

# FROM HARD TIMES to BETTER TIMES

COLLEGE MAJORS, UNEMPLOYMENT, AND EARNINGS



2015

Anthony P. Carnevale

Ban Cheah

GEORGETOWN UNIVERSITY



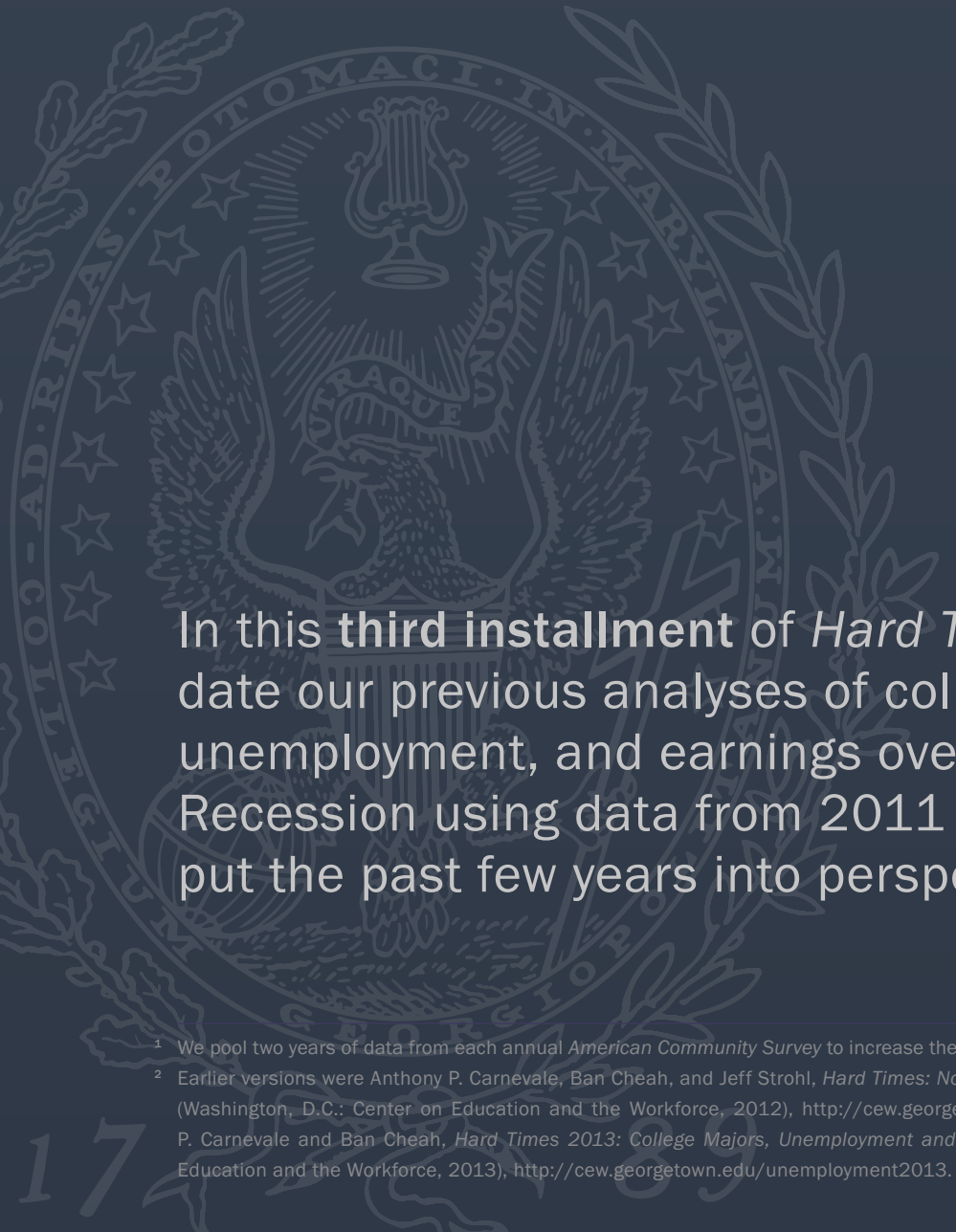
Center  
on Education  
and the Workforce

McCourt School of Public Policy



# From Hard Times to Better Times


## College Majors, Unemployment, and Earnings

The seal of the University of Maryland System is faintly visible in the background. It features a central shield with a lyre, a banner, and a figure, surrounded by a laurel wreath and the Latin motto "QUI PROTEGUNT QUI SERVANT QUI UNUM". The outer ring of the seal contains the text "UNIVERSITY OF MARYLAND SYSTEM" and "POTOMACI IN MARYLANDIA".

In this **third installment** of *Hard Times*, we update our previous analyses of college majors, unemployment, and earnings over the Great Recession using data from 2011 and 2012<sup>1</sup> to put the past few years into perspective.<sup>2</sup>

<sup>1</sup> We pool two years of data from each annual *American Community Survey* to increase the sample size.

<sup>2</sup> Earlier versions were Anthony P. Carnevale, Ban Cheah, and Jeff Strohl, *Hard Times: Not All College Degrees Are Created Equal* (Washington, D.C.: Center on Education and the Workforce, 2012), <http://cew.georgetown.edu/unemployment>, and Anthony P. Carnevale and Ban Cheah, *Hard Times 2013: College Majors, Unemployment and Earnings* (Washington, D.C.: Center on Education and the Workforce, 2013), <http://cew.georgetown.edu/unemployment2013>.



Unemployment rates  
for college graduates  
are still high but are  
coming down.



**H**ard times are becoming better times for most college graduates, though how much better varies widely among college majors – and for Communications and Journalism majors, whose unemployment rates are still rising, better times have yet to arrive. Overall, however, unemployment rates among college graduates are declining. The earnings advantage they enjoy over high school diploma workers is holding up, though this is due in part to declining earnings among the latter group. But the recovery is far from complete. The national trend on earnings has been flat or slightly declining, and earnings among college graduates are no exception. A full recovery in the employment of college graduates, especially at the Bachelor’s degree level, may be as far off as 2017 and a full recovery in earnings may take longer.<sup>3</sup>

### LEGEND

In this report, we summarize the effects of the recession and recovery on the unemployment rates and earnings by undergraduate major for:

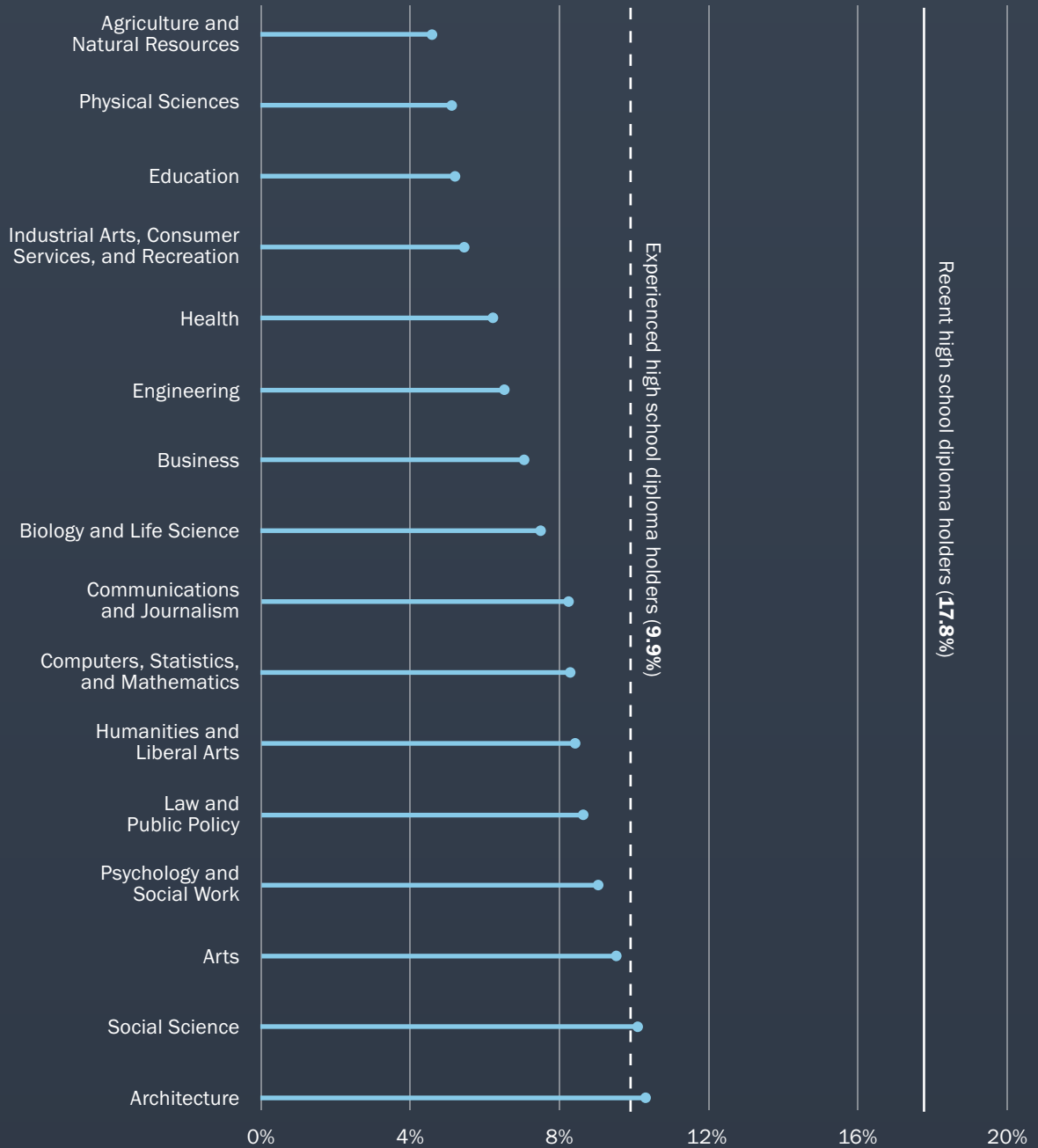
-  Experienced workers with graduate degree aged 35 to 54;
-  Recent graduate degree holders aged 24 to 34;
-  Experienced college graduates with Bachelor’s degree aged 35 to 54;
-  Recent college graduates with Bachelor’s degree aged 22 to 26;

Their experiences are contrasted with:

-  Experienced workers with high school diploma aged 35 to 54; and
-  Recent workers with high school diploma aged 22 to 26.

<sup>3</sup> Our own projections suggest a full employment recovery by 2017. We project a total of 55 million job openings over the coming decade with 24 million new jobs and 31 million job openings due to retirement of the baby boomers. Among those 55 million job openings we project 11 percent of job openings for people with graduate degrees; 24 percent for people with Bachelor’s degrees; 12 percent for people with Associate’s degrees; 18 percent for people with some college and no degree; and 36 percent for people with high school, diploma or less. See Anthony P. Carnevale, Nicole Smith and Jeff Strohl, *Recovery: Job Growth and Education Requirements Through 2020* (Washington, D.C.: Center on Education and the Workforce, 2014), <http://cew.georgetown.edu/recovery2020>.

**FIGURE 1. Except for Architecture and Social Science majors, unemployment rates of recent college graduates in 2011-2012 are less than those of experienced high school diploma workers:**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.



