



EMPLOYMENT

OUTCOMES REPORT

2018

Oklahoma State System of Higher Education
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Oklahoma State Regents for Higher Education

Employment Outcomes Report

2018

EXECUTIVE SUMMARY

The 2018 Employment Outcomes Report analyzes employment data for graduates of Oklahoma public colleges and universities one year through five years after graduation, 2011-12 through 2015-16.

The current study supports national data that link earnings to educational attainment. Oklahoma data for graduates of the state's public colleges and universities confirm that the higher the degree a student earns, the higher the earnings he or she is likely to command.

A majority of Oklahoma college graduates remain in the state, contributing to the state's economy and opportunities for growth, even five years after graduation. Following are highlights of the most recent Oklahoma employment data for the state's higher education graduates:

Employment by degree level five years after graduation shows associate in applied science graduates with the highest percentage of employment (82 percent), followed by certificate holders (80 percent).

In addition to employment rates, the actual number of graduates produced will affect availability of degreed individuals in the workforce. The following fields of study yield the largest workforce size one year after graduation: health professions (4,582 graduates employed), business management and administration (3,964 employed), education (2,532 employed), liberal arts/general studies (2,426 employed), and psychology (1,081 graduates employed). The fields where employment rates are highest after five years are: health professions (3,111 graduates employed), business management and administration (2,777 employed), education (2,424 employed), liberal arts/general studies (1,198 employed), and psychology (597 employed).

The median annual earnings for graduates after five years were higher than for graduates after only one year at all degree levels. For instance, the data indicate that after five years of employment with a bachelor's degree, graduates' median earnings were \$38,924 which is 49 percent higher than the \$26,204 median annual earnings of bachelor's degree holders one year after graduation. For doctoral degrees, the median annual earnings increase from \$41,132 one year after graduation to \$67,380 five years after graduation (a 64 percent increase). This supports other findings that the earnings gap between educational levels increases as graduates gain experience in the workforce.

Resident retention is excellent in the state of Oklahoma, with 87 percent of Oklahoma residents' bachelor's and 86 percent of master's degree recipients employed in-state one year after

graduation. Additionally, 93 percent of the associate in applied science graduates remained in state; 91 percent of certificate; 90 percent of associate in arts/science recipients remained; and professional and doctoral degree recipients remained at rates of 74 and 70 percent, respectively.

Comparing 2015-16 Oklahoma residents' employment rates to the previous report for 2013-14 resident graduates after one year, rates increased or remained the same at all degree levels except master's degrees.

Efforts to improve student preparation and awareness of college, strategic scholarship programs, and accelerated degree completion programs all contribute to increases in numbers of college graduates in the state, assisting workforce efforts. In 2010, Oklahoma joined with *Complete College America (CCA)*, a national nonprofit organization focused on raising degree attainment. Significant progress is being made toward the program goals. In the first five years of the CCA initiative, the number of degrees and certificates earned in Oklahoma has increased by **8,912**, surpassing the state benchmark of **8,500**.

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Oklahoma State Regents for Higher Education

Employment Outcomes Report

2018

BACKGROUND

The Oklahoma State Regents for Higher Education has been compiling and analyzing employment data since 1994. This endeavor began with a partnership among the Oklahoma State Occupational Information Coordinating Committee (SOICC), the Oklahoma Employment Security Commission (OESC), and the State Regents. With the assistance of the Office of the Governor, in 1997 the Oklahoma Tax Commission (OTC) joined the data exchange.

In 1997, the American Association of State Colleges and Universities (AASCU), the American Association of Community Colleges (AACC), and the National Association of State Universities and Land-Grant Colleges (NASULGC) sponsored the Joint Commission on Accountability Reporting (JCAR) to identify standard reporting conventions. The State Regents were active participants in developing the standards for reporting placement and employment rates as published in the *JCAR Technical Conventions Manual*.

The Workforce Investment Opportunity Act (WIOA) and the Carl D. Perkins Vocational and Technical Education Act require accountability reporting on several indicators, including employment outcomes (percentage of students or graduates who are employed).

This is the tenth *Employment Outcomes Report* designed to study the value of public higher education in the state of Oklahoma by addressing the following questions:

- *What percentage of Oklahoma residents and non-Oklahoma residents who graduate from public colleges and universities remain in Oklahoma?*
- *How does level of education impact earnings?*
- *What are the median annual earnings by field of study and level of degree of Oklahoma graduates?*

Starting in 2017, the report was condensed, since additional detail is now available through Tableau software, which displays data in an interactive dashboard. With this dashboard, the user can answer his/her own questions and display the data in the form of dynamic bars, plots, and maps. The freedom to interact with the data means that pages of tables and reports are no longer necessary, and a summarized form of the data is provided here along with a link to the full interactive data dashboard.

