ILLINOIS EDUCATION RESEARCH COUNCIL
Southern Illinois University Edwardsville

IOWA STATE UNIVERSITY

The Relationship of Institutional Factors to Retention and Completion in Illinois

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Introduction

College Completion Agenda

- United States now ranks 14th among 37 nation members of Organization for Economic Co-Operation and Development (OECD) in percentage of young working adults (25-34) with a postsecondary credential (OECD, 2014).
- If current trajectories hold, United States will fall short of the goal to have 60% of working adults with a postsecondary credential by 2025 (Lumina, 2014).

Increases in Cost of Attendance

- Since 2004, the average published costs for tuition and fees has increased 41 percent at public, four-year institutions and 24 percent at private, not-for-profit four year institutions (The College Board, 2015).

Rise of Student Debt

- 69 percent of undergraduate students leave a nonprofit postsecondary institution (public and private) with some amount of student loan debt – on average $28,000 (Project on Student Debt, 2014).
- African American students and students from low-SES families are most likely to borrow (Baum, 2010; Jackson & Reynolds, 2013).

Literature Review

- Since 1990s, loans have become primary source for paying postsecondary cost of attendance (Dynarski & Scott-Clayton, 2013).
- Recent research student borrowing and persistence rates find mixed results (Cadena & Keys, 2010; Houle, 2014; Jackson & Reynolds, 2013; Turner, 2012).
- Results from limited research examining the influence of institutional characteristics related to financial aid on persistence are more consistent (Chen, 2012; Hillman, 2014; Kim, 2007; Titus, 2004).
- Many of these studies use national-level data, limiting institution-specific comparisons. Additionally, research in this area tends to focus on impact of institutional characteristics related to student aid on persistence rather than degree completion.

Research Questions

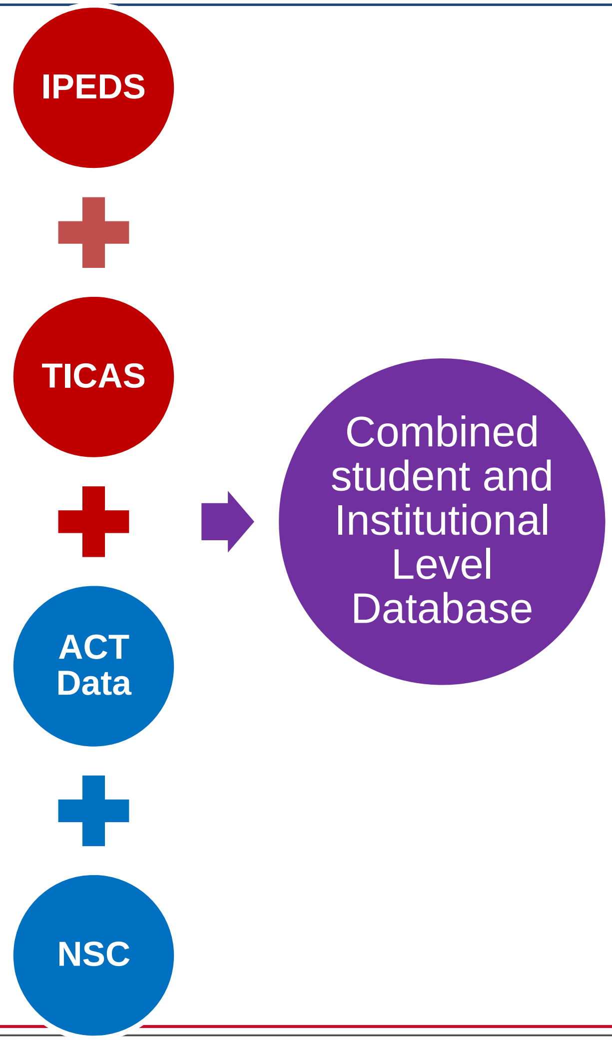
We examine potential relationships between borrowing, institutional type, and graduation rates among specific institutions in the same geographic context. More specifically, we use institutional-level data four-year colleges and universities to consider the following questions:

- How does retention and completion relate to institutional characteristics such as average student debt, percent of students carrying debt, institutional sector, and institutional selectivity?
- Do institutional factors moderate the relationships of college readiness or family income with student retention and completion?
- What is the profile of students who successfully complete in 4 years, with regards to college readiness, financial factors, and institutional factors?