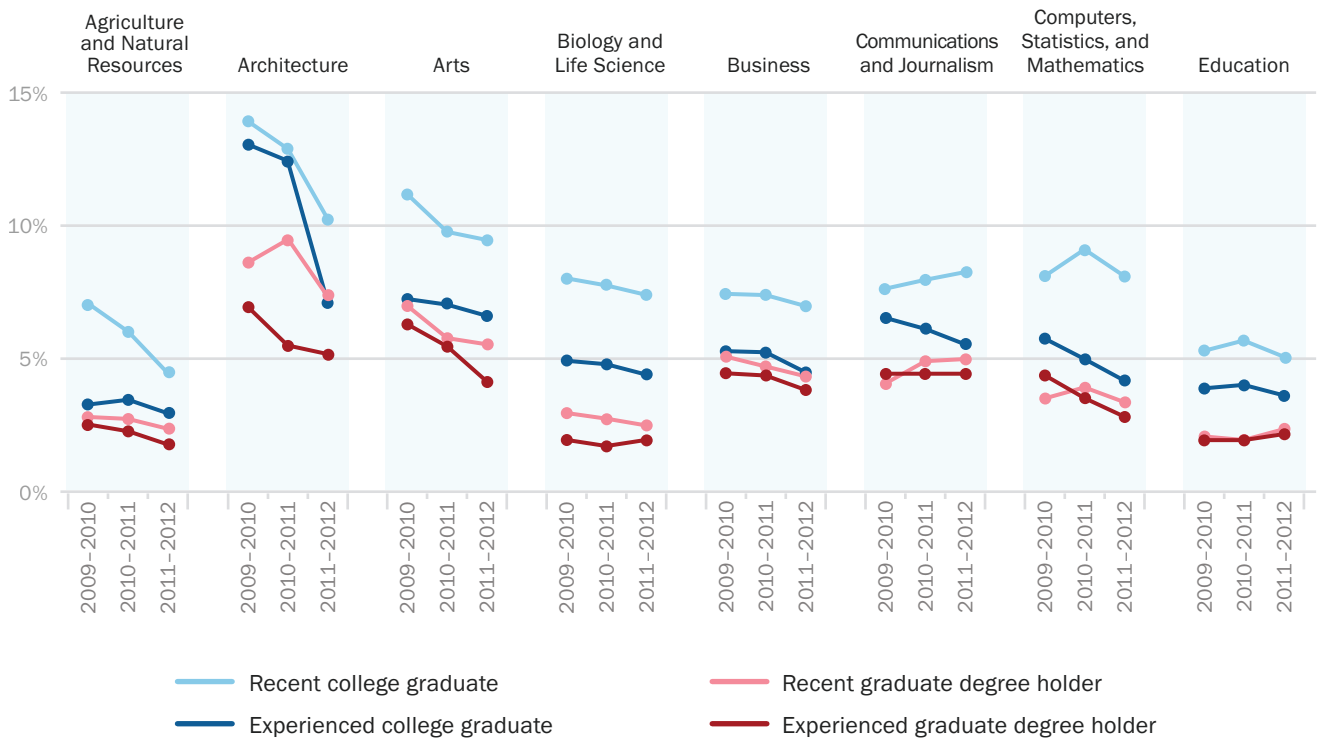
UNEMPLOYMENT RATES



Unemployment rates for recent college graduates for all majors except for Architecture and Social Science are lower than for experienced high school diploma workers (Figure 1). Moreover, unemployment rates for most majors and groups of workers declined between 2009 and 2012. The exceptions are recent college graduates in Communications and Journalism, recent graduate degree holders who majored in Communications and Journalism as undergraduates, and recent graduate degree holders who majored in Law and Public Policy as undergraduates, whose unemployment levels are still rising.

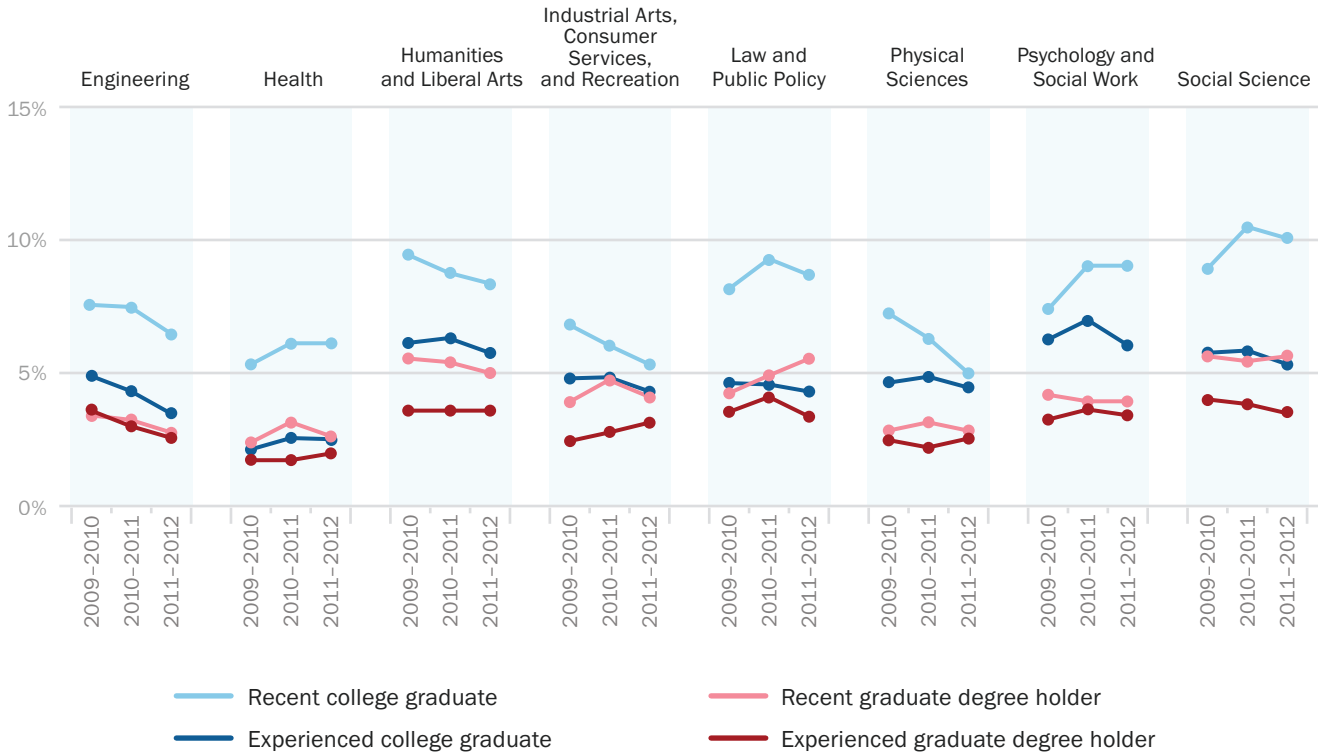
Unemployment among Health majors, on the other hand, has been low, although among recent and experienced graduate degree holders it has shown a small increase. Graduate degree holders who majored in education and experienced workers with graduate degrees who majored in the physical sciences as undergraduates also saw a slight uptick in unemployment rates, although overall unemployment for these workers remains low (Figure 2).

**FIGURE 2. Unemployment rates by undergraduate major, 2009-2012**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

**FIGURE 2. Continued**

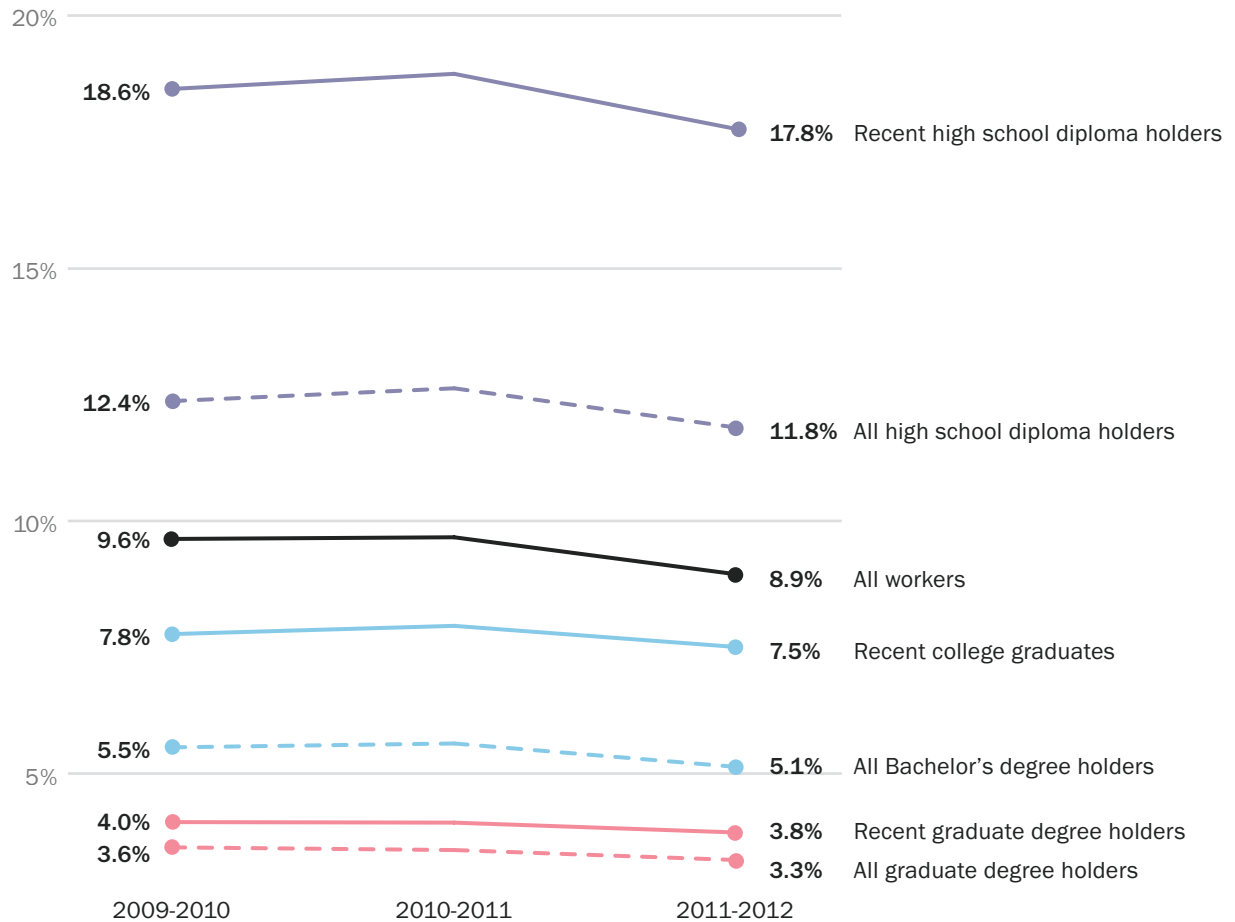


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

Graduate degrees have provided the best shelter from the effects of the Great Recession. This is especially true for experienced workers with graduate degrees aged 35 to 54, whose unemployment rate was only 3.3 percent at its peak. (It has since fallen back to 3 percent.) Among recent graduate degree holders aged 24 to 34, unemployment rates have hovered around 4 percent.

Among experienced workers with Bachelor’s degrees aged 35 to 54, unemployment peaked at 5.1 percent in 2009-2010 and has since declined to 4.5 percent. Unemployment rates for recent college graduates with a Bachelor’s degree aged 22 to 26 have fallen from a peak level of 7.9 percent in 2009-2010 to 7.5 percent.



**FIGURE 3. Unemployment rates for different groups of workers**

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

In contrast, unemployment among experienced workers with a high school diploma aged 35 to 54 peaked at 10.7 percent and has since declined only slightly to 9.9 percent.

Recent high school graduates aged 22 to 26 have fared worst of all; the unemployment rate for them peaked at 18.9 percent and remains high at 17.8 percent (Figure 3).



### EXPERIENCED GRADUATE DEGREE HOLDERS

Among experienced graduate degree holders unemployment rates stayed well below 5 percent – except for those who majored in the Arts and Architecture where unemployment tipped slightly over but has since fallen back to below 5 percent. In fact, even during the worst of the Great Recession, unemployment rates stayed under 3 percent in seven undergraduate fields of study:

- Agriculture and Natural Resources (1.8 percent);
- Biology and Life Science (1.9 percent);
- Computers, Statistics, and Mathematics (2.9 percent);
- Education (2.2 percent);
- Engineering (2.6 percent);
- Health (2.0 percent); and
- Physical Sciences (2.5 percent).



