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Need-based Grant Aid in Higher Education:

The Effects of the Howard P. Rawlings Educational Assistance (EA) Grant on Financial Aid, Academic Persistence, and Working While in School

Heath Witzen, Research Fellow, MLDSC
and the University of Maryland, College Park

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Introduction

- This ongoing research at the Maryland Longitudinal Data System Center aims to understand short and long-term effects of need-based grant receipt on financial aid, earnings while in college, and academic persistence.

- We estimate the effect of grant aid by looking at students who are near strict eligibility cutoffs for the grant.

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Introduction

- The Educational Assistance (EA) grant program is the largest need-based grant aid program for higher education (two- and four-year) in Maryland.
  - Maximum renewable award of $3,000 per year
  - Fiscal Year 2015, $61.1 million awarded*
  - 28,325 EA grant awards *

- Of policy interest:
  - How do student's financial aid packages change with receipt of an EA grant?
  - Do students earn less while in college?
  - Do are students who recieve the grant more likely to persist to later years?
  - If any of these effects are present, are they concentrated among certain students?

*HB 1014 Fiscal Policy Note

Preview of Results

- We find that an additional $1 of EA grant aid results in:
  - $0.17 less institutional grant aid
  - $0.40 less in loan aid received, which is concentrated in a reduction of Plus loans
  - No difference in a student's average earnings during the academic year, suggesting students do not work less.
- We find $1,000 in EA grant aid increases persistence to the second year by 1.7 percentage points
- Results suggest that these effects may be concentrated among poorer students
- Preliminary evidence that these persistence effects extend to later semesters

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Road Map

- Previous Evidence
- The Howard P. Rawlings Educational Assistance Grant
- Data
- Estimates of the Effect of Grant Aid on first-year outcomes
- Varying Effects by Income
- Long-term effects
- Conclusion and Future Directions

Previous Evidence on Need-based Grant Aid

- Previous work has demonstrated that grant aid can have a positive effect on enrollment in postsecondary education(Dynarski, 2003; Abraham and Clark, 2006; Castleman and Long, 2015)
- More recent work has found evidence of positive effects on persistence and degree achievement (Scott-Clayton, 2011; Castleman and Long, 2015)
- Turner (2014) found that institutions reduce their institutional grant aid to students in response to the Pell Grant
- This work provides additional evidence of the effect of grant aid on academic outcomes, as well as examines the effect on earnings while in school and varying effects by income.

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The Howard P. Rawlings Educational Assistance (EA) Grant

Program Details

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The Howard P. Rawlings Educational Assistance (EA) Grant

- The EA grant is the primary need-based postsecondary grant provided by the State of Maryland
- Eligible students must be Maryland residents who attend a two-year or four-year college or university in the state of Maryland.
  - Must attend full-time (> 12 credit hours) and be degree-seeking
- Students apply by completing the FAFSA
- The grant is equal to a percentage of your remaining need with a maximum of $3,000
  - 40% for four-year programs
  - 60% for two-year programs

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The Howard P. Rawlings Educational Assistance (EA) Grant

Awarding process:

- The FAFSA returns a student's Expected Family Contribution (EFC), the amount a student is expected to pay to attend school
- Need is determined as:

Remaining Need = Cost of Attendance – EFC – Pell Grant – GA Grant – certain other scholarships

- In each year, the state views the number of eligible students and sets an EFC cutoff, above which students are not eligible for the grant
  - There is an initial cutoff, which produces a waitlist, and then students are admitted off the waitlist up to a final EFC cutoff

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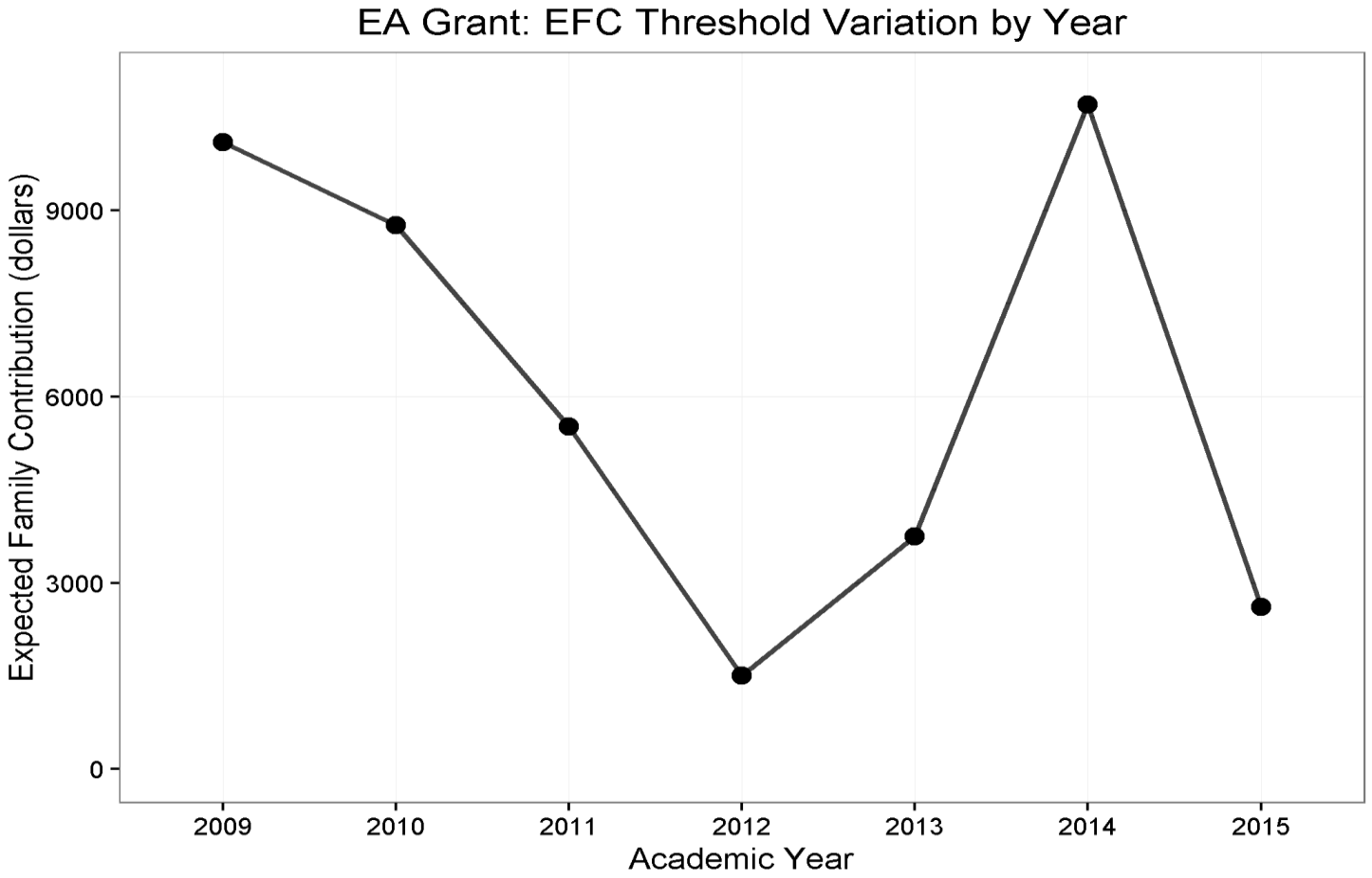
EA Grant Thresholds for Eligibility



