

KENTUCKY COMPLETION REPORT

The Completion Report describes the state of postsecondary education degree and credential attainment in Kentucky between Academic Years (AY) 2004-05 and 2013-14. Part One details the number and types of degrees produced during this time and pays attention to trends among key demographics in the state. Part Two provides context for these trends by comparing Kentucky to the United States. The report also provides analysis of the Commonwealth's strengths and areas of opportunity for improvement, and identifies questions for future research and policy recommendations for the postsecondary education system.

*Describing a Decade
of Degree &
Credential
Production*

CONTENTS

INTRODUCTION	1
PART I: DESCRIBING KENTUCKY.....	2
EXECUTIVE SUMMARY	2
TOTAL DEGREES & CREDENTIALS AWARDED	3
GROWTH IN TOTAL DEGREES & CREDENTIALS AWARDED	4
TYPES OF DEGREES & CREDENTIALS AWARDED	5
DEGREES & CREDENTIALS BY FIELD OF STUDY.....	7
DEGREES & CREDENTIALS EARNED BY GENDER.....	9
DEGREES & CREDENTIALS EARNED BY RACE/ETHNICITY	10
PART II: KENTUCKY IN CONTEXT.....	12
NATIONAL TRENDS IN DEGREE & CREDENTIAL PRODUCTION.....	12
CONCLUSIONS & RECOMMENDATIONS.....	17
SUCCESSSES.....	17
OPPORTUNITIES	18
FUTURE RESEARCH	19
RECOMMENDATIONS.....	20
REFERENCES	22

INTRODUCTION

Former United States Secretary of Education Arne Duncan in 2012 reaffirmed the critical role of higher education in shaping America's future. While addressing *TIME*'s Higher Education Summit, Duncan stated, "In the information age, higher education is no longer a luxury." It is, he continued, "a necessity that every family in America should be able to afford."¹

It would seem that much of the American public agrees with this assessment. In the most recent Gallup-Lumina Foundation Poll on Higher Education, 96 percent of those surveyed stated that they believe it is somewhat or very important to have a degree or professional certificate beyond high school. In the same poll, 94 percent agreed that it is at least somewhat important that the U.S. increase the proportion of its population with a degree or certificate beyond high school.²

But what is driving this focus on the role of higher education? As the United States marches through the second decade of the 21st century, it does so at the meeting point of the revolutionary forces of rapid globalization, proliferation of new technologies, and continued evolution from a manufacturing to a service economy. These forces have worked over the last half century to change the nature of work in America. The majority of today's jobs, nearly two-thirds, are in high-skill service industries. This shift has increased demand for more highly educated workers.³

Most projections indicate that this "upskilling," the demand for workers with more education and training, will continue into the future. According to a recent report from Georgetown University's Center on Education and the Workforce, by the year 2020 nearly two-thirds of all jobs in the U.S. will require at least some education or training beyond high school. At the current pace of degree production, however, the nation will face a shortage of nearly 5 million workers with the

"In the information age, higher education is no longer a luxury."

-Arne Duncan, former U.S. Secretary of Education

necessary training and education to fill these jobs."

In Kentucky, the gap between the educational attainment of the workforce and the needs of employers is wider than for much of the rest of the nation. By the year 2020, 62 percent of the jobs in the Commonwealth are projected to require postsecondary education or training.⁴ However, only 54 percent of adults in the state are projected to hold a postsecondary degree or credential beyond high school by this time.³ At its current pace of degree production, Kentucky will fall nearly 10 percent short in the number of workers with postsecondary training it needs to fill this demand.³

In short, the jobs and economy of the future do not look like those of the past. If Kentucky and the rest of the U.S. are to bridge this gap, postsecondary education must play a leading role in the development of a population ready to address the challenges of the future.

The Kentucky Completion Report addresses these challenges by developing a better understanding of the current state of educational attainment in Kentucky, identifying areas of opportunity for improvement, and offering recommendations for ways the state's system of postsecondary education can lead the development of a workforce ready for the challenges of the 21st century.

PART I: DESCRIBING KENTUCKY

EXECUTIVE SUMMARY

The Kentucky Completion Report uses data from the Kentucky Postsecondary Education Data System (KPEDS) to describe the state of postsecondary degree and credential attainment in the Commonwealth. Ten-year trends between Academic Years (AY) 2004-05 and 2013-14 are reported and analysis is given to provide a context for what these trends mean to the educational and economic health of Kentucky.

Part One of the Completion Report details the number and types of degrees and credentials produced during this 10-year period and pays attention to trends among key demographics. Specifically, this analysis focuses on degrees and credentials as detailed by:

- ❖ Degree and credential type
- ❖ Institutional sector
- ❖ Area of study
- ❖ Race/ethnicity
- ❖ Gender

Part Two places trends in degree and credential production in Kentucky into a larger context by comparing the growth in the total number of degrees and credentials earned in the state to the rest of the United States. Data for this section are drawn from the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). The most recently available data in IPEDS is for AY 2012-13, so 10-year trends are analyzed between AY 2003-04 and 2012-13. Part Two of the report also assesses Kentucky's areas of strength in degree and credential production, identifies opportunities for improvement and poses questions for further investigation.

KEY FINDINGS

- ❖ The total number of degrees and credentials awarded in Kentucky has increased 53 percent since 2004-05.
- ❖ The two-year public sector had the largest growth (102 percent) in degrees and credentials awarded since 2004-05.
- ❖ The pace of growth in degrees and credentials has slowed in the last five years.
- ❖ Undergraduate certificates make up a much larger share of degrees and credentials awarded now than they did in 2004-05, while baccalaureate degrees make up a much smaller share.
- ❖ The number of degrees and credentials awarded in the trades, health and STEM fields all grew by more than 50 percent in the past 10 years -- 111 percent, 85 percent and 51 percent, respectively.
- ❖ Men still earn fewer degrees and credentials than women, but their growth in degree and credential attainment in the past five years outpaced women.
- ❖ The number of degrees and credentials earned by Hispanic students has increased 125 percent since 2004-05.
- ❖ Between 2003-04 and 2012-13 Kentucky's growth in degrees and credentials awarded ranked nationally:
 - 8th in total growth at 59 percent
 - 9th in two-year public sector growth at 112 percent
 - 32nd in four-year public sector growth at 24 percent
 - 5th in independent sector growth at 59 percent

TOTAL DEGREES & CREDENTIALS AWARDED

Table 1: Degrees & Credentials Awarded 2004-05 to 2013-14

	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14
Two-Year Public	15,741	19,805	20,970	22,782	22,744	24,838	27,813	28,544	28,469	31,715
Four-Year Public	21,631	22,691	22,948	23,122	23,309	23,688	24,571	25,495	25,774	26,057
Independent	5,401	5,517	5,780	6,127	6,330	6,581	7,024	7,927	8,172	7,709
Kentucky	42,773	48,013	49,698	52,031	52,383	55,107	59,408	61,966	62,415	65,481

Source: Kentucky Postsecondary Education Data System.

The number of postsecondary degrees and credentials awarded in Kentucky rose dramatically in the past decade.

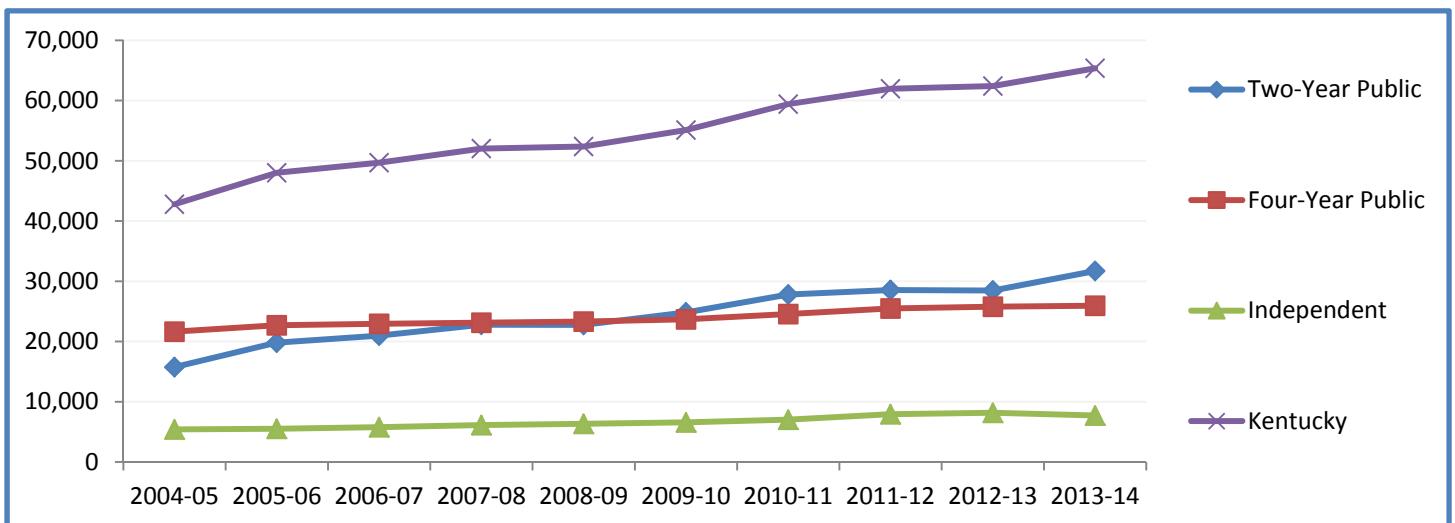
During this time, the number of degrees and credentials earned in the state grew from 42,773 in Academic Year (AY) 2004-05 to more than 65,000 in AY 2013-14, an increase of 53 percent.