### RECENT GRADUATE DEGREE HOLDERS

Among recent graduate degree holders, Architecture majors are still experiencing the highest unemployment rate at 7 percent, although this is substantially lower than the 13 percent unemployment this group experienced in 2009-2010.

Six fields of study among recent graduate degree holders had unemployment rates lower than 5 percent:

- Biology and Life Science (2.6 percent);
- Computers, Statistics, and Mathematics (3.5 percent);
- Education (2.4 percent);
- Engineering (2.8 percent);
- Health (2.7 percent); and
- Physical Sciences (2.9 percent).



## EXPERIENCED COLLEGE GRADUATES

Among experienced workers with Bachelor's degrees, unemployment rates for most majors hovered between 5 percent and 6 percent, though there were notable exceptions. Hardest hit were:

- The Arts (6.7 percent)
- Architecture (7.3 percent)
- Psychology and Social Work (6.1 percent).

In comparison, experienced workers with Bachelor's degrees had an unemployment rate of 4.5 percent.

Those with the lowest unemployment rates included:

- Agriculture and Natural Resources (3 percent)
- Engineering (3.5 percent)
- Health (2.5 percent)
- Education (3.7 percent).

Experienced workers aged 35 to 54 who majored in Architecture suffered high unemployment during the recession because the collapse of credit markets took a direct and immediate toll on the building and housing industries. Unemployment in this group peaked at 9.4 percent in 2010-2011 and is still high at 7.3 percent.

Similarly, unemployment rates topped 5 percent among experienced workers with Bachelor's degrees in Computers, Statistics, and Mathematics. This was mainly due to high unemployment among computer majors that are peripheral to core computer science and computer engineering majors, such as computer communication technologies, computer administration management and security, computer networking, and telecommunications. (These majors are grouped under "Miscellaneous Computer" in Table A3 in the Appendix.) Unemployment among this sub-group reached 7 percent in 2009 before declining to 6 percent.



## RECENT COLLEGE GRADUATES

The college population most adversely affected by the Great Recession has been recent graduates with Bachelor's degrees between the ages of 22 and 26, whose unemployment rate stands at 7.5 percent – only slightly lower than the 7.7 percent unemployment rate for *all* full-time, full-year workers aged 22 to 54. Yet there are encouraging signs even for these recent college graduates:

- Education majors, for whom unemployment for new Bachelor's degrees peaked at 5.7 percent in 2010-2011, have seen that number fall to 5.1 percent.
- Unemployment among Health majors has plateaued since rising to 6.1 percent in 2009-2010.
- Unemployment among Physical Science majors, which hit 7.2 percent in 2009-2010, has fallen back to 5 percent.
- Agriculture and Natural Resources majors, whose unemployment rates spiked to 7 percent in 2009-2010, have seen that drop to 4.5 percent.
- Unemployment among Industrial Arts, Consumer Services, and Recreation majors, which rose to 6.8 percent in 2009-2010, has since fallen to 5.4 percent.
- Engineering majors, who had a 7.5 percent unemployment rate in 2009-2010, have seen that number decline to 6.5 percent.

Recent Bachelor's degree holders in other majors have experienced mediocre performance with unemployment rates stuck between 7 percent and 9 percent. These include:

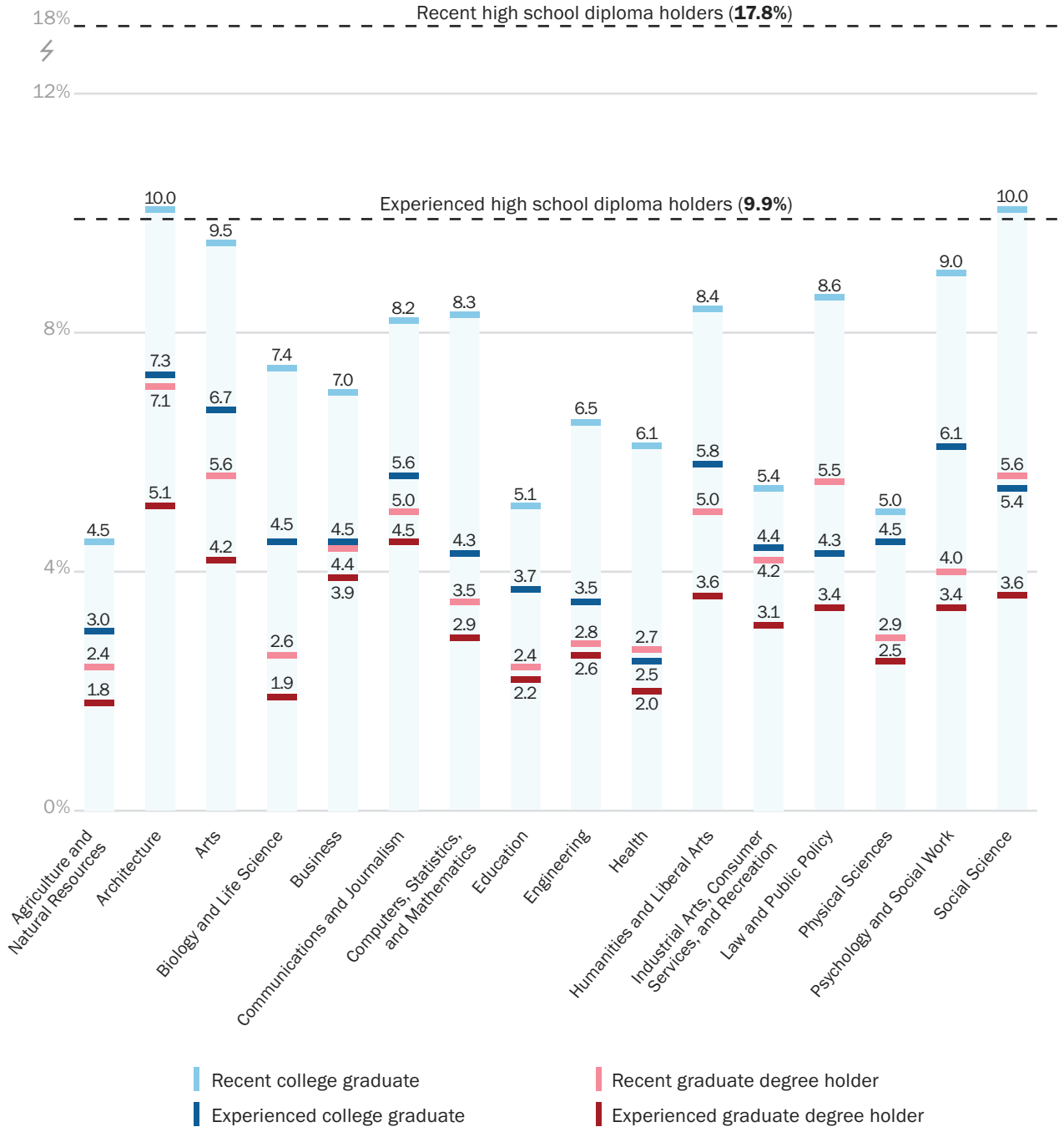
- Biology and Life Sciences (7.4 percent)
- Business (7 percent)
- Computers, Statistics, and Mathematics (8.3 percent).

Hardest hit among the recent Bachelor's degree graduates – whose unemployment rates exceeded 7.5 percent, the unemployment rate for all recent Bachelor's degree workers – have been:

- Communications and Journalism majors, whose unemployment stands at 8.2 percent and is still rising
- Architecture majors, whose unemployment rate remains at 10.3 percent
- Arts (9.5 percent unemployment)
- Psychology and Social Work (9 percent unemployment)
- Humanities and Liberal Arts (8.4 percent unemployment)
- Social Sciences (10.1 percent unemployment)
- Law and Public Policy (8.6 percent unemployment).

By 2011-12, however, the worst seemed to be over; the overall unemployment for recent graduates in these fields has since plateaued or declined, with the exception of Communications and Journalism.

**FIGURE 4. Unemployment rates by undergraduate major, 2011-2012**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.




## ANNUAL EARNINGS

Analyzed by educational level and academic major, the story on earnings is much more optimistic than the employment story. In general, earnings of experienced workers have held up reasonably well and even increased in some cases, although this varies greatly among fields of study. As indicated earlier, the wage premium enjoyed by college graduates over workers with high school diplomas has been relatively stable as well, in part because of the decline in earnings of workers with high school diplomas. Starting earnings for graduates, whether they are Bachelor's or graduate degree holders, are naturally lower than earnings for their experienced counterparts, but should increase as the recovery moves toward full employment in 2017.

If past trends are any guide, it is likely that the recovery in earnings will take longer than the recovery in employment for college graduates. Yet even in the midst of a lackluster recovery, college degrees have retained their earnings value.

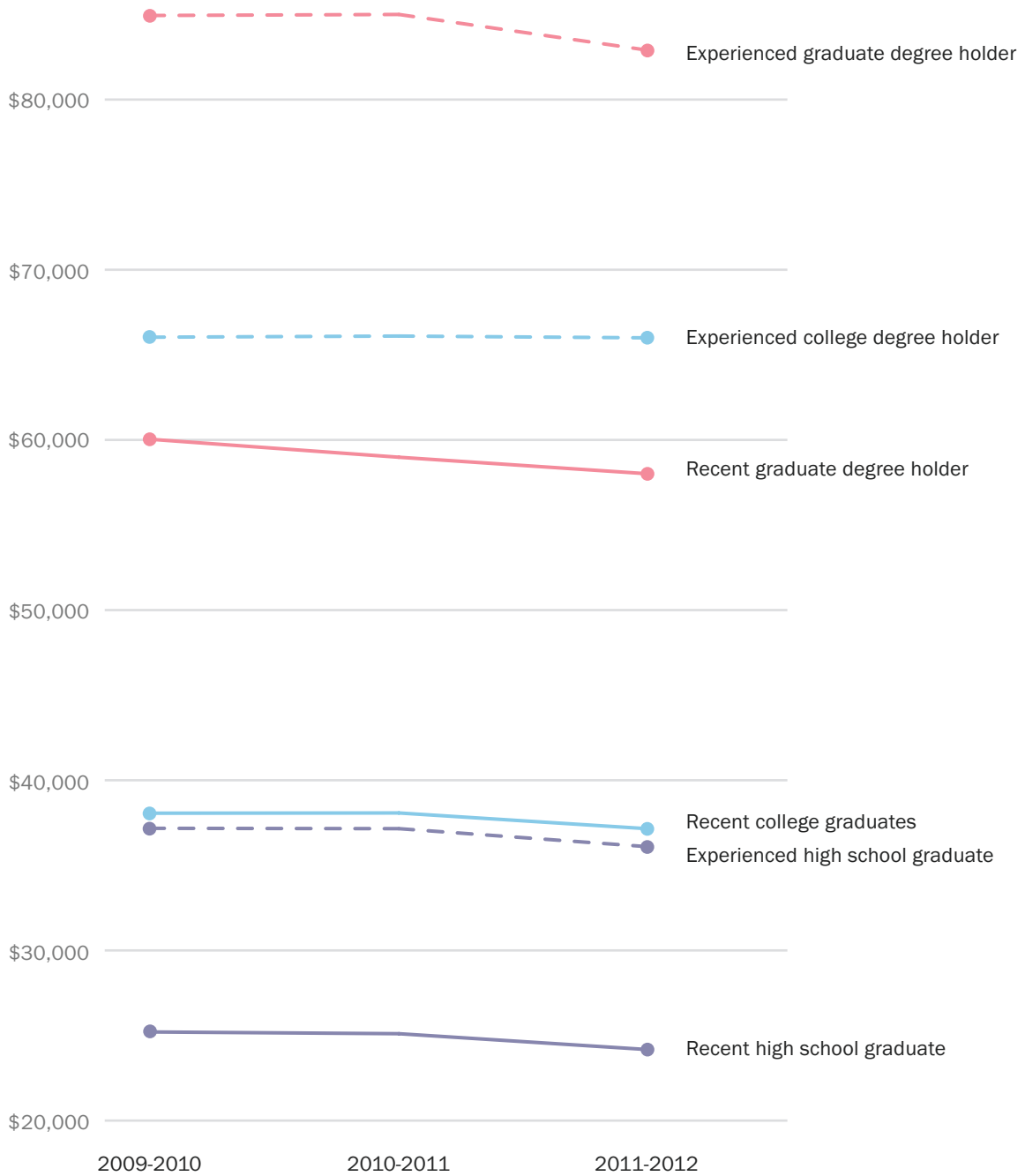
The effects of the recession on earnings have been felt the least among **experienced workers with graduate degrees** aged 35 to 54. Even though earnings among experienced graduate degree holders have declined from \$85,000 to \$83,000 – a 2.4 percent fall – their wage premium over experienced workers with a high school diploma has been steady, at 130 percent.

