

PREDICTING INTERNATIONAL STUDENT ENROLLMENT BY INSTITUTIONAL AID: USING FIXED AND RANDOM EFFECTS

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OVERVIEW

1. Research Overview

- The Why
- Empirical Design, Sampling, and Data
- Choice of Models
- Results

2. Discussion

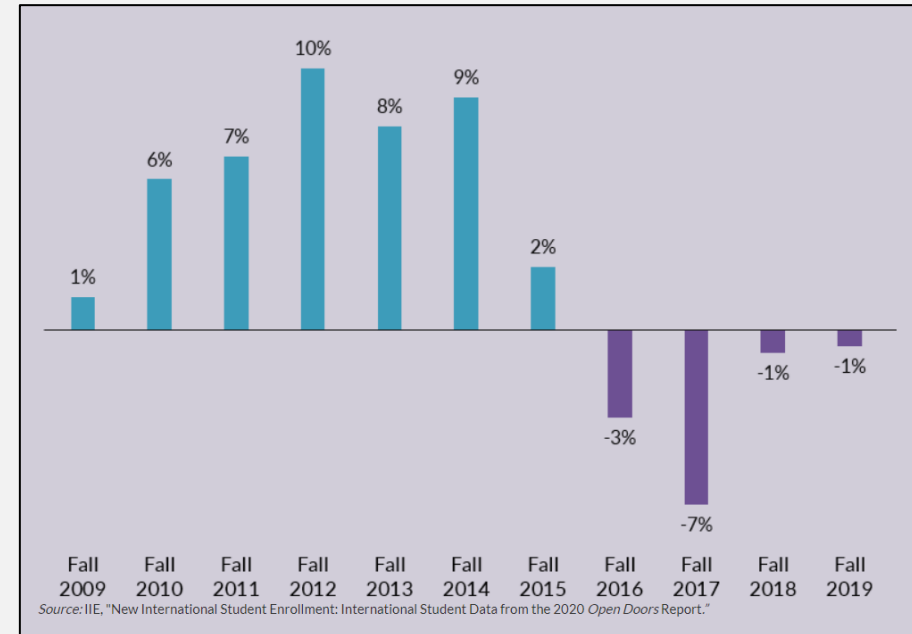
- Importance
- Implications for Policy and Practice
- Education in an international trade perspective

3. Q&A

I. RESEARCH OVERVIEW

THE WHY

- Since 2016, International Student Enrollment (**ISE**) rates have been declining and negative.
- The 'Trump Effect' (Bellmore and Hacker, 2020) made the U.S. less attractive to international students due to anti-immigration rhetoric, administrative hurdles, and personal safety threats.
- **How can we reverse and fight this trend?**



EMPIRICAL DESIGN AND DATA

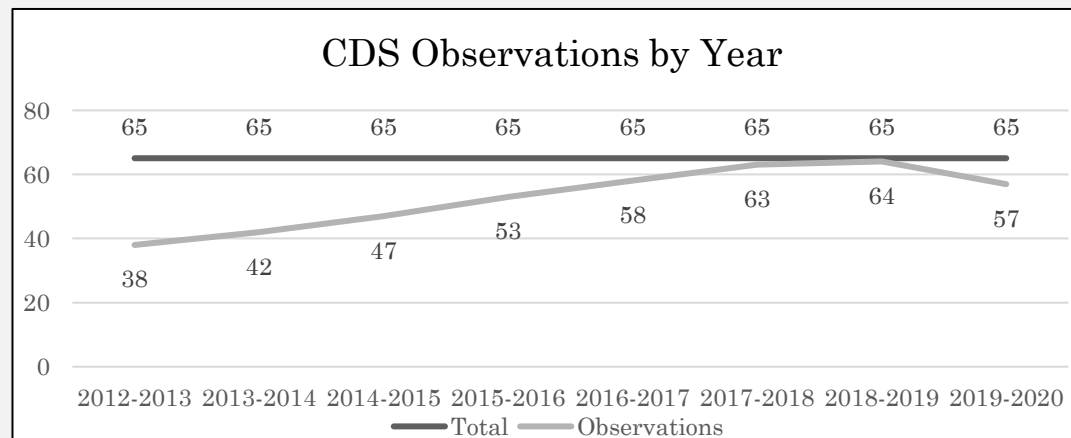
- In existing literature (i.e. Bicak and Taylor 2020) various institutional characteristics are connected to ISE.
- For policymakers to reverse this trend, I needed to distill what the most important predictors for ISE are.
- There is vast research on most predictors, i.e. location, research, ranking, but one is missing: **The role of financial aid.**
- I framed two research questions:
 - **R1:** The effect of aid on ISE.
 - **R2:** The effectiveness of aid awards in various institutions.
- Therefore, I needed a data set that included information on aid awards to international students – almost non-existent.
- The Common Data Set (CDS) offers unique opportunity; **but** all data was aggregated by hand from 65 universities' websites (= main limitation).
- Focused on a random sample of universities in Great Lakes region to avoid regional bias.

