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# Oklahoma Higher Education: Challenging the Conventional Wisdom



**OCPA**

Oklahoma Council  
of Public Affairs



**By Matthew Denhart and Christopher Matgouranis  
With a Foreword by Richard Vedder**

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### **About OCPA**

The Oklahoma Council of Public Affairs (OCPA) is an independent, nonprofit public policy organization—a think tank—that formulates and promotes public policy research and analysis consistent with the principles of free enterprise and limited government.

### **About CCAP**

The Center for College Affordability and Productivity (CCAP) is an independent, nonprofit research center based in Washington, D.C., that is dedicated to researching public policy and economic issues relating to postsecondary education. CCAP aims to facilitate a broader dialogue that challenges conventional thinking about costs, efficiency, and innovation in postsecondary education in the United States.

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## Foreword

Like most states, Oklahoma is facing tough times funding public services. In such an environment, it is necessary to ask: Are we doing the right things? Are we doing them in the best, most efficient ways?

An important area of public service provision is higher education. In evaluating current public policy relating to Oklahoma's system of higher education, it is appropriate to review how the system has evolved over time. What has happened to costs over time? Has the system achieved stated objectives, for example, increasing the rate of economic growth? Are there unique or unusual aspects of Oklahoma's system that might be worth scrutinizing as the state seeks to more efficiently use taxpayer dollars?

This study addresses most of these questions. However, it is not simply a review of Oklahoma's

system of higher education. Rather, this study explores the connection between increased state appropriations for higher education and economic growth. Challenging the conventional wisdom, this study finds no connection between the two. This does not necessarily mean that universities do not promote economic growth at all, or that growth would be greater in a world totally absent of higher education. But the evidence does show that, *at the margin*, appropriating additional dollars to higher education does not deliver increased economic prosperity.

It is our hope that this study will serve as a useful guide to Oklahoma policymakers and citizens alike. It is important that public policy debates rely on empirical evidence rather than on just common assumptions. I think you will find this report informative, and I look forward to hearing your feedback.

—Richard Vedder

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## Introduction

A major headline in recent years has been that cash-strapped state governments are cutting back support for many services, including public higher education. Oklahoma is no different. Indeed, in the most recent state budget crafted by Oklahoma policymakers, Oklahoma's public colleges and universities received a 5.8 percent cut in state appropriations.<sup>1</sup> Although campus leaders claim that these cuts will be detrimental to their institutions and the state's economy as a whole, the evidence does not support such pessimistic predictions.

This study presents two key findings. First, Oklahoma's state colleges have not suffered financially over the past half-decade. Statewide, university revenues have actually increased over this period, even after controlling for inflation and growths in enrollment. Likewise, expenditures at these universities also grew in real (inflation-adjusted) per-student terms. It appears that rather than cutting budgets back and striving to be more efficient in their operations, Oklahoma colleges have simply employed a strategy of absorbing and spending greater amounts of student and taxpayer dollars.

Second, this study makes the case that increasing state appropriations for higher education does not positively affect a state's economic growth.

While human capital formation is an important variable in virtually all economic growth models, this study suggests that increased state funding for higher education may be failing to actually increase a state's human capital stock. There are many possible reasons for this. We find evidence that much increased state funding for higher education is absorbed by university overhead. Furthermore, American colleges in general struggle to graduate a large percentage of their students. Equally troubling, there is much evidence that many of those who do graduate leave college having learned little during their time on campus. Finally, an acute problem for Oklahoma relates to the high rate of out-migration among its college-educated population.

David Boren and Burns Hargis—respectively presidents of the University of Oklahoma and Oklahoma State University—recently wrote that “An investment in higher education is an investment in Oklahoma's future success.”<sup>2</sup> Yet our findings call this conventional wisdom into question. While education is certainly a good thing, we find that increased subsidies to higher education are failing to create a better-educated workforce that can spur economic growth in the Sooner State. It is time for a new strategy.

## Part I: Revenues and Expenditures at Oklahoma's Public Universities

In 1980, Howard Bowen defined the “revenue theory of cost” to explain the spending pattern of universities. The theory explains that universities tend to spend all of the financial resources available to them. Rather than budgeting based on a strategy of cutting costs, universities instead focus on augmenting revenues to the highest degree possible, and then spending all those resources. Thus, further increasing universities’ revenues will simply lead to higher costs and will fuel a cycle that absorbs more and more resources.<sup>3,4</sup>

Revenue and expense data for Oklahoma’s public universities during the past half-decade suggest that the “Bowen Rule” is at work in the Sooner State. All postsecondary institutions in the United States that receive federal support are required to report financial data to the U.S. Department of Education. Included below are data on total revenues

and expenses, and examining these data illuminates the financial trends of colleges and universities.

Consistent with the Bowen Rule, over the period from 2003-04 to 2008-09 both revenues and expenses at Oklahoma universities increased.<sup>5</sup> This holds true even after accounting for growths in student enrollment and inflation. As shown in Table 1, total inflation-adjusted revenues per full-time-equivalent (FTE) student at Oklahoma’s public four-year institutions increased from \$20,499 in 2003-04 to \$24,806 in 2008-09, a growth of 21 percent. At only three of the state’s fifteen public four-year institutions did total revenues fail to grow over this period, and several schools saw revenue growth outpace the state average. For example, revenues grew 40.5 percent at the University of Central Oklahoma, 34.6 percent at the University of Science and Arts of Oklahoma, and 34.3 percent at East Central University.

