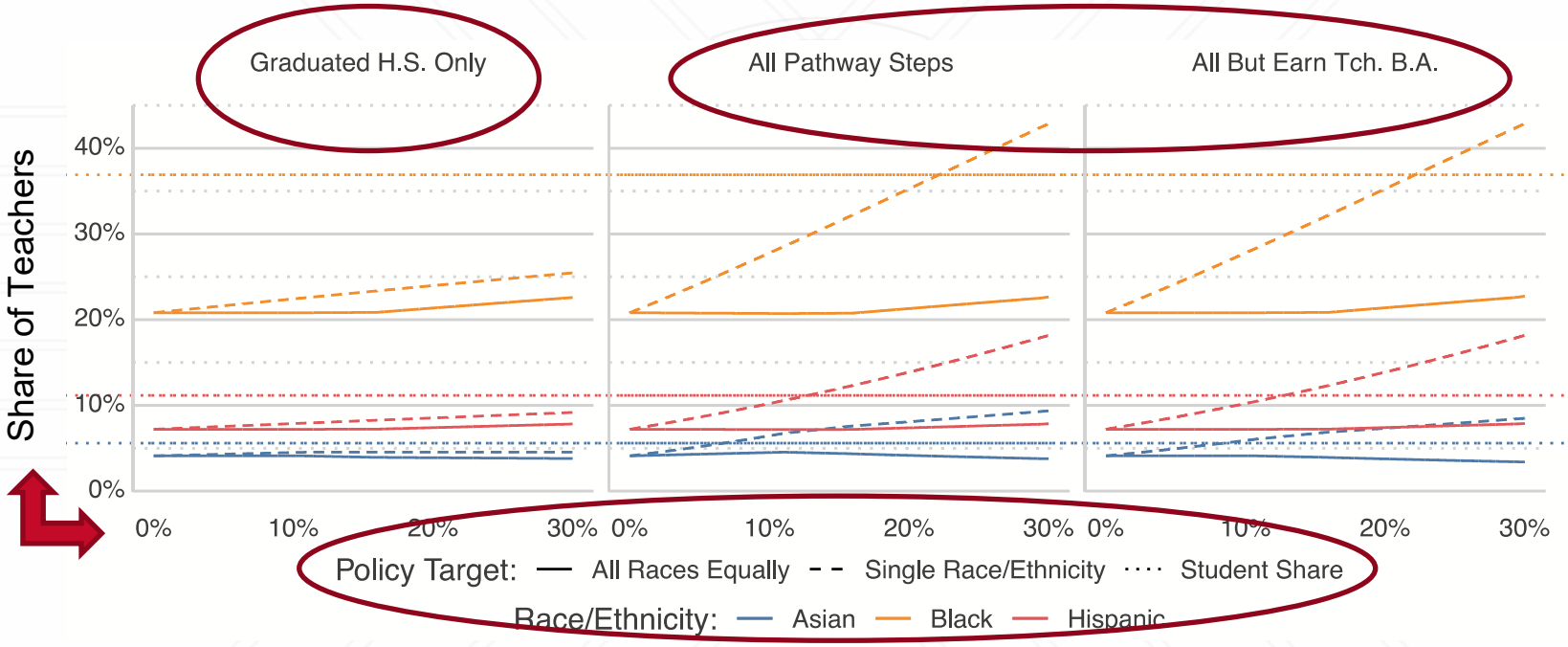


X Axis = Magnitude of Policy Shock from 0% (no change) to 30%

# *Causal* Research Question

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Does the Teacher Academy of Maryland (TAM) high school program impact students' likelihood of entering and advancing along the pathway into teaching?

Are the impacts large enough to meet benchmarks from our data simulation?

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# What is TAM Teacher Academy of Maryland ?

# Teacher Academy of Maryland

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- State-sponsored Career and Technology Education (CTE) program of study, that includes 4 courses
- Dual-enrollment sequence where students can earn college-level credits

- **Goal:** To prepare more high school students for the education profession

- **Theory of action:** Early exposure to teaching profession might increase students' likelihood of entering the teaching pathway, as well as decrease barriers to entry including up-front costs.