EFC cutoffs obtined from 2015 MHEC Joint Chairmen's Report and a 2015 Department of Legislative Services report on "College Affordability and Completion in Maryland"

Outlining the Empirical Strategy

- We use a Regression-Discontinuity (RD) approach to estimate the causal effects of receiving grant aid
- Reasonably, students would not be able to know perfectly whether they would receive the aid or not
- Looking within a small enough EFC window around the cutoffs then serve as “experiments” in which students receive the grant aid “as if” randomly.

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Data

Data

- We include students who fit the following criteria:
  - Enrolled in a Maryland higher education institution in the 2008-2009 to 2014-2015 academic years
  - Are full-time, first-time, degree-seeking
  - Are in-state for the purposes of financial aid
  - Completed FAFSAs for their first year
  - Had remaining financial need > 0
  - Had an EFC > 0
  - Attended a four-year institution

- This produces 41,976 students out of 108,110 full-time, first-time, degree seeking.

Data

- Variables Included:
  - Enrollment in postsecondary institutions in all years
  - Degree receipt and year of receipt
  - Earnings from UI wages in all years
  - All financial aid awards in the first year of entry
  - Highest K-12 assessment scores: SAT, ACT, and HSA English

Data

- Using the financial aid data and the year of entrance into the institution, we then find the distance between a student's EFC and the cutoff EFC in a given year
- We then limit the data to students within an EFC window around the cutoff EFC
- Using all these specifications, our final data set contains 10,860 students

Sample Summary Statistics

	Full Sample
N	10,860
Percent Male	44%
Percent White	40%
Adjusted Gross Income	$64,522
Pell Grant Aid	$1,541
Institutional Grant Aid	$1,672
Overall Loans	$6,607
Avg. Earnings	$1,904
Percent with Earnings > 0	60%
Persistence to Year 2	83%

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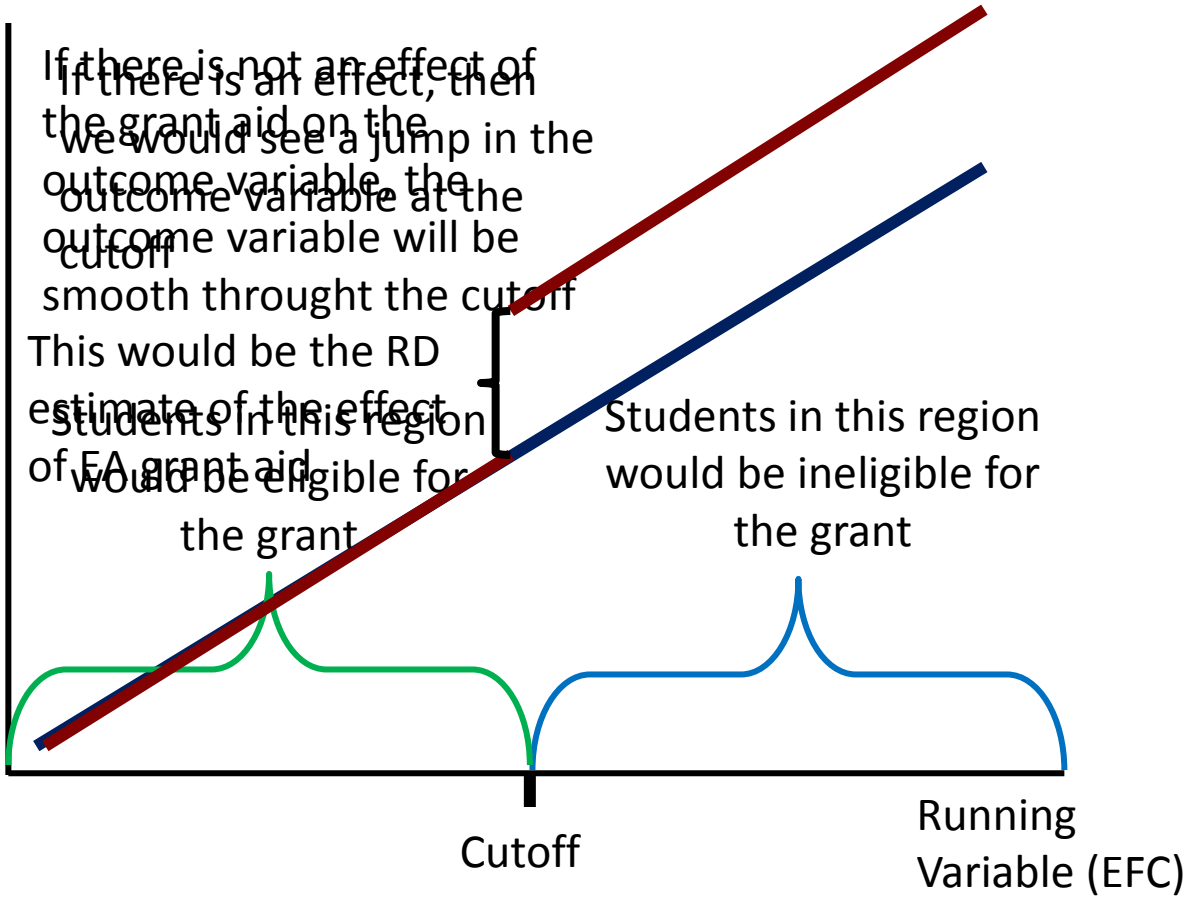
The Effect of EA Grant Receipt and the RD Approach