**Table 1: Total All Revenues and Other Additions, 2003-04 and 2008-09  
Oklahoma, 2003-04 and 2008-09 in Constant (inflation-adjusted) U.S. Dollars**

Institution	Revenues per FTE* 2003-04	Revenues per FTE 2008-09	Growth(%)
Cameron University	\$11,862	\$14,709	24.0%
University of Central Oklahoma	\$10,203	\$14,338	40.5%
East Central University	\$12,944	\$17,390	34.3%
Langston University	\$24,813	\$24,051	-3.1%
Northeastern State University	\$12,218	\$14,956	22.4%
Northwestern Oklahoma State University	\$12,200	\$15,454	26.7%
Oklahoma Panhandle State University	\$27,339	\$18,621	-31.9%
Oklahoma State University-Main Campus	\$28,886	\$37,313	29.2%
Oklahoma State University-Oklahoma City	\$7,918	\$9,337	17.9%
University of Oklahoma Norman Campus	\$30,506	\$35,851	17.5%
Oklahoma State University Institute of Technology-Okmulgee	\$13,182	\$12,726	-3.5%
Rogers State University	\$11,918	\$14,493	21.6%
University of Science and Arts of Oklahoma	\$14,218	\$19,140	34.6%
Southeastern Oklahoma State University	\$14,045	\$16,801	19.6%
Southwestern Oklahoma State University	\$11,477	\$14,505	26.4%
<i>Oklahoma Weighted State Average</i>	<i>\$20,499</i>	<i>\$24,806</i>	<i>21.0%</i>

Source: Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 2011; authors' calculations.

\*FTE stands for Full-Time Equivalent Enrollment.

**Table 2: Total Expense Deductions, 2003-04 and 2008-09  
Oklahoma, 2003-04 and 2008-09 in Constant (inflation-adjusted) U.S. Dollars**

<b>Institution</b>	<b>Expenses per FTE* 2003-04</b>	<b>Expenses per FTE 2008-09</b>	<b>Growth(%)</b>
Cameron University	\$11,204	\$14,373	28.3%
University of Central Oklahoma	\$9,818	\$13,648	39.0%
East Central University	\$12,785	\$15,831	23.8%
Langston University	\$22,330	\$15,230	-31.8%
Northeastern State University	\$11,277	\$14,333	27.1%
Northwestern Oklahoma State University	\$12,611	\$14,934	18.4%
Oklahoma Panhandle State University	\$28,600	\$19,198	-32.9%
Oklahoma State University-Main Campus	\$28,515	\$35,288	23.8%
Oklahoma State University-Oklahoma City	\$7,432	\$8,747	17.7%
University of Oklahoma Norman Campus	\$24,590	\$34,314	39.5%
Oklahoma State University Institute of Technology-Okmulgee	\$13,282	\$12,418	-6.5%
Rogers State University	\$11,913	\$13,767	15.6%
University of Science and Arts of Oklahoma	\$13,430	\$17,891	33.2%
Southeastern Oklahoma State University	\$14,469	\$16,499	14.0%
Southwestern Oklahoma State University	\$10,788	\$14,031	30.1%
<i>Oklahoma Weighted State Average</i>	<i>\$18,694</i>	<i>\$23,442</i>	<i>25.4%</i>

Source: Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 2011; authors' calculations.

Likewise, as Table 2 shows, expenses also increased, growing 25.4 percent in real terms from \$18,694 per FTE in 2003-04 to \$23,442 per FTE in 2008-09. Again, at only three institutions did expenses fail to grow over this period, and it is interesting to note that it was at the same three institutions that saw declining revenues as well. Yet, the vast majority of schools saw large expenditure increases, and the growth in expenses for the state as a whole outpaced the growth in revenues. However, while it is true that average revenues per student still exceed average expenses per student, the gap has narrowed.

These revenue and expense trends suggest that Oklahoma universities have not suffered financially in recent years. The fact that revenues and expenses have both risen at similar rates suggests that Bowen's Rule is in effect. Oklahoma universities have used revenue growths to fuel ever greater spending. But what has this increased spending accomplished? Some argue that these increased expenditures have been important in fueling the state's economic growth. However, as we demonstrate below, empirical evidence suggests that this is not the case. Indeed, we find that funding cuts to higher education would not harm future economic performance.

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## Part II: Higher Education and Economic Growth

Taxpayers and state legislators often assume that by appropriating more money to higher education they are making education more affordable to the state's citizens. This spending then is seen as an investment in human capital that will pay large dividends in the form of future economic growth. Yet, as we demonstrate below, this argument is not supported by the empirical evidence.

### **State Appropriations and Economic Growth**

The Center for College Affordability and Productivity has developed multiple variations of econometric models examining the relationship between state appropriations for higher education and economic growth (measured as growth in per capita personal income). Our center's models have consistently found that no relationship exists between state appropriations and economic growth. The models explore variations in state economic growth over a 46-year period from 1960-2006. As state monies invested in higher education cannot be expected to have immediate results (for example, it takes several years to educate an individual), the models include three separate time lags to more accurately assess the determinants of state economic growth. Even with five-, ten-, and fifteen-year time lags, no relationship exists between appropriations and growth. Statistically significant variables impacting economic growth include the age of the state (positive relationship), population growth (positive relationship), union growth (negative relationship), educational attainment (positive relationship), and growth in the tax burden (negative relationship).<sup>6</sup>

This analysis does not mean that universities in general do not promote economic growth at all, or that economic growth would be greater in a world without universities altogether. Rather, it suggests that, *at the margin*, further increasing state appropriations to higher education does not have a positive economic payoff. We now turn to consider why this may be the case, and look to Oklahoma-

specific data to guide our analysis.