# Teacher Academy of Maryland

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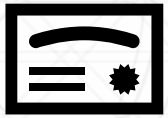
1. Human Growth Development
2. Foundations of Curriculum and Instruction
3. Teaching as a Profession
4. Field Experience in Education

3 or 4-year

ParaPro test



TAM certificate

Highly qualified instructional assistant

College credits

# “Apples-to-Apples” Comparison

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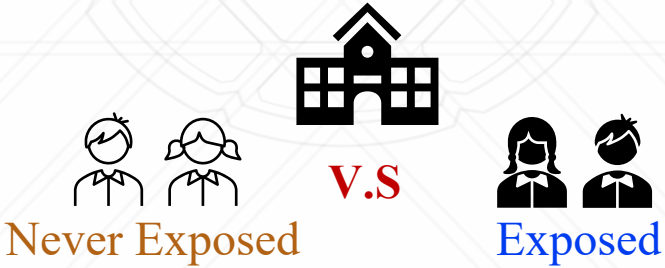
Staggered difference-in-differences design:

1. Same cohort
   Across schools:

2. Within one school:
   Across cohorts



# TAM Participation

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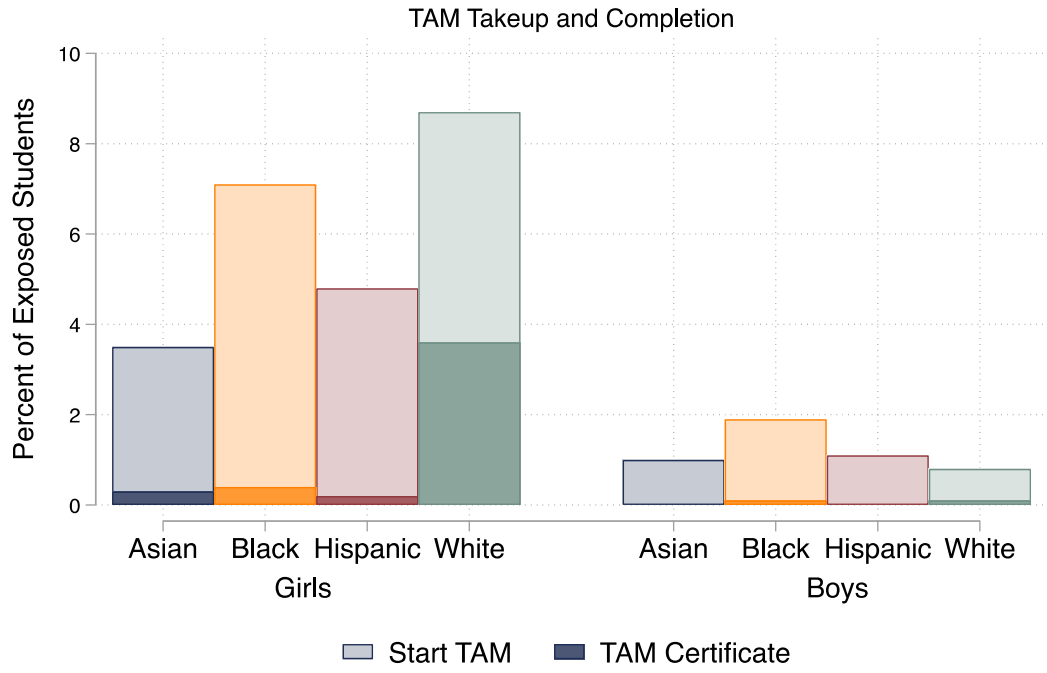
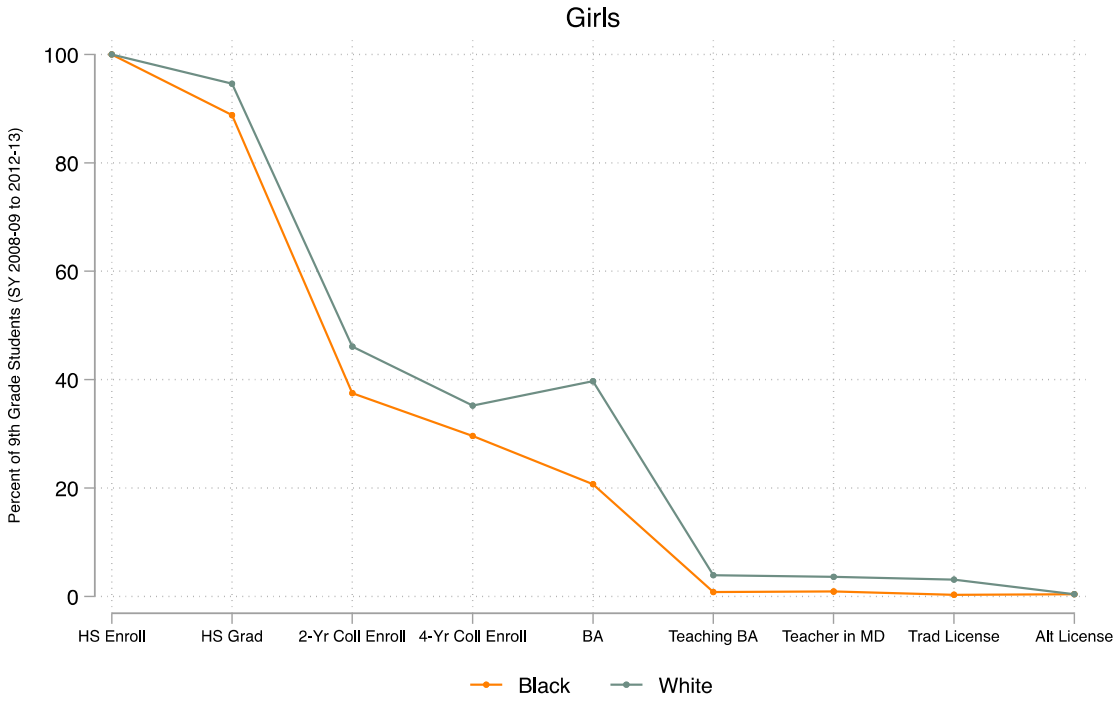