ILLINOIS

- Postsecondary rates in Illinois remain stagnant, increasing slightly from 40.2 percent in 2008 to 42.5 percent in 2012 (Lumina, 2014).
- Seventy percent of students attending four-year colleges in Illinois leave with some level of debt, the fourth highest percentage in the country (Project on Student Debt, 2014).
- For students in Illinois, the average loan debt is approximately $28,500, slightly above the national average.

Methods – Data Sources



Methods – Sample Selection

Institutions

- Illinois public and non-profit private
- Screened out all institutions with < 500 Fall FT enrollment
- 10 institutions did not have debt data
- Final sample of institutions, N = 43, n_{public} = 11, $n_{private}$ = 32

Students

- 2009 Illinois public high school graduating class, N = 109,031
- Selected those that entered one of the matched Illinois 4-year institutions in the fall 2009, n = 25,909

Methods – Institutional Measures

Institutional Characteristics

- Average debt of graduates from institution
  - Low, Moderately low, Moderately high, High
- Percent of graduates with debt from institution
  - Low, Moderately low, Moderately high, High
- Barron's selectivity rating
  - Highly & most competitive, Very competitive, and Competitive or lower
- Institutional sector
  - Public 4-year, Private non-profit 4-year

Methods – Student Measures

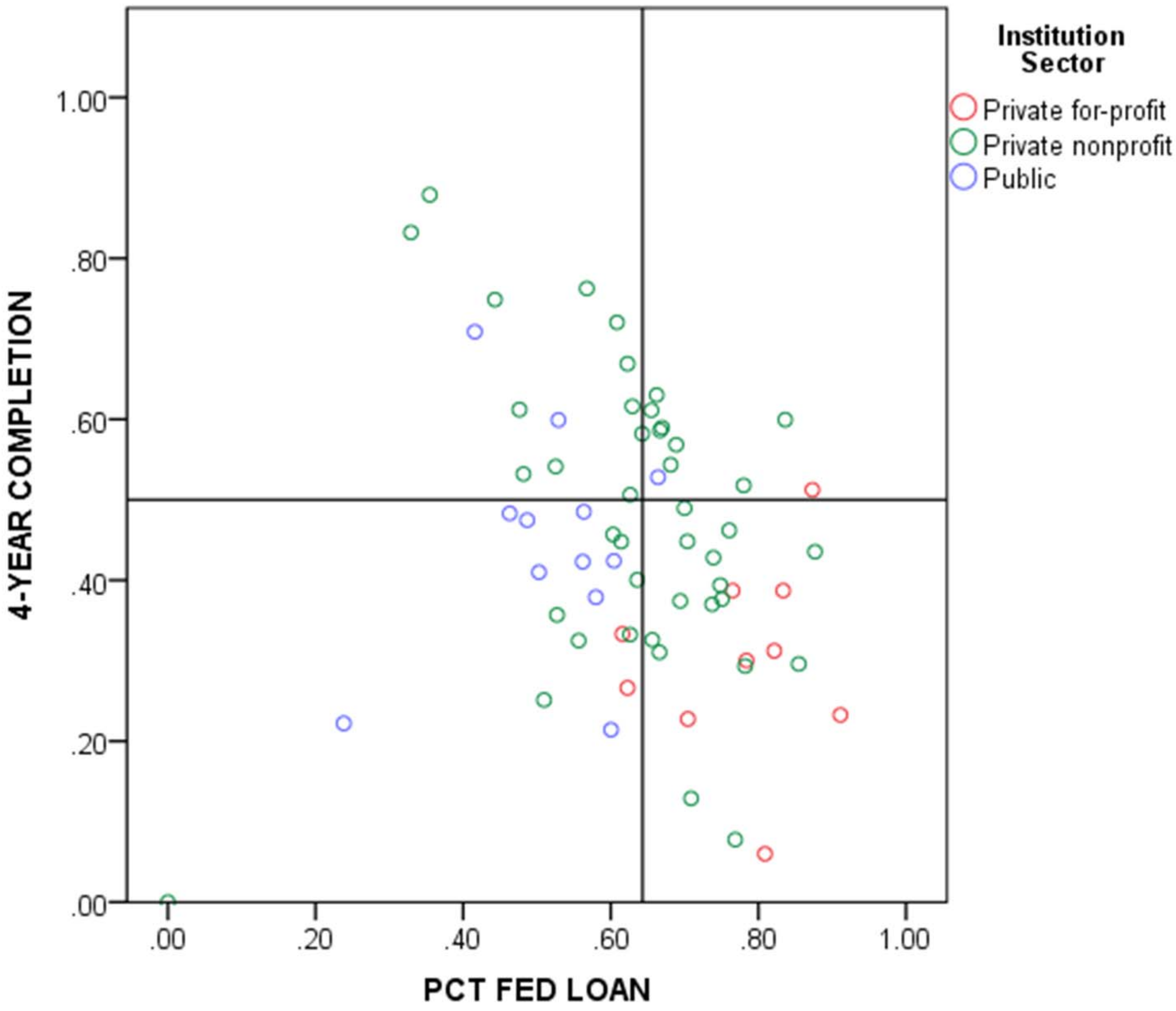
Outcomes

- Retained from year 1 to year 2 at the same institution
- Completed Bachelor’s degree in 4-years at the same institution

Student-Level Predictors

- Whether student met ACT English (18) or math benchmark (22)
- Income level of student’s family:
  - low income: < $36,000
  - mid income: $36,000 to $100,000
  - mid-high income: $100,000 to $150,000
  - High income: > $150,000