Explanation of the Regression Discontinuity (RD) Approach

- In general, differences in outcomes between EA grant recipients and those who do not receive EA grant would not have the interpetation as a "causal" effect of grant aid
  - Recipients and non-recipients are likely to be different types of students
- An RD approach is a way to examine students within a small EFC window on either side of the cutoff
  - Students are more likely to be similar
  - EA grant receipt can then be treated "as if" it were a random experiment

Graphical Explanation



Using Two Methods

1. We graphically show simple linear relationships between our outcome variables and EA grant eligibility.

2. We report the results of our full model, which includes covariates such as: race, gender, SAT, ACT, HSA scores, year, and institution specific effects

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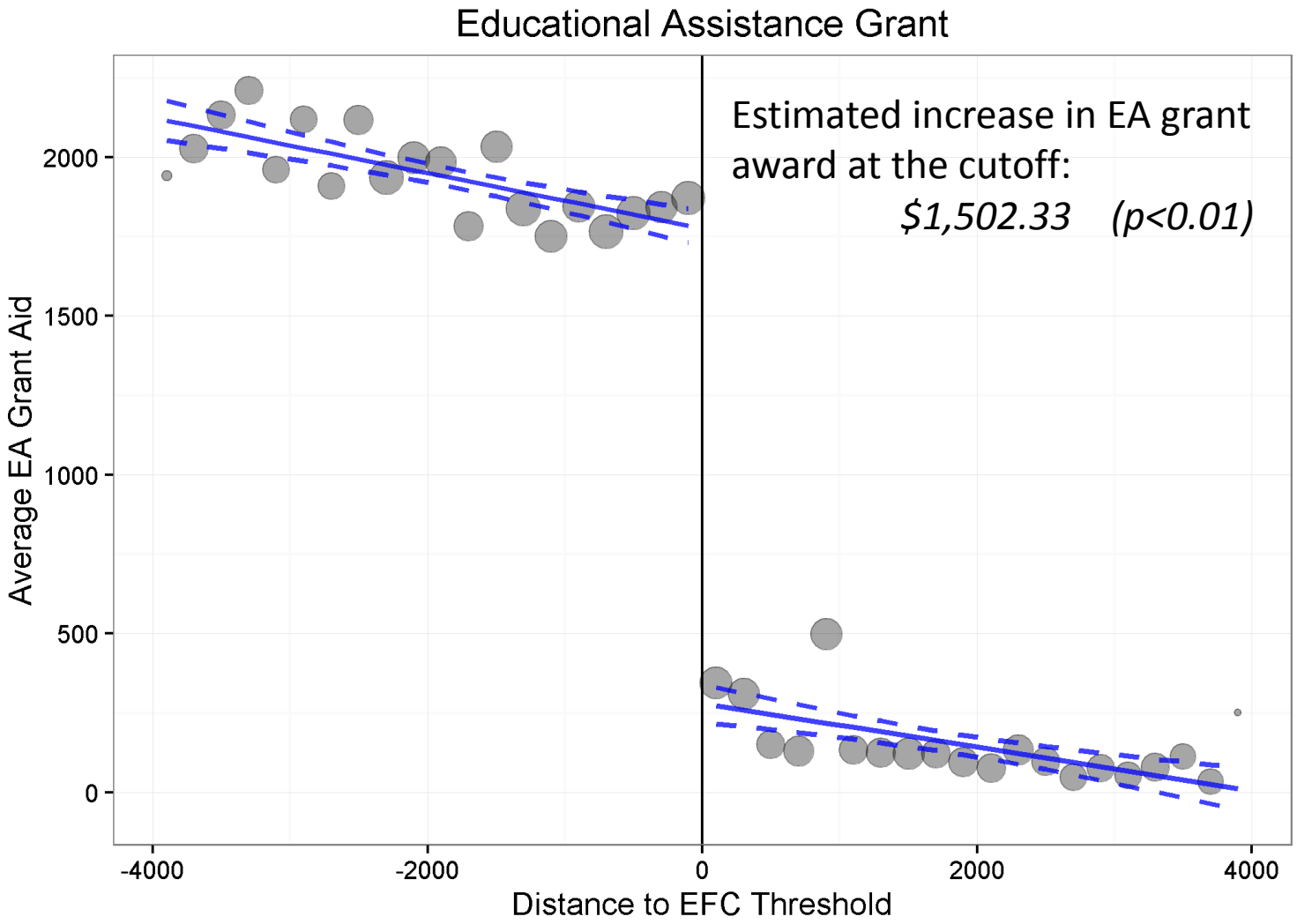
EA Grant Discontinuity