### **State Appropriations and Educational Attainment**

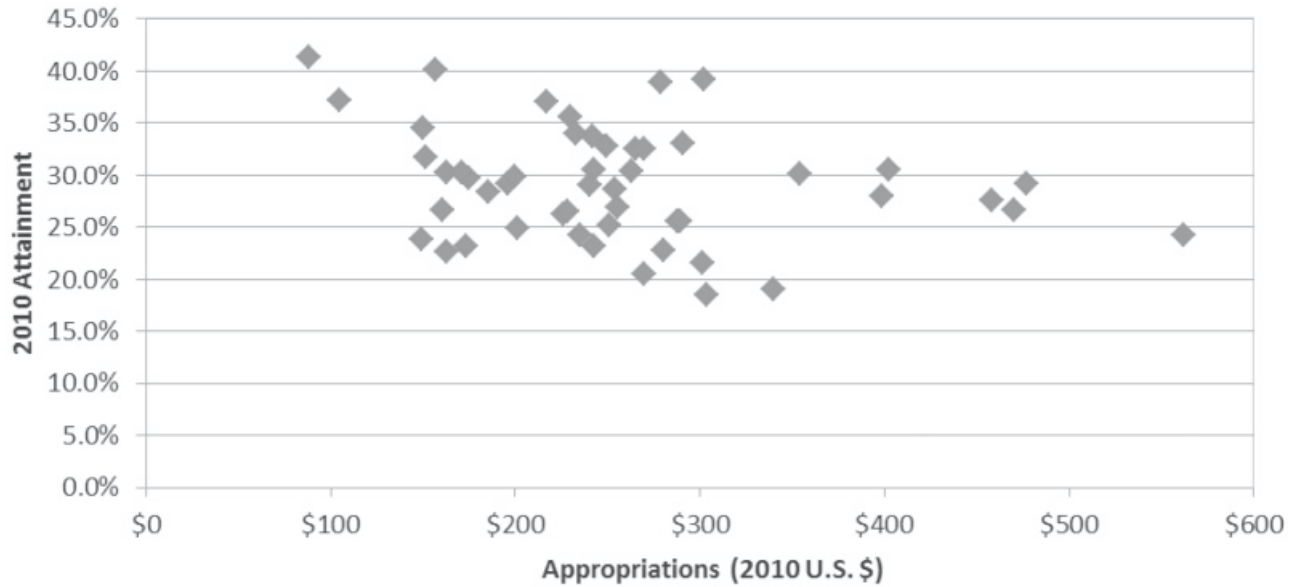
Perhaps one major reason that state appropriations fail to spur economic growth is that such spending does not translate into higher levels of educational achievement among a state's population. "Educational attainment" is the term used to define the percentage of a state's population aged 25 years and above that possesses a bachelor's degree or higher. Since theory suggests that improvements in human capital drive economic growth,<sup>7</sup> it makes sense that if appropriations fail to actually augment attainment levels, then the growth-enhancing effect will be absent.

Statistical evidence from all 50 states suggests that there is not a positive relationship between state appropriations and educational attainment. Figure 1 plots each of the 50 states' educational attainment percentages in 2010 on the vertical axis and each state's 2010 higher education appropriations per capita on the horizontal axis. The scatter plot fails to show any obvious relationship; in fact, any discernible relationship between appropriations and attainment appears to be negative. That is, on average, states with higher appropriation levels have a smaller percentage of citizens who possess college degrees.

Although interesting, the conclusions that can be drawn from the data presented in Figure 1 are limited. To have a more complete understanding of the relationship between appropriations and attainment, statistical regression modeling is necessary. By building a regression model, we are able to control for a number of other variables besides appropriations that may be simultaneously affecting attainment levels. Table 3 displays the results of our econometric regression equation. The equation models variations among the 50 states in the percentage of their adult populations possessing a bachelor's degree or higher in 2010.

The model controls for several different factors

**Figure 1: Bachelor's Degree Attainment and per Capita Higher Education Appropriations by State, 2010**



Sources: Postsecondary Education Opportunity, [postsecondary.org](http://postsecondary.org); and Center for the Study of Education Policy, *Grapevine*.

**Table 3: Regression Output**  
**Dependent Variable: Bachelor's Degree Attainment 2010**

	Coefficient	Std. Error	t-ratio	p-value	
Constant	-0.393491	0.129655	-3.0349	0.00407	***
HS Attainment 2010	0.461796	0.147845	3.1235	0.00319	***
Net Migration 1989-07	0.0673116	0.0219062	3.0727	0.00367	***
Tax Burden 2009	1.04566	0.432213	2.4193	0.01985	**
Union Density 2010	-0.00185439	0.000917318	-2.0215	0.04948	**
Personal Income 2009	6.01714e-06	9.88515e-07	6.0870	<0.00001	***
Appropriations 2010	-0.00012662	4.72948e-05	-2.6773	0.01047	**
Mean dependent var	0.290695	S.D. dependent var		0.054393	
Sum squared resid	0.037326	S.E. of regression		0.029463	
R-squared	0.742528	Adjusted R-squared		0.706602	
F(6, 43)	20.66809	P-value(F)		3.22e-11	
Log-likelihood	109.0555	Akaike criterion		-204.1109	
Schwarz criterion	-190.7268	Hannan-Quinn		-199.0142	

\*Denotes Statistical Significance at the 90 percent confidence level  
 \*\*Denotes Statistical Significance at the 95 percent confidence level  
 \*\*\*Denotes Statistical Significance at the 99 percent confidence level

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that could possibly affect attainment, including state appropriations, high-school degree attainment, net migration of college graduates, union density, per capita personal income levels, and average state and local tax burdens. Our results show that high-school degree attainment, net migration, tax burden, and personal income are all statistically significant factors related to attainment. The model also shows that union density has a statistically significant negative relationship. Of greatest interest to this analysis however is the state higher education appropriations variable. According to our results, appropriations increases have a statistically significant negative effect on attainment levels.

