

Does the Big Business of College Sports Impact Student Outcomes?

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Overview and Business Problem

COLLEGE SPORTS IS BIG BUSINESS

With sky-high investment in sports, do regular students suffer? To find out, we'll look at how

University spending behaviors affect post-graduate earnings

INEQUALITY

Girls and women's sports have long been underfunded and under-supported for decades.

Can we find differences in outcomes when Universities invest more in women's sports?



Data

College Athletics Financial Information Database

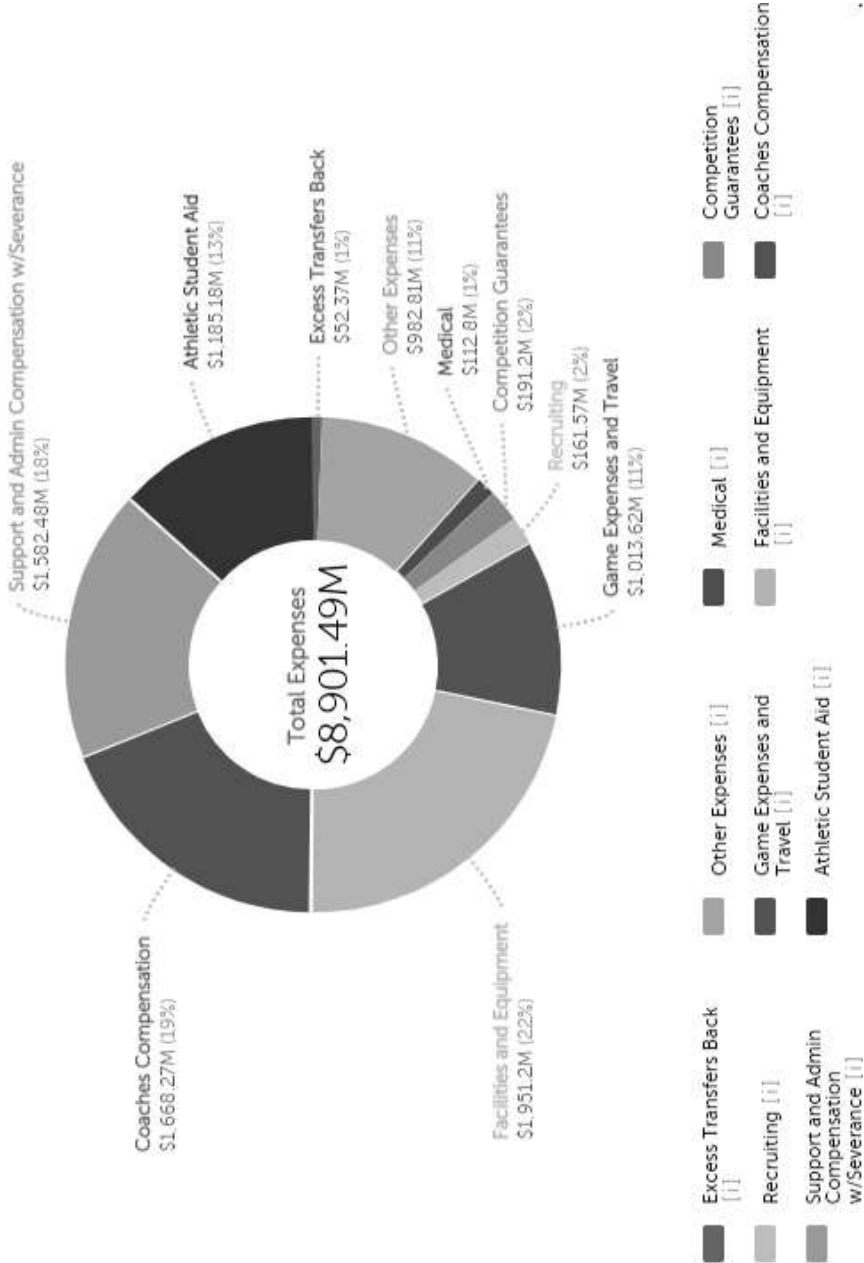
Revenues and expenses of athletic departments across the country

The College Scorecard

Captures demographics and outcomes for all Universities in the U.S.