EMPIRICAL DESIGN AND DATA

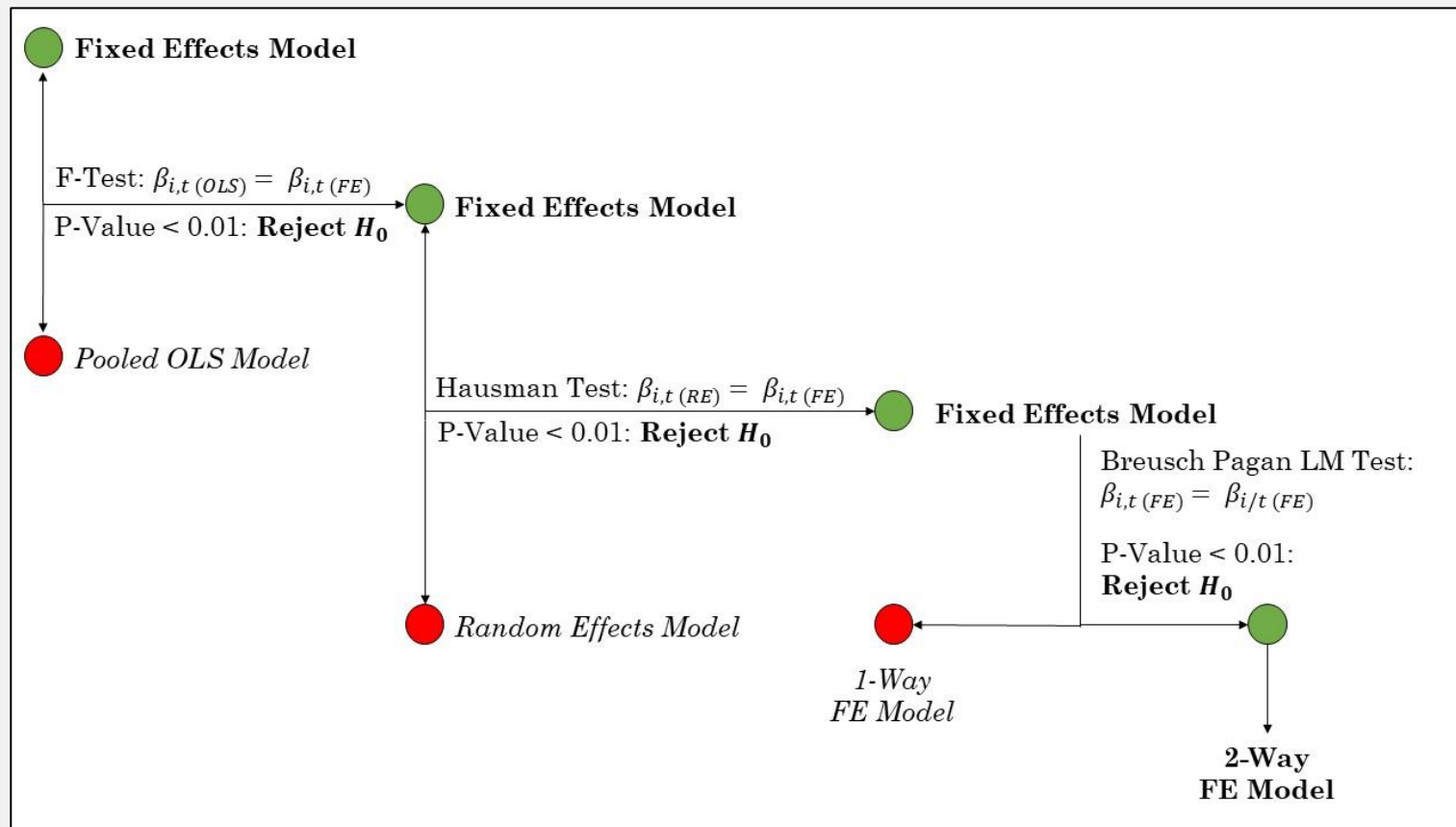
- The data is limited to Title-IV, non – special interest universities to avoid bias and ensure data validity.
- Data from CDS (aid data) is merged with data from the National Center for Education Statistics (NCES) – specifically from the IPEDS database.