Among **recent graduate degree holders**, earnings have declined 3.3 percent, from \$60,000 to \$58,000. However, the wage premium these workers enjoy over young workers with a high school diploma has held firm at 140 percent, while compared to experienced workers with a high school diploma it has held at 60 percent.



There is wide variation  
in the unemployment  
experience of college  
graduates in different  
major fields of study over  
the recession and recovery.

**FIGURE 5. Annual earnings for all groups of workers have been flat or declining, 2009-2012.**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.



The overall wages of **experienced college graduates** with Bachelor's degrees have been steady at \$66,000, while the wages of **recent college graduates** with Bachelor's degrees have declined from \$38,000 to \$37,000 over the recession. However, for both groups, the college wage premium over their high school diploma counterparts has risen: from 52 percent to 54 percent for experienced college graduates and from 78 percent to 83 percent for recent college graduates.

In contrast, **earnings among experienced workers with high school diplomas ages 35 to 54** have declined since 2009 from \$37,000 to \$36,000 while recent labor market entrants with a high school diploma have seen their earnings decline from \$25,000 to \$24,000 (Figure 5).

One alternative measure of how well workers with a college degree or higher are doing is their earnings premium relative to a different baseline such as the median earnings of all workers with a high school diploma, which is \$32,000. This figure, as expected, is somewhere between that of the recent and experienced high school diploma worker (Figure 6).

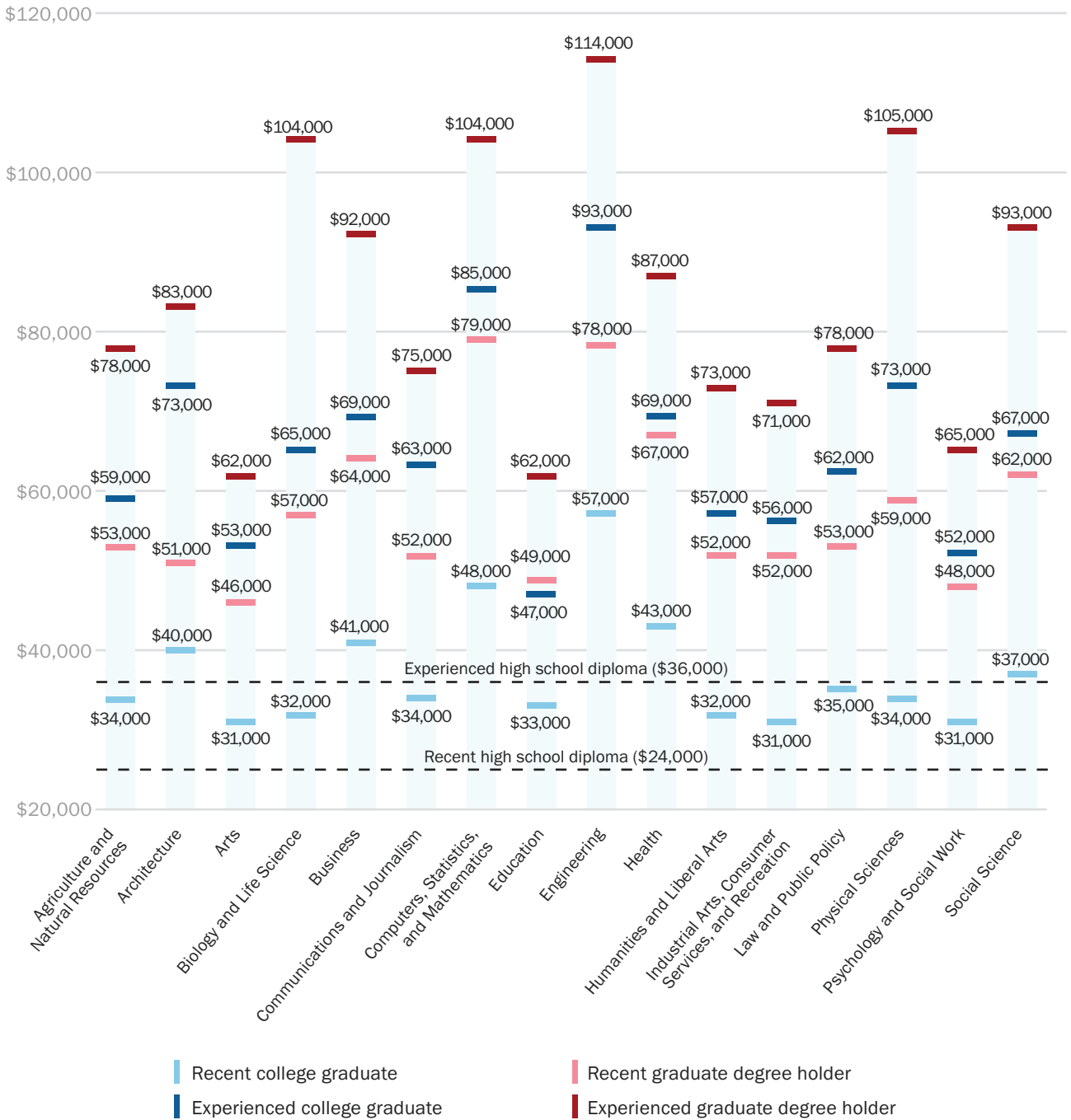
Using this as a benchmark, it becomes apparent that for recent college graduates who majored in Arts; Industrial Arts, Consumer Services, and Recreation; and Psychology and Social Work, a college degree confers no immediate earnings advantage; their wage premium registers at minus 3 percent. For graduate degree holders whose undergraduate major was in Engineering, however, the earnings premium was a whopping 225 percent (Figure 7).

Recent Engineering majors with a Bachelor's degree benefit from an earnings premium of 78 percent. For other majors who go on to graduate school, the earnings premiums range from 43 percent (for those who majored in the Arts as undergraduates) to a high of 146 percent for those who majored in Computers, Statistics, and Mathematics.

A more useful comparison, as was done in discussing wage premiums for different groups of workers, is to measure the earnings relative to their nearest age cohort, that is, to compare the earnings of a recent Bachelor's or graduate degree worker to those of a recent high school diploma worker, and the earnings of experienced Bachelor's and graduate degree workers to the earnings of an experienced high school diploma worker (Figures 8, 9, 10, and 11).

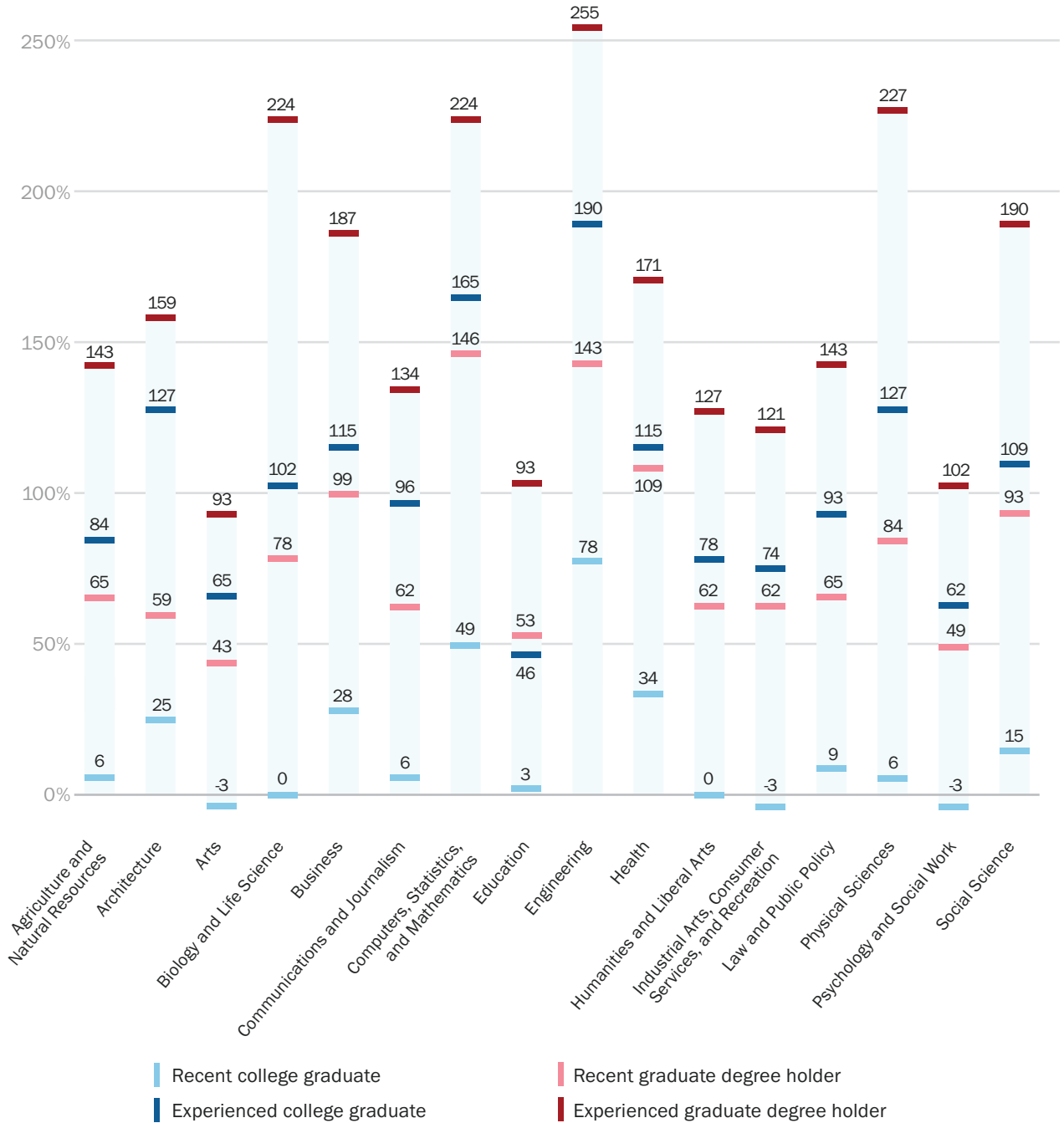
Earnings among **recent college graduates with Bachelor's degrees** aged 22 to 26 vary from \$31,000 among Arts and Psychology and Social Work majors to \$57,000 among Engineering majors (Figure 6). The wage premiums (Figure 8) also vary – 29 percent among Arts and Psychology and Social Work majors (6 percent and 6.7 percent of recent college graduate majors, respectively) to 138 percent among Engineering majors (5.9 percent of recent college majors). In many cases the wages and wage premiums for recent Bachelor's degree holders have either held constant or have increased (Figure 10).

