



# State Financial Aid Policy and Postsecondary Enrollment: A Focus on Income and Race Differences

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## Background of the Study

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- State governments have moved toward greater reliance on merit-based aid programs away from need-based aid
- Widening socioeconomic and racial gaps in college participation rates and more transitional difficulties found among disadvantaged student populations
- Limited attention paid to socioeconomic and race/ethnic differences as well as the role of financial aid associated with the *timing* of student enrollment
- This study will focus on whether and how state aid differentially affect students' initial postsecondary enrollment depending on income and race/ethnicity.



## Literature Review

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- Impact of state need-based and merit-based aid on college enrollment
- Student responses to financial aid vary substantially by income and racial/ethnic backgrounds:
  - positive influences of need-based grants on college choice and enrollment decisions of low-income students (Perna & Titus, 2004; St. John et al., 2004)
  - disproportionate impact of merit aid on college attendance for whites and middle- to upper-income students (Cornwell, Mustard, & Sridhar, 2006; Dynarski, 2000; 2004)

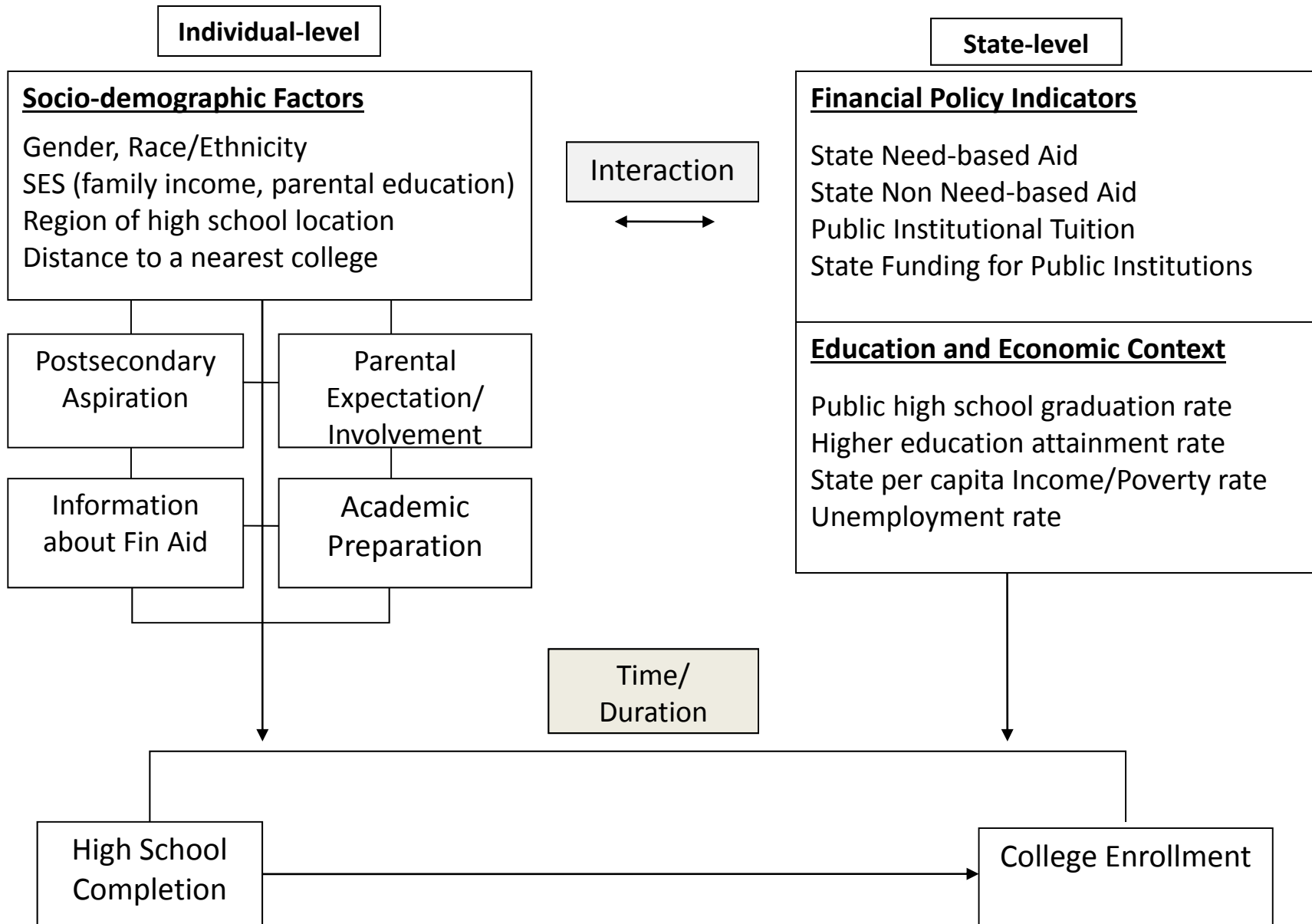


## Limitations of the Existing Literature

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- Use of cross-sectional designs that fail to consider the longitudinal (or temporal) process of college enrollment and the time-varying information about financial aid policies that change over time
- It is critical to consider the temporal nature of the college enrollment process by utilizing an appropriate longitudinal method that enables us to investigate the choice of students who enrolled in college at different time points

# A Conceptual Framework for the Study





## Research Questions

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- Do time-to-enrollment trajectories differ for high school graduates who are from different income and race/ethnic groups?