(<http://okhighered.org/econ-dev/dashboards/dashboard-StatewideMedianAnnualSalary.html>).

This report and the accompanying dashboard examine the employment outcomes of all graduates of Oklahoma **public** higher education institutions, as well as Oklahoma residents and non-Oklahoma resident graduates. Highlights are included in the report.

INTRODUCTION

Research has repeatedly confirmed the individual benefits of higher education in terms of increased earnings, greater participation in the labor force, and lower unemployment rates. A Pew Research Center study states “On virtually every measure of economic well-being and career attainment – from personal earnings to job satisfaction to the share employed full time – young college graduates are outperforming their peers with less education.”¹ According to the *Digest of Education Statistics, 2017*:²

- The median annual income in 2016 for year-round, full-time male workers 25 years old and over ranged from approximately \$30,350 for those with less than a 9th grade education, to \$41,890 for high school graduates, to \$52,120 for associate degree recipients, to \$71,630 for bachelor’s degree holders, to \$88,430 for master’s degrees, to over \$120,000 for doctoral and professional degree holders.
- In 2016, about 86 percent of adults, aged 25-64 with a bachelor’s or higher degree, participated in the labor force, compared with 72 percent of persons who had completed high school and 60 percent of those who were not high school completers.
- Unemployment rates for adults aged 25-64 in 2016 were 2 percent for those with a bachelor’s degree or higher, 6 percent for high school completers, and 8 percent for those who had not completed high school.

Policy makers understand the contributions graduates make in terms of higher personal income tax contributions and their attractiveness to new business and economic development efforts. They are also aware of public benefits that accrue from college graduates, including better health and increased socioeconomic status, to name a few.³

Because of the demonstrated impact that higher education has on individuals and the society in which they live, it is important to assess employment data and identify factors which may affect decisions to remain in-state or seek employment elsewhere. Various factors, including residency status, level of degree attainment, field of study, and type and selectivity of school attended have been evaluated in other studies.

A 2017 South Dakota Board of Regents report revealed significant differences in employment rates for recent public higher education graduates who were South Dakota residents compared to students who were non-residents. From 2010 to 2014, 67.4 percent of the South Dakota resident

¹ “The Rising Cost of Not Going to College,” Pew Research Center, Social and Demographic Trends, February 11, 2014.

² National Center for Education Statistics, *Digest of Education Statistics, 2017*, Chapter 5.

³ “Education Pays 2016: The Benefits of Higher Education for Individuals and Society,” *Trends in Higher Education Series*, College Board, December 2016.

degree completers were found employed in South Dakota, compared to 25.8 percent of non-residents who were found employed in South Dakota. For graduate students, 65.6 percent of South Dakota resident degree holders were found employed compared to 18.8 percent of non-residents.⁴

INITIATIVES

One avenue for retaining more graduates in Oklahoma is to increase the number of Oklahoma citizens attending and graduating from higher education institutions in-state. One of the key Oklahoma efforts to increase college enrollment is *Oklahoma's Promise, or formerly, the Oklahoma Higher Learning Access Program* (OHLAP), which provides tuition subsidies for students whose families cannot afford college and who meet the challenge of rigorous academic preparation.

Creating opportunities for students to enroll in Oklahoma higher education is one step toward producing more graduates and increasing the state's intellectual capital. It is equally important that students who enter college actually continue to the point of graduation. Prominent initiatives that advance this goal include:

- *Reach Higher* is an accelerated adult degree completion program, which began offering courses in spring 2007. The original Reach Higher program is now Reach Higher: FlexFinish. Reach Higher: FlexFinish continues to offer flexible enrollment and online options to working adults with some college credit. FlexFinish students may pursue an associate degree in enterprise development or a bachelor's degree in organizational leadership at one of 21 participating colleges and universities in Oklahoma. A new Reach Higher degree completion program option, Reach Higher: DirectComplete, will offer adult students the opportunity to complete a degree in programs connected with workforce development needs that align with Oklahoma's 100 Critical Occupations list. The Oklahoma State Regents for Higher Education, in cooperation with workforce boards, businesses, tribal agencies, nonprofits and higher education institution partners, are working to leverage financial support and other services to help adult students complete their degrees with minimal personal cost.
- Established in 2009, Complete College America is a national nonprofit with a single mission: to work with states to significantly increase the number of Americans with quality career certificates or college degrees and to close attainment gaps for traditionally underrepresented populations. Oklahoma's goal is to increase the number of degrees and certificates by an average of 1,700 per year, from 30,500 annually in 2011 to 50,900 annually by 2023, a 67 percent increase. In the last five years of the CCA initiative, the number of degrees and certificates earned in Oklahoma has increased by 8,912, surpassing the state benchmark of 8,500.