**FIGURE 6. Annual earnings by undergraduate major, 2011-2012**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

**FIGURE 7. Annual earnings premium (expressed as a percentage) for Bachelor's and graduate degree holders over the average high school worker by undergraduate major, 2011-2012**



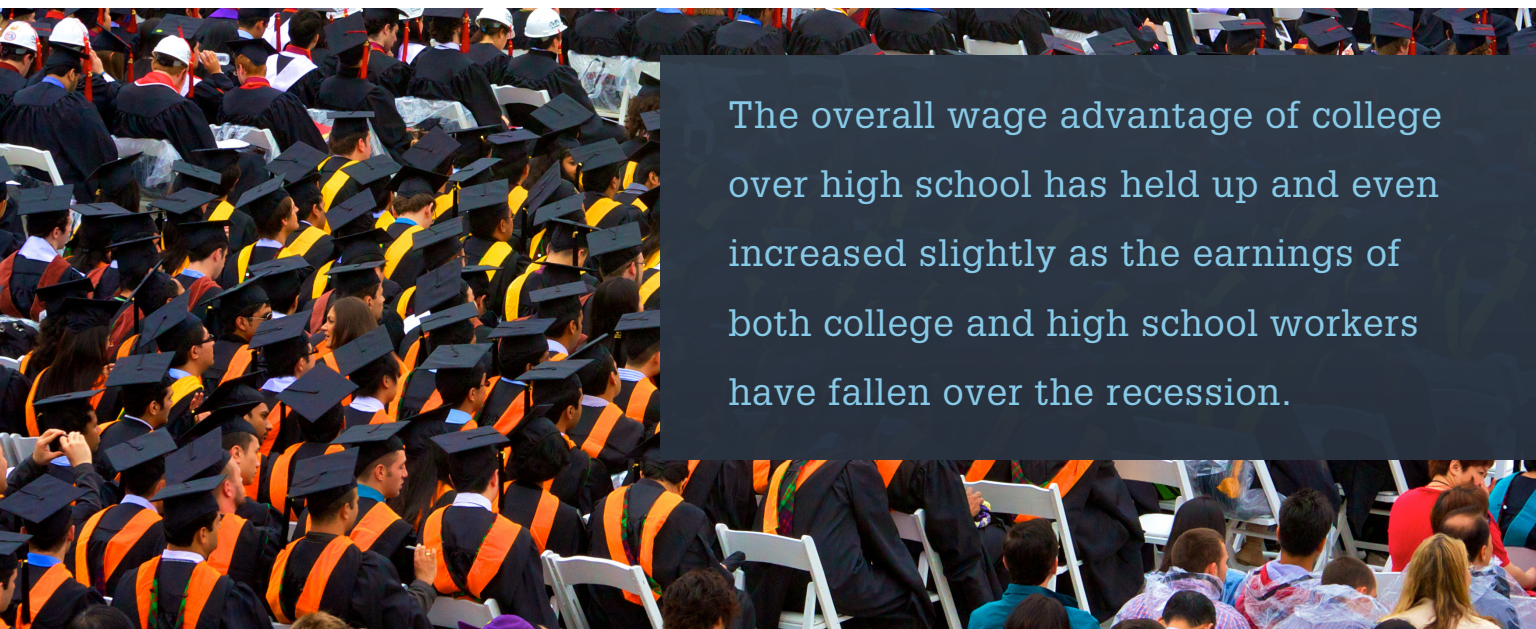
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

The premiums for all majors is around 30 percent for majors in Arts; Industrial Arts, Consumer Services, and Recreation; and Psychology and Social Work when compared to recent high school diploma workers.

Earnings among **recent graduate degree holders** aged 25 to 34 vary from \$46,000 for those who were Arts majors as undergraduates to \$79,000 among those who majored in Computers, Mathematics, and Statistics as undergraduates (See Figure 6). The wage premiums (Figure 8) also varied from 92 percent among Arts majors (2.8 percent of recent graduate degree holders) to 229 percent among those who majored in Computers, Mathematics, and Statistics as undergraduates (5.1 percent of recent graduate degree holders). Here again, wages and wage premiums for recent graduate degree holders either held steady or increased (Figure 10).

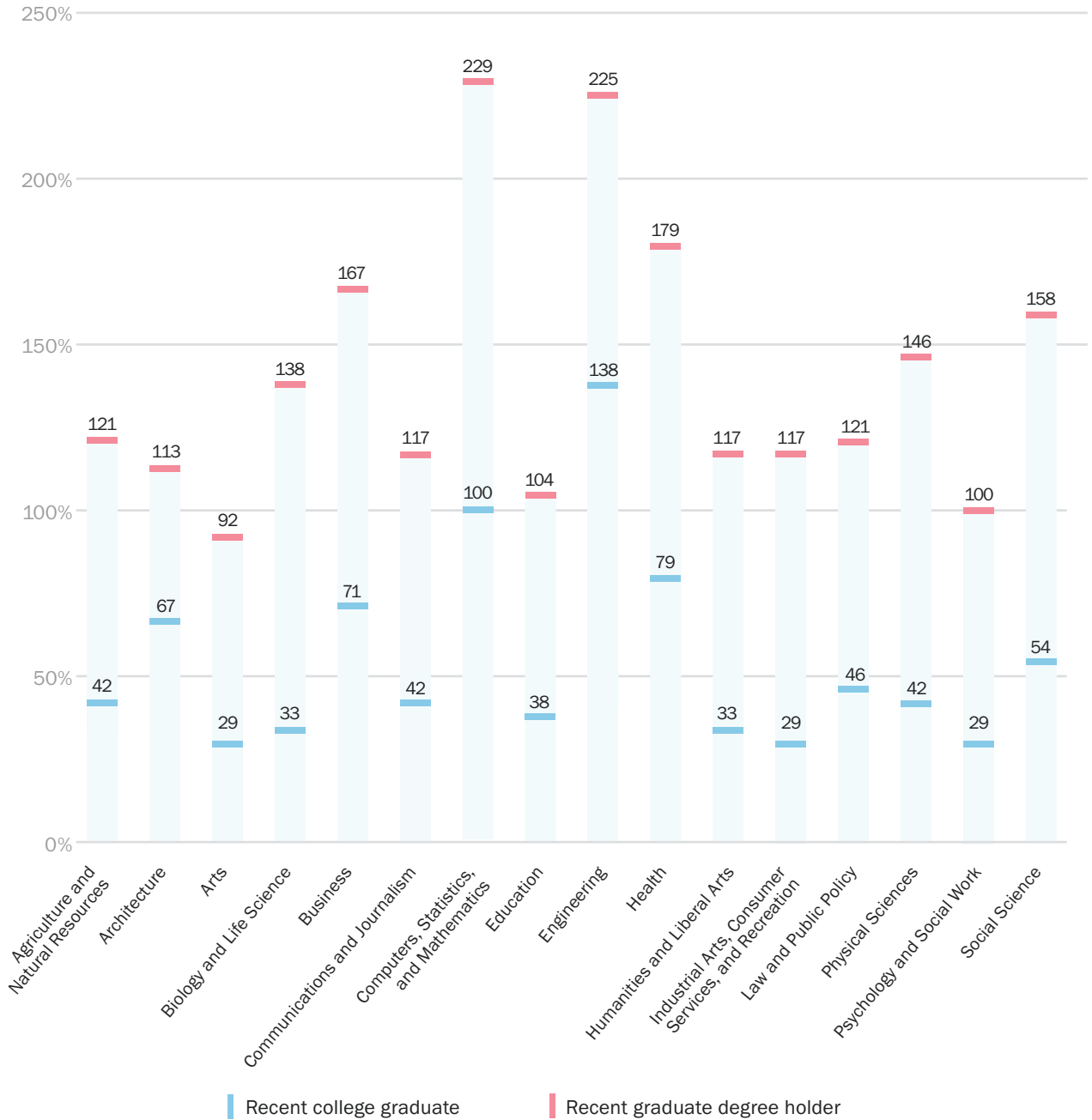
Earnings among **experienced workers with a Bachelor's degree** aged 35 to 54 range from \$47,000 among Education majors to \$93,000 among Engineering majors (Figure 6). The wage premiums (Figure 9) for experienced workers with Bachelor's degrees compared to experienced workers with high school diplomas also varies, from 31 percent among Education majors (8.5 percent of experienced Bachelor's degree workers) to 158 percent among Engineering Bachelor's degree majors (8.5 percent of experienced Bachelor's degree workers). Again, in most cases the wages and wage premiums for experienced Bachelor's degree holders have either held steady or increased (Figure 11).

Earnings among **experienced workers with a graduate degree** aged 35 to 54 vary from \$62,000 among Arts and Education undergraduate majors (2.5 percent and 15.4 percent of experienced workers with a graduate degree) to \$114,000 among Engineering majors (9.9 percent of experienced workers with a graduate degree) (Figure 6). Wage premiums range from 70 percent among Arts and Education majors to 217 percent among Engineering majors (Figure 9). In many cases the wages and wage premiums for experienced graduate degree holders rose until 2010 but have since plateaued or declined slightly (Figure 11).



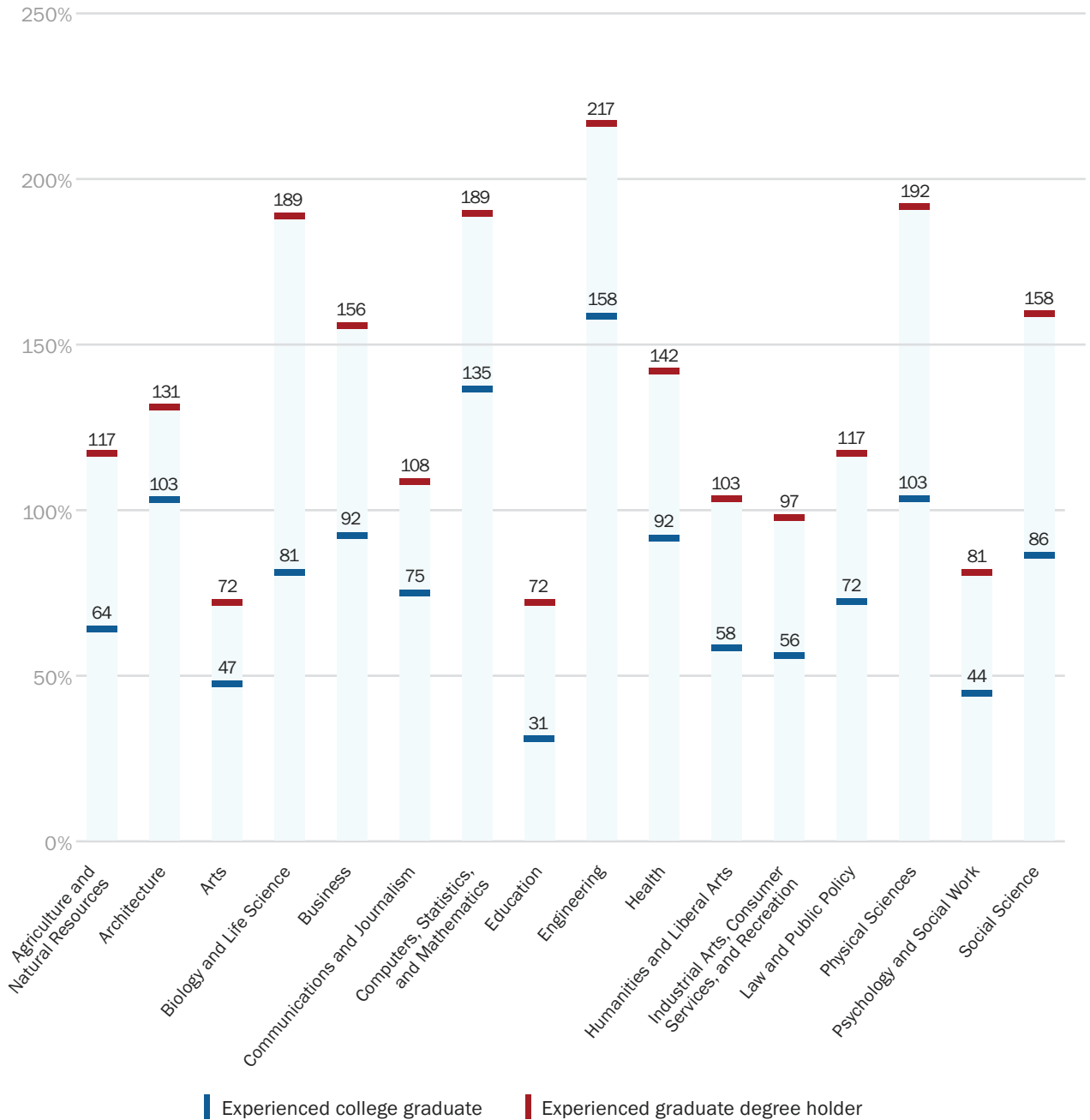
The overall wage advantage of college over high school has held up and even increased slightly as the earnings of both college and high school workers have fallen over the recession.

