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Explaining Student Debt Levels at Kansas Universities

Seth Thompson
Fort Hays State University, smthompson2@mail.fhsu.edu

Xavier Robinson
Fort Hays State University, xjrobinson@mail.fhsu.edu

William Sennett
Fort Hays State University, wgsennett@mail.fhsu.edu

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Seth Thompson, Xavier Robinson, & William Sennett, Fort Hays State University

Introduction

Student debt levels in graduates have historically risen each year. As undergraduate students, it is important for us to analyze what factors lead to more or less student debt. Our null hypothesis for our research is that there is no statistical relationship between costs of attendance and average student debt levels. When measuring costs of attendance, we determined that it was best to use tuition and costs as our first independent variable. we also decided to include the average estimated grant or scholarship aid for full-time beginning undergraduate students and the average ACT scores. Average ACT scores are included because higher ACT scores result in more scholarship aid offered by universities. These two explanatory variables help explain the correlation between costs of attendance and student debt.

Data & Methodology

We accessed the IPEDS database in order to gather the appropriate information on every four-year university in the Kansas and Kansas-City area. Our sample size contained 33 institutions, which included both public and private schools.

Selected Results

- The histogram results indicate which schools had the highest and lowest levels of student debt. Calvary University and University of Missouri-Kansas City had the lowest and highest levels of student debt, respectively. The interesting part about this is that both schools are in Kansas City.
- Summary statistics show that the average amount of student debt for all freshmen is about $6799.24. However, the average level of tuition and fees for all freshmen is $22,277.12. The average level of aid offered to freshman is $14,077.91. What is interesting about these numbers is that the difference of tuition and aid is almost the same as the average student debt. This means each school offers a similar ratio of tuition to aid.
- Our regression output shows low R-squared statistics for each regression we ran. All 3 regressions feature p-values greater than the 3 significance levels shown beneath the output. Therefore, we were unable to reject our null hypothesis.

Average Student Debt at Each School

Average Student Debt at Kansas Universities
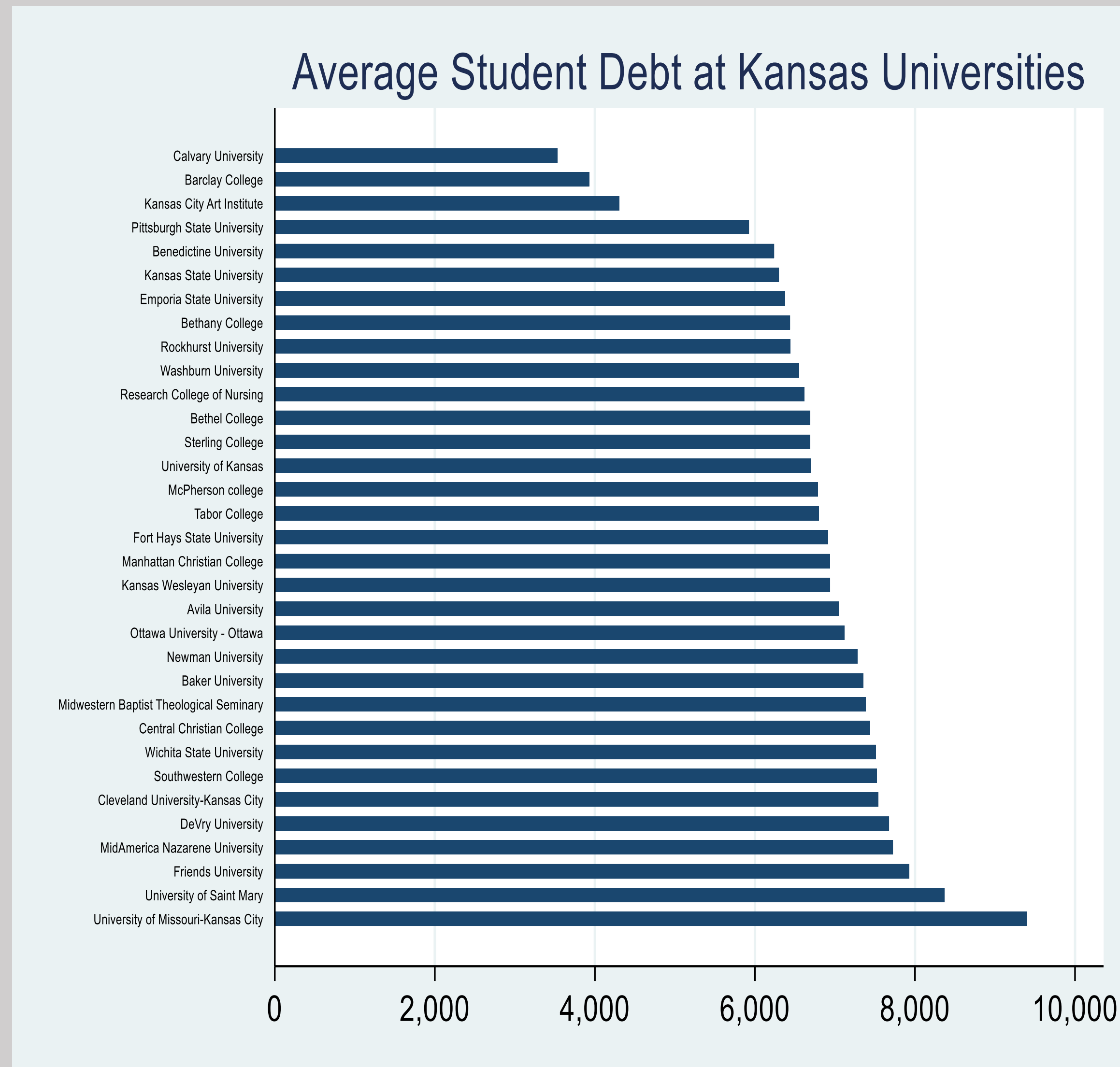
28 of the 33 universities in our sample have student debt between $6-8K. Overall student debt remains indifferent for a large majority of Kansas schools.

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
debt	33	6799.242	1148.271	3532	9392
aid	33	14077.91	7533.375	3470	28937
tf	33	22277.12	10733.12	5280	39200
act	32	21.85938	1.737789	19	25.5

Summary

Our main findings were:

- Most of our sample size's average student debt falls within a range of $6-7000. Schools with extreme numbers relative to the sample are usually located in Kansas City.
- Schools with lower tuition like FHSU had similar levels of student debt as bigger public schools like KSU & KU.
- Our p-values were much larger than our significance levels, which means our variables had no statistical significance or correlation.

Interpretation:

- Although certain schools have varying levels of costs of attendance, their overall level of student debt is relatively indifferent.
- The ability of a school to place their graduates in jobs may play a big factor in their ability to pay off debt.

Regression Output

VARIABLES	debt	debt	debt
tf	-0.00111	-0.0517	-0.0671
	(0.0192)	(0.0461)	(0.0630)
aid		0.0791	0.115
		(0.0657)	(0.0777)
publicdum			-186.4
			(867.2)
act			34.32
			(146.2)
Constant	6,824***	6,836***	6,015*
	(473.8)	(470.5)	(3,371)
Observations	33	33	32
R-squared	0.000	0.046	0.098

Standard errors in parentheses: *** $p<0.01$, ** $p<0.05$, * $p<0.1$
32 observations used for the 3rd regression because DeVry University does not report ACT scores.