Breaking down by Quadrants



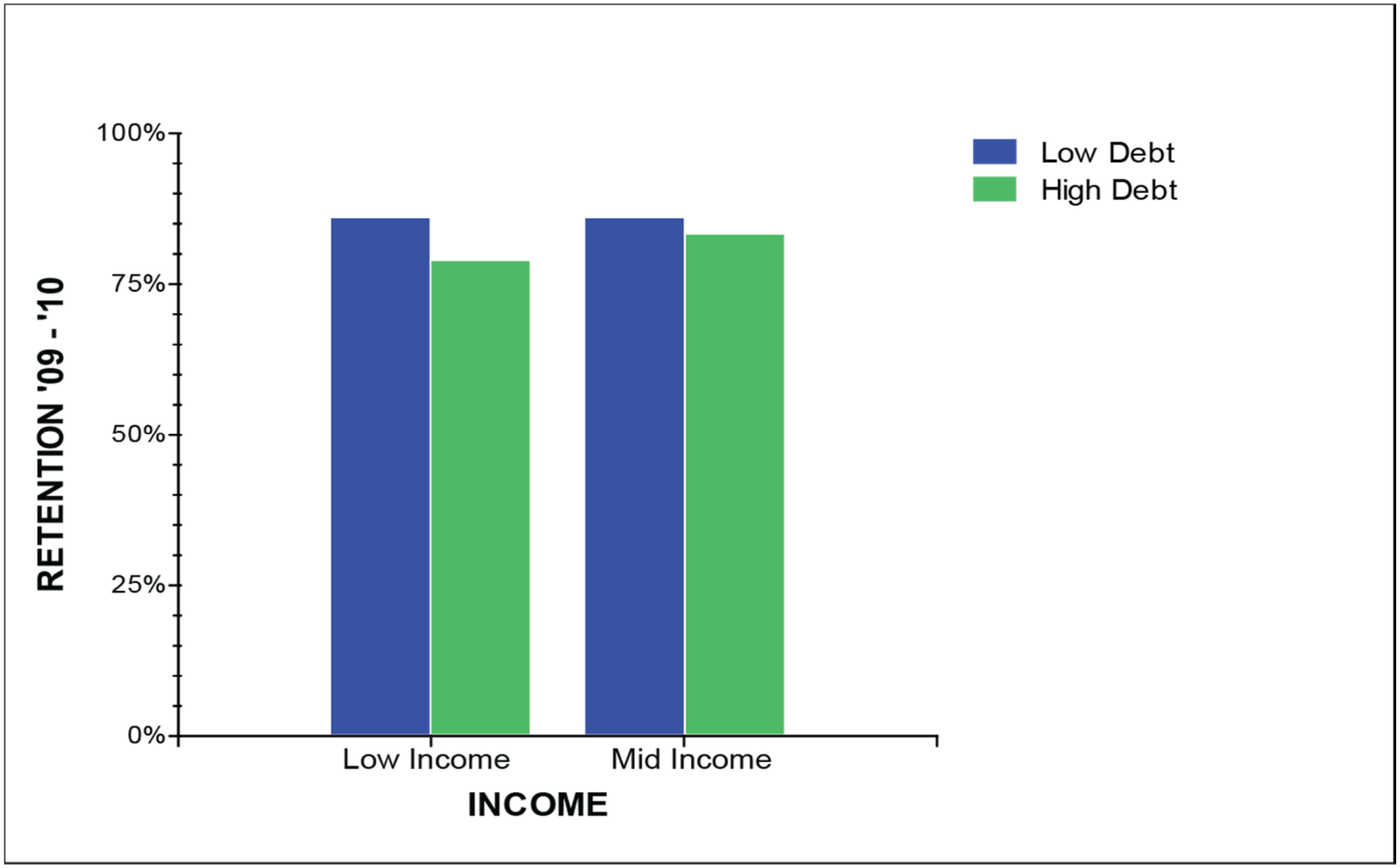
Multilevel Analysis

- Used multilevel logistic regression, using a Bernoulli distribution to model the binary student-level outcomes from student and institutional predictors
- Used unit-specific models with robust standard errors so results indicate effects for a typical institution assuming large sample size
- Primary focus is the effect of the institutional level variables (level-2 variables)

Retention & % Debt

- Attendance at an institution with high % debt was associated with 50% less odds of retention
  - Same odds when controlling for English benchmark
  - High % debt associated with 40% less odds of retention when controlling for math benchmark
- Attendance at a high debt institution had less of a negative impact (i.e., 1.4 times the odds of being retained) if they were from mid income families as compared to low income families (p = .03; see next slide).