**FIGURE 8. Earnings premium, expressed as a percentage, for recent college graduates and recent graduate degree holders relative to recent high school diploma workers, 2011-2012**



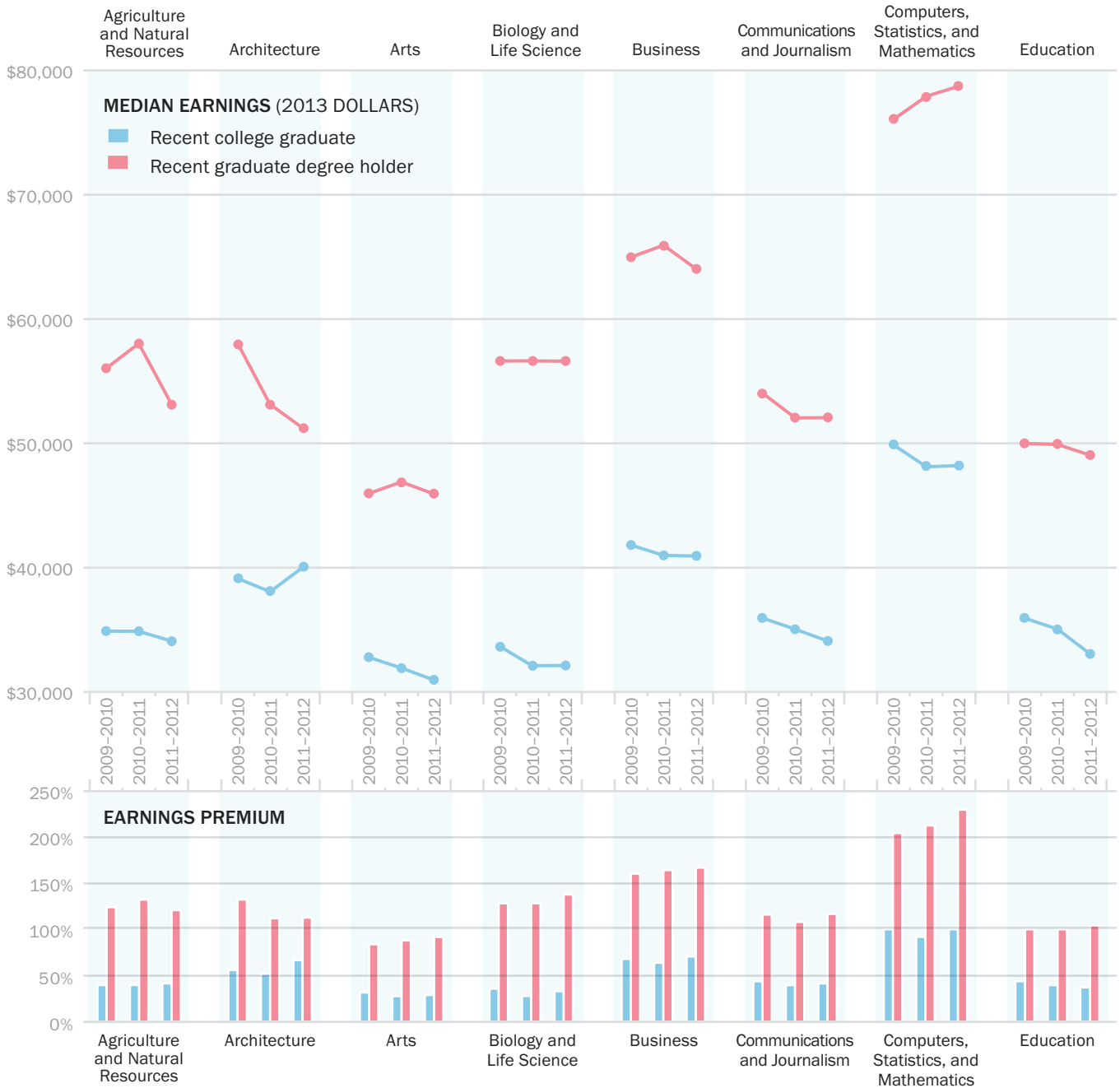
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

**FIGURE 9. Earnings premium, expressed as a percentage, for experienced college graduates and graduate degree holders relative to experienced high school diploma workers, 2011-2012**



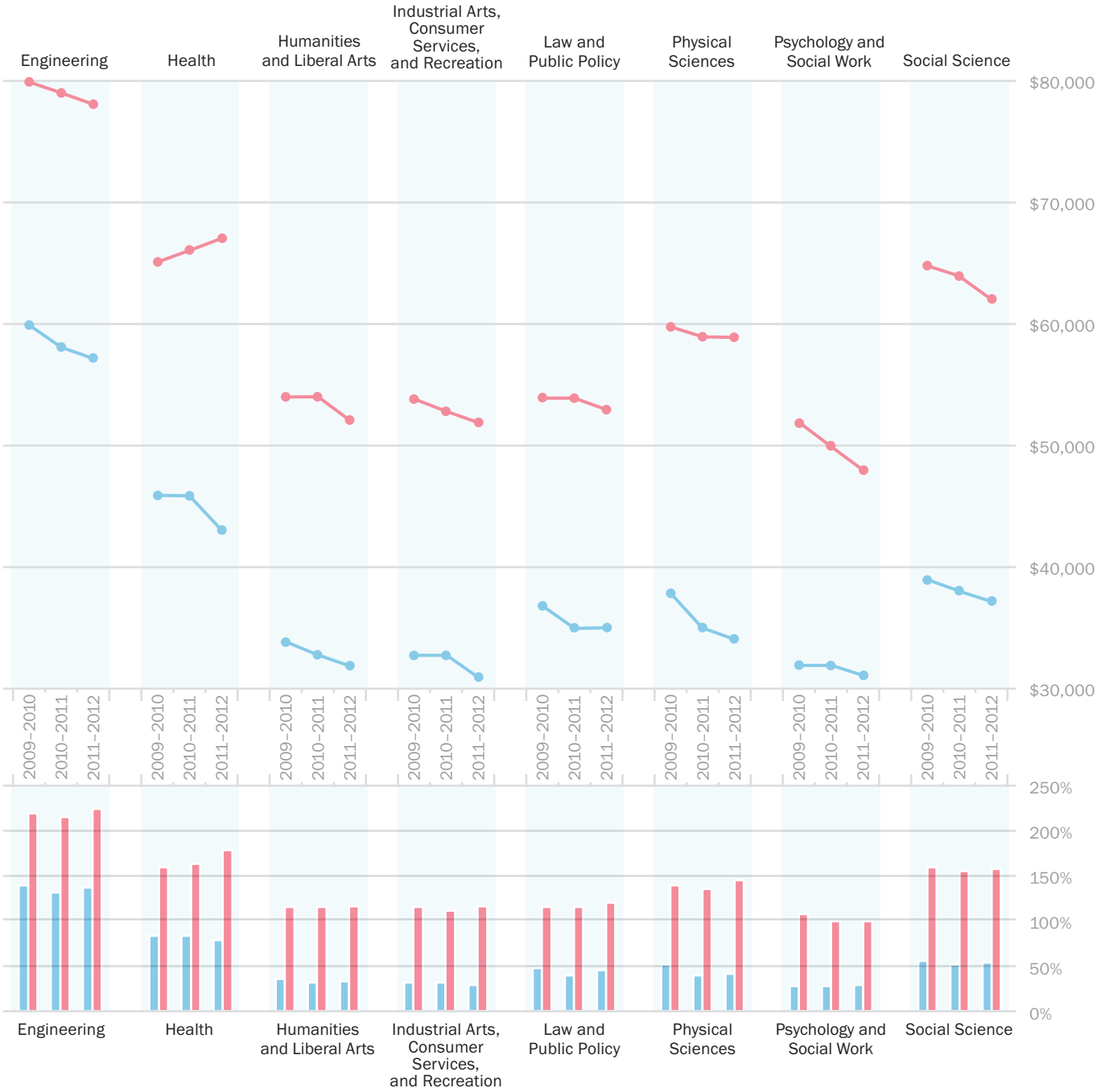
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

**FIGURE 10. Earnings premium for recent college graduates and graduate degree-holders and earnings premiums, expressed as a percentage, relative to recent high school diploma workers, 2009-2012**

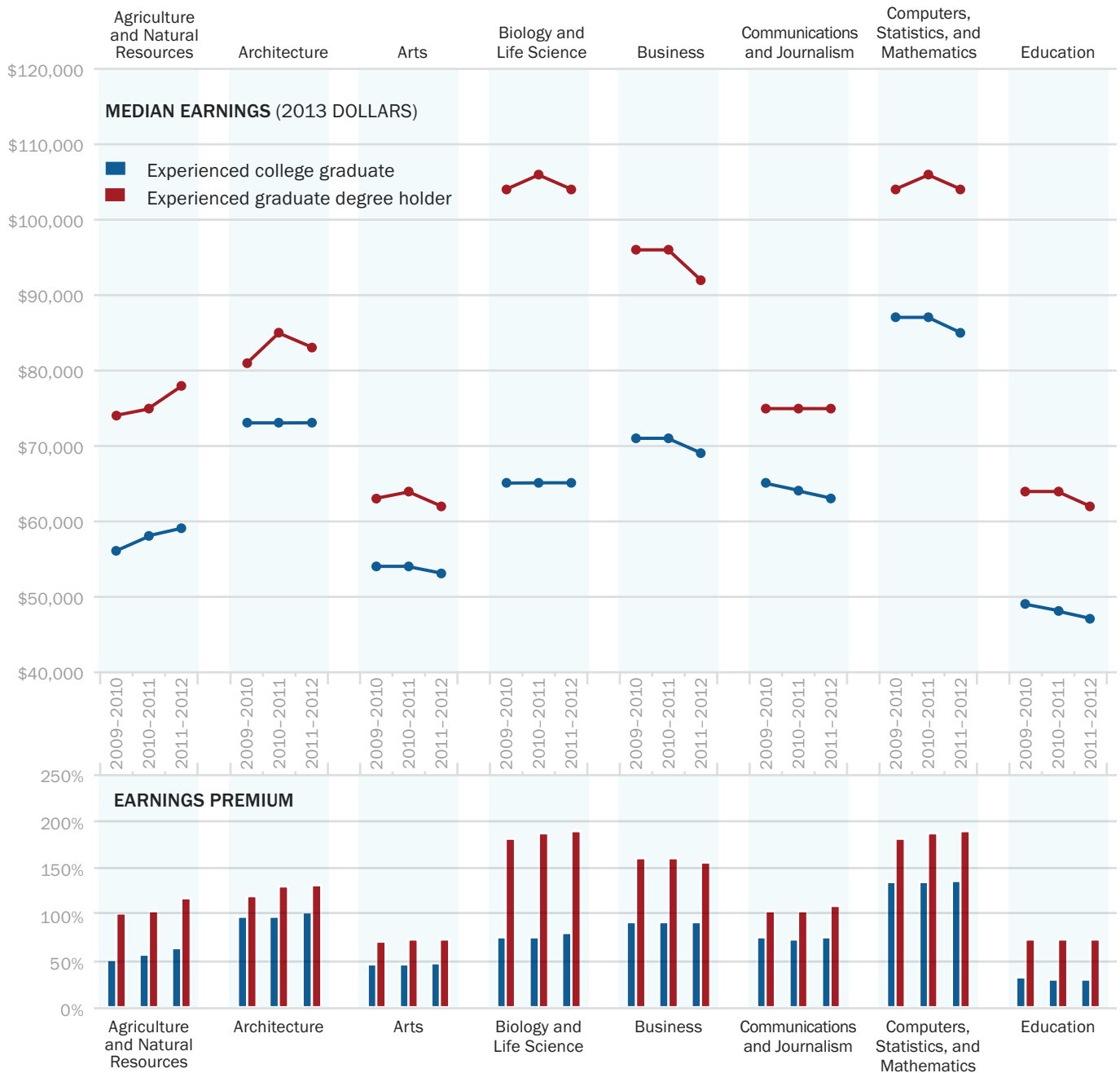


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.