- Do state-level financial aid policies influence a student's choice of whether and when to enroll in college after completing high school?
- Does the effect of state financial aid on college enrollment vary for students from different income and race/ethnic groups?



## Methodology: Data

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- Data Sources: For individual level, National Education Longitudinal Study (NELS: 88/2000).
- The study sample is restricted to students who graduated from high school or attained an equivalent diploma in or after 1992, and who provided follow-up information on whether or not they attended postsecondary institutions by 2000 (N= 10,810).
- For state level, aggregated state-level education, economic, and financial indicators are used for the years 1992 through 2000.
  - Constructed from the sources including the National Association of State Student Grant & Aid Programs (NASSGAP), *Digest of Education Statistics*, and the U.S. Census Bureau



## Methodology: Variables

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- **Outcome:** 1) whether or not a student who graduated high school in or after 1992 was enrolled in college
- **Student-level:** socio-demographic factors (e.g., race, income, family size), postsecondary aspirations, parental involvement, academic preparation, and information on financial aid
- **State-level:** state need-based and non-need based aid, public tuition, state funding for public institutions (per FTE), state per capita income, unemployment rate, public high school graduation rate, % poverty, % bachelor's or higher degree
- Test *interactions* between race and aid, income and aid





## Statistical Approach: Event History Modeling

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- Event: transition from high school to college
- The time-to-event is measured discretely (by year): Discrete time event history modeling (using logistic regression)
- Hazard rate: conditional probability that a student experiences an event in each discrete time period  $t$ , given that the event has not already occurred prior to that time (Singer & Willett, 1991).
- Allow tabular and graphical plotting of the time-to-enrollment trajectories for different subgroups.



