

# College tuition, diversity, and pay

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# Two Main Goals



1. Provide data-driven college recommendations to students, especially for those they might not have heard of before.
2. General insights about trends in campus diversity, expected salary, tuition, etc. because collEDGE markets to students on these topics



## 1. Data-driven college recs students may not have heard of

For, this I focused on financial value:

$$\text{Value Score Column} = (10 * \text{Early Career Pay}) + (30 * \text{Mid Career Pay}) - (4 * \text{Net Cost})$$

Basically = Post-Grad Earnings over 40 years - How much had to pay to get those earnings

Really simplified but generally captures financial value



# Net costs varied depending on income level.



## Average Net Cost by Income Level

Income Level	Range	Average Net Cost
Low	0 to 30,000	\$14921.29
Lower Middle	30,001 to 48,000	\$15915.41
Middle	48,001 to 75,000	\$18794.82
Upper Middle	75,001 to 110,000	\$21899.74
Upper	Over 110,000	\$25092.87

Net Cost = average actually paid after scholarship/award

**As a result, I separated my value rankings by income level.**

## Top On-Campus Value Schools for Low-Upper Middle Income Households (2018)

Rank	College	Median Value Score	Median Net Cost	Early Career Pay	Mid Career Pay
1.	Harvey Mudd College	5575926	14518.57	88800	158200
2.	MIT	5490950.5	8463.27	86300	155200
3.	Cal Tech	5343463.5	11383.5	84100	151600
4.	Harvard	5143381	2154	74800	146800
5.	Stanford	5133989.5	3002	7900	145200

# Top On-Campus Value Schools for Upper Income Households (2018)

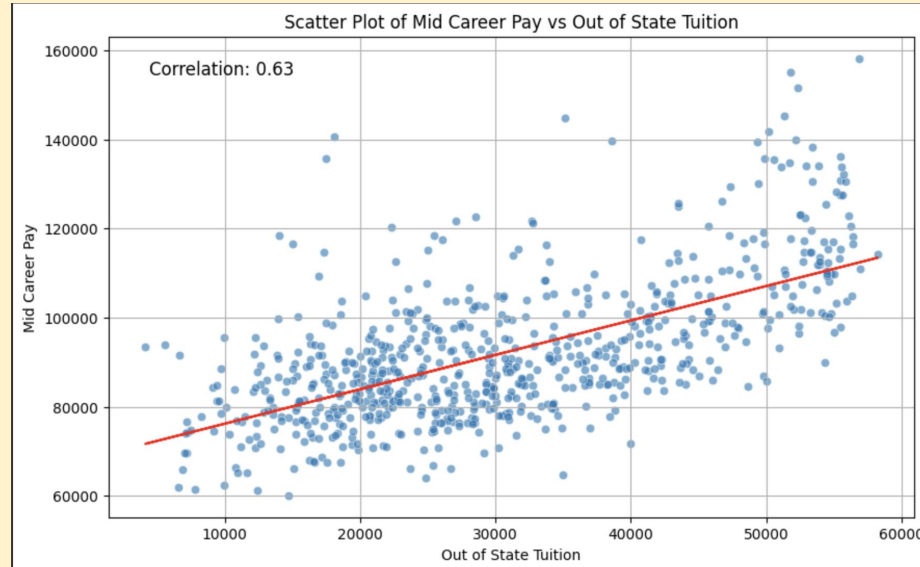
Rank	College	Adjusted Value Score	Net Cost	Early Career Pay	Mid Career Pay
1.	Harvey Mudd College	5423166	52708.54	88800	158200
2.	MIT	5346669	43082.85	86300	155200
3.	Cal Tech	5209458	44885.44	84100	151600
4.	Albany College of Pharmacy and Health Services	5013556	35110.96	81000	144800
5.	Webb Institute	4978642	20839.48	80800	141800
6.	Stanford	4977199	42200	79000	145200
7.	Harvard	4971545	45114	74800	146800



- 2. General insights about trends in campus diversity, expected salary, tuition, etc. because colEDGE markets to students on these topics**

# Higher tuition usually means higher post-grad pay

So, maybe we should not discount schools just because they have high tuitions,  
especially if aid is obtainable