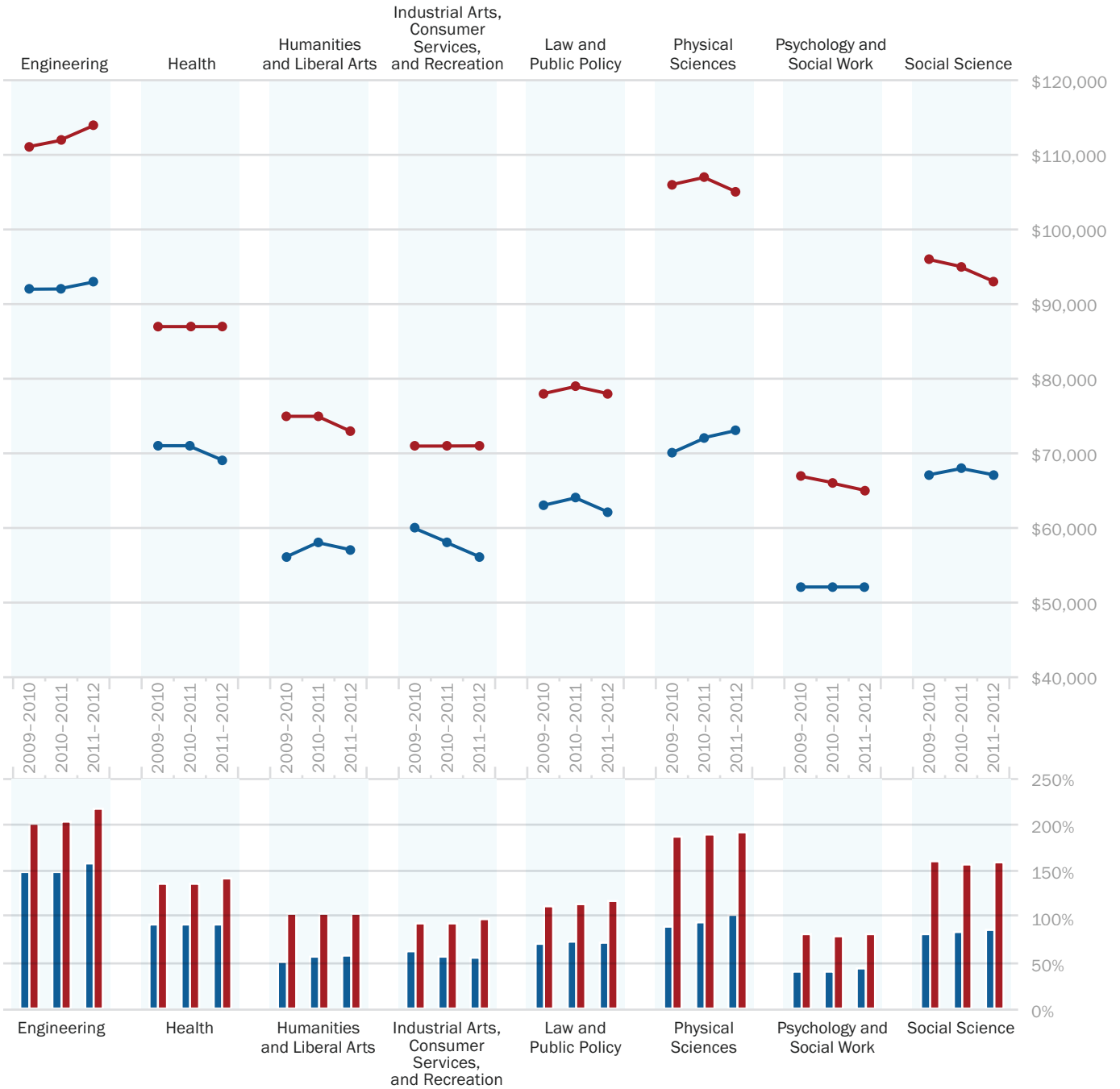




**FIGURE 11. Earnings for experienced college graduates and graduate degree-holders and earnings premiums, expressed as percentages, relative to recent high school diploma workers, 2009-2012**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2012.



# Appendices

**TABLE A1. Unemployment rates for grouped undergraduate majors, 2009-2012, based on data from the American Community Survey**

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Agriculture and Natural Resources	2009-2010	7.00%	3.30%	2.70%	2.40%
	2010-2011	6.10%	3.40%	2.70%	2.20%
	2011-2012	4.50%	3.00%	2.40%	1.80%
Architecture	2009-2010	13.90%	8.60%	13.00%	6.80%
	2010-2011	12.80%	9.40%	12.40%	5.40%
	2011-2012	10.30%	7.30%	7.10%	5.10%
Arts	2009-2010	11.10%	7.20%	7.00%	6.30%
	2010-2011	9.80%	7.00%	5.80%	5.50%
	2011-2012	9.50%	6.70%	5.60%	4.20%
Biology and Life Science	2009-2010	8.00%	4.90%	2.90%	1.90%
	2010-2011	7.70%	4.80%	2.70%	1.80%
	2011-2012	7.40%	4.50%	2.60%	1.90%
Business	2009-2010	7.40%	5.20%	5.00%	4.40%
	2010-2011	7.30%	5.20%	4.70%	4.30%
	2011-2012	7.00%	4.50%	4.40%	3.90%
Communications and Journalism	2009-2010	7.70%	6.50%	4.10%	4.50%
	2010-2011	7.90%	6.10%	4.90%	4.50%
	2011-2012	8.20%	5.60%	5.00%	4.50%
Computers, Statistics, and Mathematics	2009-2010	8.20%	5.80%	3.60%	4.40%
	2010-2011	9.10%	5.00%	3.90%	3.60%
	2011-2012	8.30%	4.30%	3.50%	2.90%
Education	2009-2010	5.40%	3.90%	2.20%	2.00%
	2010-2011	5.70%	4.00%	2.00%	2.10%
	2011-2012	5.10%	3.70%	2.40%	2.20%

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Engineering	2009-2010	7.50%	4.90%	3.40%	3.60%
	2010-2011	7.40%	4.30%	3.20%	3.00%
	2011-2012	6.50%	3.50%	2.80%	2.60%
Health	2009-2010	5.30%	2.20%	2.40%	1.80%
	2010-2011	6.10%	2.50%	3.10%	1.80%
	2011-2012	6.10%	2.50%	2.70%	2.00%
Humanities and Liberal Arts	2009-2010	9.40%	6.10%	5.50%	3.70%
	2010-2011	8.80%	6.20%	5.40%	3.60%
	2011-2012	8.40%	5.80%	5.00%	3.60%
Industrial Arts, Consumer Services, and Recreation	2009-2010	6.80%	4.80%	3.90%	2.50%
	2010-2011	6.10%	4.80%	4.70%	2.80%
	2011-2012	5.40%	4.40%	4.20%	3.10%
Law and Public Policy	2009-2010	8.10%	4.60%	4.30%	3.60%
	2010-2011	9.20%	4.50%	4.90%	4.10%
	2011-2012	8.60%	4.30%	5.50%	3.40%
Physical Sciences	2009-2010	7.20%	4.60%	2.90%	2.50%
	2010-2011	6.30%	4.80%	3.10%	2.30%
	2011-2012	5.00%	4.50%	2.90%	2.50%
Psychology and Social Work	2009-2010	7.40%	6.30%	4.10%	3.30%
	2010-2011	9.00%	6.90%	4.00%	3.60%
	2011-2012	9.00%	6.10%	4.00%	3.40%
Social Science	2009-2010	9.00%	5.80%	5.60%	4.00%
	2010-2011	10.50%	5.80%	5.50%	3.80%
	2011-2012	10.10%	5.40%	5.60%	3.60%

Recent college graduates are 22-26 years of age, experienced workers are 35-54 years of age, experienced graduate degree holders are limited to 35-54 years of age, and young graduate degree holders are limited to 24-34 years of age.

**TABLE A2. Median earnings for grouped undergraduate majors, 2009-2012**

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Agriculture and Natural Resources	2009-2010	\$35,000	\$56,000	\$56,000	\$74,000
	2010-2011	\$35,000	\$58,000	\$58,000	\$75,000
	2011-2012	\$34,000	\$59,000	\$53,000	\$78,000
Architecture	2009-2010	\$39,000	\$73,000	\$58,000	\$81,000
	2010-2011	\$38,000	\$73,000	\$53,000	\$85,000
	2011-2012	\$40,000	\$73,000	\$51,000	\$83,000
Arts	2009-2010	\$33,000	\$54,000	\$46,000	\$63,000
	2010-2011	\$32,000	\$54,000	\$47,000	\$64,000
	2011-2012	\$31,000	\$53,000	\$46,000	\$62,000
Biology and Life Science	2009-2010	\$34,000	\$65,000	\$57,000	\$104,000
	2010-2011	\$32,000	\$65,000	\$57,000	\$106,000
	2011-2012	\$32,000	\$65,000	\$57,000	\$104,000
Business	2009-2010	\$42,000	\$71,000	\$65,000	\$96,000
	2010-2011	\$41,000	\$71,000	\$66,000	\$96,000
	2011-2012	\$41,000	\$69,000	\$64,000	\$92,000
Communications and Journalism	2009-2010	\$36,000	\$65,000	\$54,000	\$75,000
	2010-2011	\$35,000	\$64,000	\$52,000	\$75,000
	2011-2012	\$34,000	\$63,000	\$52,000	\$75,000
Computers, Statistics, and Mathematics	2009-2010	\$50,000	\$87,000	\$76,000	\$104,000
	2010-2011	\$48,000	\$87,000	\$78,000	\$106,000
	2011-2012	\$48,000	\$85,000	\$79,000	\$104,000
Education	2009-2010	\$36,000	\$49,000	\$50,000	\$64,000
	2010-2011	\$35,000	\$48,000	\$50,000	\$64,000
	2011-2012	\$33,000	\$47,000	\$49,000	\$62,000
Engineering	2009-2010	\$60,000	\$92,000	\$80,000	\$111,000
	2010-2011	\$58,000	\$92,000	\$79,000	\$112,000
	2011-2012	\$57,000	\$93,000	\$78,000	\$114,000

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Health	2009-2010	\$46,000	\$71,000	\$65,000	\$87,000
	2010-2011	\$46,000	\$71,000	\$66,000	\$87,000
	2011-2012	\$43,000	\$69,000	\$67,000	\$87,000
Humanities and Liberal Arts	2009-2010	\$34,000	\$56,000	\$54,000	\$75,000
	2010-2011	\$33,000	\$58,000	\$54,000	\$75,000
	2011-2012	\$32,000	\$57,000	\$52,000	\$73,000
Industrial Arts, Consumer Services, and Recreation	2009-2010	\$33,000	\$60,000	\$54,000	\$71,000
	2010-2011	\$33,000	\$58,000	\$53,000	\$71,000
	2011-2012	\$31,000	\$56,000	\$52,000	\$71,000
Law and Public Policy	2009-2010	\$37,000	\$63,000	\$54,000	\$78,000
	2010-2011	\$35,000	\$64,000	\$54,000	\$79,000
	2011-2012	\$35,000	\$62,000	\$53,000	\$78,000
Physical Sciences	2009-2010	\$38,000	\$70,000	\$60,000	\$106,000
	2010-2011	\$35,000	\$72,000	\$59,000	\$107,000
	2011-2012	\$34,000	\$73,000	\$59,000	\$105,000
Psychology and Social Work	2009-2010	\$32,000	\$52,000	\$52,000	\$67,000
	2010-2011	\$32,000	\$52,000	\$50,000	\$66,000
	2011-2012	\$31,000	\$52,000	\$48,000	\$65,000
Social Science	2009-2010	\$39,000	\$67,000	\$65,000	\$96,000
	2010-2011	\$38,000	\$68,000	\$64,000	\$95,000
	2011-2012	\$37,000	\$67,000	\$62,000	\$93,000

Recent college graduates are 22-26 years of age, experienced workers are 35-54 years of age, experienced graduate degree holders are limited to 35-54 years of age, and young graduate degree holders are limited to 24-34 years of age.