These regression results identify an interesting disconnect between economic theory and reality. While theoretically growth should follow additional investments in human capital, this is not the case with state higher education appropriations. In actuality, spending more on education does not guarantee that the investment is paying off. Impediments to the investment-growth process often arise; we discuss several of these below.

### ***Problems of Inefficient Spending***

Across the nation, universities encompass much more than instructors and classrooms. Institutions perform a variety of activities, such as research, and provide a host of services ranging from housing and dining to entertainment. While many of these services and ventures are enjoyed by students, they do not necessarily contribute directly to human capital formation. These extraneous ventures compete with instructional activities for university resources. University budgets reveal that instructional expenses often make up a shockingly small portion of overall expenses. Nationwide, total dollars spent on instruction at any given university are often well under 50 percent of the total expenses.

Oklahoma is no different from the rest of the nation when it comes to instructional spending. In FY 2009 four-year public universities in Oklahoma spent \$889.4 million directly on student instruction. Ignoring auxiliary and independent operation ex-

penses of universities, this accounted for only about 40.5 percent of total expenditures by these institutions.<sup>8</sup> Although instructional expenditures were higher than any other single category, Oklahoma's universities still spent tremendous amounts of money in other non-academically essential areas. Over the past several years (2004-2009), Oklahoma's public schools have furthered this practice as instructional spending has seen a smaller percentage increase than both institutional support (mainly an administrative category) and research.<sup>9</sup>

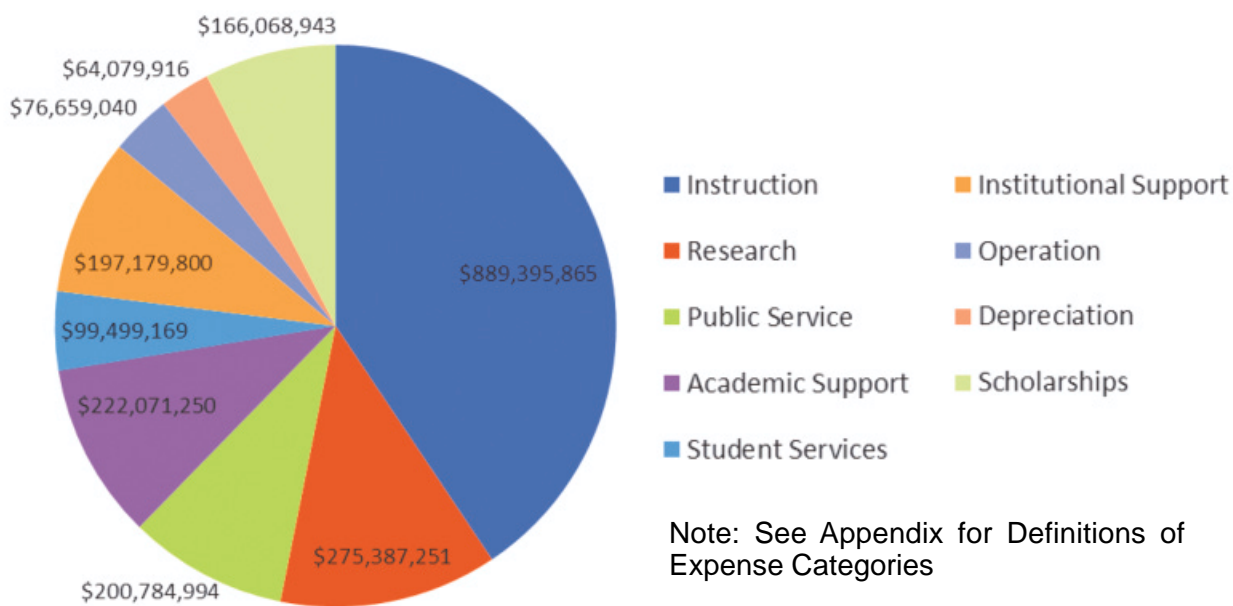
The chart on page 8 details a typical year's breakdown of university spending; note that in 2009, Oklahoma universities spent more than \$275 million on research and more than \$200 million on public service, among other things.<sup>10</sup> It should be noted that the funds for some of these areas, such as research, may come from private or outside sources of funding; however, they nonetheless impact the resources allocated for instruction assuming any degree of fungibility of university monies.

### ***Questionable Educational Quality***

Setting aside the investment misallocation/wasteful spending problem, universities tend to make poor use of the instructional investments that they make. Students are only minimally engaged while in college, typically learn very little, and many never complete their studies. The qualitative problems are endemic to the nation's higher education system at large, and an extensive amount of evidence points to the fact that Oklahoma is no different.

Considerable evidence exists supporting the contention that college students study and learn little, with universities acting complicity in the matter. On average, universities do not challenge or demand much from students; consequently, students do not exert much effort. According to the Bureau of Labor Statistics American Time Use Survey, the average American college student spends only 3.3 hours per day on educational activities, a category that includes both class time and time spent studying.<sup>11</sup> For comparison, the average college student spends more time on "sports and leisure

## Aggregate Expenditures at Four-year Public Institutions in Oklahoma FY 2009



activities" (3.6 hours per day) than he/she does on academics.<sup>12</sup> The Time Use Survey is not alone in highlighting the lack of academic engagement and rigor on college campuses today. The National Survey of Student Engagement (NSSE), a survey conducted across hundreds of universities looking at freshman and seniors, has similar findings.<sup>13</sup> For example:

- 30 percent of seniors never discussed their coursework/assignments outside of class with a faculty member;
- 50 percent of seniors surveyed never wrote a paper at least 20 pages in length;
- 76 percent of seniors nationwide spent under 20 hours a week preparing for class/studying;
- 74 percent of seniors spent less than 5 hours per week on school-sponsored extracurricular activities.