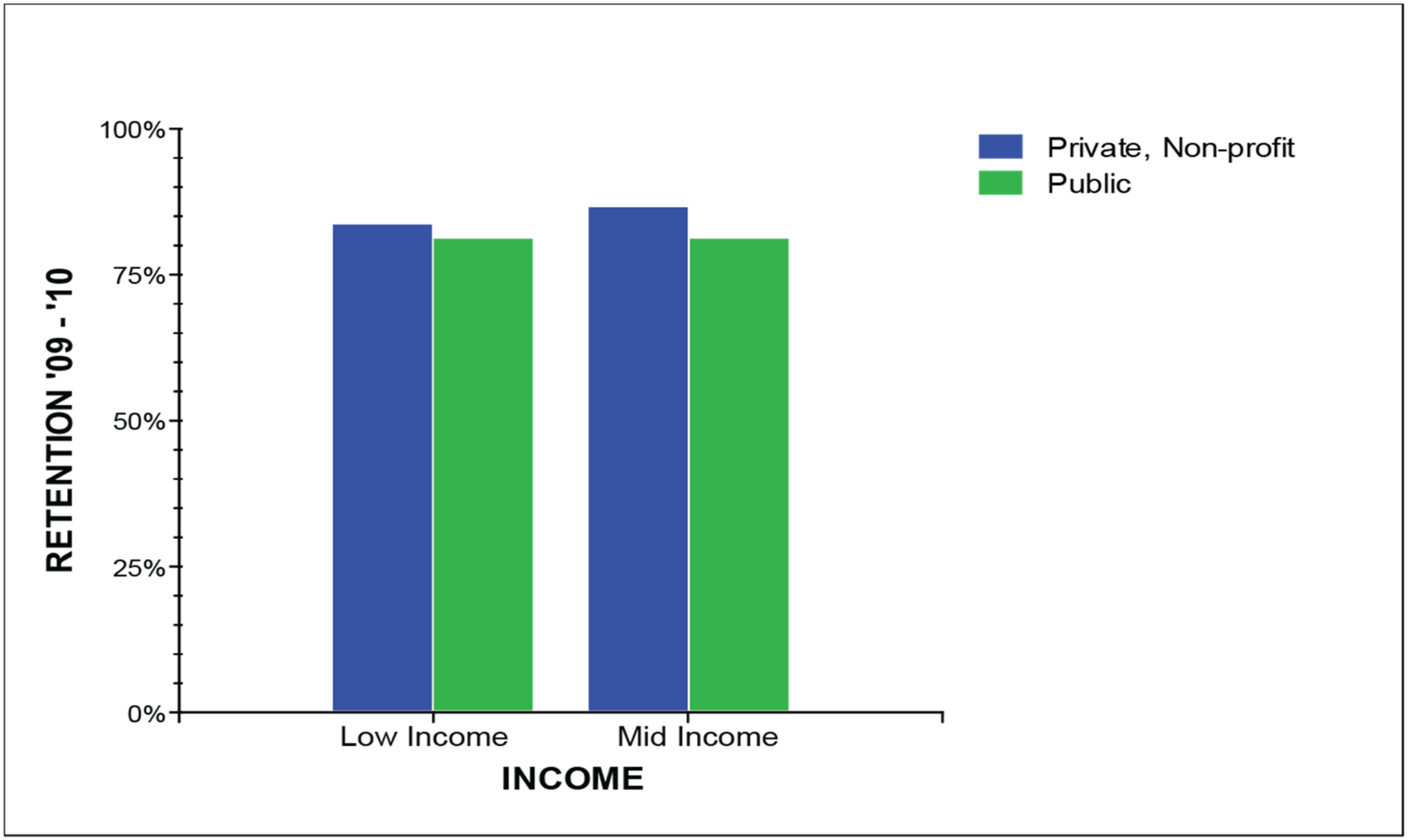
Retention by % Debt and Income Level



Retention and Barron's Selectivity

- Students from highly competitive institutions had twice the odds of retention than if they were from a competitive institution (p =.03)
- Trend (p = .06) such that the positive effect of meeting the math benchmark was accentuated at very competitive vs. competitive institutions
- Barron's selectivity did not counter the negative effect of poverty on retention