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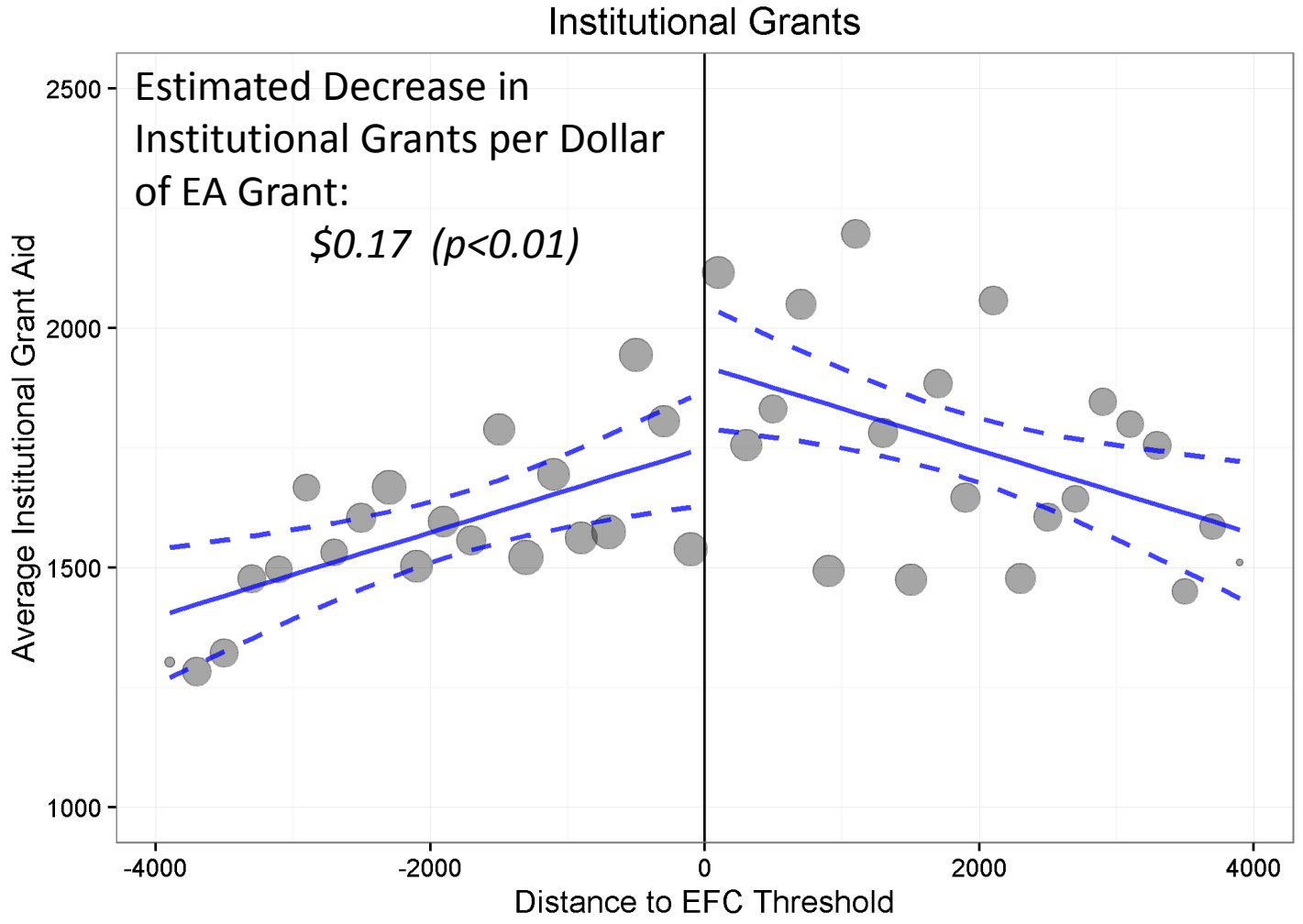
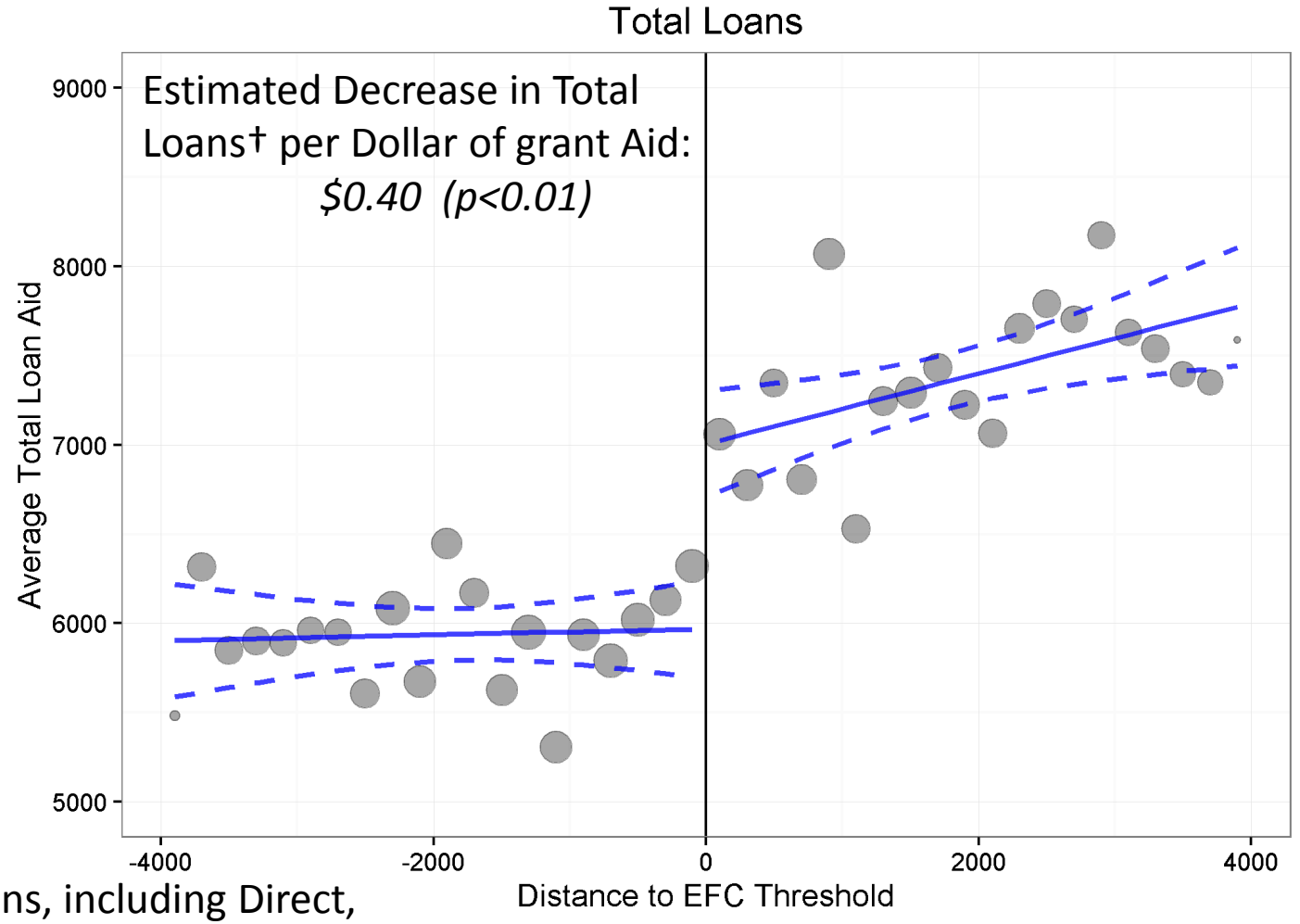
Institutional Grant Aid



Total Loans



All Loans, including Direct, Plus, Institutional, and Private

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Earnings During the Academic Year

- We constructed the total amount of earnings for a student during an academic year from the wage data.
- We approximated academic years with comparable quarters
  - For example, earnings for the 2014-2015 academic year were computed as the 2014 Q3-Q4 + 2015 Q1-Q2
- The earnings data were used to understand if grant aid changes whether students work differently in response to grant aid, as well as the long term effect of grant aid on later earnings.