Dozens of similar trends in student engagement and activity in a variety of areas were evaluated, with many of the findings pointing to a general lack of rigor and engagement. Interestingly, despite the noted lack of these attributes, students who stay in

school ostensibly do well. Grade inflation, a tactic employed by faculty members for a variety of reasons, rewards students for even mediocre work. A full 86 percent of senior NSSE respondents received at least a B average in their overall coursework.<sup>14</sup> Oklahoma's schools have some corroborating grade information available. In terms of the high grades received, the University of Oklahoma and Oklahoma State University are no different; public records grade data show that average grades there are 2.98 and 3.00 respectively, right in the B range.<sup>15</sup> While no public universities in Oklahoma participated in the NSSE survey, given the large size of the NSSE sample (572 schools) and the consistency of the results, there is little reason to believe that Oklahoma's mid-quality universities are immune to these problems.<sup>16</sup>

Universities are failing in their most basic mission as American college students are learning little. *Academically Adrift*, a recent book resulting from a research project organized by the Social Science Research Council, explored in great detail this dearth of learning. Examining thousands of stu-

dents at many universities over their college careers, in the study the authors produced considerable evidence concluding that most college students gain little cognitively while attending college. Overall, average students experienced only very minor and disappointing gains from learning (as measured by the Collegiate Learning Assessment<sup>17</sup>) between their freshman and senior years.<sup>18</sup> Additionally and perhaps more troubling, the authors found that 36 percent of students had no significant measurable cognitive gains at all during this time.<sup>19</sup> Also included in the study's findings were indications that low academic rigor and student engagement are partially to blame for these startling results.

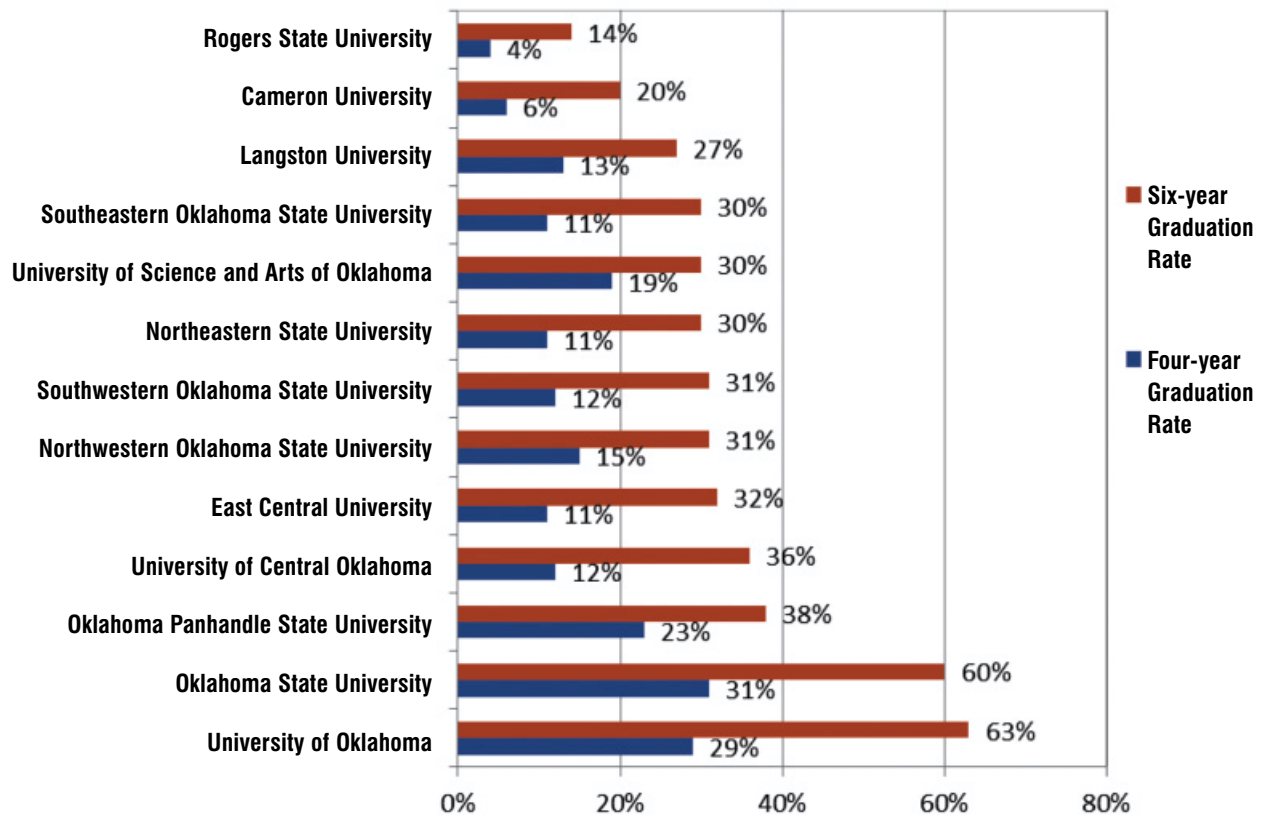
Further evidence of universities' failures to adequately educate and engage their students can be seen in other areas. Collegiate studies are tradi-

tionally supposed to take four years, but only 19.97 percent of Oklahoma's public university students graduate within this time. Moreover, 55.2 percent—a majority—of Oklahoma's students fail to graduate within even six years, and many students never graduate.<sup>20</sup> Even Oklahoma's biggest and most prestigious universities, the University of Oklahoma and Oklahoma State University, graduate only 29 and 31 percent respectively in four years and only 63 and 60 percent respectively in six years. Although these six-year rates are above the national average of 55.9,<sup>21</sup> this is not a fact warranting celebration since the average itself is quite poor.<sup>22</sup>

### Outward Migration of College Graduates

While much of the above information highlights reasons for the break between economic theory and reality common to all states, Oklahoma does

## Graduation Rates at Oklahoma's Four-year Public Universities, 2009



Source: IPEDS, U.S. Dept. of Education. Graduation rates measure the percentage of entering students beginning their studies full-time and seeking a bachelor's degree, who earn a bachelor's degree within a specified amount of time.