# Benchmarking TAM Effects Relative to Overall Pathway



# TAM Effects on Educational Attainment

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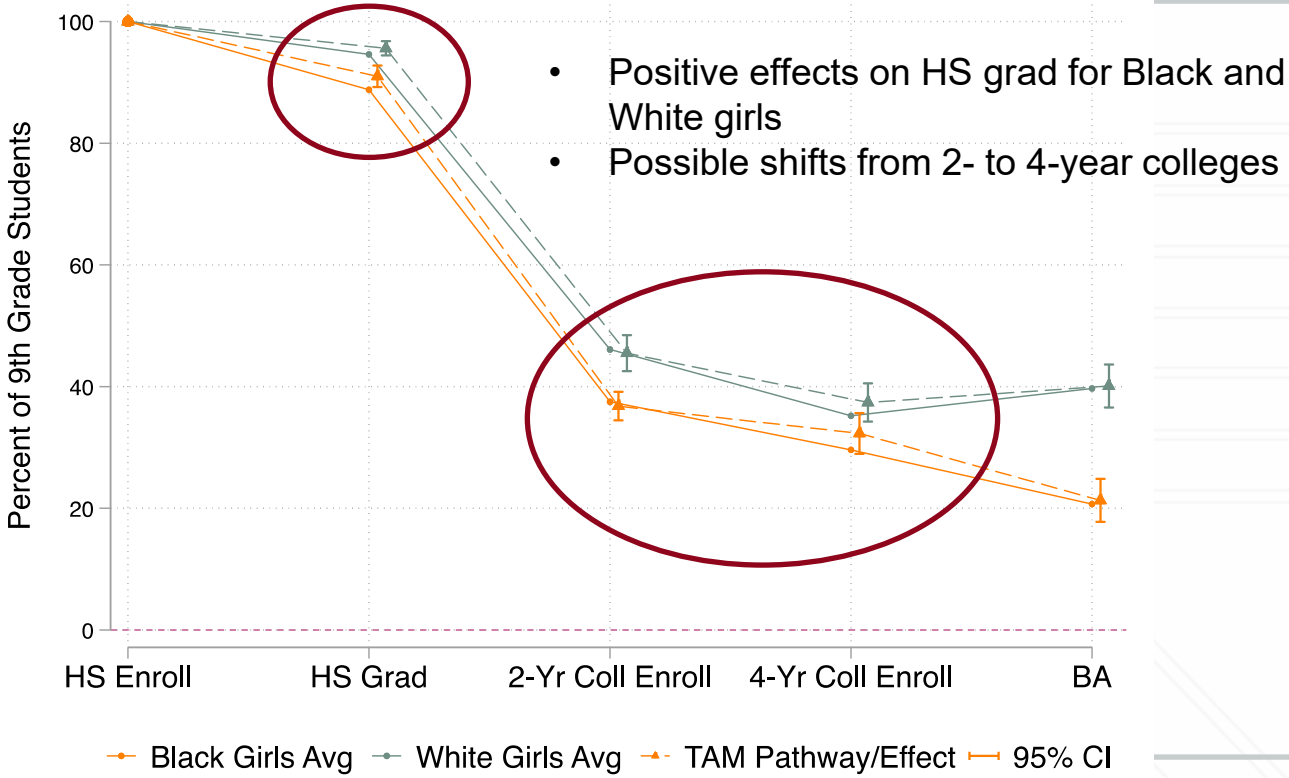