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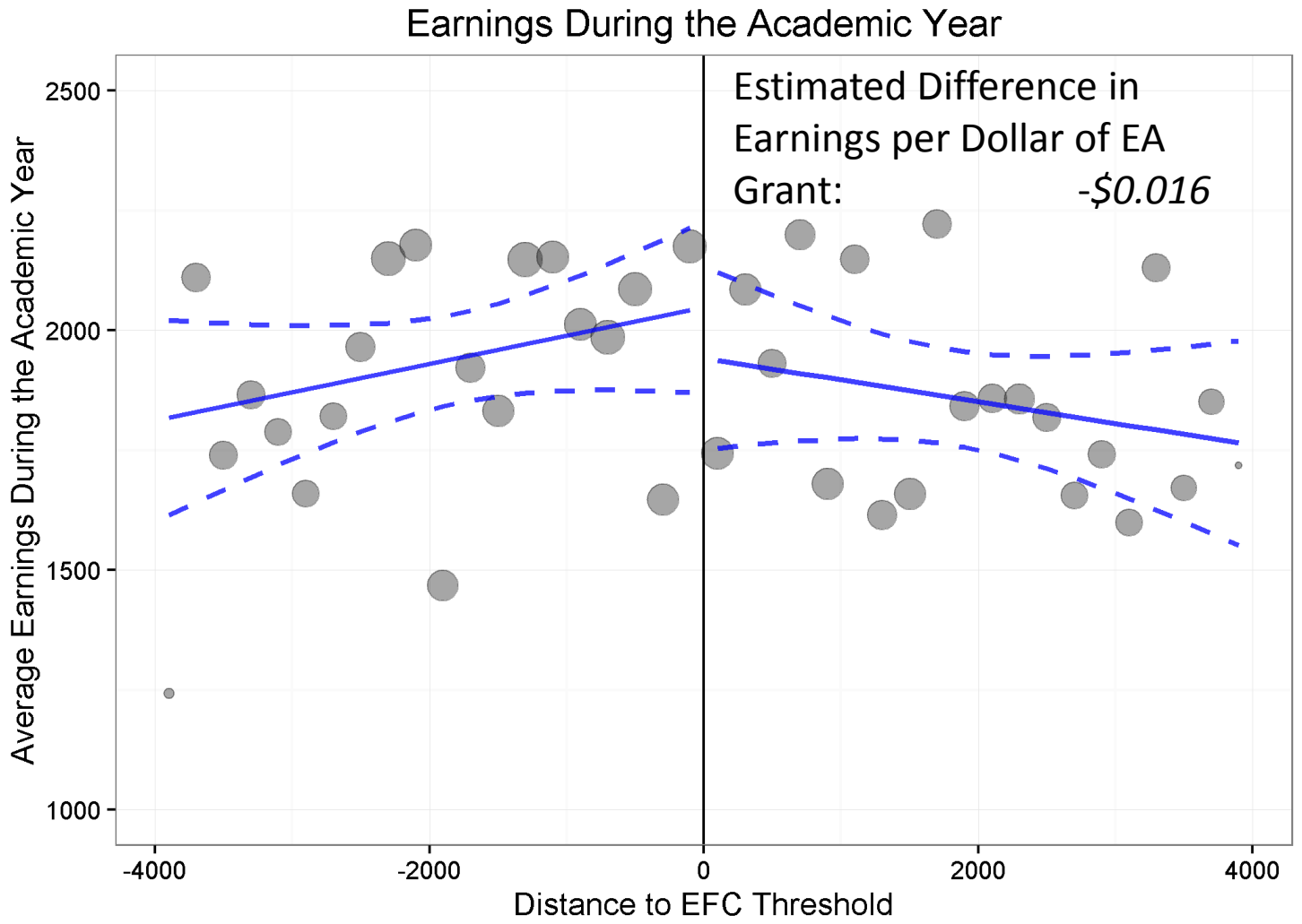
Earnings During the Academic Year



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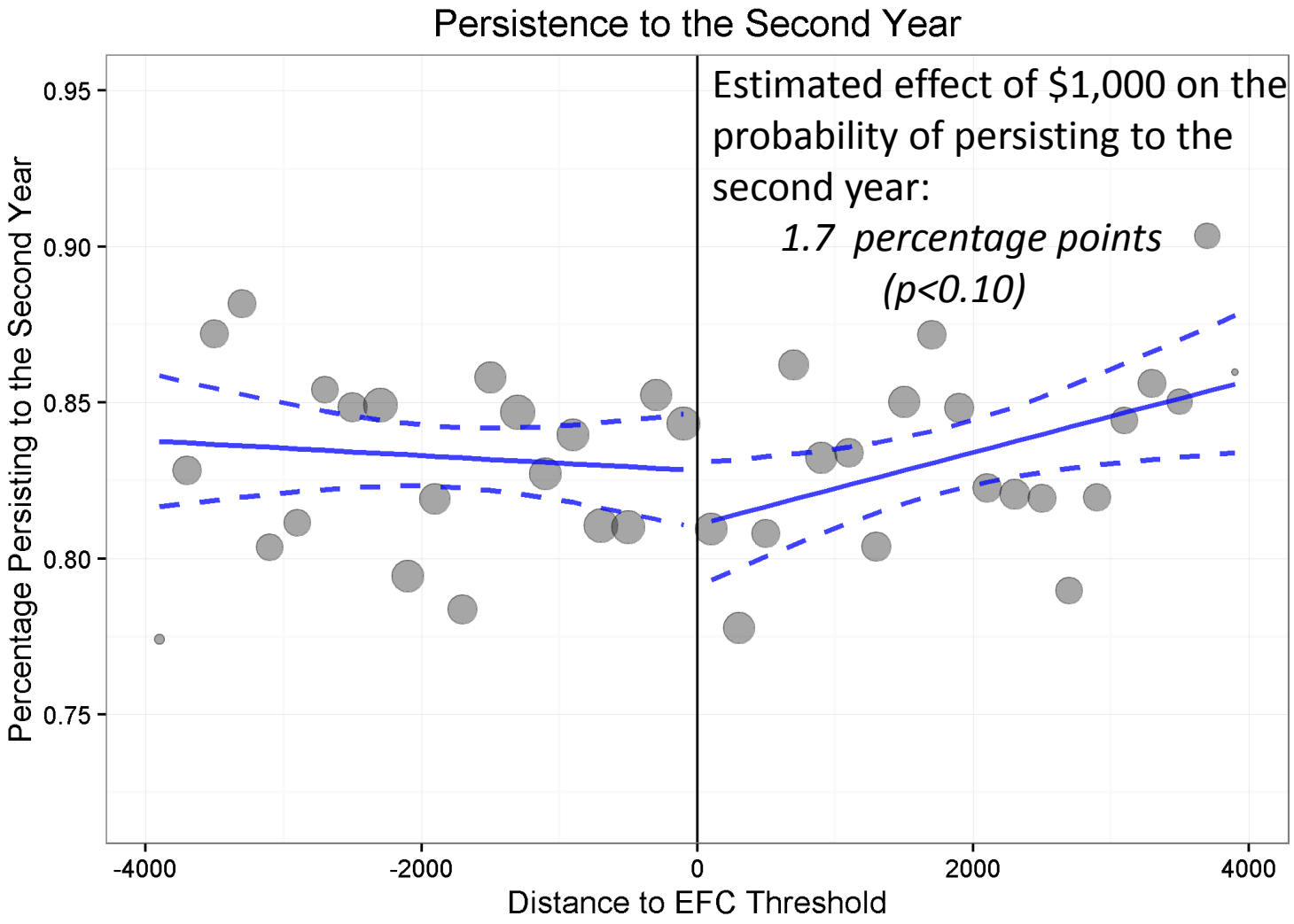
Persistence to the Second Year