In the past five years, there was a 19 percent increase in the total number of degrees and credentials awarded in Kentucky, up from 55,107 in 2009-10 to 65,481 in 2013-14. In the most recent academic year,

total degrees grew from 62,415 awarded in 2012-13 to 65,481 in 2013-14, an increase of nearly 5 percent.

A decade of sustained growth in degree production and an overall increase of more than 50 percent are important accomplishments for the state. Within these numbers, however, is also a cause for caution. In the past five years, the pace of growth in degree and credential production has slowed. Between 2004-05 and 2008-09, there was an average annual increase of 5.3 percent in degrees and credentials produced, and between 2009-10 and 2013-14 that pace slowed to an average increase of 4.6 percent annually.

Figure 1: Total Degrees & Credentials Awarded



Source: Kentucky Postsecondary Education Data System.

GROWTH IN TOTAL DEGREES & CREDENTIALS AWARDED

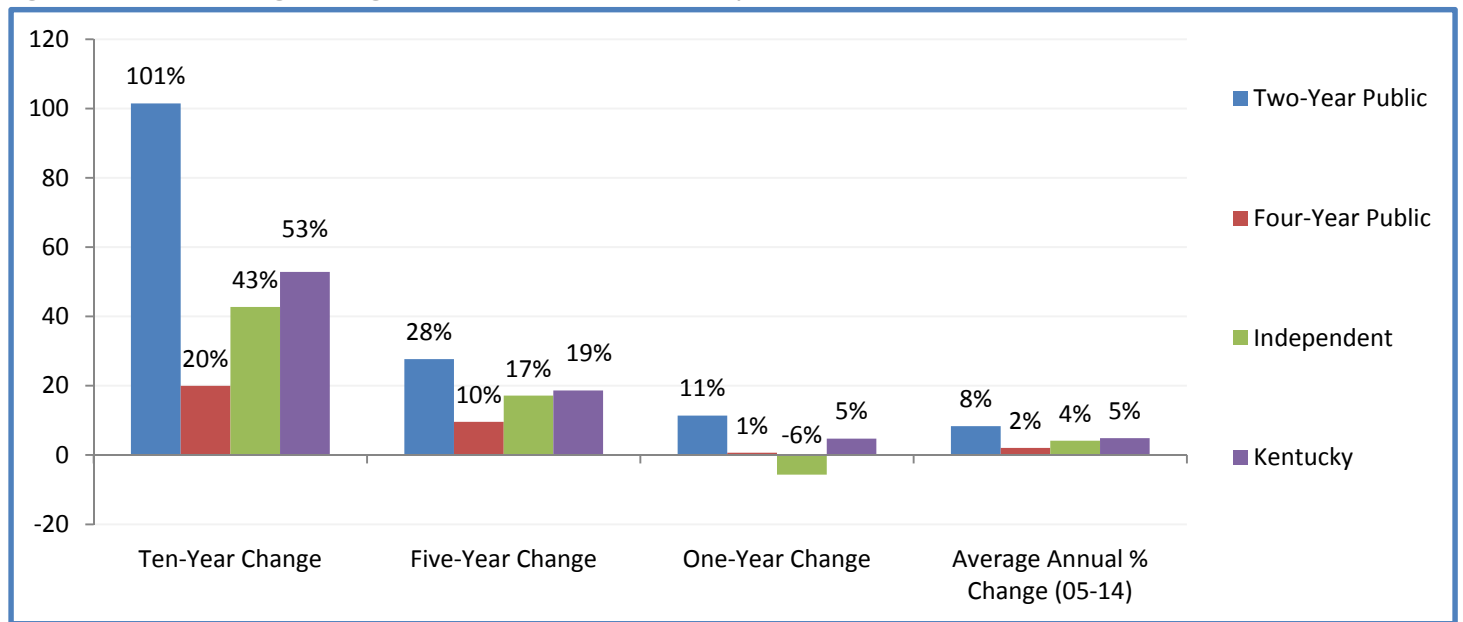
The rise in Kentucky’s postsecondary degrees and credentials was driven by the two-year public sector. In the past 10 years, there was an increase of more than 100 percent in degrees and credentials awarded in this sector, from 15,741 in 2004-05, to 31,715 in 2013-14. This growth was especially significant when compared to 10-year increases of 20 percent in the four-year public sector and 43 percent for the independents.

The number of degrees and credentials awarded in all three sectors grew in the five years since 2009-10, but the gap between the growth in the two-year public sector and the others decreased significantly. With 28 percent growth, the two-year public sector saw the most progress in the past five years, followed by the independent sector with a 17 percent increase and the four-year public sector with a 10 percent increase.

In the last year, there was an 11 percent increase in degrees produced in the two-year public sector. This was again the largest growth across sectors. There was a 1 percent gain in degrees and credentials awarded between 2012-13 and 2013-14 at four-year public institutions and a 6 percent decrease at independent institutions.

In general, the past decade’s average annual growth of 5 percent in degrees and credentials awarded was led by significant increases in the two-year public sector and bolstered by steady gains at independent and four-year public institutions.

Figure 2: Percent Change in Degrees & Credentials Awarded by Sector



Source: Kentucky Postsecondary Education Data System.

TYPES OF DEGREES & CREDENTIALS AWARDED

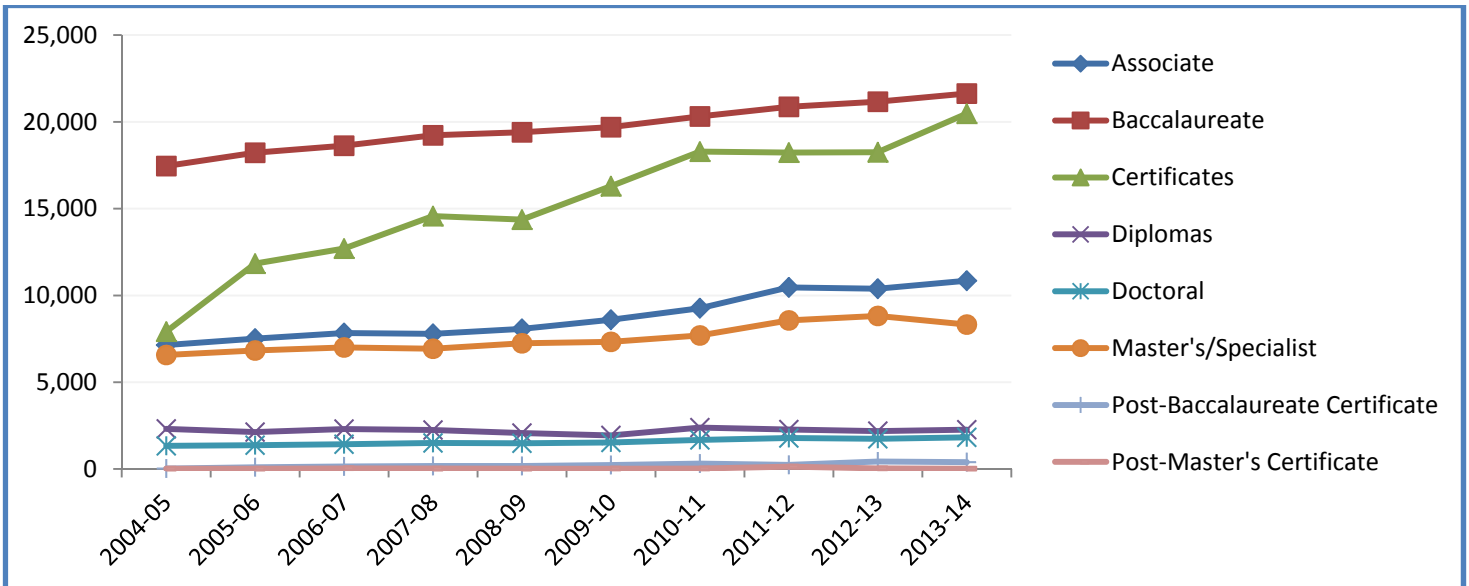
The largest 10-year increase in degrees and credentials awarded came from growth in the number of certificates awarded. Between 2004-05 and 2013-14, the number of certificates grew by more than 12,000, an increase of 159 percent. Only post-baccalaureate certificates had a larger percentage increase. However, given the small number of these credentials (24 in 2004-05 and 424 in 2013-14), the growth in undergraduate certificates* warrants greater attention. Post-master's certificates also saw significant growth during this period. In fact, with an increase of 150 percent, this was the third-fastest growing degree or credential in Kentucky between 2004-05 and 2013-14.

Of the eight degree and credential types in Figure 3, only diplomas decreased between 2004-05 and 2013-14. With a drop of less than 2 percent, however, this was a relatively small decline.

All other degrees and credentials grew during the last 10 years, but with varying degrees of intensity. Associate degrees awarded, for example, increased by nearly 52 percent, from 7,139 in 2004-05 to 10,846 in 2013-14. Doctoral degrees, master's/specialists and baccalaureate degrees all grew but more modestly. Doctorates were awarded at a 36 percent higher pace in 2013-14 than in 2004-05; master's/specialists awards increased by 27 percent; and baccalaureate degrees showed the slowest growth at 24 percent.

A shift took place in the past 10 years in the types of degrees and credentials Kentucky students sought; away from four-year degrees and toward alternative forms of degrees and credentials.

Figure 3: Degrees & Credentials Awarded by Type



Source: Kentucky Postsecondary Education Data System.

*Undergraduate certificates include certificates earned in less than one year, one but less than two years, and two but less than four years.