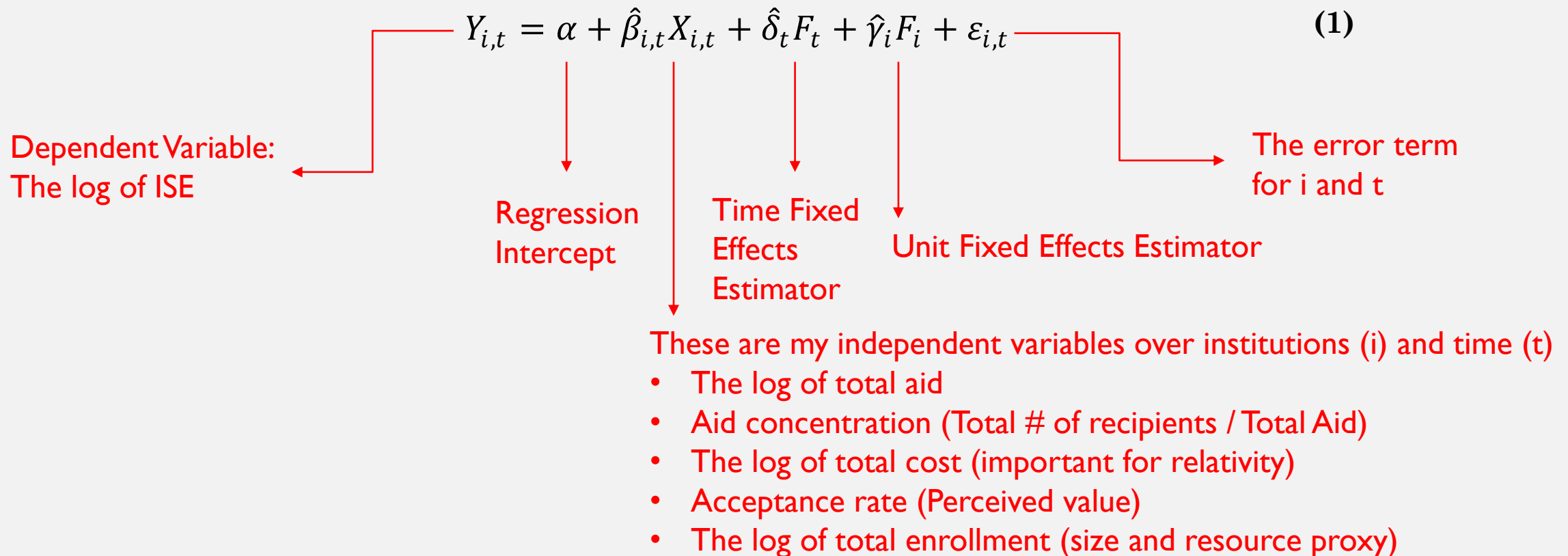
- One important note:
The dataset is unbalanced, meaning that observations differ by year. This is a further limitation of this study.



CHOICE OF MODELS (RI)



THE REGRESSION MODEL (RI)

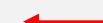
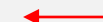


RESULTS (RI)

	<i>Dependent Variable:</i>		
	Log(First Enrollment)		
	(1)	(2)	(3)
Log(Total Aid)	0.18 *** (0.047)	0.18 *** (0.048)	0.18 *** (0.047)
Aid Concentration	-0.91 *** (0.229)	-0.91 *** (0.232)	-0.85 *** (0.229)
Log(Total Cost)	-0.58 (0.428)	-0.52 (0.410)	-0.85 * (0.428)
Acceptance Rate		0.55 (0.422)	0.47 (0.415)
Log(Undergraduate Enrollment)			1.01 * (0.405)
Observations	417	415	415
R ²	0.07	0.07	0.09
F Statistic	8.33 *** (df = 3; 342)	6.63 *** (df = 4; 339)	6.50 *** (df = 5; 338)

Note: Robust standard errors in parentheses.