More opportunity for students to attend and finish their higher education careers means more opportunity for Oklahoma businesses to gain educated and credentialed individuals.

⁴ "2017 SDBOR Graduate Placement Dashboard," South Dakota Board of Regents.

METHODOLOGY

Process

Oklahoma State System degree recipients are identified using the State Regents' Unitized Data System (UDS). The last degree earned is selected for students who earn multiple degrees, which is normally the highest degree earned. A student who earned a bachelor's degree in 2011-12 and a master's degree in 2015-16 is reported only once in the 2015-16 academic year.

With the help of the Center for Economic and Management Research (CEMR) at the University of Oklahoma, the list of graduates is compared to data at the Oklahoma Employment Security Commission (OESC). When a match is found, the industry code, based on the North American Industry Classification System (NAICS) (see Appendix), and quarterly earnings information are attached to the degree recipient's record and returned to the State Regents without an identification number. This report uses graduate records matched within five quarters of employment from the second quarter of 2016 to the second quarter of 2017. Median annual earnings are captured within the Tableau application using the earnings information. Beginning with the 2017 report, median earnings were used, providing a better measure of centrality than average earnings, which was used in prior reports.

Because the OESC database only contains information about employees with unemployment insurance, the search was expanded to include Oklahoma Tax Commission (OTC) records. When no match is found by OESC, the degree recipients' records are then compared to state resident tax returns. "Found" or "Not Found" information only is returned for these Tax Commission matches. This report is based on the 2016 tax year.

All data is now being viewed in the form of Tableau dashboards, a data analytics tool that displays trends in an interactive manner. Samples from the Tableau data are included in this report under "FINDINGS," and links to the dashboards are provided in the Background and Appendix.

The dashboard analyzes all data for the graduating classes of 2011-12 through 2015-16, which allows for review of employment five, four, three, two, or one year(s) after graduation. This report will summarize the information for one and five years after graduation.

The populations are divided into two groups: (1) Oklahoma residents and (2) non-Oklahoma residents. Graduates are considered Oklahoma residents if the original state of residence when entering an Oklahoma higher education institution is Oklahoma. If the original state of residence is anything other than Oklahoma, then the graduate is a non-Oklahoma resident.

Once in Tableau, the data is sorted to display employment by degree level, field of study, industry, and industry in detail. There are filters included to select a year of graduation, a field of study, an institution, STEM or non-STEM, and resident or non-resident indicators. The Public filter should always display "Y" to indicate filtering of public institutions **only**. The State Regents utilize metrics from public institutions only to avoid fluctuations due to inconsistent reporting of private institutions' graduates to the Oklahoma State Regents for Higher Education.

Limitations

The OESC database includes only employees who have Oklahoma unemployment insurance. The self-employed, employees of the federal government (e.g., military and postal service), and graduates working outside of Oklahoma are not included in the OESC database.

The Tax Commission database includes couples filing joint returns; therefore, employment of the degree recipient is assumed, but may be that of a spouse. Also, Tax Commission data does not include industry codes; therefore, NAICS information is not available for graduates found through tax data matches.

Privacy

A data exchange agreement defines the procedures for protecting all data. All agencies protect the identity of individuals. The OESC, CEMR, and the Tax Commission do not provide social security numbers to the State Regents with their data matches. The State Regents' *Employment Outcomes Report and the dashboards* include only aggregate data and only when six or more individuals are being described.

FINDINGS

All data and tables are from the Tableau link in the Appendix, and it is strongly advised to visit and interact with the Tableau dashboard to view information in full detail.

All Graduates (Oklahoma and Non-Oklahoma Residents)

Employment Rate Comparison

Employment by degree level for one year after graduation shows certificate graduates with the highest percentage of employment (90 percent), followed by associate in applied science (88 percent), associate in arts/science (86 percent), bachelor's (74 percent), professional (65 percent), master's (63 percent), and doctoral degree holders (47 percent). For students who graduated five years prior to the employment period for this study, employment rates dropped by 6 to 10 percentage points for certificate through master's degree holders. The change for professional degree holders was 7 percentage points, but the change for doctoral degree holders was 10 percentage points.