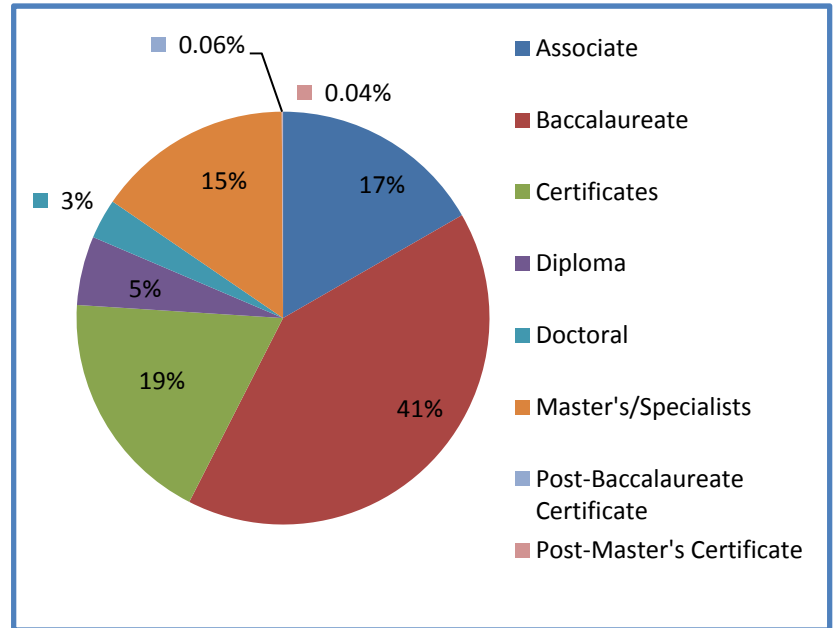
There was a significant change in the mix of degree and credential types awarded in Kentucky.

As the number of degrees and credentials awarded grew, the mix of degree and credential types earned in the state shifted as well. Between 2004-05 and 2013-14, the largest change occurred in the share of certificates awarded. In 2004-05 certificates accounted for only 19 percent of all degrees and credentials awarded in the state, but by 2013-14, undergraduate certificates accounted for 31 percent of postsecondary degrees and credentials awarded in Kentucky.

The second largest shift came in the share of baccalaureate degrees awarded. Between 2004-05 and 2013-14, there was an 8 percent decrease in degrees and credentials awarded at the baccalaureate level, a fall from 41 percent in 2004-05 to 33 percent in 2013-14. The share of diplomas, master’s/specialists and doctoral degrees awarded also fell, but only slightly. Associate, post-baccalaureate and post-master’s certificates remained relatively stagnant as a share of total degrees and credentials awarded.

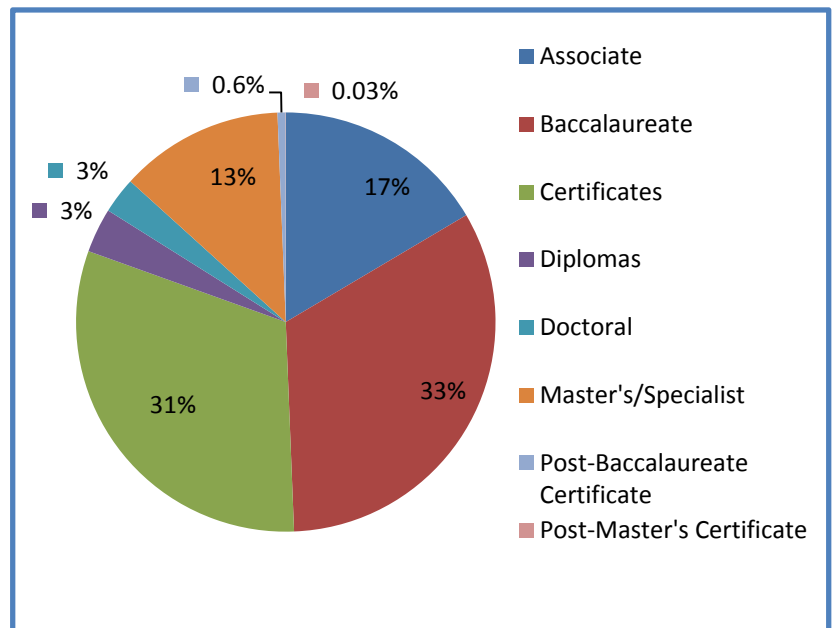
The shift in the share of certificates and baccalaureate degrees awarded constitutes a significant change in educational outcomes for Kentucky. While 10 years ago bachelor degrees constituted almost half of all degrees and credentials awarded, they now account for only a third. Similarly, in 2004-05 certificates accounted for less than 20 percent of all degrees and credentials awarded, but they now constitute nearly a third of all degrees and credentials awarded in Kentucky.

Figure 4: Share of Degrees & Credentials (04-05)



Source: Kentucky Postsecondary Education Data System.

Figure 5: Share of Degrees & Credentials (13-14)



Source: Kentucky Postsecondary Education Data System.

DEGREES & CREDENTIALS BY FIELD OF STUDY

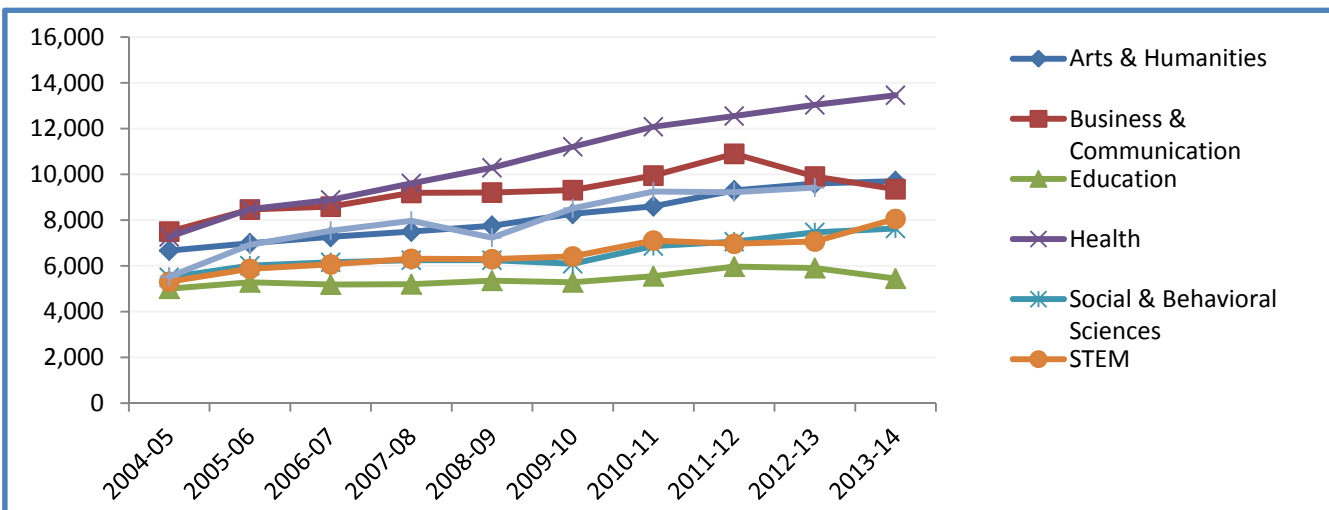
There were more degrees and credentials awarded in each of the seven major fields of study in 2013-14 than in 2004-05. The largest percentage growth came from the trades* followed by health and STEM degrees and credentials, all of which grew by more than 50 percent. Only education posted less than a double-digit percentage growth. The percentage growth between 2004-05 and 2013-14 for each field of study is listed below:

- ❖ Trades: 111 percent
- ❖ Health: 85 percent
- ❖ STEM: 51 percent
- ❖ Arts and humanities: 46 percent
- ❖ Social and behavioral sciences: 39 percent
- ❖ Business and communication: 25 percent
- ❖ Education: 9 percent

In terms of the raw number of degrees and credentials awarded, the health field saw the largest 10-year increase followed very closely by the trades, both of which grew by more than 6,000. Arts and humanities, STEM and social and behavioral sciences all grew by more than 2,000 awards, while business and communication grew by just under the 2,000 degree mark. Education saw the smallest growth in degrees awarded at fewer than 500. Actual growth between 2004-05 and 2013-14 for each field is listed below:

- ❖ Health: 6,190
- ❖ Trades: 6,185
- ❖ Arts and humanities: 3,037
- ❖ STEM: 2,747
- ❖ Social and behavioral sciences: 2,132
- ❖ Business and communication: 1,856
- ❖ Education: 440

Figure 6: Total Degrees & Credentials by Field of Study: All Institutions**



Source: Kentucky Postsecondary Education Data System.

*Trades include personal and culinary services, security and protective services, construction trades, mechanic and repair technologies, precision production, and transportation and materials moving.

**"All Institutions" includes two-year public, four-year public and independent institutions.

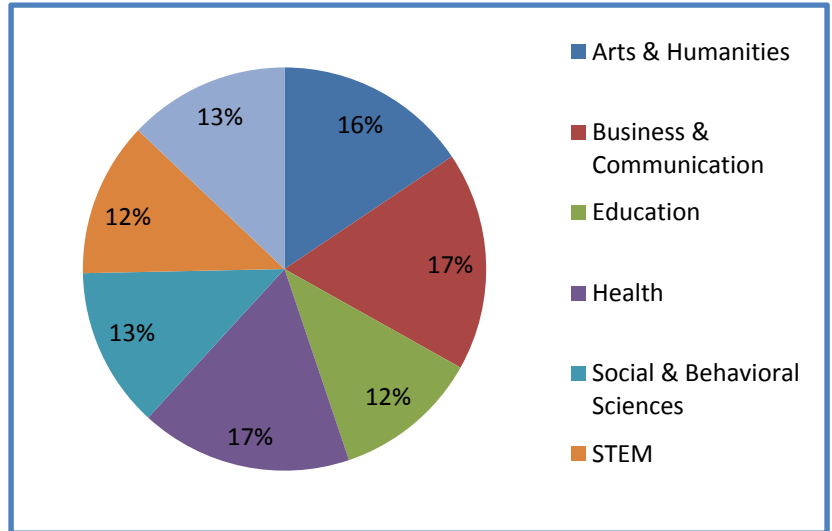
The mix of degrees and credentials awarded in each of seven major fields of study remained relatively stable between 2004-05 and 2013-14.