Retention and Institutional Sector

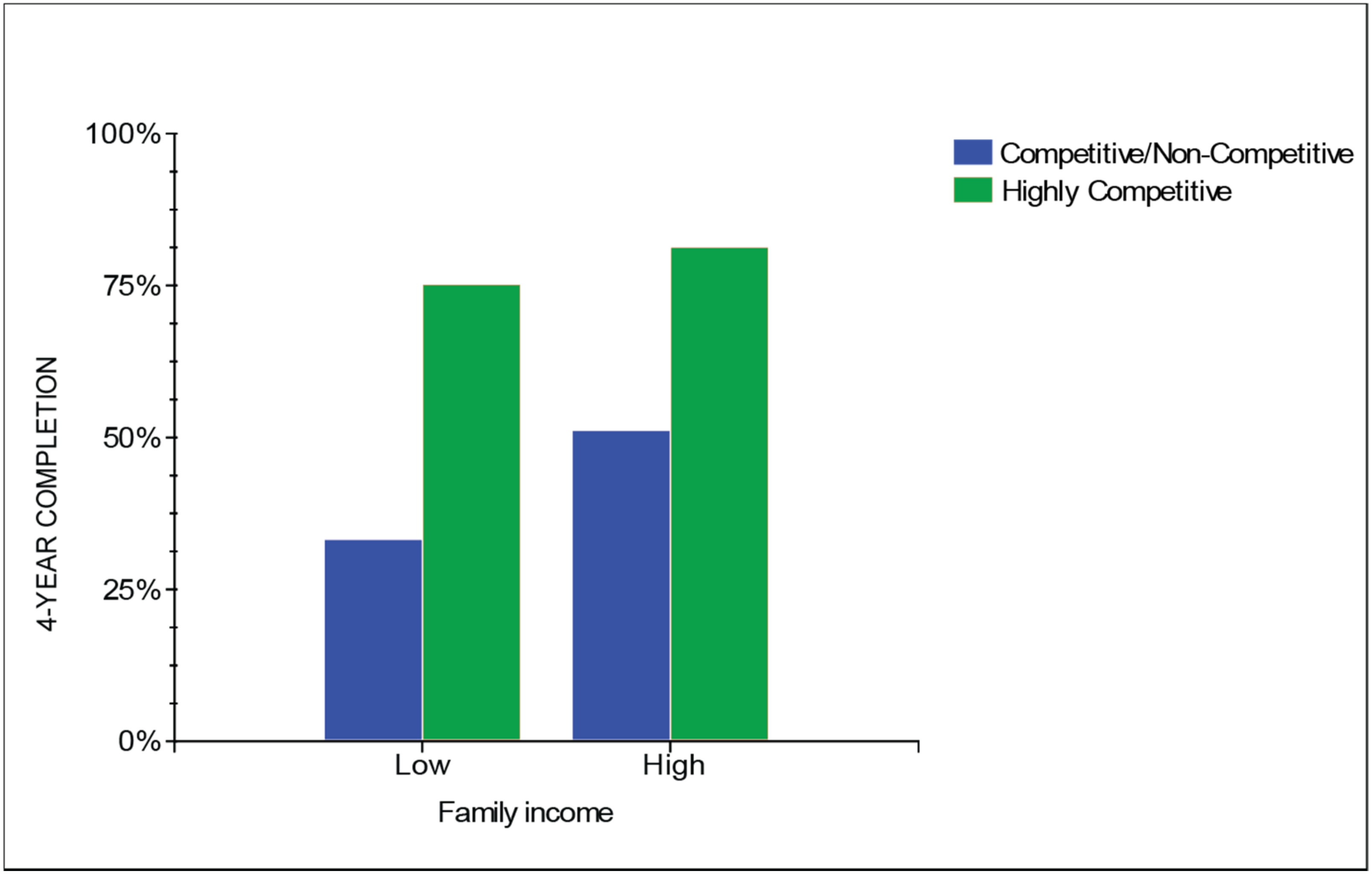


Bachelor’s Degree Completion & % Debt

- Controlling for college readiness, neither % debt or avg. debt was related to bachelor’s degree completion
- Income level did not affect this relationship