Comparing the previous report's employment data (for 2009-10 and 2013-14 graduates) shown in Table 2, one can see that the one-year after graduation employment rates for 2015-16 graduates are higher than the 2013-14 graduates at the certificate, associate in arts/science, and professional degree level, while one-year after graduation rates are lower for bachelor's, master's, and doctoral recipients (the rates remained the same for associate in applied science recipients). After five years, the 2011-12 graduates had higher employment rates for all degree levels except master's and professional (certificate rates remained the same), compared to the 2009-10 graduates after five years.

Table 1
Employment by Degree Level
for All State System Graduates

Degree Level	Five Years After Graduation (2011-12)		One Year After Graduation (2015-16)	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	337	80%	777	90%
Associate in Applied Science	2,242	82%	2,695	88%
Associate in Arts/Science	2,399	76%	6,036	86%
Bachelor	8,643	65%	12,182	74%
Master	2,654	56%	3,076	63%
Professional	524	58%	595	65%
Doctoral	157	37%	236	47%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Table 2
Employment by Degree Level
for All State System Graduates

Degree Level	Five Years After Graduation (2009-10)		One Year After Graduation (2013-14)	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	305	80%	649	88%
Associate in Applied Science	1,987	80%	2,816	88%
Associate in Arts/Science	1,937	74%	5,894	85%
Bachelor	8,443	64%	12,386	78%
Master	2,380	57%	3,250	66%
Professional	557	61%	586	64%
Doctoral	129	30%	245	51%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, June 2017

Employment by Field of Study

In addition to employment rates, the actual number of graduates produced will affect availability of degreed individuals in the workforce. In terms of workforce size, the following fields of study yield the largest workforce one year after graduation: health professions (4,582 graduates employed), business management and administration (3,964 employed), education (2,532 employed), liberal arts/general studies (2,426 employed), and psychology (1,081 graduates employed). The fields where employment rates are highest after five years are health professions (3,111 graduates employed), business management and administration (2,777 employed), education (2,424 employed), liberal arts/general studies (1,198 employed), and psychology (597 graduates employed).

Figures 1 and 2 show the top five workforce producing fields of study for the current employment period (2011-12 graduates after five years and 2015-16 graduates after one year), compared to the previous study (2009-10 graduates after five years and 2013-14 graduates after one year).

Figure 1
Top Five Fields of Study
Oklahoma Employment
Five Years After Graduation (2011-12/2009-10)
For All State System Graduates

1. **Health Professions – 3,111 Employed (76%)/2,910 (71%)**
2. **Business Management & Admin – 2,777 Employed (63%)**
/2,881 (63%)
3. **Education – 2,424 Employed (80%)/2,268 (78%)**
4. **Liberal Arts/Gen Studies – 1,198 Employed (69%)**
/1,254 (65%)
5. **Psychology – 597 Employed (65%) Social Sciences - 531 (59%)**



-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Figure 2
Top Five Fields of Study
Oklahoma Employment
One Year After Graduation (2015-16/2013-14)
For All State System Graduates

1. **Health Professions – 4,582 Employed (86%)/4,458 (85%)**
2. **Business Management & Admin – 3,964 Employed (70%)**
/3,953 (73%)
3. **Education – 2,532 Employed (86%)/2,807 (88%)**
4. **Liberal Arts/Gen Studies – 2,426 Employed (77%)**
/2,335 (79%)
5. **Psychology – 1,081 Employed (82%) Social Sciences - 1,140 (83%)**



-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Science, Technology, Engineering, and Math (STEM) Employment Rates

Oklahoma is still in need of more traditional STEM graduates. The Oklahoma one-year retention rates of STEM degree holders at all degree levels are lower than those rates for all fields combined. After five years, the same scenario applies; all STEM are lower than the rates for all fields combined. It is well known that STEM graduates are more in-demand, as evidenced by their higher earnings and the difference in retention rates between one and five years after graduation. This is often especially true of graduates with higher degrees.

Employment rates and counts for the current study’s graduates (2015-16 and 2011-12) are shown in Table 3, with employment data from the previous year’s study (2013-14 and 2009-10 graduates) shown in Table 4. In general, graduates at all education levels were employed at greater rates in the previous study, as compared to the current study. One positive note deserves mention: for doctoral degree recipients, the *difference* between one- and five-year employment rates is lower in the current study (9 percentage points difference), compared to the prior year’s study where the difference was 22 percentage points. This suggests the out-migration of STEM graduates who first get a job in Oklahoma has grown better.