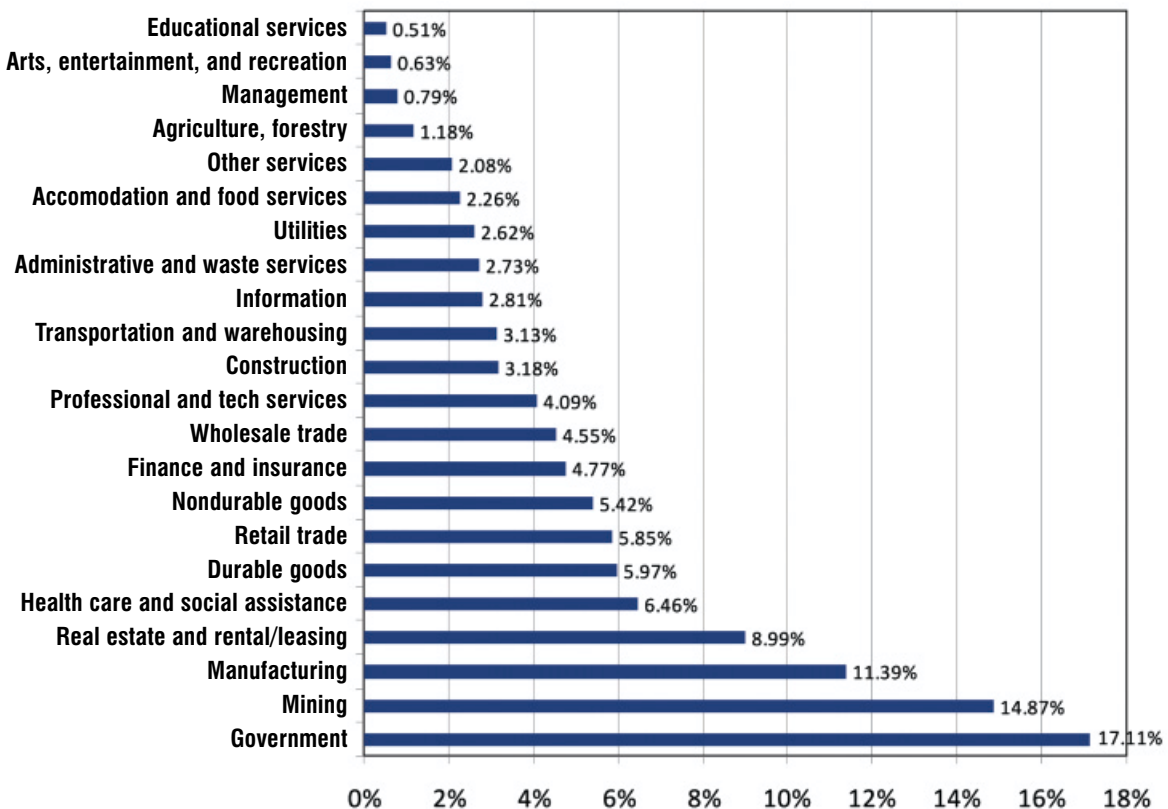
face a unique problem of its own. Oklahoma's college graduates leave the state at an alarming rate, indicating an internal overproduction of college graduates. Between the years of 1994 and 2008 (the last years of available data), Oklahoma experienced a net loss of 145,113 college graduates.<sup>23</sup> On average, there was a net loss of nearly 10,000 college graduates per year. This average net loss figure accounted for 58 percent of the annual average production of college graduates in Oklahoma.<sup>24</sup>

While Oklahoma's college graduates may leave the state for a variety of reasons, economic factors likely play a large role. One simple economic reason is simply that they make more money elsewhere. In 2005 (the last year of available data), Oklahoma's residents with just a bachelor's degree made only 82 percent of the national median for that classification, ranking 46th out of 50.<sup>25</sup> While

there are data availability issues for more current information on college graduate salaries by state, Oklahoma's overall median salary/wage levels today are rather low.<sup>26</sup> Furthermore, as salary/wages are generally sticky or resistant to change, it is quite unlikely that the above situation has changed materially over the past few years.

The absence of a high wage premium is indicative of a lack of demand for college graduates in the state. Although the state has seen recent economic success, college-educated workers have not been the driving force behind this trend. Instead, jobs requiring less than a college degree, such as those in the petroleum and natural resource extraction industries, have been the engines of growth. For example, mining activities made up 14.87 percent of Oklahoma's Gross State Product in 2009, while the education-intensive professional/technical services

### Oklahoma's Gross State Product Percent Distribution by Industry, 2009



Source: U.S. Bureau of Economic Analysis

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and management comprised less than 5 percent.<sup>27</sup>

The low demand for college graduates is not expected to change anytime soon. The state's own labor market projections, forecasting out until 2018, foresee anemic total growth in fields that require at least a bachelor's degree. Of the projected top 20 fastest-growing (by percentage change) fields, only

two require a bachelor's degree.<sup>28</sup> On an annual basis until 2018, it is forecasted that for every one job open for college graduates, there will be 4.55 jobs available for non-college graduates.<sup>29</sup> Overall, labor market opportunities for college graduates are lacking in Oklahoma.