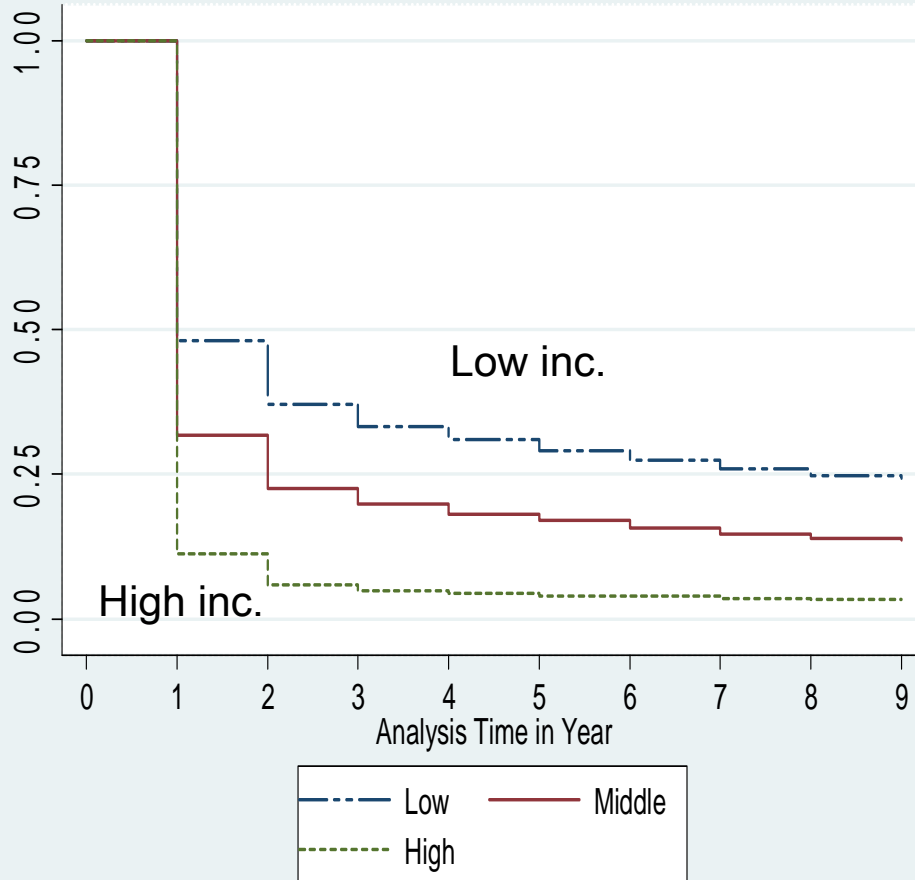
## Findings: Time-to-enrollment Trajectories

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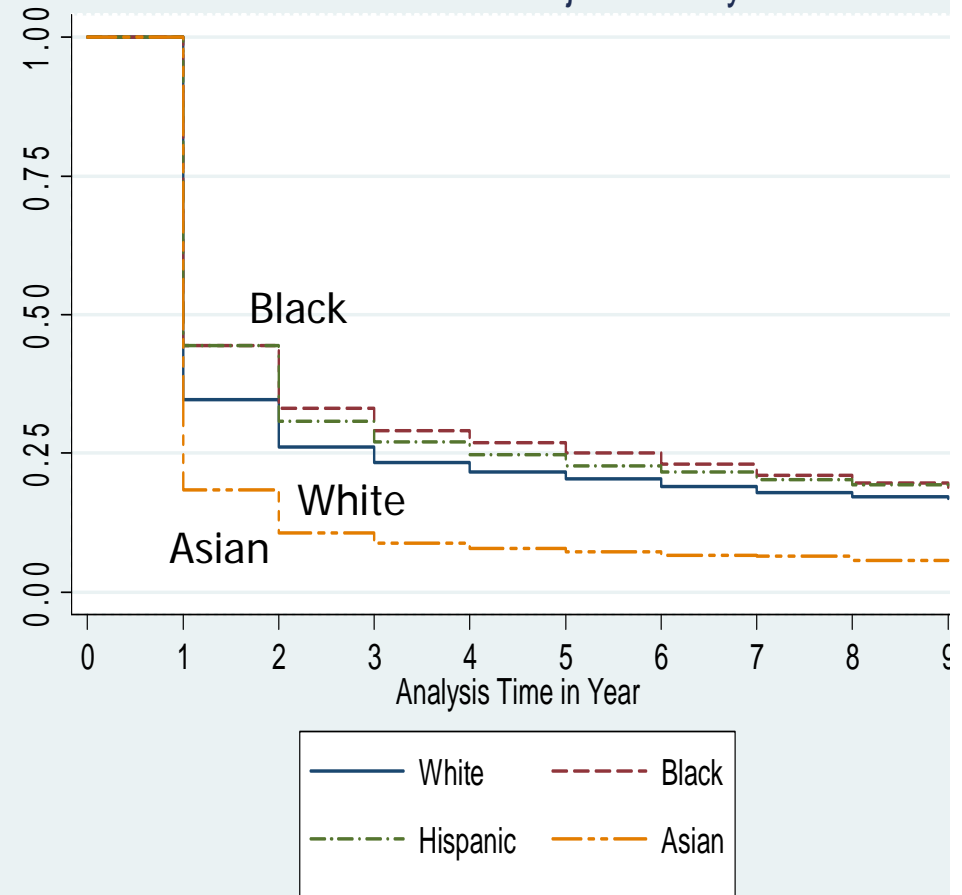
- Low-income students experience the least transition to postsecondary education, whereas a majority of students from high income families experience postsecondary enrollment by the end of the second year.
- Asian students are the most likely to make an immediate transition to higher education, followed by Whites. However, Hispanics and African Americans are less likely to do so.