**Table 3
STEM Employment by Degree Level
For All State System Graduates**

Degree Level	Five Years After Graduation (2011-12)		One Year After Graduation (2015-16)	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	33	79%	54	87%
Associate in Applied Science	371	81%	525	87%
Associate in Arts/Science	160	73%	513	85%
Bachelor	1,463	59%	2,504	68%
Master	341	38%	362	40%
Doctoral	54	30%	92	39%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Table 4
STEM Employment by Degree Level
For All State System Graduates

Degree Level	Five Years After Graduation (2009-10)		One Year After Graduation (2013-14)	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	13	81%	26	96%
Associate in Applied Science	309	79%	526	89%
Associate in Arts/Science	119	75%	522	87%
Bachelor	1,370	60%	2,371	74%
Master	294	42%	416	49%
Doctoral	39	21%	98	43%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, June 2017.

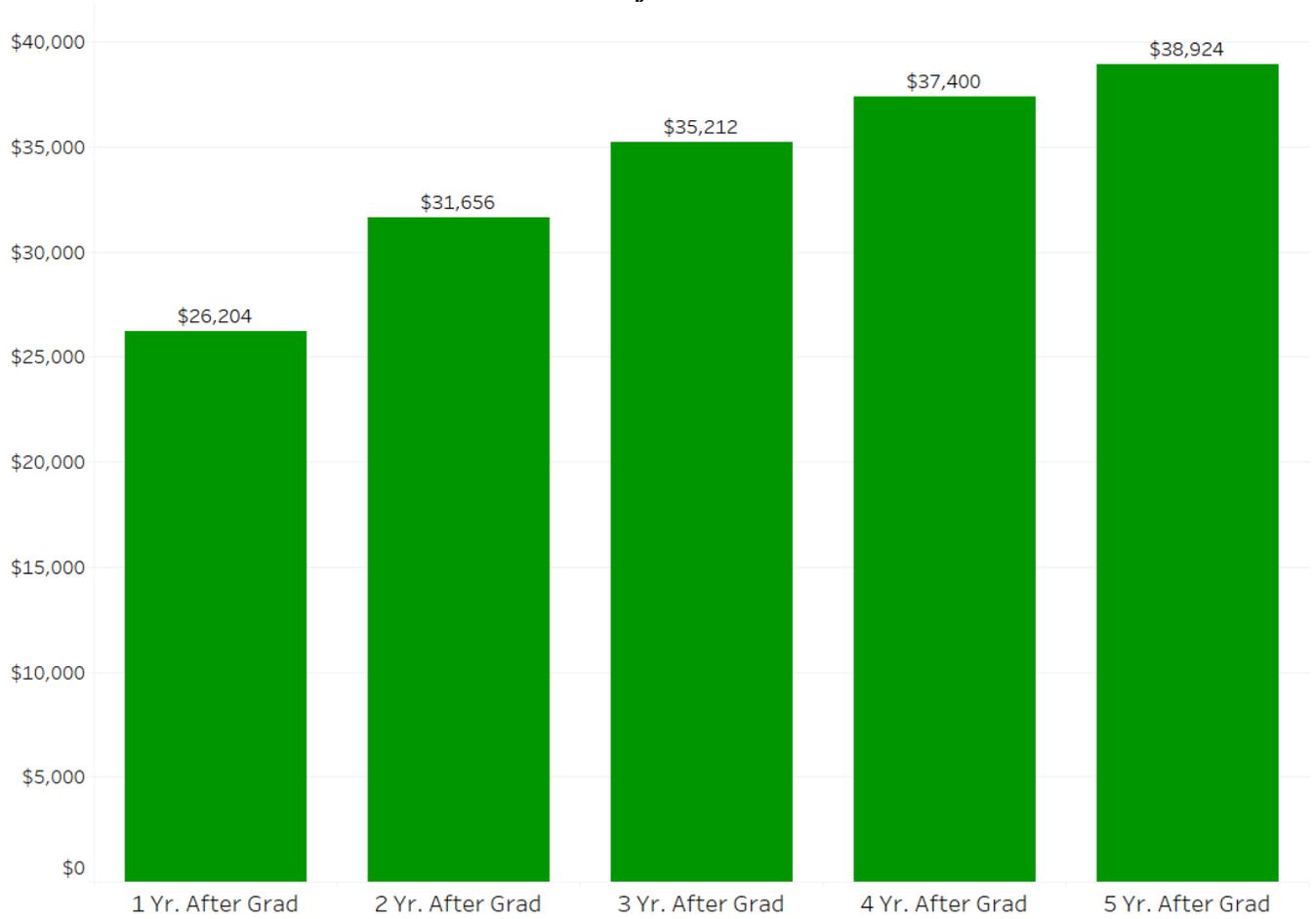
Median Annual Earnings Comparison

Beginning with the previous study, median annual earnings have been used instead of average annual earnings which were used in prior reports. Median annual earnings were determined to be a more accurate measure of centrality, and will be used in any future reports or figures.