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Results: Financial Aid

	Regression Estimates
EA Grant	\$1,502.33***
	(42.22)
Institutional Grants	-0.17***
	(0.052)
SEOG	0.0048
	(0.0064)
Total Loans	-0.40***
	(0.13)
Direct Loans	-0.066
	(0.067)
Plus Loans	-0.27 ***
	(0.096)
Private Loans	-0.043
	(0.05)
Earnings in Year 1	-0.016
	(0.088)
Earnings > \$1,000	-0.0026
	(0.012)
N	10,860
Bandwidth choice	\$3,868

Demographic Changes at the Thresholds?

Variable	Estimated Δ
Percentage male	-0.00065
	(0.018)
Percentage white	-0.0082
	(0.016)
Percentage hispanic	0.0061
	(0.0088)
Average SAT score	-13.37*
	(6.89)
Adjusted Gross Income (AGI)	-2.53
	(758.91)
N	10,860

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Looking for Subgroup Effects

- Persistence outcomes due to a dollar of additional grant aid does not seem to vary by race, gender, SAT score, FARMS in K-12, or K-12 school recieved Title 1.

- For each $1 of EA grant:
  - The institutional grant response is $0.11 smaller for non-white students, and the effect on loans is $0.19 greater.
  - Males loan response is $0.15 less in magnitude than female students.

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Examining Varying Effects Using Different EA Grant Cutoffs

Strategy

- As shown previously, the EFC cutoff varied by each year.
- Using the heterogeneity in the cutoffs, we can estimate the effects separately by cutoff groups
- This estimates the effect of grant aid separately for different income groups, since EFC is so closely related to income
- Define three groups of EFCs:
  - *Low* cutoff: $1,500 and $2,610
  - *Medium* cutoff: $3,750 and $5,516
  - *High* cutoff: $8,764; $10,100; $10,709

AGI
Low: $47,166
Med: $57,960
High: $87,925

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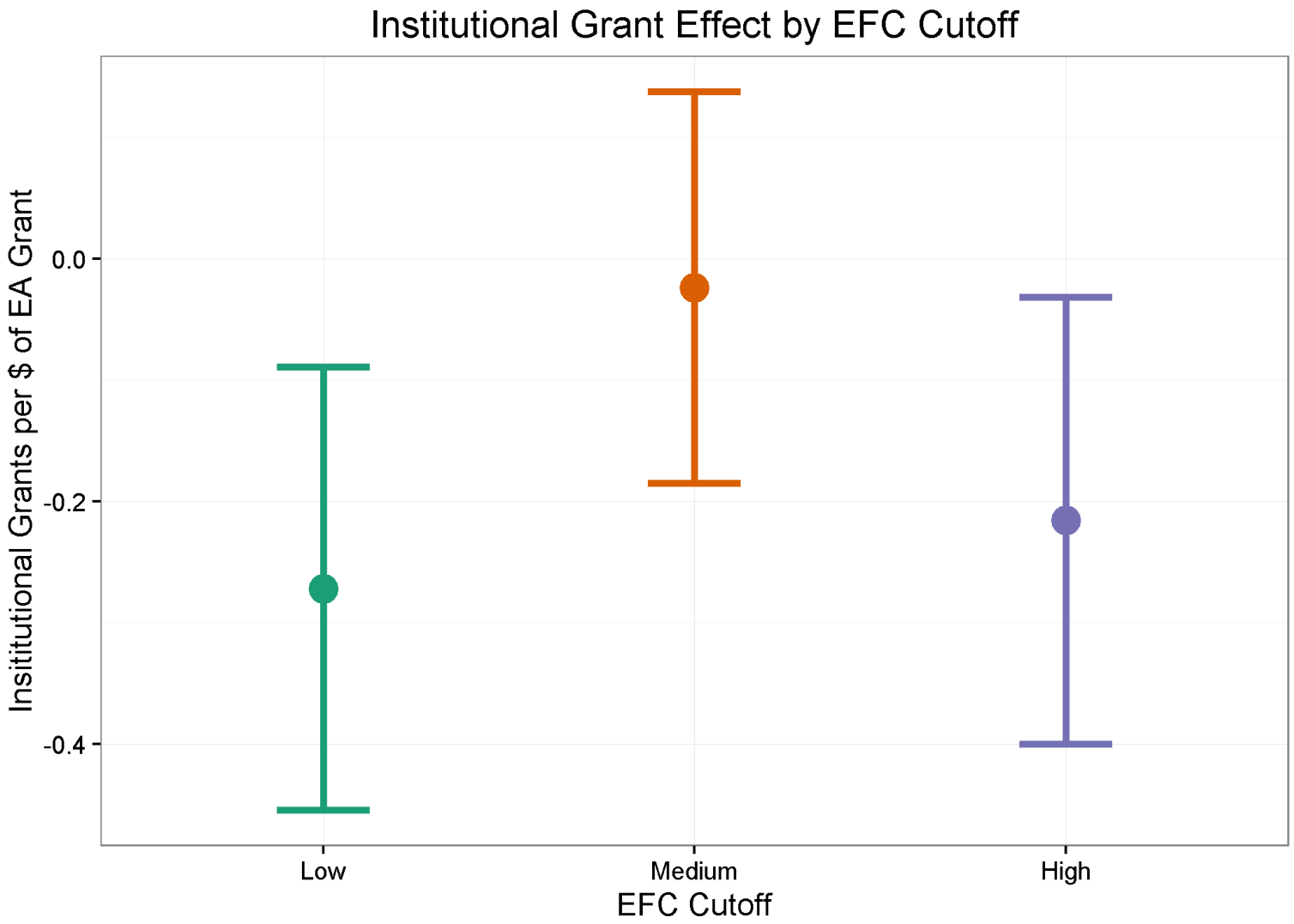
Heterogeneous Effects: Inst. Grants