- Positive effects on HS grad for Black and White girls
- Possible shifts from 2- to 4-year colleges

# TAM Effects on Teaching

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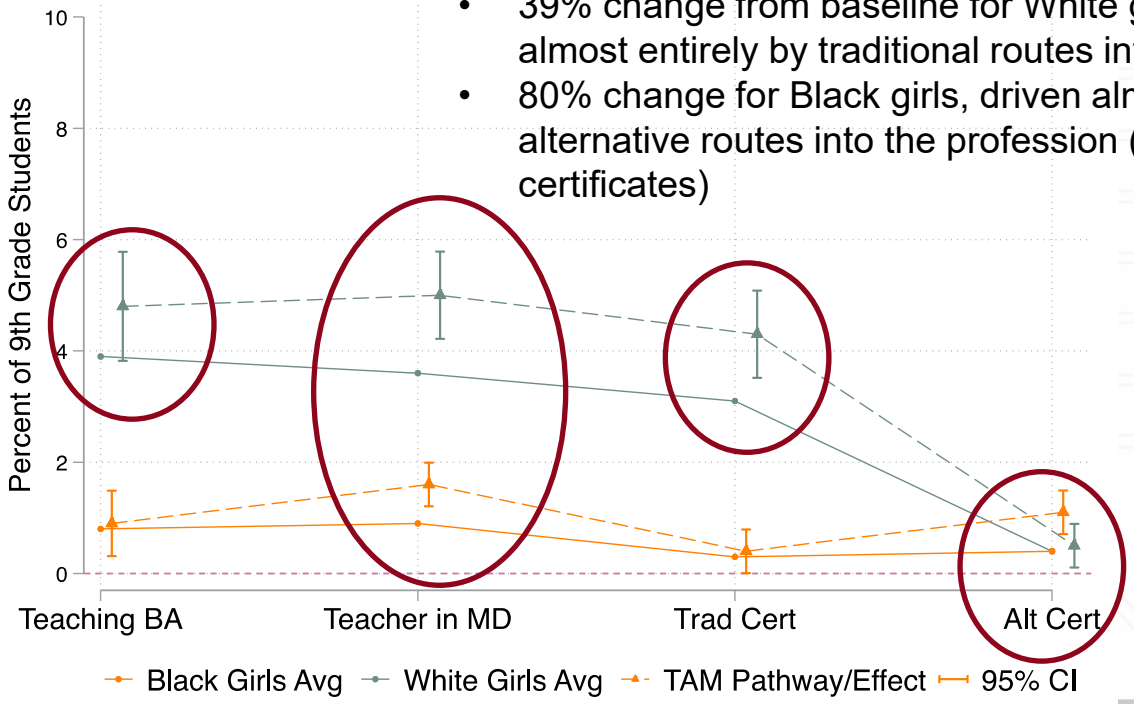
- 39% change from baseline for White girls, driven almost entirely by traditional routes into the profession
- 80% change for Black girls, driven almost entirely by alternative routes into the profession (i.e., conditional certificates)