Equity in Athletics

Contains details on men's and women's teams





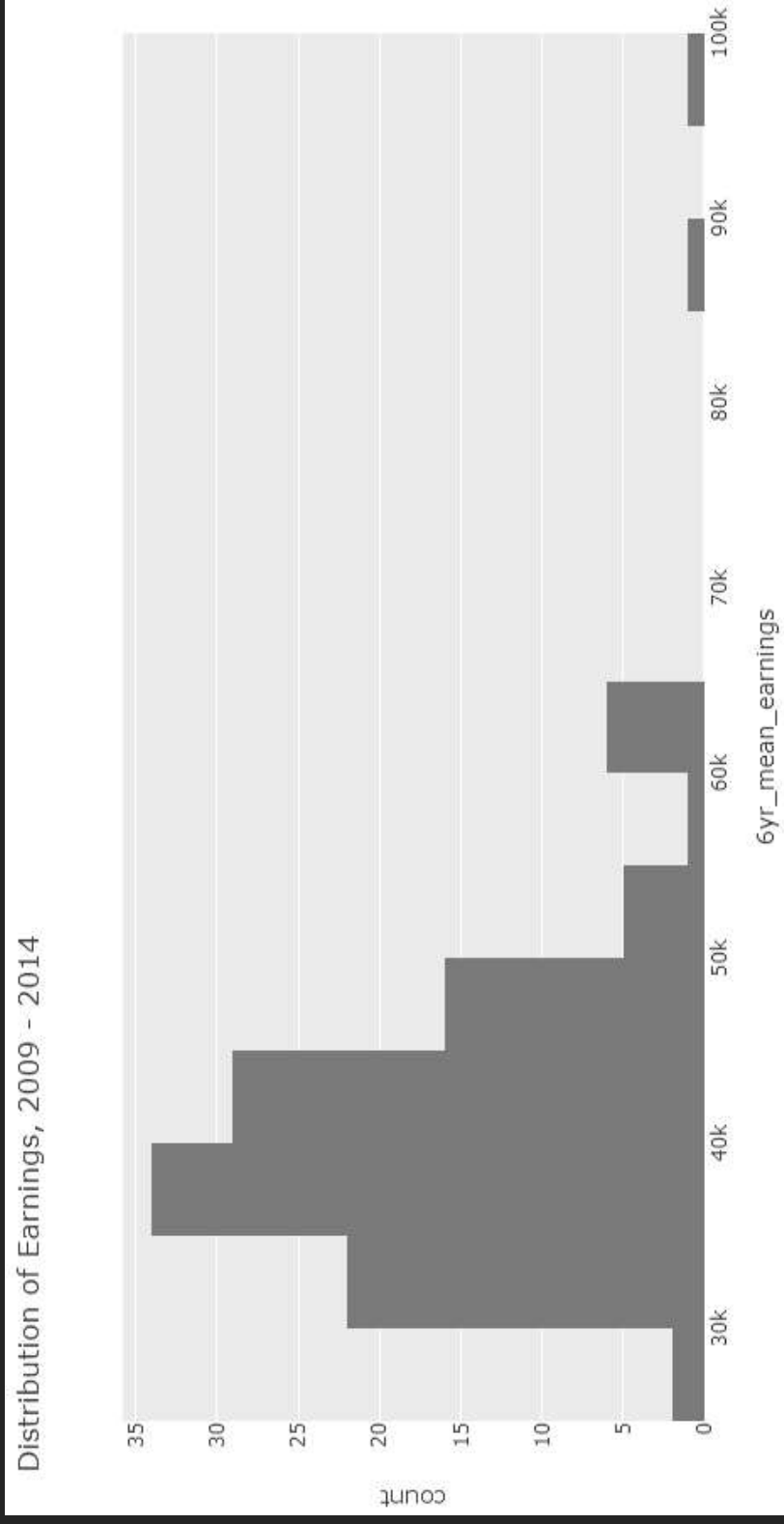
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Methods

WHAT FEATURES HAVE THE BIGGEST AFFECT ON POST-GRADUATE EARNINGS?