Only two fields of study made gains in the relative share of total degrees and credentials awarded in the state during this time. The largest of these came from the trades with a 5 percentage point gain, from 13 percent of all degrees and credentials awarded in 2004-05 to 18 percent in 2013-14. Degrees awarded in the health field showed the second-largest growth in the share of overall degrees and credentials with a 4 percentage point increase, from 17 percent in 2004-05 to 21 percent in 2013-14.

Four fields of study decreased in their share of overall degrees and credentials awarded between 2004-05 and 2013-14. The education field had the largest decrease with a 4 percentage point decline, from 12 percent of degrees and credentials awarded to 8 percent. Business and communication followed closely behind with a 3 percentage point drop, from 17 percent in 2004-05 to 14 percent in 2013-14. The share of both arts and humanities, with a decrease from 16 percent to 15 percent, and social and behavioral sciences, with a decrease from 13 percent to 12 percent, fell by 1 percentage point.

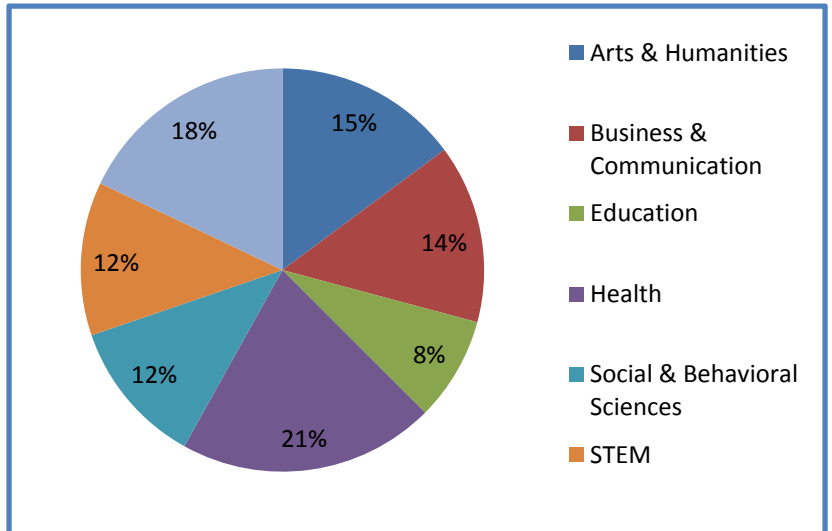
The only field of study that did not change in its share of overall degrees and credentials awarded was STEM. STEM degrees accounted for 12 percent of all degrees and credentials awarded in both 2004-05 and 2013-14.

Figure 7: Share of Degrees & Credentials by Field of Study (04-05)



Source: Kentucky Postsecondary Education Data System.

Figure 8: Share of Degrees & Credentials by Field of Study (13-14)



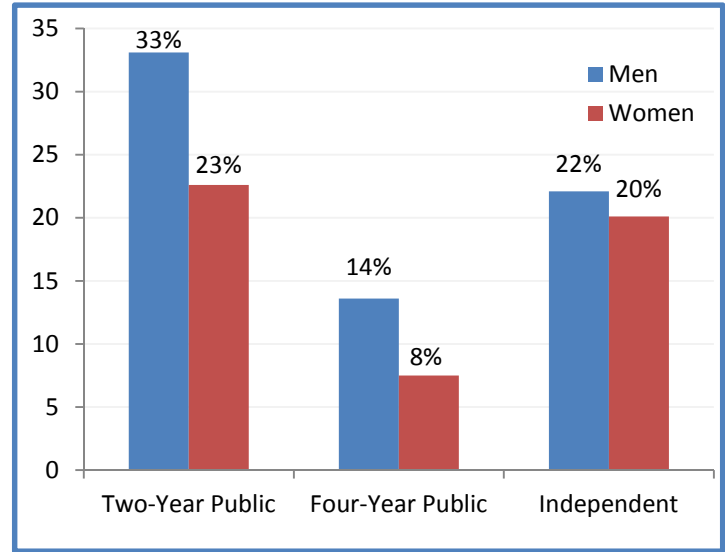
Source: Kentucky Postsecondary Education Data System.

DEGREES & CREDENTIALS EARNED BY GENDER

In all three sectors, men had larger gains than women in the number of degrees and credentials earned since 2009-10. The number of degrees and credentials awarded to men in the two-year public sector grew by 33 percent compared to a 23 percent growth for women. In the four-year public sector, men’s growth of 14 percent outpaced women’s 8 percent gain. The smallest gender gap in degree and credential growth in the past five academic years occurred at independent institutions, with increases of 22 percent for men and 20 percent for women.

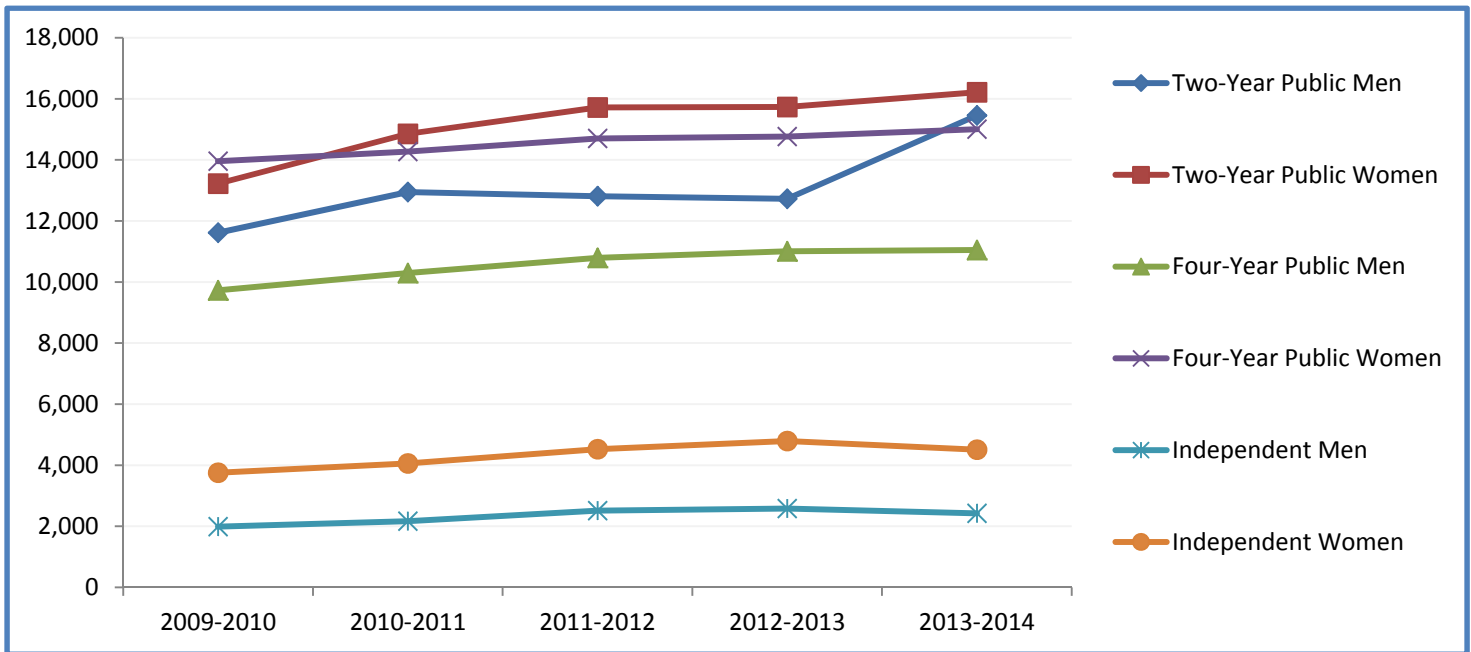
While men outpaced women in degree attainment growth, women still earned more degrees than men in every year between 2009-10 and 2013-14. The gap was significantly closed only in the two-year public sector.

Figure 9: Five-Year Percent Change



Source: Kentucky Postsecondary Education Data System.

Figure 10: Total Degrees & Credentials Awarded by Sector & Gender



Source: Kentucky Postsecondary Education Data System.