The current study supports national data that link earnings to educational attainment. Whether looking at employment one year after graduation or employment five years after graduation, Oklahoma data show that higher median earnings are realized by those who have higher degrees. After five years, certificate and associate in arts/science recipients earned median annual earnings in the upper \$20,000 range; while bachelor’s and associate in applied science degree holders had median earnings in the low-to-mid \$40,000 range; and doctoral and professional degree holders commanded the highest earnings with \$68,568 for doctoral recipients and \$81,1648 for first professional degree holders.

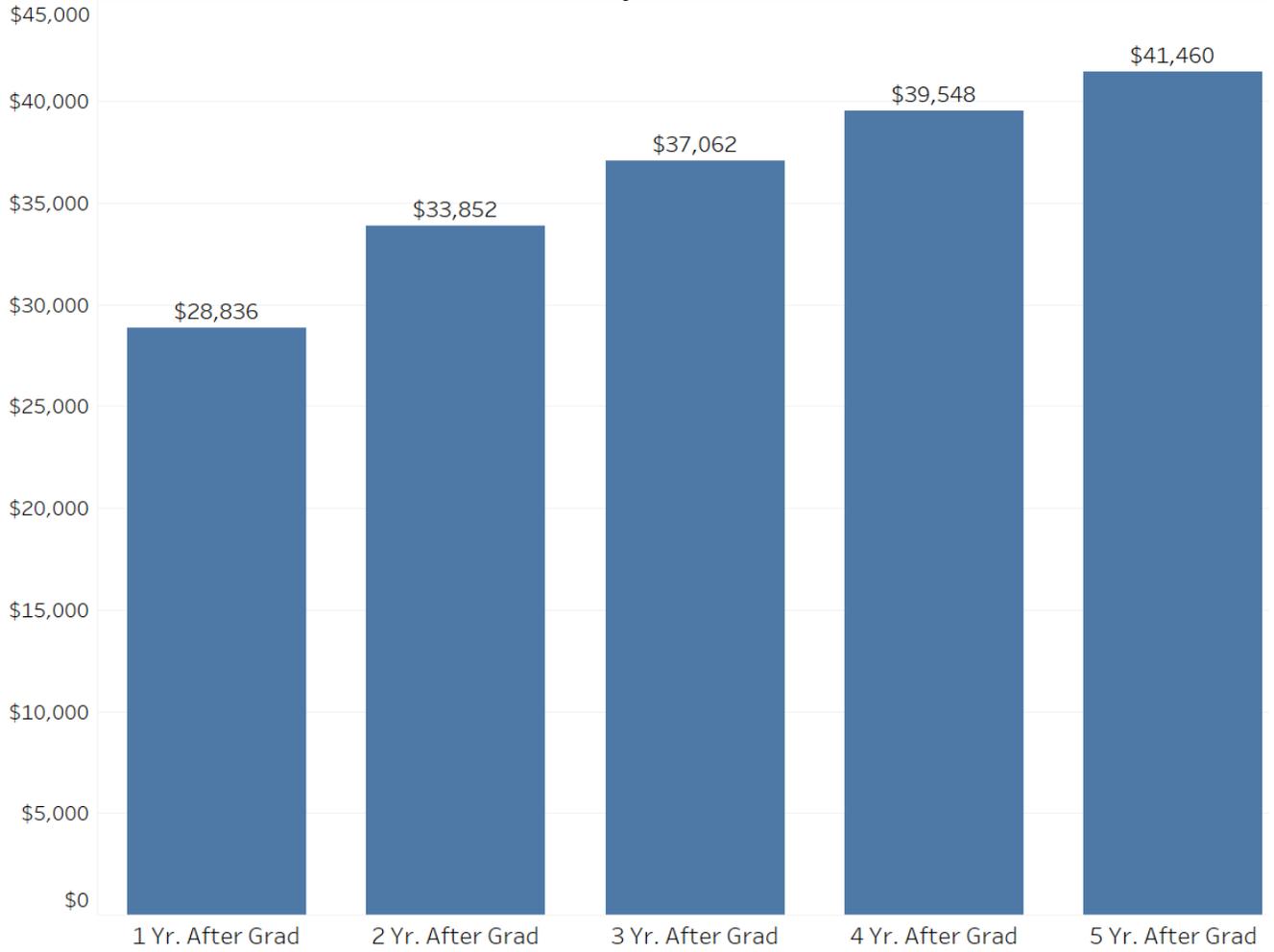
Data from this study suggest that work experience does impact earnings. The median annual earnings for graduates after five years were higher than for graduates after only one year at all degree levels. Figure 3 shows the **median** annual earnings for bachelor’s degree holders one, two, three, four, and five years after graduation. After five years of employment with a bachelor’s degree, graduates’ median earnings were \$38,924 which is 49 percent higher than the \$26,204 median annual earnings of bachelor’s degree holders one year after graduation. Figure 4 shows the previous report’s data on bachelor’s degrees and median annual earnings. The median earnings are slightly lower for the current data at all degree levels, with five years after graduation containing the largest decrease of \$2,632 (\$28,836 for the 2009-10 graduates and \$26,204 for the 2011-12 graduates).