*p<0.1; **p<0.05; ***p<0.01

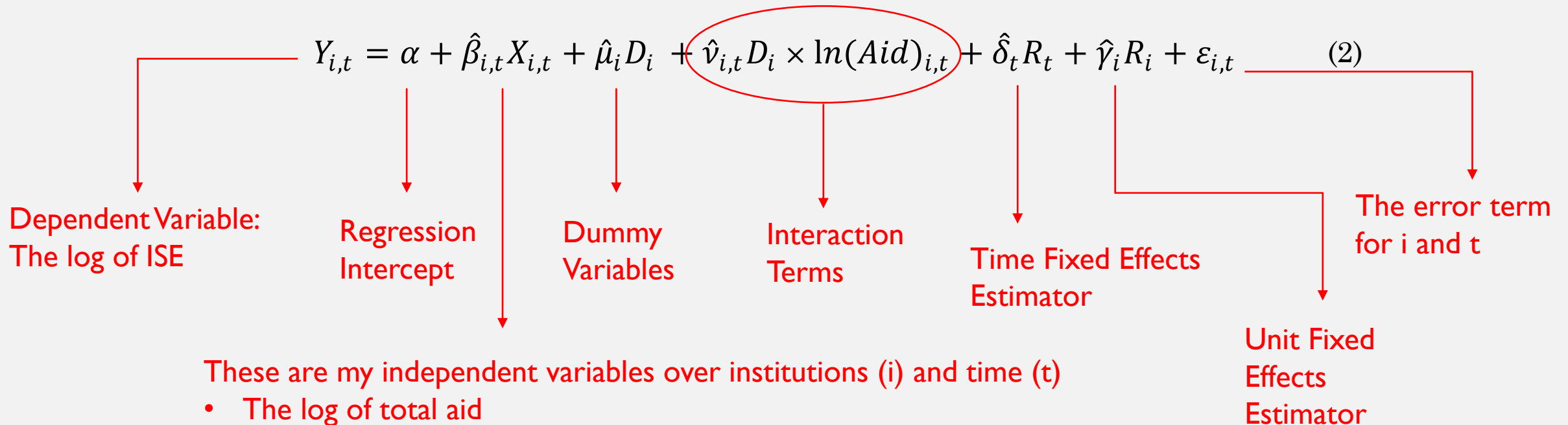


SO WHAT?

- Woohoo – the results are significant!
- This means that our first research question, R1, is answered successfully.
- But wait ...
 - Every university in the U.S. is so different – how can this one result apply to all of them?
 - The short answer is – it doesn't.
 - That is why I introduce the second research question, R2, into this paper.
- In R2, I introduce the importance of location, sector, and research activity into the equation
- Per Bicak and Taylor (2020) these three characteristics are amongst the strongest predictors of ISE.
- Therefore, **I interact dummy variables (0,1)** with the total aid variable, yielding a new term describing the effect on an effect (bear with me please ...)

	Location	Research	Sector
	Town/Rural	Bachelor	Private
	Suburban	Masters	Public
	City	Doctoral	