Slope:  
0.7723124056215699

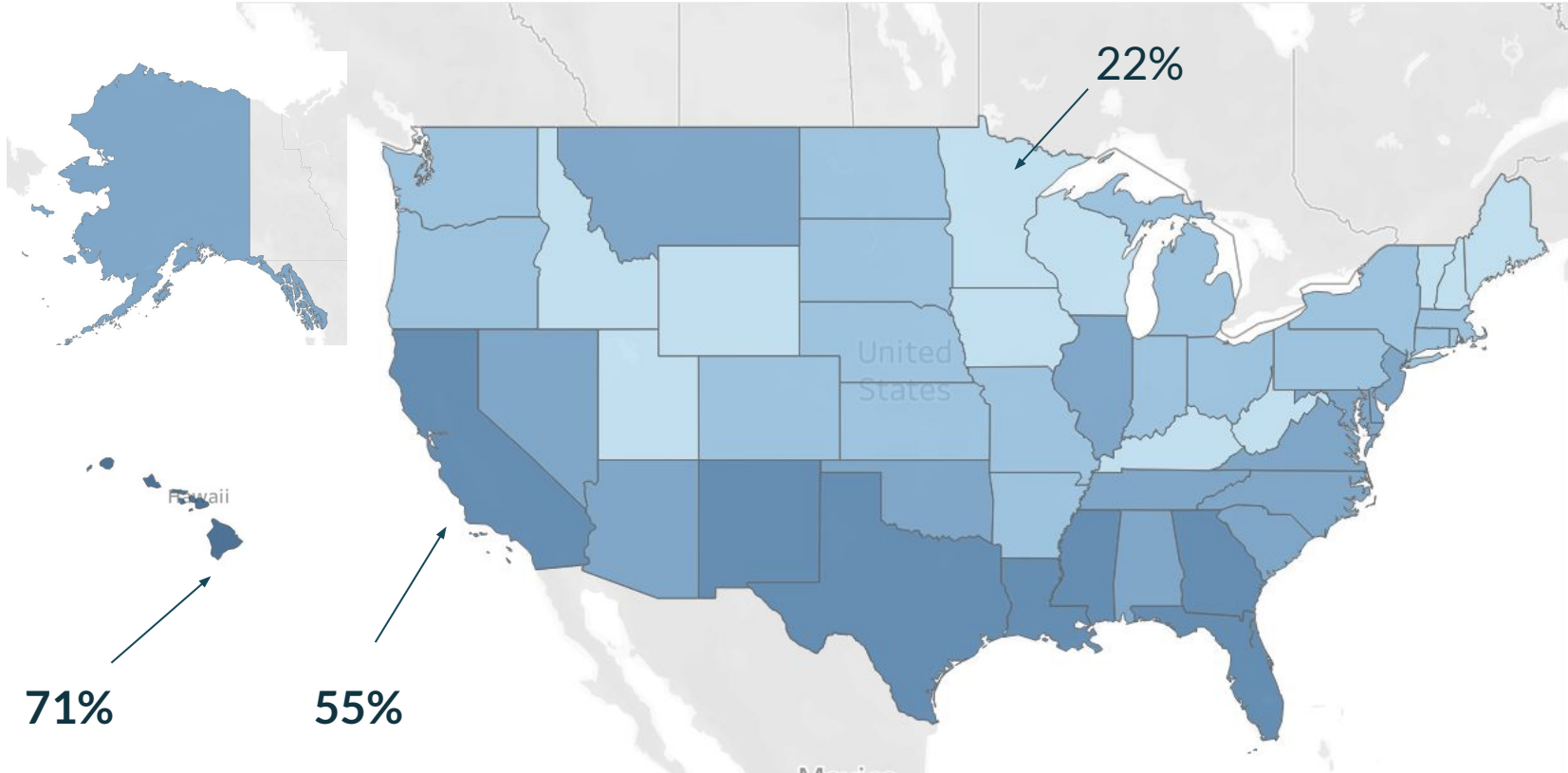
R-squared:  
0.4019724702493942



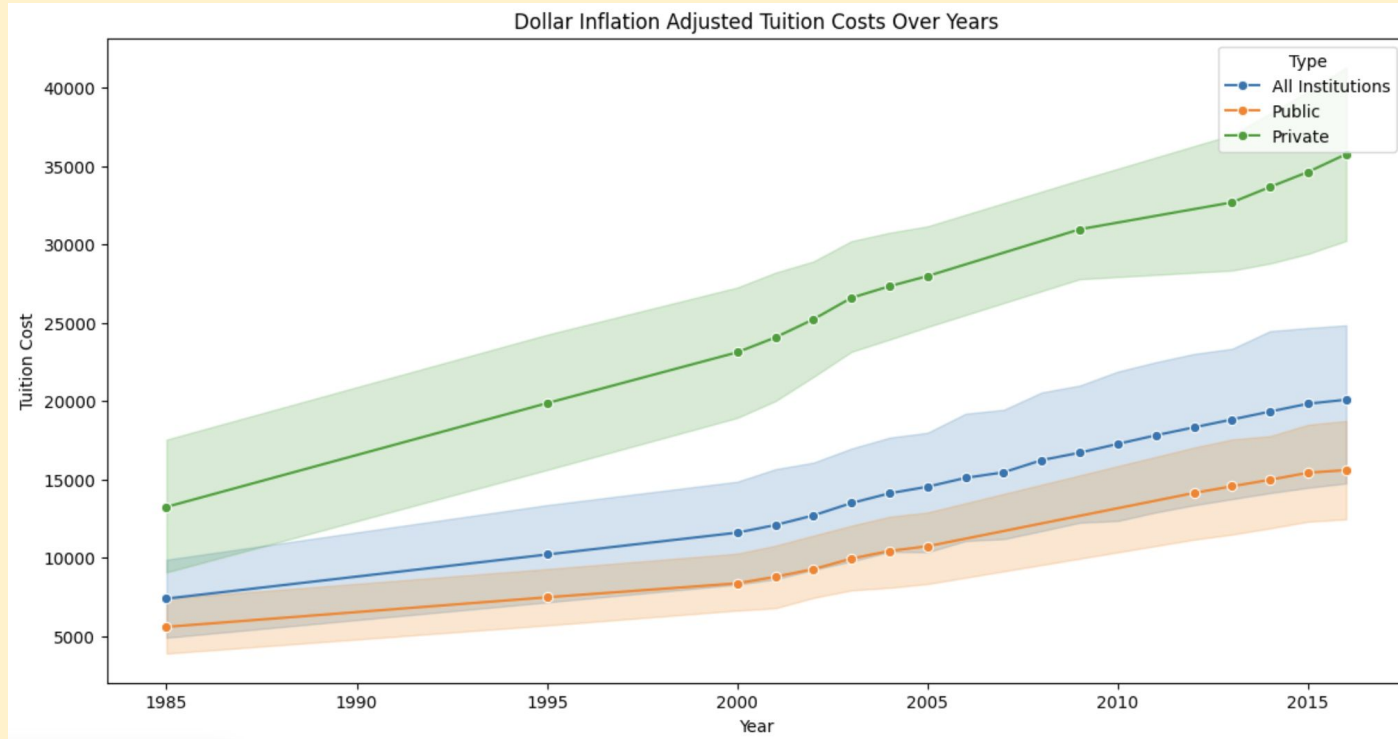
# Southern Schools Tend to Have More Diversity

Average Minority % Across All Unis. In State

0.0992 0.7167

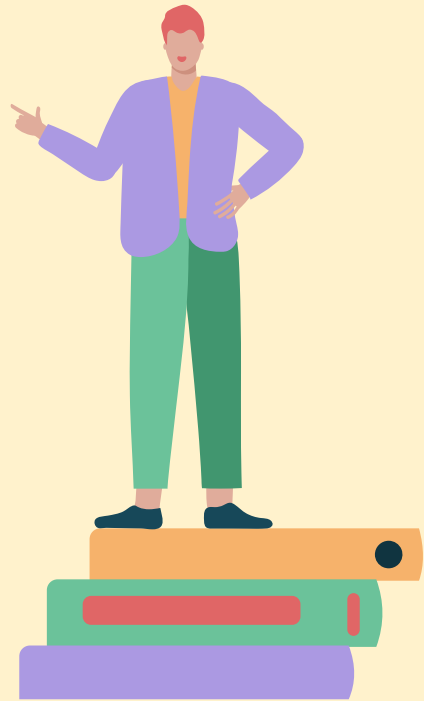


# Dollar inflation adjusted tuition is rising across all institutions: Financial aid seems more crucial than ever





**ANY QUESTIONS?**



# Appendix: Not Too Much Data Prep Needed

## Main Data Prep:

- Merges
- 0s instead of NAs
  - Mainly took care of this by dropping colleges that had net cost of 0 for highest income level
- Historic Tuition Year format: “2011-2012”
- NAs in Make World A Better Place % & Room and Board
- Lots of filtering