## Conclusion

This paper has shed light on several areas concerning Oklahoma's higher education system. Oklahoma's state universities are not, as some have proclaimed, in a dire financial position. During the past half-decade, these institutions have seen real increases in revenue per student. Cost-savings measures have not been the strong suit of this university system, as along with the real revenue increases, increases in real expenditures per student have been seen as well. What has been occurring is a confirmation of the Bowen Rule—universities bring in as much money as possible and accordingly spend as much as possible. This practice often comes at the expense of students and state taxpayers, and fails to deliver a significant return on investment.

Using econometric models, we have strong statistical evidence that additional state investment in higher education does not yield additional eco-

nomical growth. Related to the Bowen Rule, these findings are due in part to rampant inefficiencies and little in the way of results from how universities spend their money. Students are only modestly engaged, learn little, and frequently do not graduate. Economic benefits are difficult to realize when universities are not succeeding in widely enhancing human capital. Even when students succeed in graduating, many of Oklahoma's graduates end up moving out of the state due to a general lack of labor market opportunities.

Our findings indicate that public fears and outcries over cuts in state appropriations for higher education are unfounded. State investment in higher education is not an engine for economic growth as conventional wisdom holds. Rather than continuing to blindly pass money from taxpayers to university bureaucracies, Oklahoma would be well-suited to rethink its long-term economic growth strategy. ✪

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## Appendix: Expense Category Definitions

All definitions are quoted from the National Center for Education Statistics IPEDS glossary (<http://nces.ed.gov/ipeds/glossary/>).

**Academic Support Expenses:** A functional expense category that includes expenses of activities and services that support the institution's primary missions of instruction, research, and public service. It includes the retention, preservation, and display of educational materials (for example, libraries, museums, and galleries); organized activities that provide support services to the academic functions of the institution (such as a demonstration school associated with a college of education or veterinary and dental clinics if their primary purpose is to support the instructional program); media such as audiovisual services; academic administration (including academic deans but not department chairpersons); and formally organized and separately budgeted academic personnel development and course and curriculum development expenses. Also included are information technology expenses related to academic support activities; if an institution does not separately budget and expense information technology resources, the costs associated with the three primary programs will be applied to this function and the remainder to institutional support. Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

**Depreciation:** The allocation or distribution of the cost of capital assets, less any salvage value, to expenses over the estimated useful life of the asset in a systematic and rational manner. Depreciation for the year is the amount of the allocation or distribution for the year involved.

**Institutional Support Expenses:** A functional expense category that includes expenses for the day-to-day operational support of the institution. Includes expenses for general administrative services, central executive-level activities concerned with management and long-range planning, legal and fiscal operations, space management, employee personnel and records, logistical services such as purchasing and printing, and public relations and development. Also includes information technology expenses related to institutional support activities. If an institution does not separately budget and expense information technology resources, the costs associated with student services and operation and maintenance of plant will also be applied to this function. Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

**Instructional Expenses:** A functional expense category that includes expenses of the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. Includes general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, and regular, special, and extension sessions. Also includes expenses for both credit and non-credit activities. Excludes expenses for academic administration where the primary function is administration (e.g., academic deans). Information technology expenses related to instructional activities if the institution separately budgets and expenses information technology resources are included (otherwise these expenses are included in academic support). Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

**Operation:** A functional expense category that includes expenses for operations established to provide service and maintenance related to campus grounds and facilities used for educational and

general purposes. Specific expenses include utilities, fire protection, property insurance, and similar items. This function does not include amounts charged to auxiliary enterprises, hospitals, and independent operations. Also includes information technology expenses related to operation and maintenance of plant activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in institutional support). GASB institutions have these expenses charged to or allocated to other functions.

**Public service:** A functional expense category that includes expenses for activities established primarily to provide noninstructional services beneficial to individuals and groups external to the institution. Examples are conferences, institutes, general advisory service, reference bureaus, and similar services provided to particular sectors of the community. This function includes expenses for community services, cooperative extension services, and public broadcasting services. Also includes information technology expenses related to the public service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support). Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

**Research:** A functional expense category that includes expenses for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. The category includes institutes and research centers, and individual and project research. This function does not include nonresearch sponsored programs (e.g., training programs). Also included are information technology expenses related to research activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support.) Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

**Scholarships:** Grants-in-aid, trainee stipends, tuition and required fee waivers, prizes, or other monetary awards given to undergraduate students.

**Student Services Expenses:** A functional expense category that includes expenses for admissions, registrar activities, and activities whose primary purpose is to contribute to students' emotional and physical well-being and to their intellectual, cultural, and social development outside the context of the formal instructional program. Examples include student activities, cultural events, student newspapers, intramural athletics, student organizations, supplemental instruction outside the normal administration, and student records. Intercollegiate athletics and student health services may also be included except when operated as self-supporting auxiliary enterprises. Also may include information technology expenses related to student service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in institutional support.) Institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation.

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## Endnotes

<sup>1</sup> Michael McNutt, "Oklahoma's State Budget Deal Features Missed Opportunities, Analysts Say," *NewsOK. The Oklahoman*, May 15, 2011. <http://newsok.com/proposal-for-state-budget-misses-opportunities-to-save-some-say/article/3568127>

<sup>2</sup> David Boren, and Burns Hargis, "Higher Education: A Track Record of Success," *NewsOK. The Oklahoman*, April 23, 2011. <http://newsok.com/higher-education-a-track-record-of-success/article/3551778>.