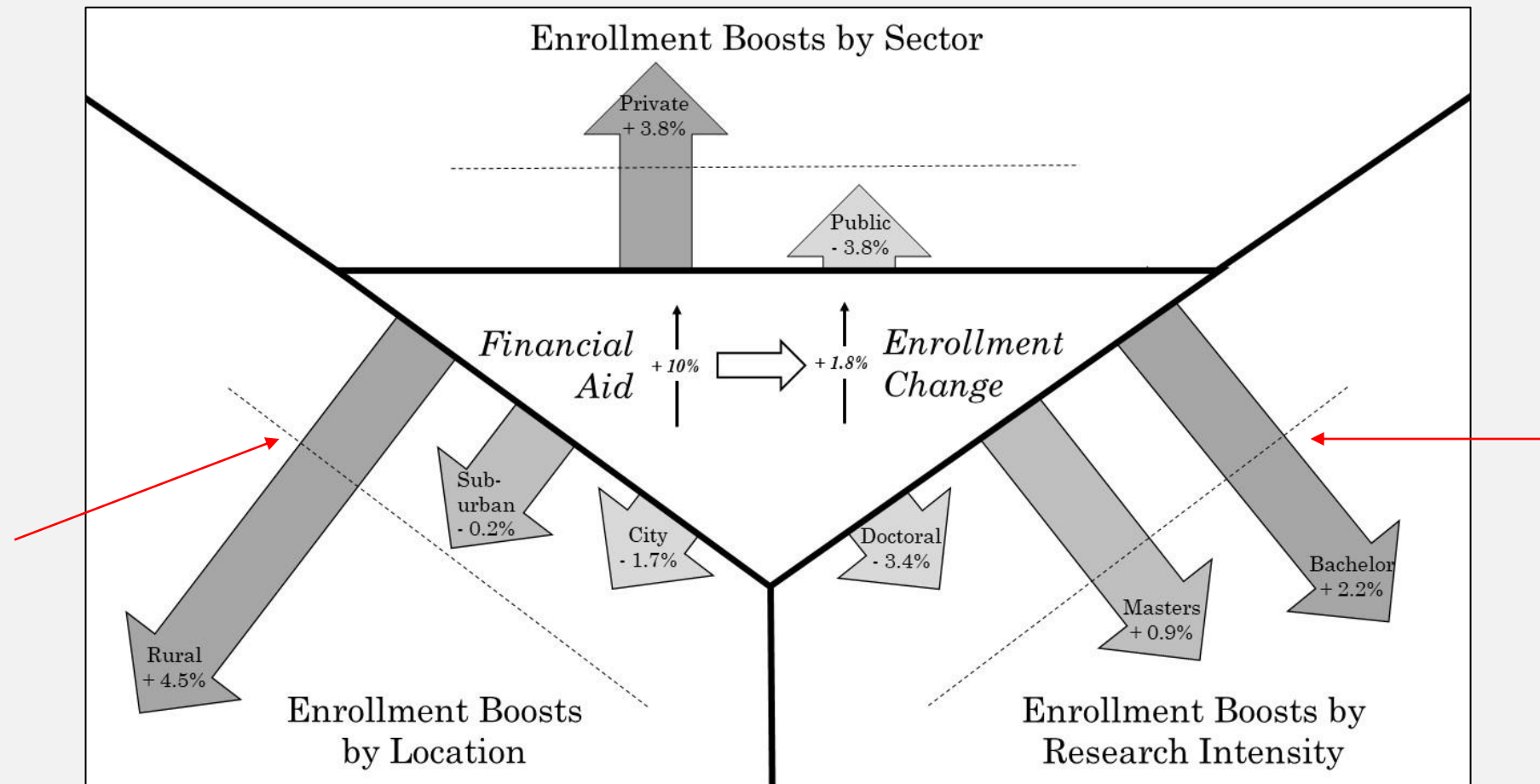
THE REGRESSION MODEL (R2)



These are my independent variables over institutions (i) and time (t)

- The log of total aid
- Aid concentration (Total # of recipients / Total Aid)
- The log of total cost (important for relativity)
- Acceptance rate (Perceived value)
- The log of total enrollment (size and resource proxy)

RESULTS (R2)



2. DISCUSSION

IMPORTANCE

- The first study to prove that aid and its concentration is a statistically and substantially significant predictor of ISE.
- Aid is not only effective, but also important for international student success (Yang, 2011)
- The outcome of aid awards, international students, boost institutional funding and renown (McCormack, 2007)
- International students boost local economic growth through spending, but also contribute to entrepreneurial activity and innovation:
“for the combined spending activity of eight international students, three U.S. jobs are created and supported.” – NAFSA, 2020
- Internationals contributed to over \$27 billion of added economic value to the U.S. economy in 2013/2014 alone. – IIE, 2014

IMPLICATIONS FOR POLICY AND PRACTICE

A) Education accessibility

- Aid supports low-income students
- Universities can focus more on their educational mandate, less about the generation of profit
- All while still furthering their institution's renown.
- Financial aid is a 'win-win' policy tool

B) Competition in higher education

- Competition in higher education is largely defined by the characteristics that cannot be changed ("time-invariant")
- Aid – per my results – is powerful enough to change that
- Now universities that traditionally unattractive, i.e. small, rural, private, low research activity, can compete with their more attractive counterparts by awarding aid.

EDUCATION FROM AN INTERNATIONAL TRADE PERSPECTIVE

- Financial aid is a strong predictor of ISE, where ISE is a proven tool to boost economic growth regionally.
 - International talent may support structural change in local communities through the injection of talent
 - Local economies experience economic growth, entrepreneurial activity, and innovation through international students
 - Financial aid can be seen as the cost of importing educated workers/ knowledge
 - Educated citizens is a key asset in an emerging – even polar – knowledge economy.
- **Question: With respect to China's emergence as an intellectual superpower, to what extent should the U.S. subsidize education for international talent?**

3. Q&A