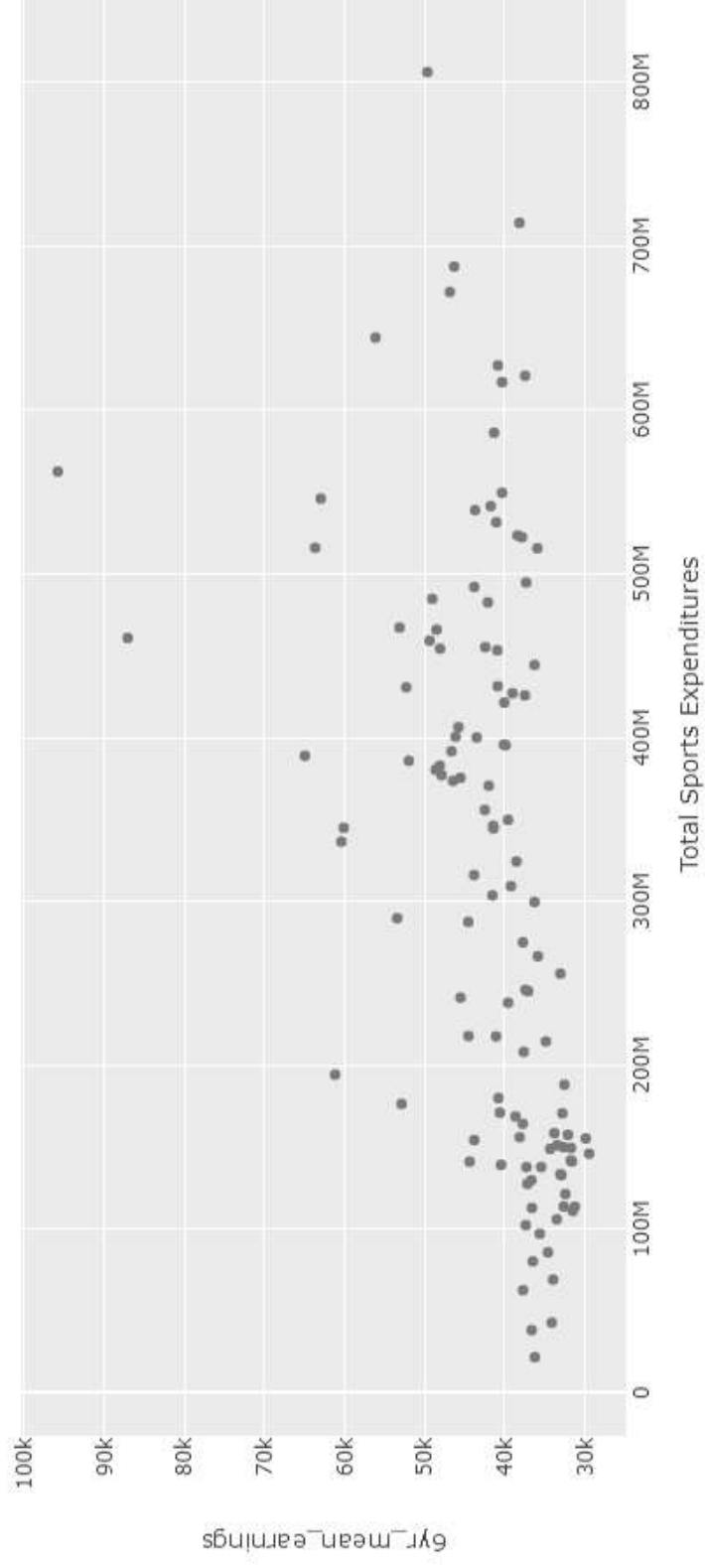
Using multiple linear regression, we'll be studying what features about a University affect the earnings of students who enrolled 6 years ago, and have since graduated

Data Understanding



Data Understanding

Avg. 6 year mean earnings and Sports Expenditures, 2009 - 2014



Data Understanding

University	6 Year Average Male Earnings	6 Year Average Female Earnings	Difference
Duke University	\$ 111,600	\$ 76,100	\$ 35,500
Stanford University	\$ 109,200	\$ 75,800	\$ 33,400
Rice University	\$ 79,000	\$ 53,600	\$ 25,400
Wake Forest University	\$ 73,800	\$ 50,900	\$ 22,900
University of Notre Dame	\$ 78,700	\$ 58,500	\$ 20,200
Vanderbilt University	\$ 72,400	\$ 52,200	\$ 20,200
University of Southern California	\$ 68,700	\$ 54,900	\$ 13,800
Boston College	\$ 71,300	\$ 58,900	\$ 12,400
Georgia Institute of Technology	\$ 68,800	\$ 58,800	\$ 10,000
University of Miami	\$ 59,300	\$ 50,300	\$ 9,000