# Appendix to Slide 15

Net Cost is probably more important to look at than tuition when considering cost (and why I used that in my value calculation)

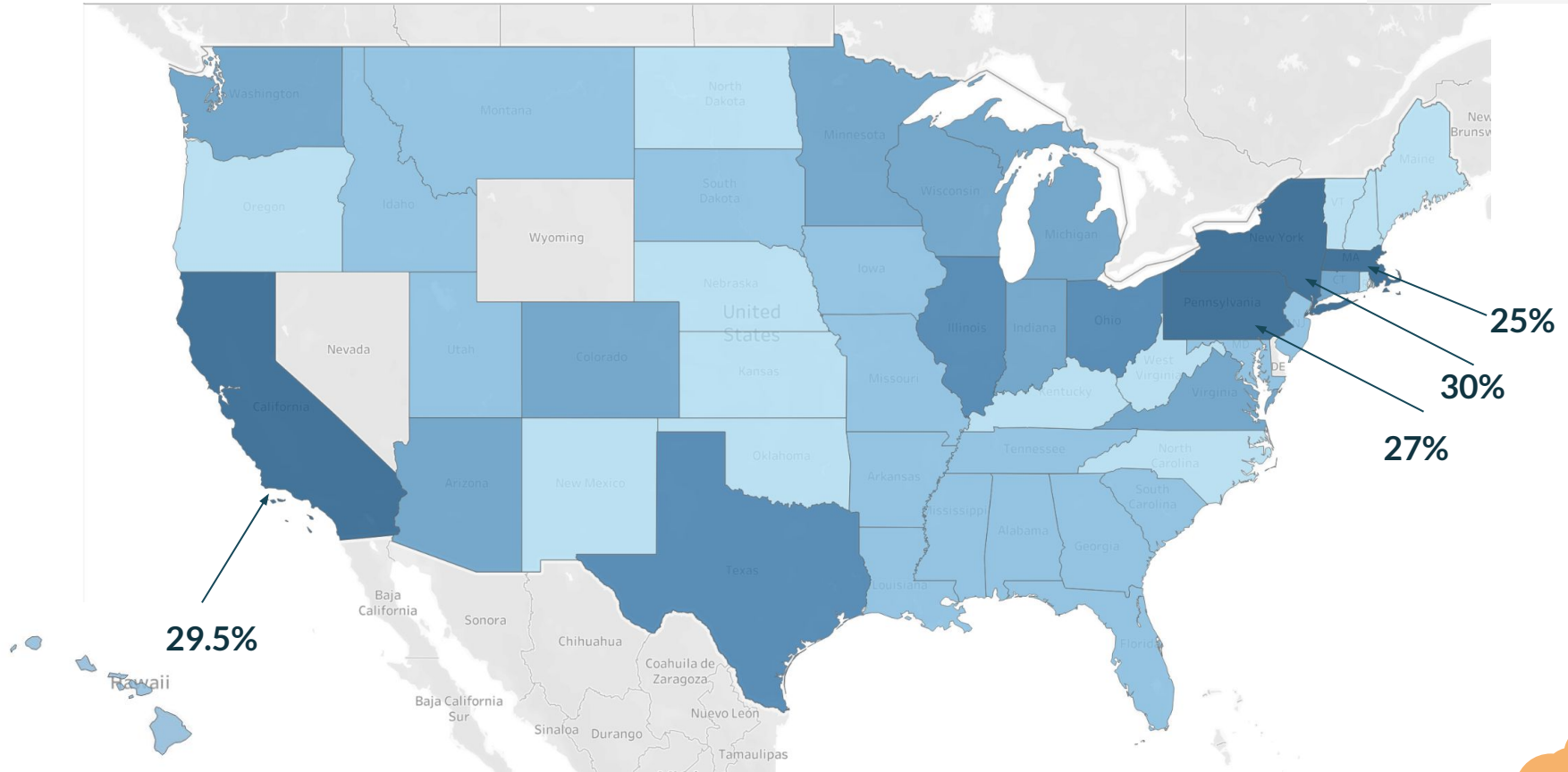
Net Cost = average actually paid after scholarship/award

Example:

- Stanford tuition in 2015: \$51,354
- Stanford net cost for low income in 2015: \$1,630

# Appendix: States Colored by Median STEM Percentage

Average Stem Percentage



Appendix: California universities tend to produce graduates with higher mid-career salaries than Mississippi universities

Median Mid Career Pay Across All Unis. In State