Figure 3
Median Annual Earnings
Bachelor's Degrees Recipients
2015-16 through 2011-12
One – Five Years After Graduation



-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Figure 4
Median Annual Earnings
Bachelor's Degrees Recipients
2013-14 through 2009-10
One – Five Years After Graduation



-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, June 2017.

Median Annual Earnings Comparison by Field of Study

Graduates with Science, Technology, Engineering, and Math (STEM) degrees have consistently higher earnings, although health professions and business management also command strong earnings. In general, this is true for all degree levels. Figure 5 displays median annual earnings for the top five fields among bachelor’s degree holders five years after graduation. Engineers recorded median annual earnings of \$78,080; the median annual earnings for mechanics and repair technologies bachelor’s degree graduates are \$72,572, followed by engineering technologies majors (\$60,068), computer science majors (\$58,092) and health professions graduates (\$53,284).

Figure 5
Top Five - Median Annual Earnings by Field of Study
2011-12 Bachelor’s Degrees
After Five Years



-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Oklahoma Residents Only

Employment Rate Comparison

Even after five years, Oklahoma is retaining a majority of its resident graduates (those whose original state of residence when entering an Oklahoma higher education institution was Oklahoma). Table 5 displays employment rates of Oklahoma resident graduates one and five years after graduation, by degree level. After five years, associate in applied science degree holders were employed at the highest rate (88 percent), followed by certificate and associate in arts/science degree holders (both at 82 percent), bachelor's degree holders (78 percent), master's degree holders (76 percent) and professional degree holders (70 percent). Doctoral degree holders showed the lowest employment rate after five years, 63 percent, which represents more than half of the original graduating class.

As would be expected, the out-migration of Oklahoma residents in the current study is less than the Oklahoma graduate population as a whole. Not only are more resident graduates employed in Oklahoma one year after graduation, but the percent of graduates lost within the next four years is smaller than for all graduates. For resident graduates, the out-migration year one and year five ranges from 4 percentage points for professional degree holders to 10 percentage points for master's degree holders.

In comparison to the previous year's Employment Outcomes data (2017 report), most levels of education reflected increased employment rates for one and five years after graduation (Tables 5 and 6). Notable exceptions include certificate holders five years after graduation, master's degree holders one and five years after graduation and professional degree holders five years after graduation. In those cases, certificate holders decreased from 83 percent to 82 percent (2009-10 graduates to 2011-12 graduates), master's degree holders decreased from 77 percent to 76 percent (2009-10 graduates to 2011-12 graduates five years after graduation) and from 87 percent to 86 percent (2013-14 graduates to 2015-16 graduates one year after graduation), and professional degree holders decreased from 71 percent to 70 percent (2009-10 graduates to 2011-12 graduates). The largest increases came from the doctoral level (56 percent to 63 percent from 2009-10 graduates to 2011-12 graduates and 67 percent to 70 percent from 2013-14 graduates to 2015-16 graduates). Associate in applied science degree holders also increased three percentage points from 85 percent to 88 percent five years after graduation (2009-10 graduates to 2011-12 graduates).

Table 5
Employment by Degree Level
For Oklahoma Residents Only

Degree Level	<i>Five Years After Graduation (2011-12)</i>		<i>One Year After Graduation (2015-16)</i>	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	304	82%	732	91%
Associate in Applied Science	2,122	88%	2,537	93%
Associate in Arts/Science	2,308	82%	5,636	90%
Bachelor	8,045	78%	10,636	87%
Master	2,453	76%	2,670	86%
Professional	433	70%	506	74%
Doctoral	115	63%	166	70%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Table 6
Employment by Degree Level
For Oklahoma Residents Only

Degree Level	<i>Five Years After Graduation (2009-10)</i>		<i>One Year After Graduation (2013-14)</i>	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	287	83%	585	89%
Associate in Applied Science	1,884	85%	2,616	92%
Associate in Arts/Science	1,841	80%	5,524	89%
Bachelor	7,819	77%	10,873	87%
Master	2,111	77%	2,813	87%
Professional	482	71%	491	73%
Doctoral	97	56%	153	67%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, June 2017.