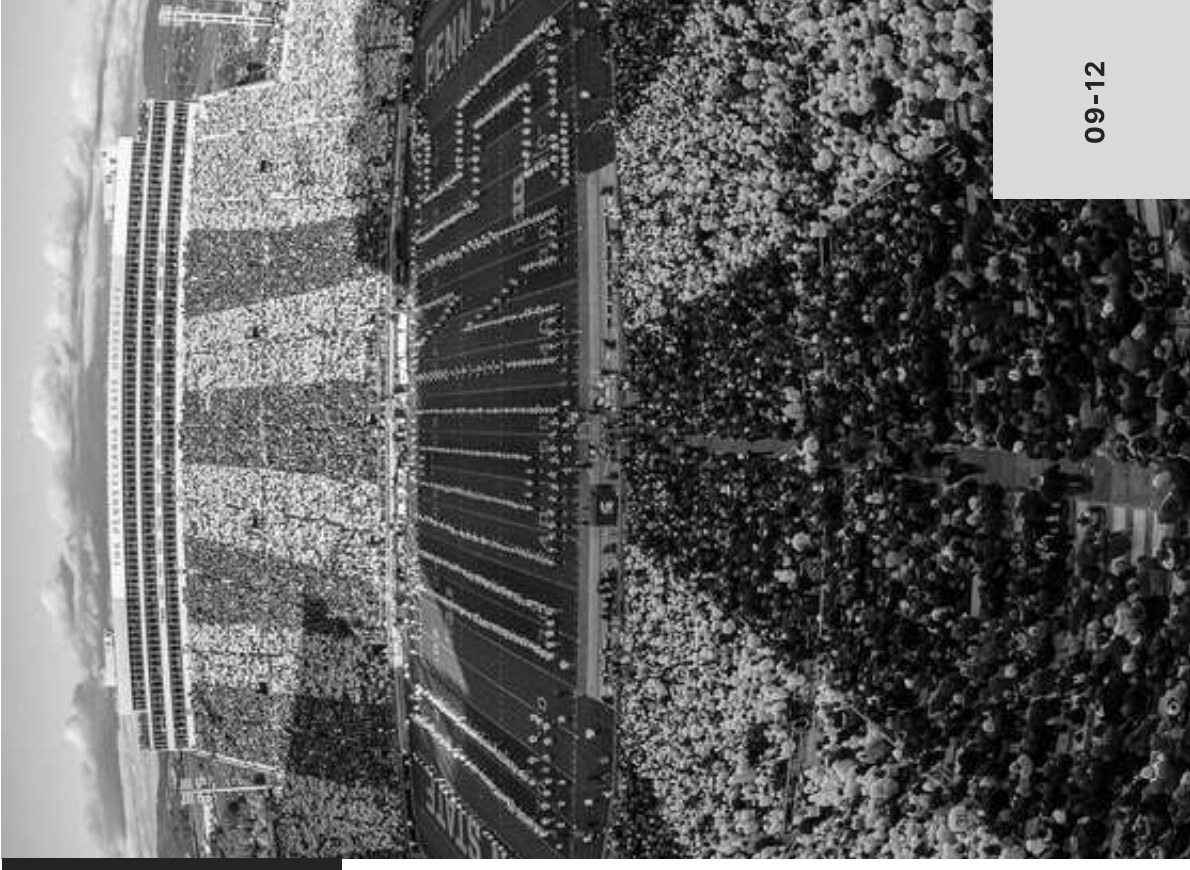
Results

SIMILAR FEATURES AFFECT MEN'S, WOMEN'S, AND GENERAL AVERAGE EARNINGS

The linear regression model explained over 90% of the variance in 6 year average earnings

Most important features include:

- **Avg. Cost of Attendance:** 7.80% increase in earnings
- **Percentage of Female Students:** 3.96% decrease
- **Average Faculty Salary:** 5.37% increase



Results

COLLEGE SPORTS EXPENDITURES HAVE SOME EFFECTS ON POST-GRADUATION EARNINGS

- Average salaries of full time men's and women's teams employees have positive impacts on earnings
 - More support for female students and student athletes
- Schools that spend more than one standard deviation above the mean on sports but less than average of academics have worse outcomes