# TAM Effects on Quarterly Earnings at Age 25

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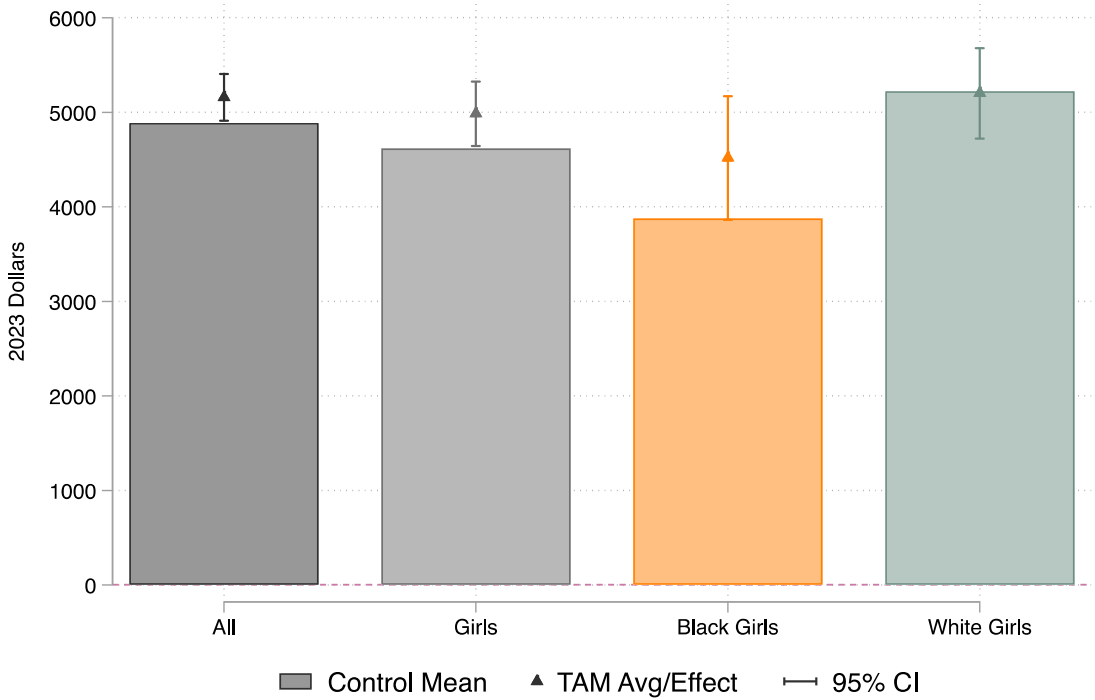
- 15% boost in wages for Black girls
- No change for White girls, but also notable that estimate is not negative



# Summary of Findings and Next Steps

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**Good News!**

1. Meaningful effects on teaching outcomes concentrated amongst Black and White girls
2. Large effects on wages, particularly for Black girls, countering prevailing narrative that teaching is a bad career option financially

**Areas for Continued Work**

4. Mechanisms and pathways differ between Black and White girls
5. Low take up amongst other groups underrepresented in teaching (i.e., Black boys, Hispanic girls and boys).
6. Effects likely not large enough to shift teacher demographics substantially, but potential for expansion in Prince George's County and Baltimore City.
7. Need for additional partners! Right now, UMD does not accept TAM credits (though there are efforts to change that)

# How to Reach Me

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David Blazar
dblazar@umd.edu

Working papers and shorter briefs posted on Maryland Equity Project website:
https://education.umd.edu/research/centers/mep