Non-Oklahoma Residents Only

Employment Rate Comparison

Non-Oklahoma residents are retained at a lower rate (less than half of the graduates are retained one year after graduation). The percentages are even lower for five years after graduation, especially for bachelor's, master's, and doctoral degree holders (21, 13, and 18 percent, respectively).

Comparing the current study to the 2017 Employment Outcomes report, non-resident retention after five years is higher for all degree levels except associate in applied science, associate in arts/science, and master's (bachelor's remained the same), with retention rate changes ranging from -6 (master's) to 12 (certificate) percentage points. Employment rates after one year only increased in associate in arts/science and professional degrees. Retention rate changes were just as broad as five years after graduation ranging from -15 percentage points (certificate) to 4 percentage points (associate in arts/science).

**Table 7
Employment by Degree Level
For Non-Oklahoma Residents Only**

Degree Level	Five Years After Graduation (2011-12)		One Year After Graduation (2015-16)	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	33	65%	45	69%
Associate in Applied Science	120	38%	158	46%
Associate in Arts/Science	91	26%	400	55%
Bachelor	598	21%	1,546	36%
Master	201	13%	406	23%
Professional	91	33%	89	40%
Doctoral	42	18%	70	26%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, December 2018.

Table 8
Employment by Degree Level
For Non-Oklahoma Residents Only

Degree Level	<i>Five Years After Graduation (2009-10)</i>		<i>One Year After Graduation (2013-14)</i>	
	Number Employed	Percent Employed	Number Employed	Percent Employed
Certificate	18	53%	64	84%
Associate in Applied Science	103	40%	200	55%
Associate in Arts/Science	96	30%	370	51%
Bachelor	624	21%	1,513	44%
Master	269	19%	437	27%
Professional	75	32%	95	39%
Doctoral	32	12%	92	37%

-Source: Oklahoma State Regents for Higher Education Employment Outcomes Data, June 2017.

CONCLUSIONS

The findings of this study support national data that link earnings to educational attainment. Oklahoma employment data for graduates of Oklahoma public colleges and universities confirm that, on average, the higher the degree a student earns, the higher the median annual earnings he/she commands.

- Five years after graduation, 2011-12 bachelor's degree recipients employed in Oklahoma have median annual earnings of \$38,924. The median earnings for 2011-12 associate in arts/science degree holders were the lowest at \$27,600, while professional degree holders were highest at \$94,740.
- Earnings differences among major fields of study have been reported. Graduates with engineering, mathematics, computer science, and other technical degrees consistently have higher median earnings, although fields of study such as health professions and business management also demonstrate strong earnings and have some of the highest employment rates.

Oklahoma is retaining a majority of its graduates, even after five years.

- The current data show employment rates for the 2011-12 graduates: 80 percent of certificate holders remain in state; 76 percent of associate in arts/science, 82 percent of associate in applied science, 65 percent of bachelor's, and 56, 58, and 37 percent of master's, professional, and doctoral degree recipients, respectively, remain in Oklahoma five years after graduation.
- For graduates who were Oklahoma residents at the time they entered college, the employment rates are higher. Five years after graduation, 82 percent of certificate holders, 82 percent of associate in arts/science, 88 percent of associate in applied science, 78 percent of bachelor's, 76 percent of master's, 70 percent of professional, and 63 percent of doctoral degree holders are found in state.
- Although the vast majority of graduates of Oklahoma public higher education institutions remain in Oklahoma, the out-migration is evident in technical fields of study such as engineering, computer science, and physical sciences.

The priority of this study resides in the continued partnership between industry and higher education as they continue to educate and employ a 21st century workforce to serve Oklahoma.

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Appendix

A. All Tables and Figures completed using Tableau 2018 Employment Outcomes Data

Tableau website: <http://okhighered.org/econ-dev/dashboards/dashboard-StatewideMedianAnnualSalary.html>

B. North American Industry Classification System (NAICS)

Taken from the *2017 U.S. NAICS Manual*, United States Office of Management and Budget. Link: <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2017>

C. Classification of Instructional Programs (CIP)

Taken from 2010 Edition of the *Classification of Instructional Programs*, National Center for Education Statistics.

Link: <https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>