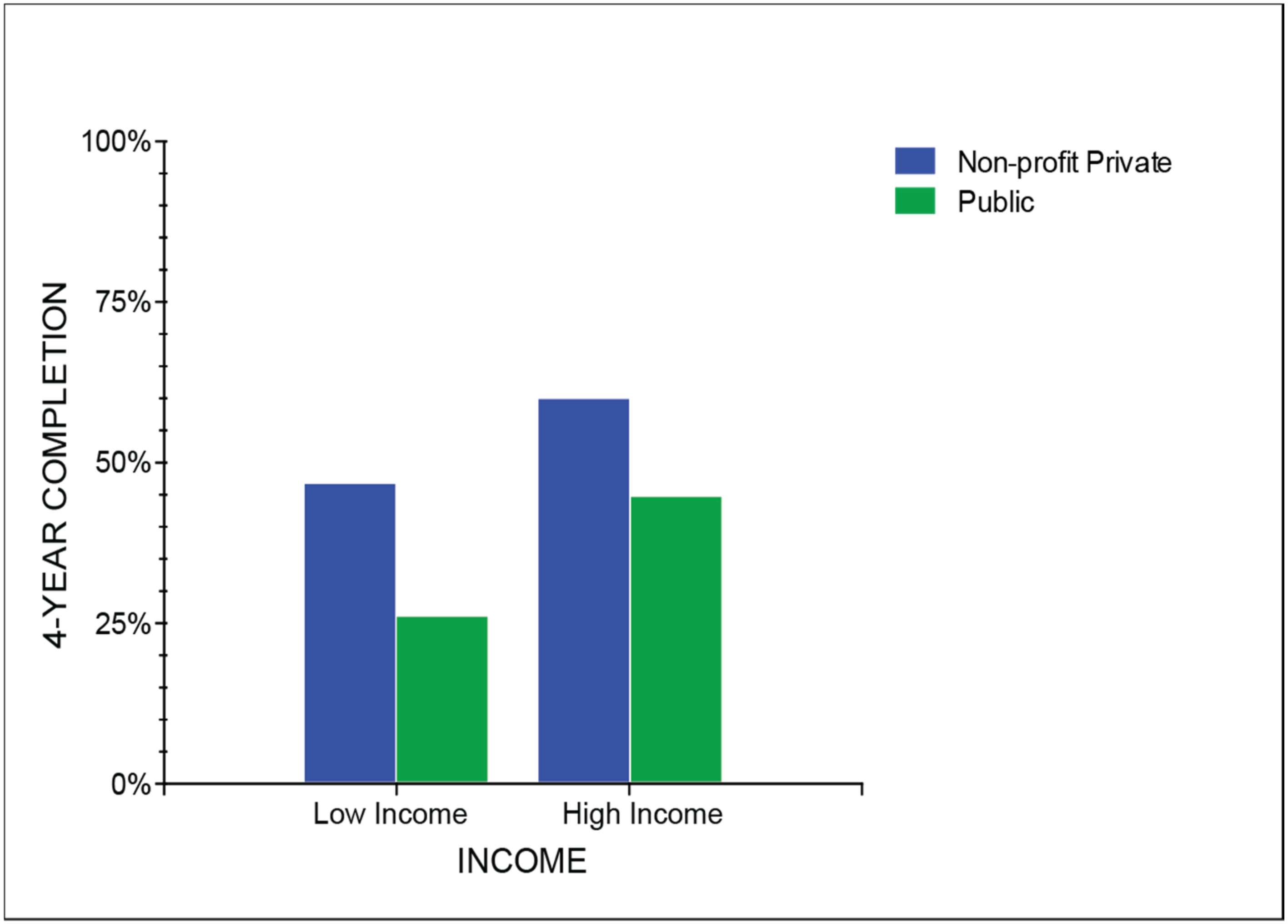
Bachelor's Degree Completion & Barron's Selectivity

- A middle income family had 1.5 times higher odds of completion than a low income family
  - but there was an approximately 40% decrease in these odds when attending a highly competitive institution compared to a competitive/non-competitive institution (see next slide)
- This effect of selectivity was present controlling for college readiness in English
- This effect of selectivity dissipated when controlling for college readiness in math


100%
75%
50%
25%
0%
4-YEAR COMPLETION
Low
High
Family income
Competitive/Non-Competitive
Highly Competitive

Bachelor's Degree Completion & Institutional Sector

- There was a trend in the interaction of institutional sector on the effect of income level (p = .06) such that there was less of a discrepancy between public and non-profit privates on completion for students from high income families vs. low income families (see next slide)
- The moderation of the effect of income on completion remained after controlling for college readiness in English or math.