# Findings: Time-to-enrollment Trajectories

## Time-to-Enrollment Trajectories by Income



## Time-to-Enrollment Trajectories by Race



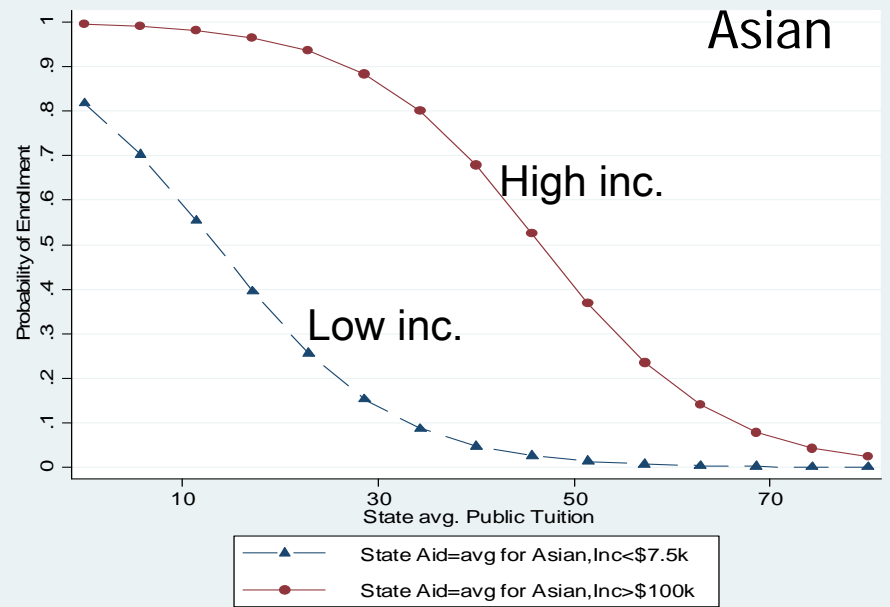
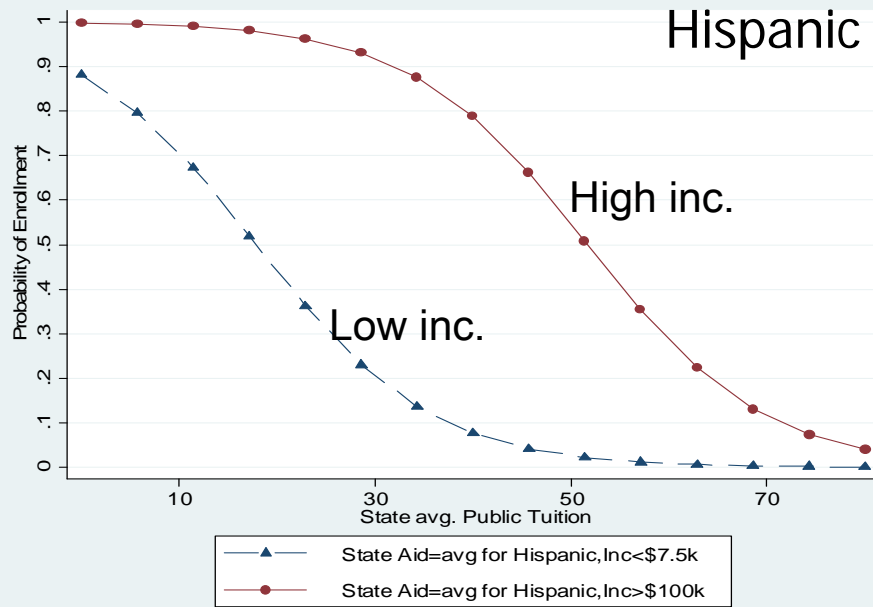
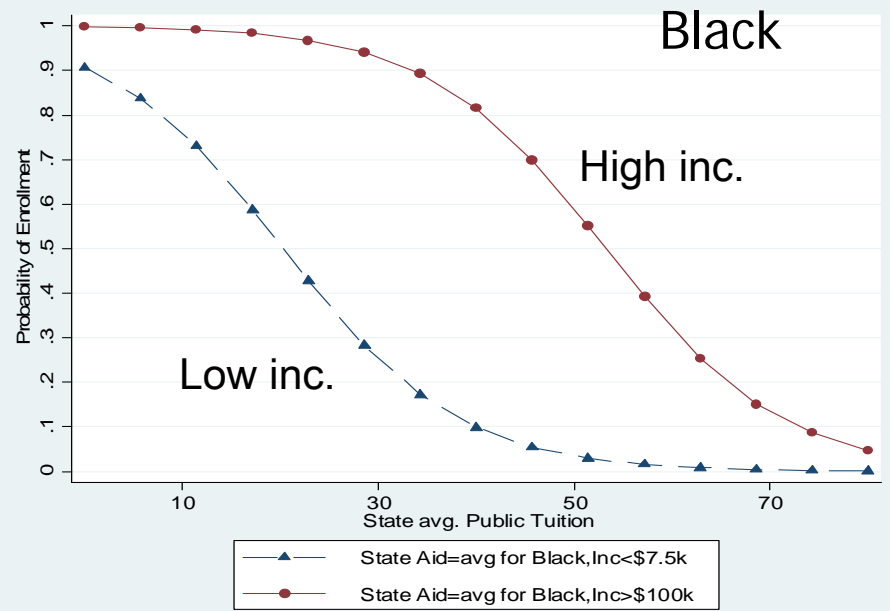
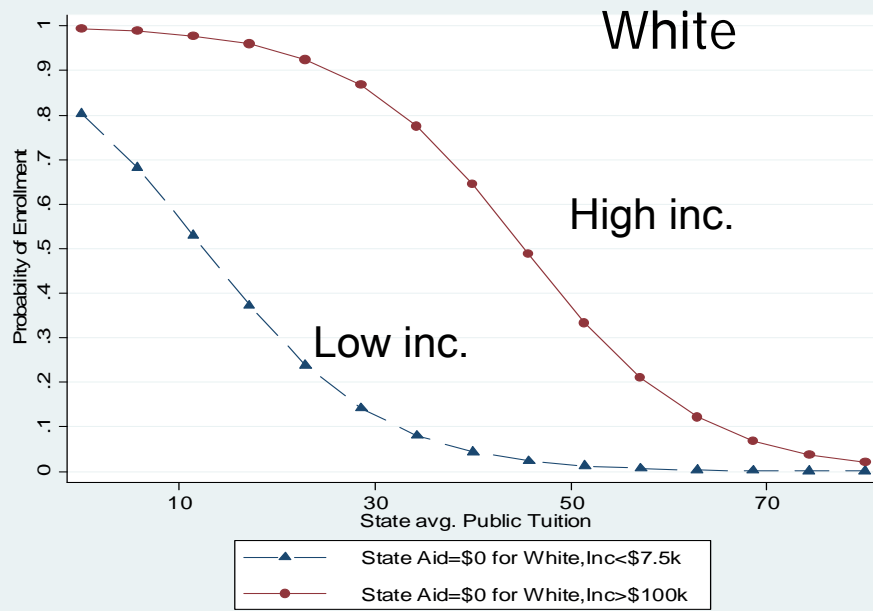