DEGREES & CREDENTIALS EARNED BY RACE/ETHNICITY

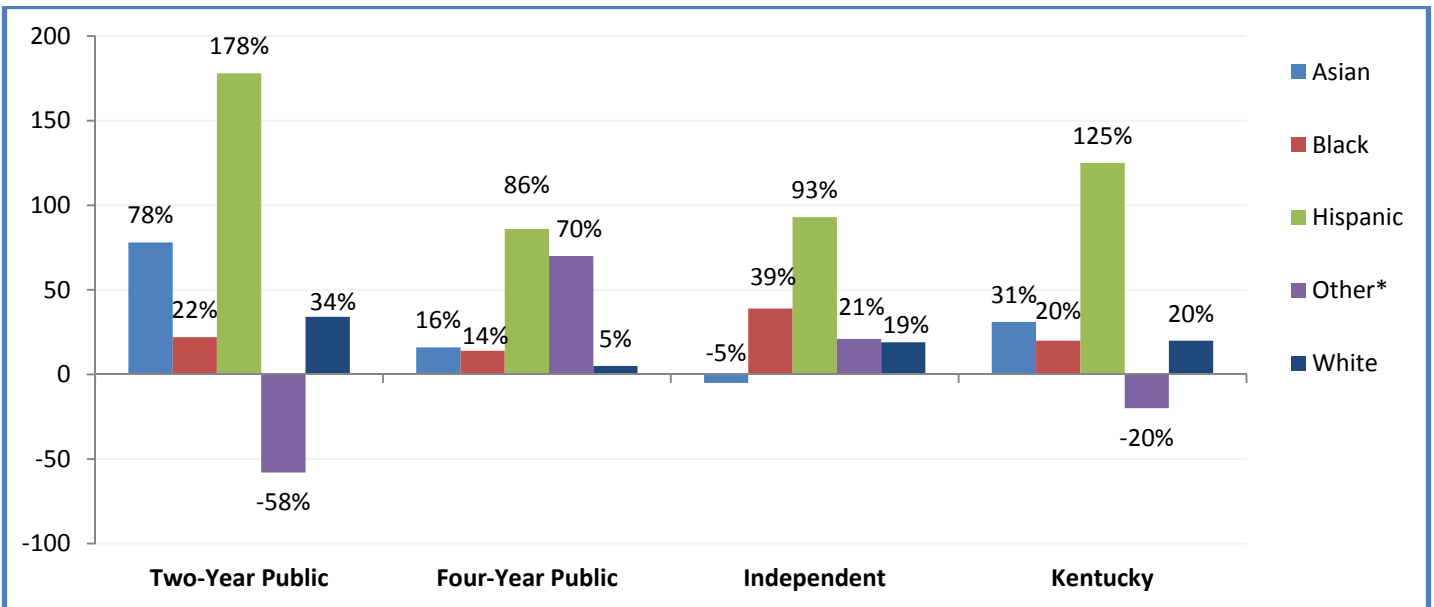
There was consistent growth in the number of degrees and credentials earned for the majority of racial/ethnic groups in the state between 2009-10 and 2013-14. During this time, the number of students who identified as Hispanic, black or white and earned a degree or credential increased in all three sectors. Trends were more mixed for students who identified as Asian, as there were increases in only two of three sectors.

The number of degrees and credentials earned by Hispanic students grew significantly in the last five years. This population showed the largest growth in all three sectors: 178 percent increase at two-year public, 86 percent at four-year public and 93 percent increase in the independent sector. Black and white students

showed similarly consistent, if not as dramatic, growth across sectors. Asian students obtained more degrees and credentials from the two-and four-year public systems but the number earned by Asian students at independent institutions decreased by 5 percent. Students identified in “other” racial categories grew significantly in four-year public and independent institutions, but fell at two-year public institutions.

Despite gains made by students across racial groups, the share of awards, as shown in Figure 12, has remained stable.

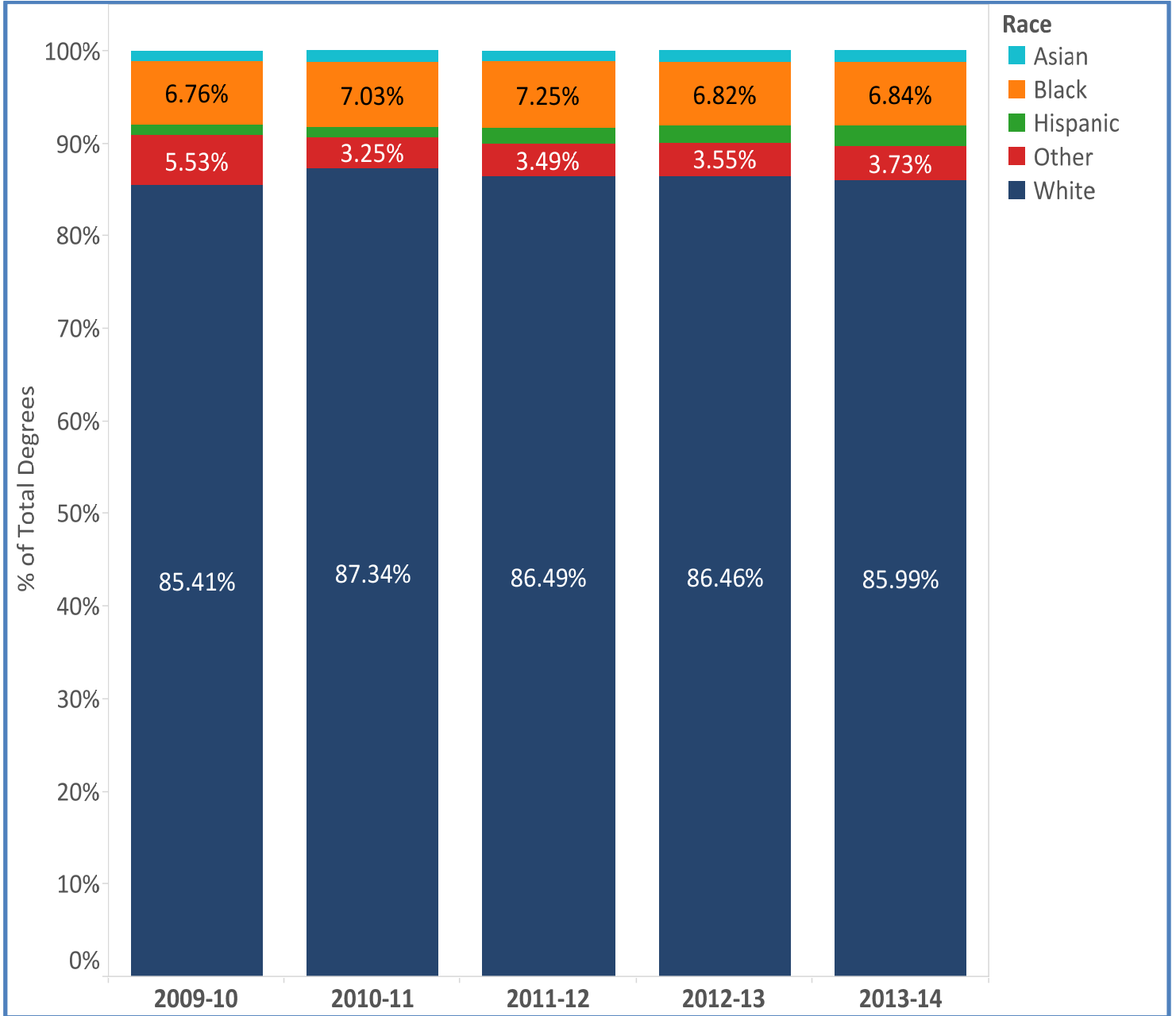
Figure 11: Five-Year Change in Total Degrees & Credentials Awarded by Racial/Ethnic Group



Source: Kentucky Postsecondary Education Data System.

* Other includes students who identified as American Indian/Alaska native, native Hawaiian or other Pacific Islander, two or more races, or unknown.

Figure 12: Share of Degrees & Credentials Earned in Kentucky by Race/Ethnicity



Source: Kentucky Postsecondary Education Data System.

* Other includes students who identified as American Indian/Alaska native, native Hawaiian or other Pacific Islander, two or more races, or unknown.

PART II: KENTUCKY IN CONTEXT

NATIONAL TRENDS IN DEGREE & CREDENTIAL PRODUCTION

Kentucky’s percentage of working-age adults who hold a two-year and four-year college degree falls well below the national average.⁸ This, coupled with demand for workers trained beyond high school,¹ means that Kentucky has work to do in catching up with the rest of the nation in developing a 21st century workforce.

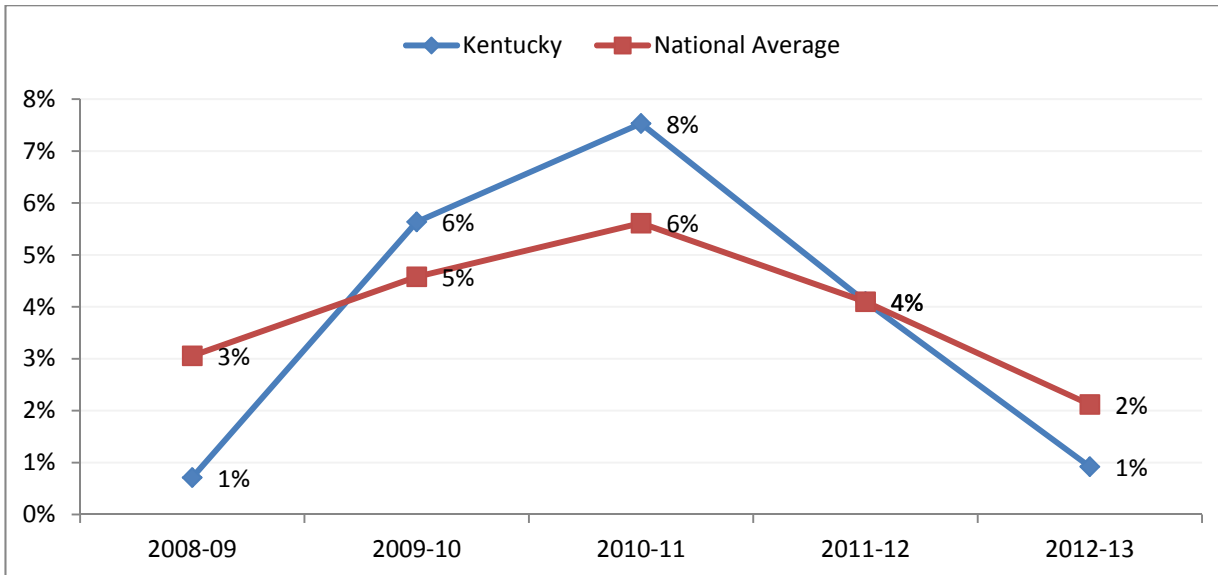
Figure 13 shows the annual percent change from the previous year in degrees and credentials awarded in Kentucky, as well as the national average during the post-Recession years. Between 2008-09 and 2012-13, Kentucky and the national average posted positive growth every year. Kentucky grew more dramatically than the rest of the nation from 2009 to 2011, but the overall trend for the state was similar to the average for the rest of the nation.