100%
75%
50%
25%
0%
4-YEAR COMPLETION
Low Income
High Income
INCOME
Non-profit Private
Public

Summary – Institutional Effects

- Institutions with low % debt and high completion rates are
  - Mostly highly competitive
  - Relatively low student services expenditures
  - Relatively low percent Pell grantees
  - Mostly private institutions (8/9)
- Institutions with high % debt and low completion rates are
  - Mostly competitive
  - 10% higher student services expenditures than those with low debt and high completion rates
  - Mostly private institutions (12/13)
  - Relatively high percent Pell grantees

Summary – Student Effects

- The percent of students with debt was negatively related to retention but not to 4-year completion
  - Same effects on retention when controlling for college readiness
  - Effects were greater for mid income than low income students
- Barron's selectivity was related to both retention and completion
  - Did not counter the effects of poverty on *retention*
  - Did counter the effect of poverty on *completion*
- More differential effect of income level on retention for students at non-profit privates
- Less difference in completion between students at publics and non-profit privates if from higher income family

Student Characteristics of those who Complete in 4

- Female (61% Completers vs. 53% Non-completers)
- White (76% Completers vs. 59% Non-completers)
- Middle High Income (33% Completers vs. 27% Non-completers) and
- High Income (28% Completers vs. 18% Non-completers)
- Did not plan to work more than 20 hours in college (9% Completers vs. 18% Non-completers)
- Met the ACT Benchmarks, e.g., English (e.g., 96% Completers vs. 82% Non-completers)
- Met the ACT Benchmarks, e.g., Math (e.g., 78% Completers vs. 52% Non-completers)
- College prep curriculum (78% Completers vs. 66% Non-completers)

Institutional Characteristics of those who Complete in 4

- More Private non-profit (39% Completers vs. 30% Non-Completers)
- More Highly Competitive (16% Completers vs. 7% Non-Completers)
- More Very Competitive (50% Completers vs. 29% Non-Completers)
- Lower % of Students Receiving PELL (12 mos. average) (30% Completers vs. 37% Non-Completers)
- Lower 2009 Loan Default Rate (4.6% Completers vs. 6.4% Non-Completers)
- Higher Net Price of Attendance ($18,808 Completers vs. $17,054 Non-Completers)
- Little difference on average student debt, % students with debt, % student and instructional expenditures

Institutional Characteristics for Low vs. High Income Completers

Low Income

- 45% Non-profit Privates
- $27,720 Average Student Debt
- 67% Students with Debt
- 42% at Competitive Institutions
- 33% of Students Receiving PELL
- 5.2% Cohort Default Rate

High Income

- 33% Non-profit Privates
- $26,911 Average Student Debt
- 62% Students with Debt
- 23% at Competitive Institutions
- 27% of Students Receiving PELL
- 3.8% Cohort Default Rate

Institutional Characteristics for Low Income Completers vs. Non-Completers

Completers

- 45% Non-profit Privates
- $27,720 Average Student Debt
- 67% Students with Debt
- $18,961 Net Price
- 42% at Competitive Institutions
- 33% of Students Receiving PELL
- 5.2% Cohort Default Rate

Non-Completers

- 30% Non-profit Privates
- $26,387 Average Student Debt
- 62% Students with Debt
- $16,652 Net Price
- 73% at Competitive Institutions
- 41% of Students Receiving PELL
- 7.1% Cohort Default Rate

College Readiness of Low Income Students

Completers

- 40% met Science
- 65% met Math
- 68% met Reading
- 89% met English

Non-Completers

- 20% met Science
- 35% met Math
- 45% met Reading
- 70% met English

Observations

- The effect of poverty is countered somewhat by attending non-profit private and highly competitive institutions, suggesting that these institutions are finding some success recruiting and mentoring low-income students to completion.
- Average debt for low-income completers attending private, non-profit institutions is only slightly higher than high income peers, suggesting comparable debt burden exiting college.
- Largest readiness gaps among completers and non-completers from low-income backgrounds is in math (30%), suggesting a need for continued focus on math readiness out of high school.

Discussion

- How are competitive, private non-profit institutions recruiting and retaining students from low-income backgrounds?

- What are the sources of financial support that hold down student debt at private, non-profit institution for low-income students?

- Readiness is clearly important. What can we do to foster more college readiness, particularly among low-income students?

Future Research

- Incorporate new college scorecard data for for-profit institutions in predictive modeling
- Are there circumstances in which high debt is worth the ROI? For whom?
- What characterizes the low college-ready and/or low-income completing students? What college majors?

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