## Findings: Discrete-time Event History Model

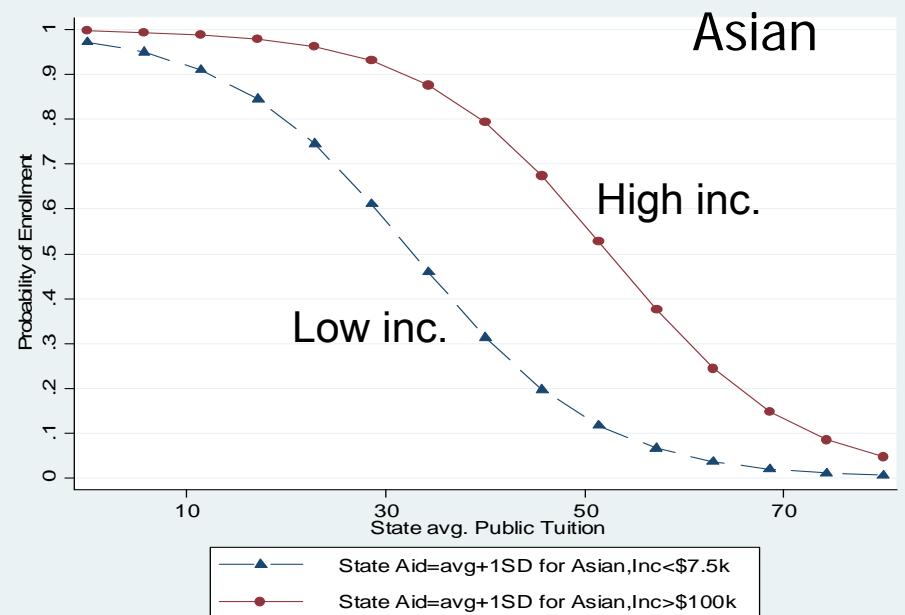
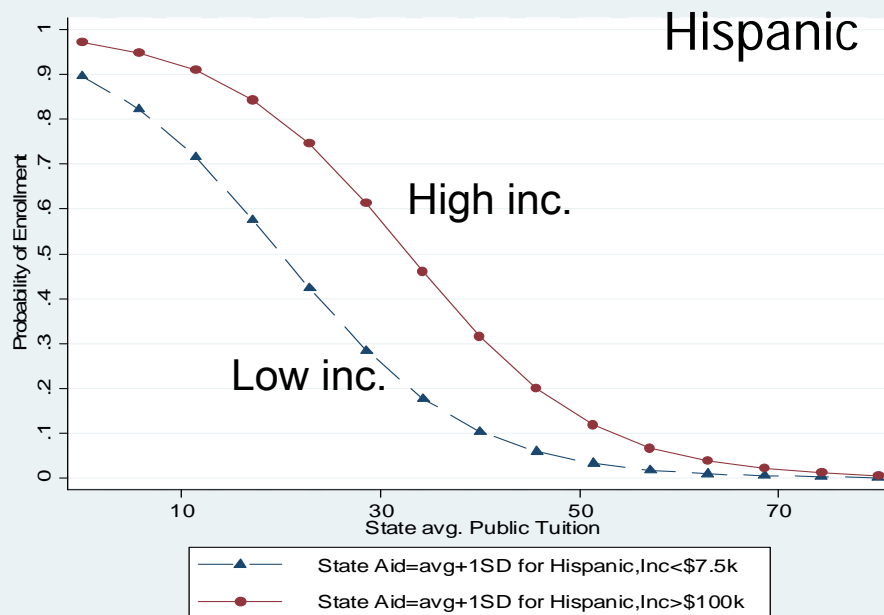
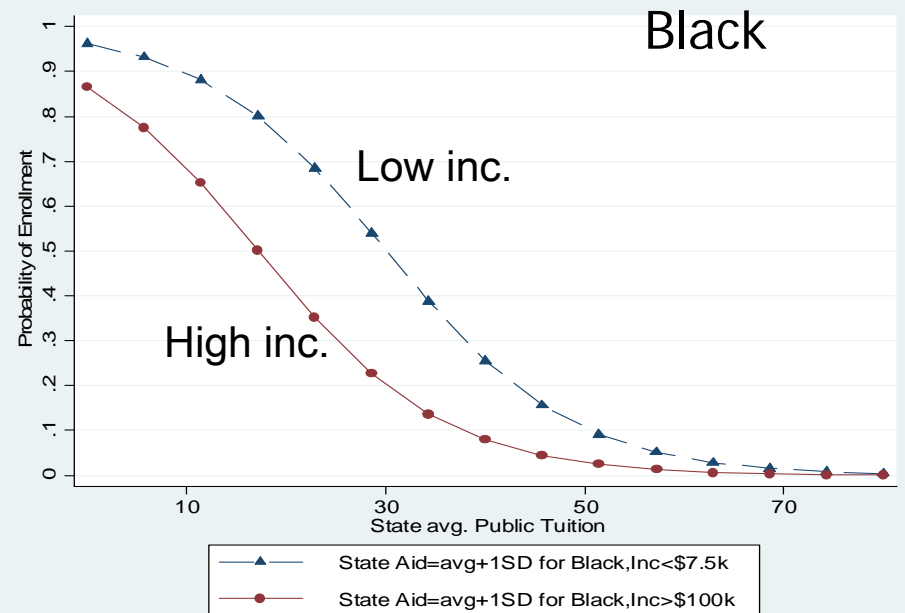
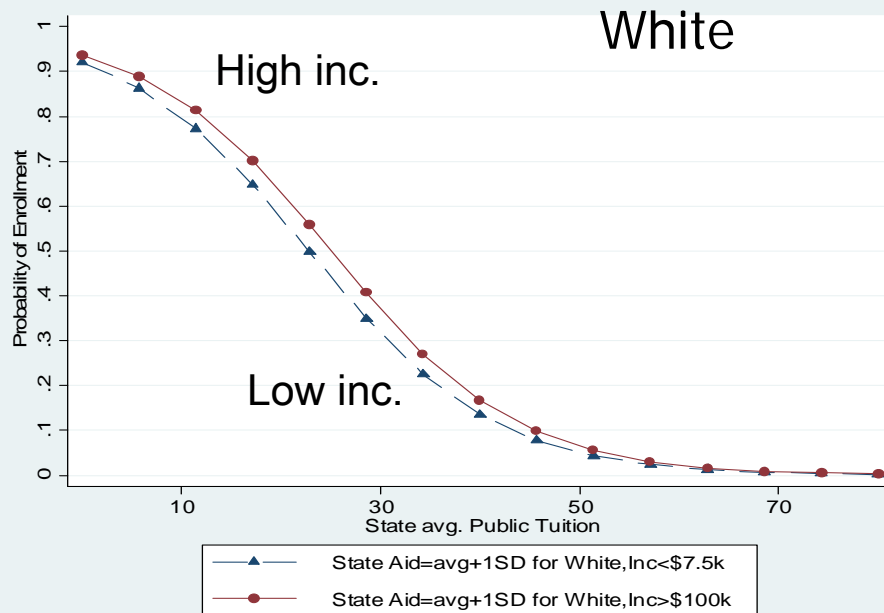
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- State need-based grants are positively associated with the probability of enrollment, but this relationship becomes no longer significant when taking interaction terms into account.
- For state non need-based aid, there is negative association between state non need-based grants and the probability of enrollment (Odds Ratio=0.68,  $p < .001$ ).

# Pro. of Enrollment by Income and Race: Middle Aid



# Pro. of Enrollment by Income and Race: High Aid





# Discussions & Implications

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- Students from different racial and income groups differentially respond to state aid policy.
  - compared to high-income groups, the enrollment propensities for low-income students were much more responsive to changes in state aid policy for every racial group.
- Low-income Whites or African Americans respond fully to increases in state aid, and their enrollment probabilities are comparable to or even higher than upper-income counterparts.
- However, Hispanic low-income students especially exhibited lower responsiveness to changes in state aid policy than other groups.
- It is critical for state policymakers to identify differences in responsiveness to state aid and to pay close attention to students who are less affected by the increased availability of state aid.



Thank you!

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For additional questions  
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