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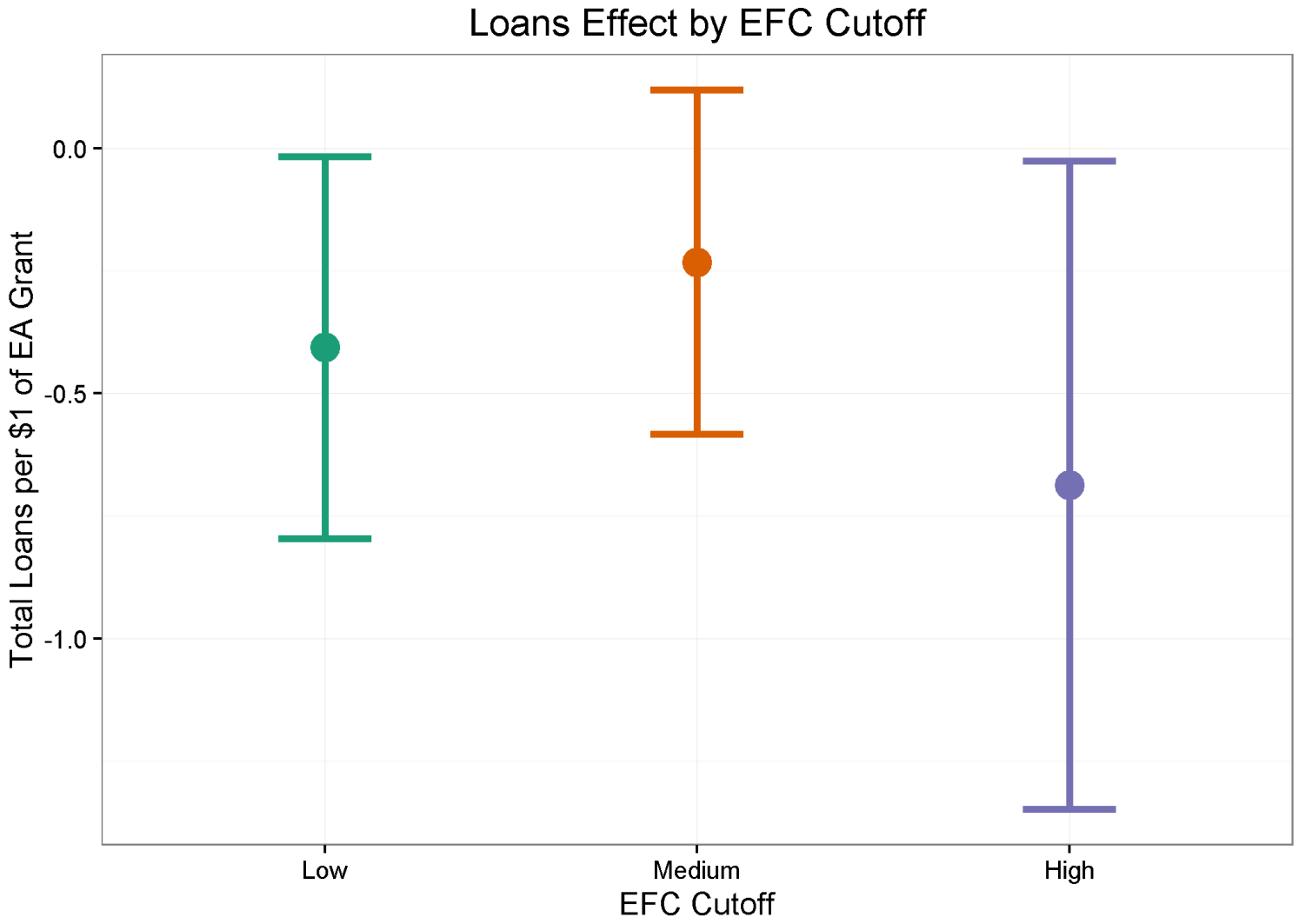
Heterogeneous Effects: Loans



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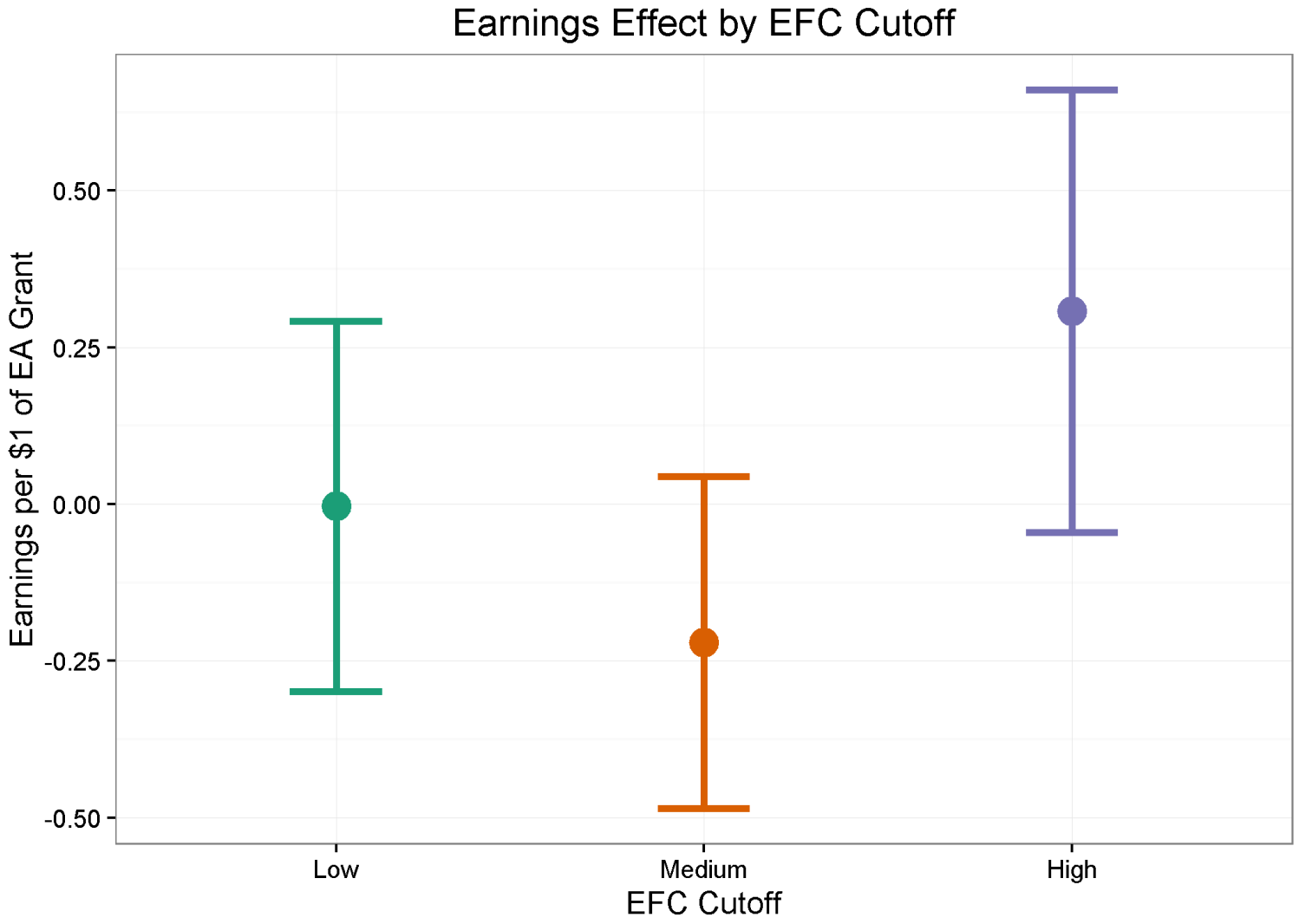
Heterogeneous Effects: Earnings