<sup>3</sup> Howard Rothmann Bowen, *The Costs of Higher Education: How Much Do Colleges and Universities Spend per Student and How Much Should They Spend?* San Francisco: Jossey-Bass, 1980.

<sup>4</sup> Robert Martin and Andrew Gillen, "Breaking the Cost Spiral," *Inside Higher Ed*, August 7, 2009. <http://www.insidehighered.com/views/2009/08/07/martin>.

<sup>5</sup> Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 5, 2011; authors' calculations.

<sup>6</sup> Andrew Gillen and Richard Vedder, "North Carolina's Higher Education System: Success or Failure?" Center for College Affordability and Productivity policy paper, February 2008. [http://centerforcollegeaffordability.org/uploads/NC\\_Report\\_Final.pdf](http://centerforcollegeaffordability.org/uploads/NC_Report_Final.pdf).

<sup>7</sup> Several scholars have contributed significantly to the understanding of human capital. Some of the most important include Adam Smith in *The Wealth of Nations* (1776), Jacob Mincer in his article "Investment in Human Capital and Personal Income Distribution" (*Journal of Political Economy* 66, no. 4 [1958]), and Gary Becker in *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (New York: National Bureau of Economic Research, 1964).

<sup>8</sup> Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 5, 2011; authors' calculations.

<sup>9</sup> Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 5, 2011.

<sup>10</sup> Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 5, 2011; authors' calculations.

<sup>11</sup> Bureau of Labor Statistics, U.S. Department of Labor, American Time Use Survey. <http://www.bls.gov/tus/charts/>, accessed April 12, 2011.

<sup>12</sup> Bureau of Labor Statistics, U.S. Department of Labor, American Time Use Survey. <http://www.bls.gov/tus/charts/>, accessed April 12, 2011.

<sup>13</sup> National Survey of Student Engagement 2010. [http://nsse.iub.edu/2010\\_Institutional\\_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf](http://nsse.iub.edu/2010_Institutional_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf), accessed April 10, 2011.

<sup>14</sup> National Survey of Student Engagement 2010. [http://nsse.iub.edu/2010\\_Institutional\\_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf](http://nsse.iub.edu/2010_Institutional_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf), accessed April 10, 2011.

<sup>15</sup> Campus Buddy. [www.Campusbuddy.com](http://www.Campusbuddy.com), accessed April 12, 2011.

<sup>16</sup> National Survey of Student Engagement 2010. [http://nsse.iub.edu/2010\\_Institutional\\_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf](http://nsse.iub.edu/2010_Institutional_Report/pdf/2010%20SR%20Grand%20Freqs%20by%20Carn.pdf), accessed April 10, 2011.

<sup>17</sup> The Collegiate Learning Assessment (CLA) is a test developed by the Council for Aid to Education. It is used to evaluate universities' contributions to student learning. For more on the CLA, visit [www.collegiatelearningassessment.org](http://www.collegiatelearningassessment.org).

<sup>18</sup> Richard Arum, Josipa Roksa, and Esther Cho, *Improving Undergraduate Learning: Findings and Policy Recommendations from the SSRC-CLA Longitudinal Project* (Social Science Research Council, 2011), 1-11.

<sup>19</sup> Richard Arum, Josipa Roksa, and Esther Cho, *Improving Undergraduate Learning: Findings and Policy Recommendations from the SSRC-CLA Longitudinal Project* (Social Science Research Council, 2011), 1-11.

<sup>20</sup> Integrated Postsecondary Education Data System (IPEDS), U.S. Department of Education, accessed April 5, 2011; authors' calculations.

<sup>21</sup> This data is for 2008 while institutional data is for 2009. The 2009 national data is not likely to be much different as the national graduation rate for the previous five years fluctuated within a range of 1.1 percentage points.

<sup>22</sup> The National Center for Higher Education Management Systems. <http://www.higheredinfo.org/dbrowser/?level=nation&mode=graph&state=0&submeasure=27>, accessed April 12, 2011.

<sup>23</sup> The Mortensen Seminar on Public Policy Analysis of Opportunity for Postsecondary Education. <http://www.postsecondary.org/default.asp>, accessed April 10, 2011; authors' calculation.

<sup>24</sup> The Mortensen Seminar on Public Policy Analysis of Opportunity for Postsecondary Education. <http://www.postsecondary.org/default.asp>, accessed April 10, 2011; authors' calculation.

<sup>25</sup> United States Census Bureau, American Community Survey, 2005 Median Earnings by State and Education Level. <http://www.census.gov/acs/www/>, accessed April 5, 2011.

<sup>26</sup> United States Census Bureau, Annual Social and Economic Supplement. <http://www.census.gov/hhes/www/income/data/statemedian/index.html>, accessed April 15, 2011.

<sup>27</sup> U.S. Bureau of Economic Analysis, Gross Domestic Product by State and Metropolitan Area. <http://www.bea.gov/regional/index.htm#gsp>, accessed April 10, 2011.

<sup>28</sup> Oklahoma Employment Security Commission, Workforce Oklahoma Occupational Outlook 2018 Highlights. [http://www.ok.gov/oesc\\_web/documents/lmiOutlookHighlights2018.pdf](http://www.ok.gov/oesc_web/documents/lmiOutlookHighlights2018.pdf), accessed April 14, 2011.

<sup>29</sup> Oklahoma Employment Security Commission, Long-Term Employment Projections. [http://www.ok.gov/oesc\\_web/Services/Find\\_Labor\\_Market\\_Statistics/Projections/](http://www.ok.gov/oesc_web/Services/Find_Labor_Market_Statistics/Projections/), accessed April 14, 2011.

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