Kentucky’s growth in degrees and credentials earned between 2003-04 and 2012-13, as shown in Figures 14 through 17, ranks:

- ❖ 8th nationally in total growth at 59 percent
- ❖ 9th in two-year public sector growth at 112 percent
- ❖ 32nd in four-year public sector growth at 24 percent
- ❖ 5th in independent sector growth at 59 percent

These trends are promising. Progress has been made, but work remains as Kentucky’s level of postsecondary education attainment is below the nation and many other states.⁸ Therefore, the rest of this report is dedicated to understanding the state’s progress compared to the rest of the nation, and to offering recommendations for growing not just the number of degrees in the state, but also their impact.

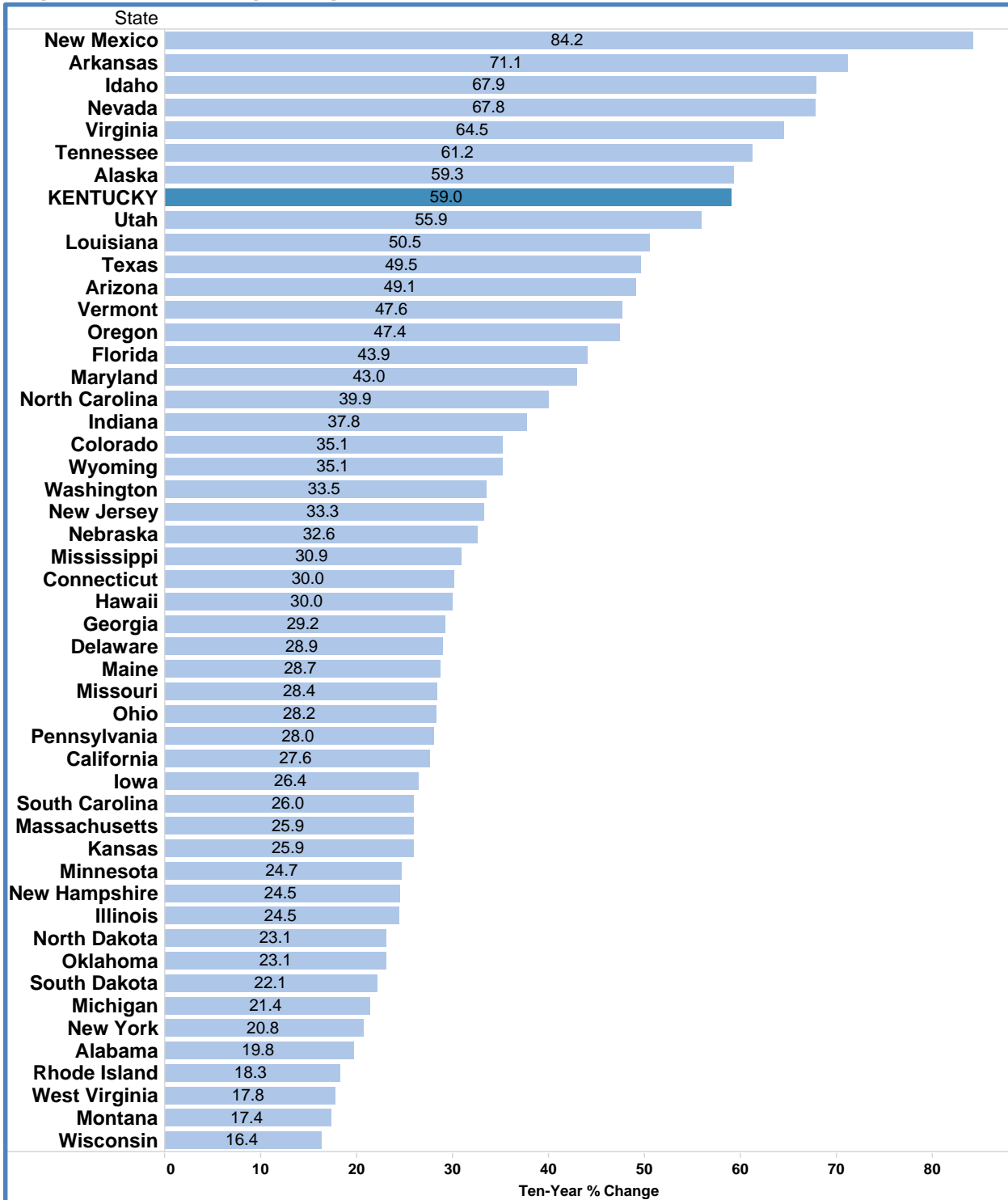
Figure 13: Annual Percent Change from Previous Year in Degrees & Credentials Awarded – KY & the U.S.*



Source: National Center for Education Statistics Integrated Postsecondary Data System.

* National average calculated as the yearly average of total degrees and credentials produced in 50 states for all institutions in the two-year public, four-year public, and four-year private, non-profit (independent) sectors.

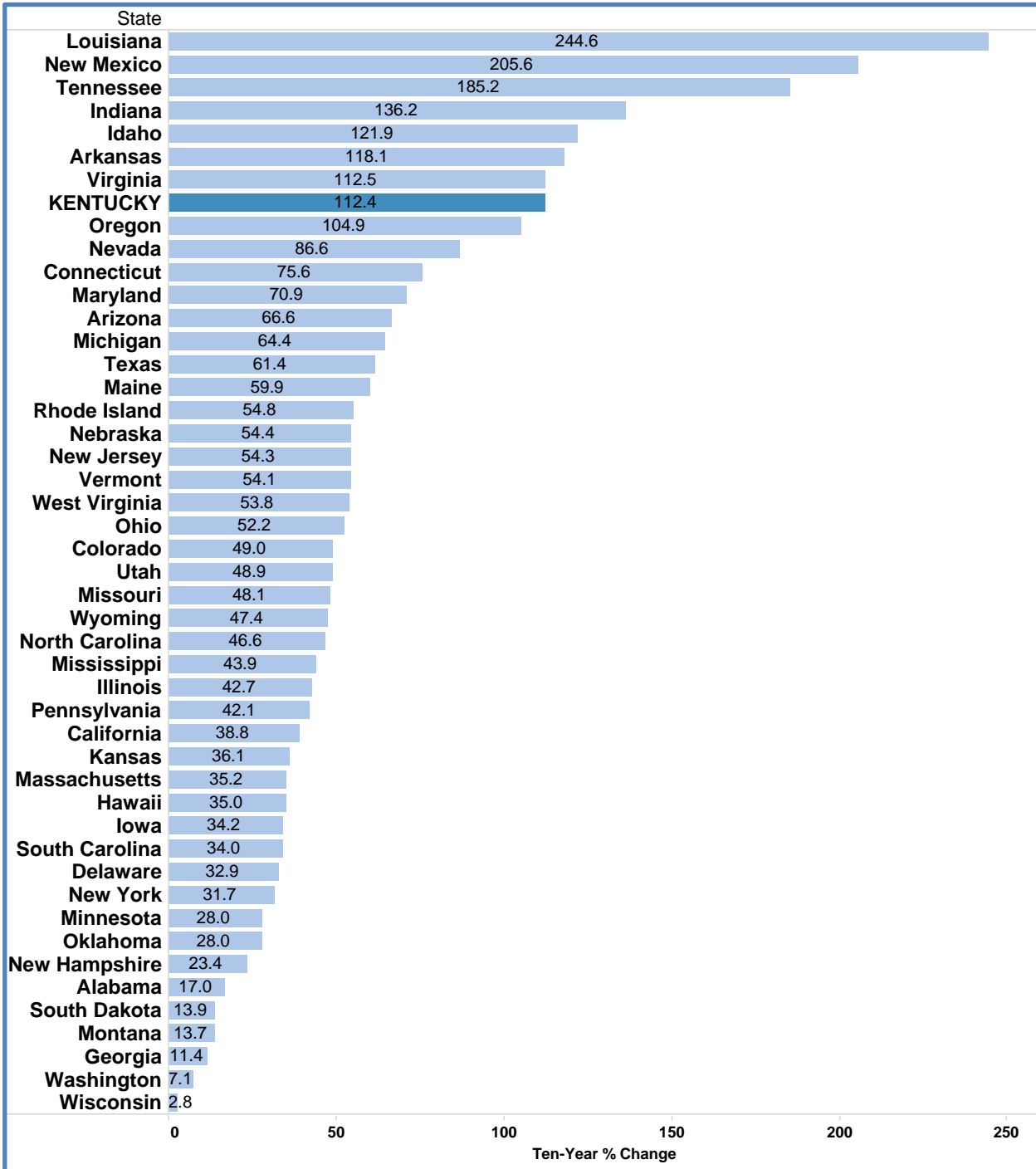
Figure 14: Percent Change in Degrees & Credentials at All Institutions (03-04) – (12-13)*



Source: National Center for Education Statistics Integrated Postsecondary Education Data System.

* "All Institutions" includes those in the two-year public, four-year public and four-year private non-profit (independent) sectors.