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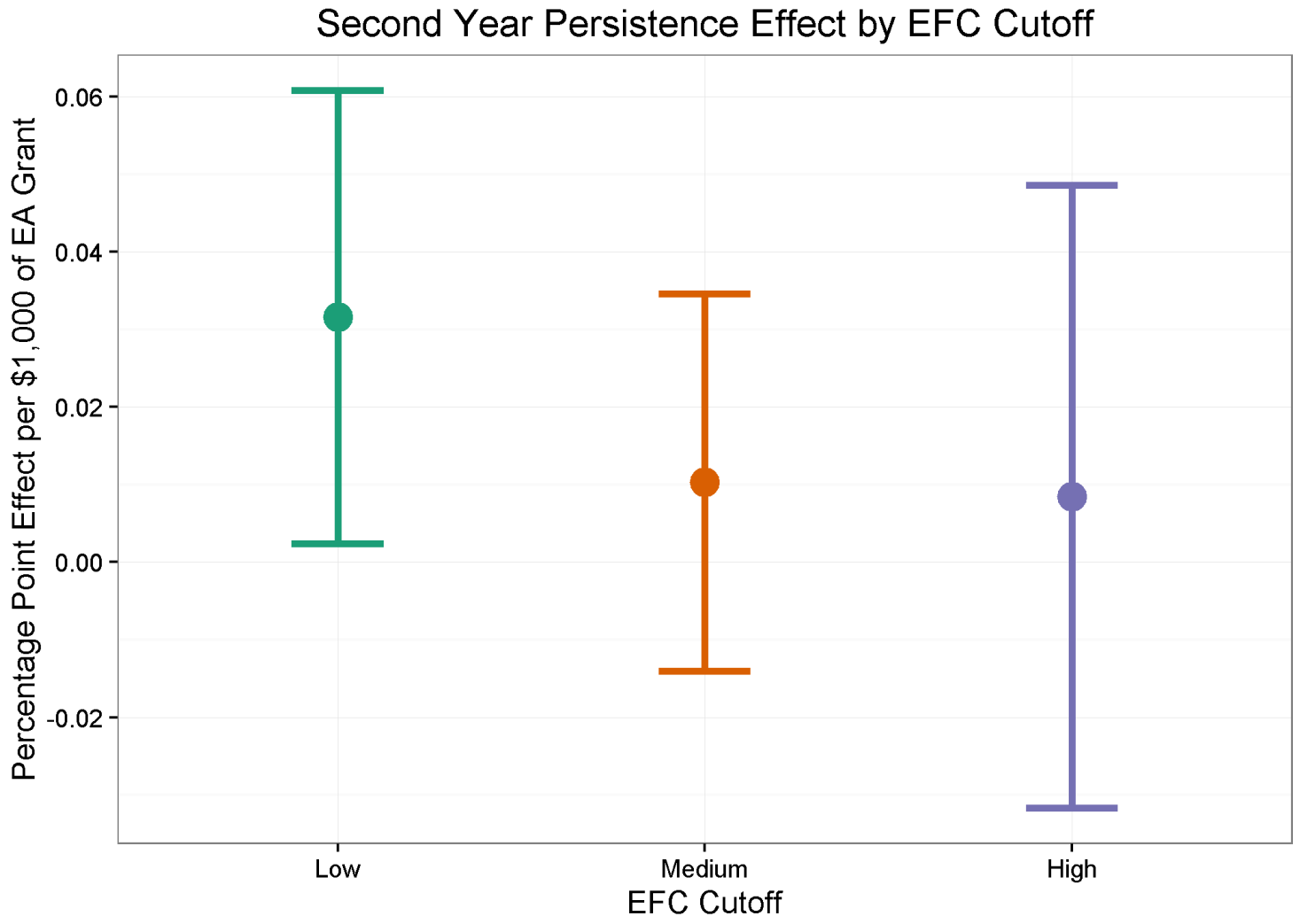
Heterogeneous Effects: Persistence



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Results: Long-Term Effects

	Regression Estimates	N
Persistence to Year 2	0.017*	10,860
	(0.0088)	
Persistence to Year 3	0.021*	9,050
	(0.012)	
Persistence to Year 4	0.022*	8,120
	(0.013)	
Degree Receipt in 5 Years	0.0098	6,010
	(0.017)	
Earnings 5 Years later	0.70	4,560
	(0.88)	
Bandwidth Choice	3,870	

Conclusions

- We used the strict EFC eligibility cutoffs to estimate the effects of the Educational Assistance grant on financial aid, academic, and workforce outcomes.
- Institutional grant aid and loan aid decrease as students receive EA grants.
- Students do not appear to work less as a response to grant aid.
- Suggestive evidence that need-based grant aid has postive persistence effects and that these effects are larger for students at lower income levels.

Future Directions

- Add additional academic outcomes like GPA and credit hours completed.
- Investigate how financial aid responds in the long-term.
- As years become available, repeating this analysis will provide a clearer picture of longer-term outcomes of state grant aid

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Contact Information:

Heath Witzen

Research Fellow, MLDS Center and UMCP

Heath.witzen@maryland.gov

(919) 522-9362