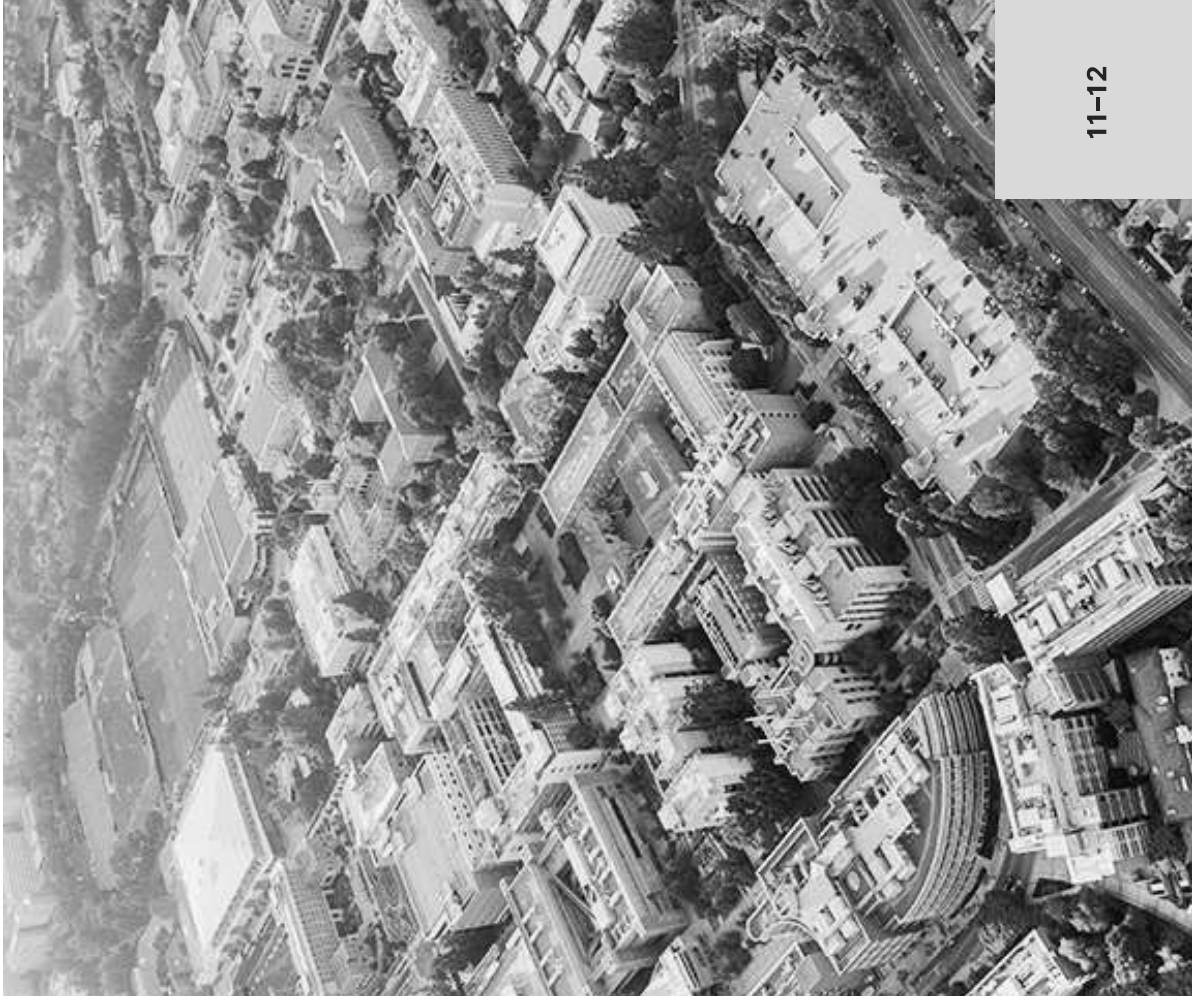
Conclusions and Further Analysis

THE GENDER PAY GAP A SIGNIFICANT IMPACT ON A SCHOOL'S AVERAGE EARNINGS

As the percentage of female student rises, average earnings fall

STUDY SCHOOLS THAT SPEND ABOVE AVERAGE ON SPORTS, BELOW AVERAGE ON ACADEMICS

How are these schools allocating resources? What areas of performance are they falling behind?





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Flatiron Online Part-Time Data Science Cohort

CAPSTONE PROJECT - 7/23/2021

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