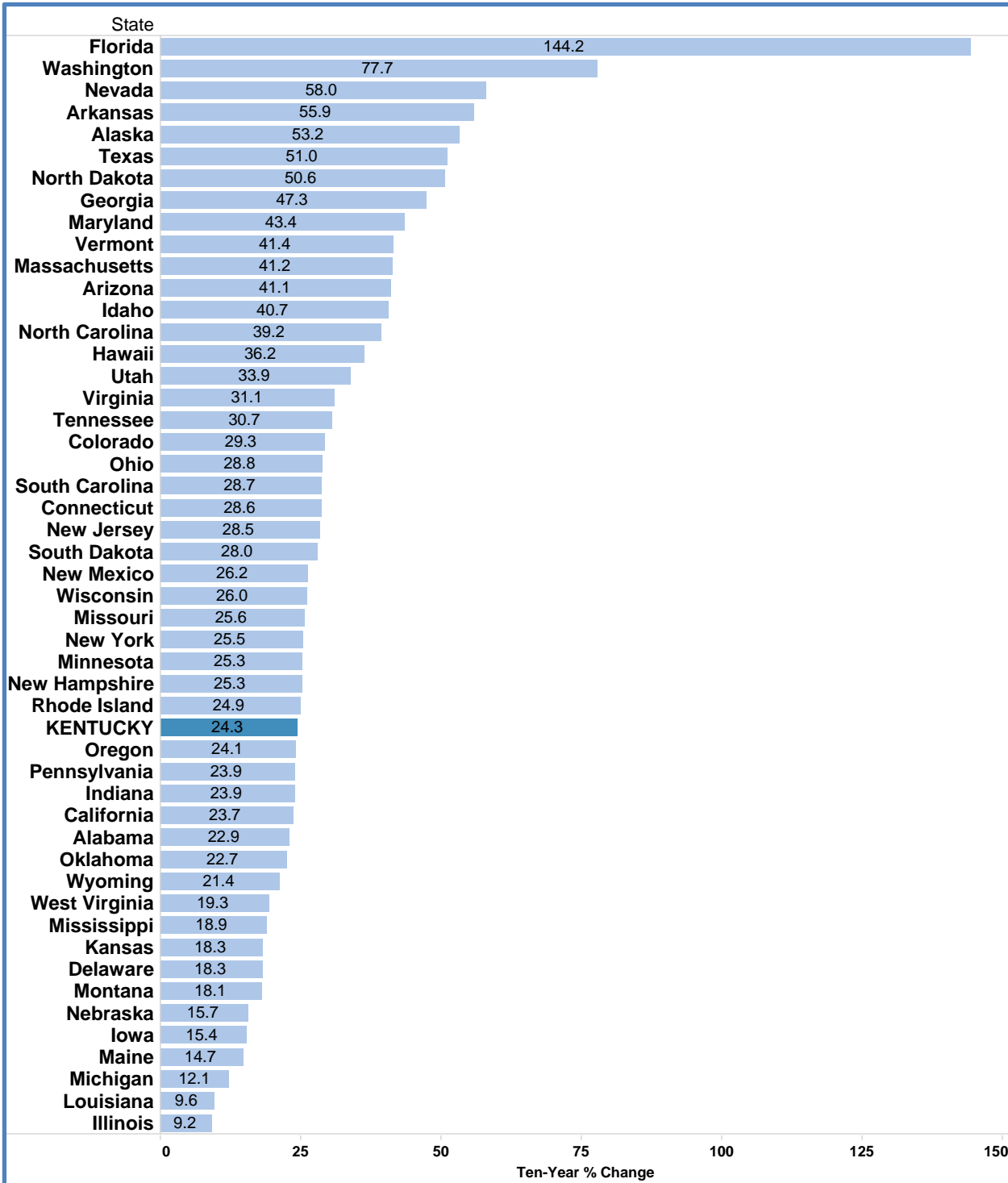
Figure 15: Percent Change in Degrees & Credentials at Two-Year Publics (03-04) – (12-13)*



Source: National Center for Education Statistics Integrated Postsecondary Education Data System.

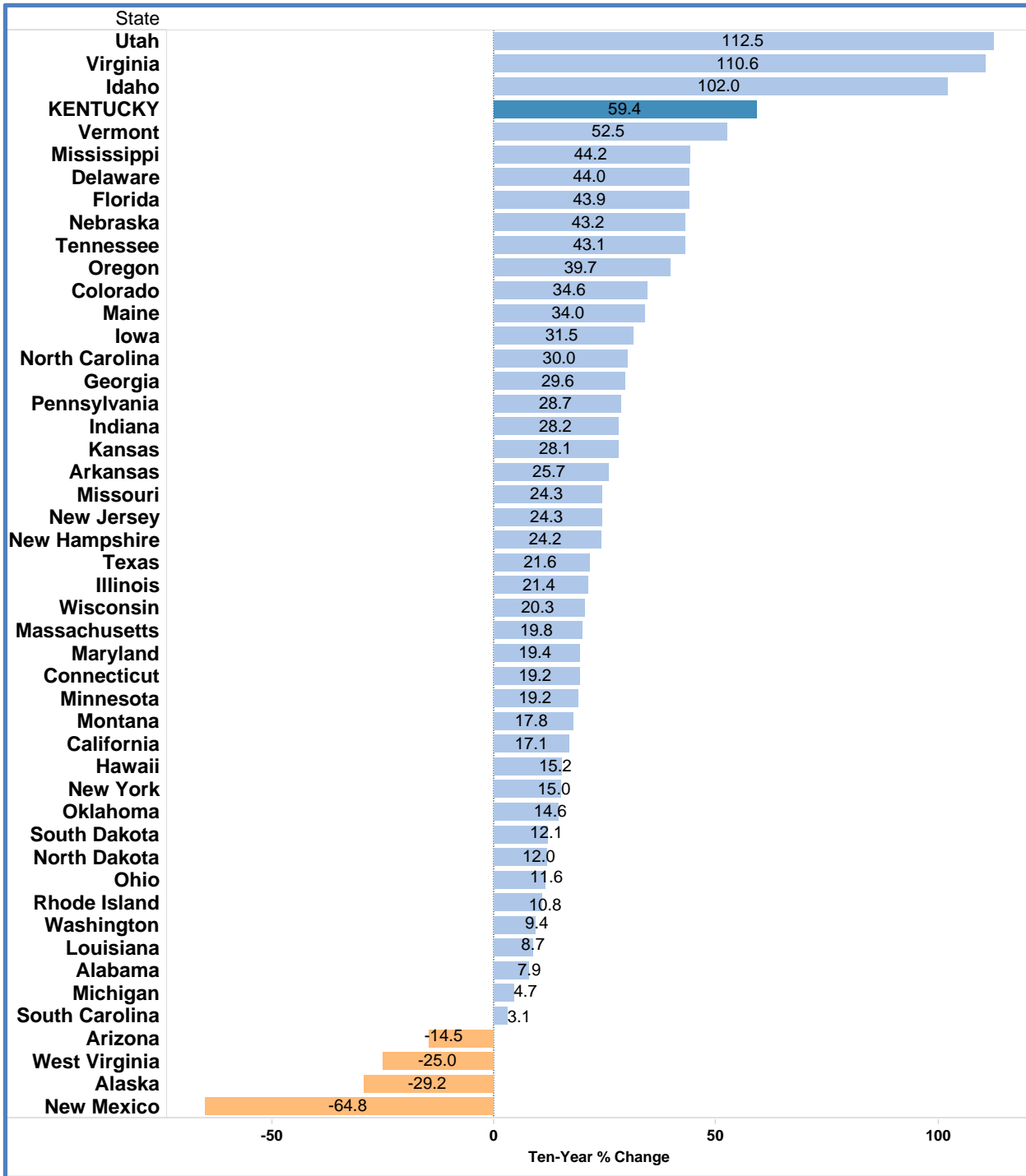
* Alaska excluded as outlier at 921 percent growth.

Figure 16: Percent Change in Degrees & Credentials at Four-Year Publics (03-04) – (12-13)



Source: National Center for Education Statistics Integrated Postsecondary Education Data System.

Figure 17: Percent Change in Degrees & Credentials at Independents (03-04) – (12-13)*



Source: National Center for Education Statistics Integrated Postsecondary Education Data System.

* IPEDS classification of four-year private non-profit was used in this calculation. Nevada excluded as outlier with 342 percent growth.

CONCLUSIONS & RECOMMENDATIONS

In the past decade, the U.S. experienced the worst recession in generations, Kentucky's unemployment rate climbed into the double digits, and college tuition rates grew at a record pace. Even in the face of these challenges, Kentucky's system of postsecondary education expanded its sphere of influence. Between 2004 and 2014, enrollment in Kentucky colleges and universities grew by more than 7 percent. At the same time, postsecondary institutions increased the number of degrees and credentials they awarded by nearly 60 percent; the eighth largest gain in the U.S.

The analysis of Kentucky's degree and credential production in this report has brought to light several key trends and highlighted successes, areas of opportunity for improvement, and questions for future research. These, along with policy recommendations, are included below.

SUCCESSSES

Rapid Pace of Growth

With a 59 percent increase between 2003-04 and 2012-13 in the total number of postsecondary degrees and credentials awarded, Kentucky ranked:

- ❖ 8th nationally in total growth
- ❖ 9th in two-year public sector growth at 112 percent
- ❖ 32nd in four-year public sector growth at 24 percent
- ❖ 5th in independent sector growth at 59 percent

Closing the Gender Gap

In the five academic years between 2009-10 and 2013-14, the disparity between degrees and credentials

earned by men and women shrank. In this time, men outpaced women in percentage growth across sectors. While women continued to earn more postsecondary degrees and credentials than men, positive progress was made in closing this gap.

Racial Inequalities

Among the most troubling realities in Kentucky's higher education landscape has been the disparities in outcomes between students of majority and minority racial/ethnic backgrounds. While these imbalances manifest themselves in many ways, the gap in degrees and credentials earned by white students and those who do not identify as white has been troubling.

In the last five years, however, progress has been made. Specifically, students who identify as black and those identifying as Hispanic have made significant gains in the number of degrees and credentials they earned. Degrees and credentials awarded to black students grew by 20 percent between 2009-10 and 2013-14, and those earned by Hispanic students grew by 125 percent.

Graduate Degrees

The upskilling of the American workforce cannot stop at the certificate, associate or baccalaureate levels. Individuals with graduate degrees often occupy jobs in critical industries such as health care, engineering and education. These people are also found in leadership positions, often engage in innovation and are a positive force in local economies.

Fortunately, graduate degrees in the state of Kentucky are on the rise. Doctoral degrees were awarded at a 36 percent higher rate in 2013-14 than in

2004-05 and master's/specialists awards increased by 27 percent, from 6,570 to 8,327. As the need for more highly educated workers continues to rise, attention must be paid to the impact of graduate education on the Commonwealth, both now and in the future.

OPPORTUNITIES

Four-Year Degrees & Credentials

While the number of baccalaureate degrees grew between 2004-05 and 2013-14, four-year degrees made up a much smaller piece of the overall completion pie in 2013-14 than in 2004-05. Ten years ago, bachelor's degrees made up almost half of all degrees and credentials, and now they account for only around a third.

It is important that alternative degrees and credentials grow, particularly those that can be more responsive to the needs of the state's employers and employees. However, it is also important to remain aware that in the near future almost two-thirds of the jobs in the state will require postsecondary education or training, and many of these jobs will require a bachelor's degree. While the growth of alternative degree types should be fostered, the importance of baccalaureate degrees cannot be ignored and a commitment should be made to encourage students' pursuit of four-year degrees.

Liberal and Humanities

In the last 10 years, the majority of growth in degrees and credentials has come in fields of study that require technical training. Degrees and credentials in the trades, STEM and health fields saw the largest 10-year growth in Kentucky. Between 2004-05 and 2013-14, degrees and credentials grew by 111 percent in the trades, by 85 percent in the health field, and by 51 percent in STEM. In comparison, degrees and credentials grew by 46 percent in the arts and

humanities, by 25 percent in business and communication, and by only 9 percent in education.

The growth in these fields is likely due in large part to workforce needs. However, just as Kentucky should not neglect baccalaureate degrees, the state also would be wise to emphasize growth in degrees associated with the liberal arts, as these also address pressing workforce needs. According to a recent survey⁵ by the American Association of Colleges and Universities (AAC&U), more than 90 percent of employers stated that they prioritize skills often associated with liberal fields of study: written and oral communication, problem-solving, innovation, and critical thinking. In the same survey, nearly three-fourths of employers said they would recommend a 21st century liberal arts education to a young person they know.

Gender Gap

Despite progress in closing degree and credential completion gaps between men and women, Kentucky still has much work to do in ensuring equitable outcomes for its students. Between 2009-10 and 2013-14, men outpaced women in growth in the number of degrees and credentials earned in all three sectors. The gap in the percentage growth in degrees and credentials earned by men as compared to women was 10 percent in the two-year public sector, 6 percent in the four-year public sector, and 2 percent in the independent sector. Despite these gains, however, women still earned more degrees and credentials than men in every year between 2009-10 and 2013-14.

While progress has been made in terms of growth in the number of degrees and credentials earned by male students, not enough has been done to close the gap between attainment levels of men and women. If Kentucky's postsecondary system is to accomplish fully the goals outlined in its mission, then it must address these issues and ensure equity in opportunity and outcomes for all students.

FUTURE RESEARCH

The primary goal of the Kentucky Completion Report is to develop a deeper understanding of key trends in degree and credential production in Kentucky's postsecondary institutions. Despite all that can be learned in this effort, questions remain and new lines of inquiry have emerged. Below are four questions that have emerged from this report and warrant future consideration.

Sub-Baccalaureate Degree & Credentials

With an increase of 159 percent in the last 10 years, the growth in the number of undergraduate certificates awarded in the state has far outpaced growth of any other degree or credential. If this positive trend is to continue, it is important to understand what has prompted so many more students to seek out certificates and how the state can leverage this demand in the future. Future research should address the following questions:

1. What forces have prompted the growth in demand for degrees and credentials that take two or fewer years to complete?
2. Is this a long-term trend?
3. If so, how can institutions best meet this demand?

Applied vs. General Education

Similar to the growth in undergraduate certificates, the increase in degrees and credentials was heavily concentrated in certain fields of study. Degrees in the trades, health and STEM fields have seen more concentrated growth in the last 10 years than fields of study more commonly associated with the liberal arts. Again, this prompts questions that might lead to an understanding of both why this trend has occurred and how to leverage it in the future. These questions include:

1. Is the increase in degrees and credentials in applied fields, such as trades, health and STEM, a by-product of changing workforce needs?
2. Is this a long-term trend?
3. If so, how can institutions best meet this need?

Underrepresented Minorities Growth

While gaps remain between degree attainment of white and non-white students in Kentucky, encouraging progress has occurred in the last 10 years, particularly in the number of degrees and credentials earned by black and Hispanic students. Despite this progress, significant gaps remain and further study into how best to close these should be led by questions such as:

1. What can Kentucky do to continue the growth in degrees and credentials earned by black and Hispanic students?
2. How can this growth be accelerated to further close the degree attainment gap?

Adult Population

According to the 2013 American Community Survey conducted by the U.S. Census Bureau, 22 percent of Kentucky's residents ages 25-64 have attended at least some college but do not hold a degree or credential. That means there are over 500,000 working-age Kentuckians who, at some point, began postsecondary education but have yet to earn a credential.⁶ This population is an important area of opportunity and need for postsecondary institutions and for the state. A better understanding of how best to increase the attainment levels of these Kentuckians can be developed through research guided by the following questions:

1. What policies and/or programs would be most effective in promoting postsecondary

degree and credential attainment amongst the large number of Kentuckians with some college credit but no degree?

2. What impact, economic or otherwise, would raising the degree attainment level of this population have on Kentucky?

Picking Up the Pace

While the 10-year trend of growth in Kentucky's degree and credential production is encouraging, there is cause for caution. In the past five years, the pace of growth has slowed from the 5.3 percent average annual percent increase between 2004-05 and 2008-09 to an average increase of 4.6 percent annually in the last five years. This slowing trend prompts the following questions:

1. Can postsecondary institutions regain the rate of degree and credential growth seen between 2004-05 and 2008-09?
2. What are strategies to achieve this goal?

RECOMMENDATIONS

The trends in Kentucky's degree and credential production described in this report are useful if they are not left in a vacuum but instead used to drive action. Below are three broad recommendations for ways Kentucky's system of postsecondary education can leverage this information in working toward its mission to deliver a world-class education to students, create and apply new knowledge, and grow the economy of the Commonwealth.

Leveraging Demand

It is easy to recognize changes in the economy and in the fundamental nature of work in the U.S. in the types of jobs being offered today. It is now also clear

that these changes are reflected in the types of degrees and credentials students pursue. As the economy has shifted, Kentuckians have retooled by seeking training in fields with high employment demand and through short-term flexible programs.

Institutions should be prepared to operate in this environment both proactively and reactively. To leverage this demand, Kentucky colleges and universities should focus on assessing current and future needs of the workforce because where the jobs are is where students want to be. If institutions can stay abreast of these trends and offer the right kinds of programs in the right fields, they will enjoy the fruits of continued growth while addressing the needs of the state, a win for all of Kentucky.

Minding the Gaps

Among the most persistent and troubling challenges to Kentucky's system of higher education are disparities in outcomes between key demographic groups in the state, particularly the gaps between the number of degrees and credentials earned by men and women and between those earned by white and non-white students in the state. For years, women and white students have earned more degrees and credentials as compared to their male and non-white counterparts, respectively. This trend has persisted as women and white students have continued to earn the vast majority of degrees each year.

An argument can be made, particularly in the case of differences between racial/ethnic groups in the state, that the gaps seen are appropriately aligned with Kentucky's population demographics. For example, about 86 percent of Kentucky's population identifies as white, 8 percent of residents identify as black, and just over 3 percent of Kentuckians identify as Hispanic or

Latino.⁷ These percentages align closely with the disbursement of degrees and credentials among these populations. However, given the disproportionate impact that postsecondary education can have on the lives and communities of traditionally underrepresented and underserved populations, perhaps disproportionate attention being paid to raising the attainment levels of these populations is warranted.

The good news is that there is reason for optimism. Between 2009-10 and 2013-14, growth among these key groups in degree and credential attainment was promising. Specifically the pace of growth in attainment amongst men, black students, and Hispanic students was encouraging and could be an indication that some of these gaps are starting to close. This progress is not enough, however. Kentucky and its postsecondary institutions must devote energy and resources toward understanding the historical conditions that have perpetuated these disparities and capitalizing on the conditions that have prompted the progress toward closing these gaps seen in recent years.

Adult Opportunities

Kentucky lags behind much of the United States in its percentage of adults holding postsecondary degrees and credentials. Positive gains have been made over the last 10 years, but more progress is necessary. Recent projections show that by 2020, the number of jobs in Kentucky requiring a postsecondary degree or credential will outpace the number of Kentuckians with postsecondary education and training by 10 percent.⁴

This projected shortage makes raising degree and credential attainment levels for all populations a priority. However, with more than half a million Kentuckians between the ages of 25 and 64 holding

some postsecondary credit but no degree, the adult population is an area ripe with opportunity as these are people who could benefit from finishing programs they have already begun. Implementing policies and programs designed to promote the return to postsecondary education of such a large group would help the state close its skills gap, while improving the futures of thousands of Kentucky families.

Keeping Momentum

The Commonwealth has enjoyed unprecedented growth in the number of people earning postsecondary degrees and credentials. As important as this has been to Kentucky in recent years, the critical role of postsecondary education will only continue to grow in years to come. In the face of slowing growth, a call for renewed focus on educational attainment must be issued as the clearest path toward prosperity for the state and its citizens in the 21st century.

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