**TABLE A3. Unemployment rates by detailed majors, 2009-2012**

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Agriculture and Natural Resources</b>					
General Agriculture	2009-2010	***	4.20%	***	***
Animal Sciences	2009-2010	***	3.40%	***	***
	2010-2011	***	4.30%	***	***
Natural Resources Management	2009-2010	***	5.30%	***	***
	2010-2011	***	4.10%	***	***
	2011-2012	***	4.50%	***	***
<b>Architecture</b>					
Architecture	2009-2010	13.90%	9.20%	13.00%	6.80%
	2010-2011	12.80%	9.40%	12.40%	5.40%
	2011-2012	10.30%	7.30%	7.10%	5.10%
<b>Arts</b>					
Fine Arts	2009-2010	12.60%	7.30%	8.60%	7.20%
	2010-2011	10.50%	7.60%	***	5.80%
	2011-2012	10.20%	6.50%	***	4.70%
Drama and Theater Arts	2009-2010	7.80%	8.80%	***	7.50%
	2010-2011	6.40%	6.70%	***	6.40%
	2011-2012	7.50%	8.30%	***	6.20%
Music	2009-2010	9.20%	4.50%	6.10%	4.40%
	2010-2011	8.60%	5.70%	***	4.50%
	2011-2012	8.80%	4.90%	***	2.90%
Commercial Art and Graphic Design	2009-2010	11.80%	7.50%	***	7.80%
	2010-2011	10.50%	7.10%	***	6.40%
	2011-2012	9.90%	6.80%	***	***
Film, Video, and Photographic Arts	2009-2010	12.90%	6.70%	***	***
	2010-2011	11.40%	6.60%	***	***
	2011-2012	9.10%	7.80%	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Studio Arts	2009-2010	***	8.00%	***	***
	2010-2011	***	7.80%	***	***
	2011-2012	***	6.20%	***	***
<b>Biology and Life Science</b>					
Environmental Science	2009-2010	***	4.20%	***	***
	2010-2011	***	3.70%	***	***
	2011-2012	***	4.00%	***	***
Biology	2009-2010	7.70%	4.60%	2.40%	1.80%
	2010-2011	7.80%	5.00%	2.50%	1.50%
	2011-2012	8.00%	4.80%	2.20%	1.70%
Biochemical Sciences	2009-2010	***	5.90%	***	***
Miscellaneous Biology	2009-2010	***	4.70%	***	***
<b>Business</b>					
General Business	2009-2010	7.00%	4.80%	5.50%	4.20%
	2010-2011	7.60%	4.70%	4.50%	3.90%
	2011-2012	7.70%	4.20%	4.10%	3.70%
Accounting	2009-2010	6.80%	4.80%	4.00%	3.80%
	2010-2011	8.80%	5.10%	3.30%	3.60%
	2011-2012	8.20%	4.60%	3.30%	2.90%
Business Management and Administration	2009-2010	8.10%	5.40%	5.10%	4.50%
	2010-2011	7.80%	5.50%	5.50%	4.70%
	2011-2012	7.10%	4.80%	5.10%	4.20%
Operations Logistics and E-Commerce	2009-2010	***	5.50%	***	***
Business Economics	2009-2010	***	5.40%	***	***
	2010-2011	***	5.40%	***	***
Marketing and Marketing Research	2009-2010	7.30%	6.00%	6.80%	5.30%
	2010-2011	6.60%	5.50%	5.80%	5.90%
	2011-2012	5.60%	4.30%	4.50%	5.10%

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Finance	2009-2010	6.60%	5.20%	5.10%	4.80%
	2010-2011	5.90%	4.60%	4.70%	4.30%
	2011-2012	6.90%	4.40%	4.50%	3.50%
Human Resources and Personnel Management	2009-2010	***	6.60%	***	***
	2010-2011	***	6.50%	***	5.40%
	2011-2012	***	5.70%	***	6.80%
International Business	2009-2010	***	9.50%	***	***
	2010-2011	***	6.60%	***	***
	2011-2012	12.30%	***	***	***
Hospitality Management	2009-2010	9.10%	5.70%	***	***
	2010-2011	6.00%	5.70%	***	***
	2011-2012	5.20%	4.50%	***	***
Management Information Systems and Statistics	2009-2010	***	4.40%	***	***
	2010-2011	***	4.30%	***	***
	2011-2012	***	3.60%	***	***
Miscellaneous Business and Medical Administration	2009-2010	***	6.20%	***	***
	2010-2011	***	4.10%	***	***
	2011-2012	***	4.20%	***	***
<b>Communications and Journalism</b>					
Communications and Mass Media	2009-2010	7.70%	6.40%	4.40%	4.90%
	2010-2011	8.40%	6.40%	5.50%	4.70%
	2011-2012	8.90%	5.70%	5.40%	4.80%
Journalism	2009-2010	7.70%	6.00%	***	4.00%
	2010-2011	7.00%	5.60%	***	4.50%
	2011-2012	7.00%	5.10%	***	3.90%
Advertising and Public Relations	2009-2010	7.70%	6.10%	***	***
	2010-2011	7.30%	5.90%	***	***
	2011-2012	6.50%	6.20%	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Computers, Statistics, and Mathematics</b>					
Computer and Information Systems	2009-2010	11.70%	5.40%	***	7.20%
	2010-2011	14.70%	4.70%	***	5.00%
	2011-2012	12.10%	4.30%	***	***
Computer Science	2009-2010	7.80%	5.70%	3.90%	4.20%
	2010-2011	8.60%	5.10%	3.90%	3.60%
	2011-2012	7.40%	4.00%	3.50%	3.20%
Information Sciences	2009-2010	***	5.10%	***	***
	2010-2011	***	5.50%	***	***
	2011-2012	***	4.30%	***	***
Computer Engineering	2009-2010	***	5.00%	***	***
	2010-2011	***	4.80%	***	***
	2011-2012	***	3.70%	***	***
Miscellaneous Computer	2009-2010	11.10%	7.00%	***	***
	2010-2011	13.10%	6.10%	***	***
	2011-2012	11.30%	6.00%	***	***
Mathematics	2009-2010	6.10%	5.10%	***	3.60%
	2010-2011	5.90%	4.70%	3.80%	2.80%
	2011-2012	6.00%	4.40%	3.10%	2.70%
<b>Education</b>					
General Education	2009-2010	6.00%	4.10%	2.70%	2.70%
	2010-2011	7.60%	4.20%	2.70%	2.90%
	2011-2012	5.40%	3.90%	3.40%	3.00%
Elementary Education	2009-2010	4.80%	3.40%	1.70%	1.80%
	2010-2011	5.00%	3.70%	1.50%	1.60%
	2011-2012	5.10%	3.40%	1.70%	1.40%

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Physical and Health Education Teaching	2009-2010	***	3.70%	***	***
	2010-2011	***	3.90%	***	2.70%
	2011-2012	***	3.50%	***	2.60%
Early Childhood Education	2009-2010	***	4.90%	***	***
	2010-2011	***	5.90%	***	***
	2011-2012	***	5.40%	***	***
Secondary Teacher Education	2009-2010	***	4.10%	***	***
	2010-2011	***	3.80%	***	***
	2011-2012	***	3.70%	***	***
Special Needs Education	2009-2010	***	4.50%	***	1.90%
	2010-2011	***	4.90%	***	1.80%
	2011-2012	***	4.30%	***	***
Language and Drama Education	2009-2010	***	4.20%	***	***
	2010-2011	***	4.70%	***	***
	2011-2012	***	4.20%	***	2.30%
Art and Music Education	2009-2010	***	3.70%	***	***
	2010-2011	***	4.10%	***	***
	2011-2012	***	3.10%	***	***
Miscellaneous Education	2009-2010	***	4.50%	***	1.80%
	2010-2011	***	3.60%	***	2.30%
	2011-2012	***	3.40%	***	***
<b>Engineering</b>					
General Engineering	2009-2010	***	5.80%	***	3.40%
	2010-2011	6.50%	4.80%	***	2.70%
	2011-2012	5.10%	3.50%	***	2.80%
Chemical Engineering	2009-2010	***	4.20%	***	3.50%
	2010-2011	***	2.90%	***	2.40%
	2011-2012	***	2.80%	***	2.20%

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Civil Engineering	2009-2010	8.10%	4.50%	***	2.60%
	2010-2011	7.60%	3.80%	***	3.00%
	2011-2012	7.20%	4.00%	***	3.30%
Electrical Engineering	2009-2010	7.30%	5.20%	3.40%	3.70%
	2010-2011	7.60%	4.60%	2.90%	3.10%
	2011-2012	6.50%	3.70%	2.40%	2.50%
Industrial and Manufacturing Engineering	2009-2010	***	5.10%	***	4.10%
	2010-2011	***	5.70%	***	***
	2011-2012	***	3.30%	***	***
Mechanical Engineering	2009-2010	8.60%	3.80%	***	3.80%
	2010-2011	8.10%	3.40%	***	2.80%
	2011-2012	5.80%	2.90%	***	2.20%
Miscellaneous Engineering	2009-2010	***	5.80%	***	***
Industrial Production Technologies	2009-2010	***	4.00%	***	***
	2010-2011	***	2.70%	***	***
Miscellaneous Engineering Technologies	2009-2010	***	5.60%	***	***
	2010-2011	***	5.70%	***	***
	2011-2012	***	4.60%	***	***
<b>Health</b>					
Health and Medical Administrative Services	2009-2010	***	2.90%	***	***
	2010-2011	***	4.00%	***	***
	2011-2012	***	4.80%	***	***
Nursing	2009-2010	4.00%	1.90%	***	1.60%
	2010-2011	4.80%	2.20%	***	1.40%
	2011-2012	4.80%	2.10%	***	1.80%
Pharmacy, Pharmaceutical Sciences, and Administration	2009-2010	***	2.10%	***	***
	2011-2012	***	2.30%	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Treatment Therapy Professions	2009-2010	***	1.80%	***	***
	2010-2011	***	2.10%	***	***
	2011-2012	***	1.60%	***	***
Miscellaneous Health Medical Professions	2009-2010	6.40%	3.20%	3.70%	2.10%
	2010-2011	7.10%	3.60%	3.30%	2.20%
	2011-2012	8.40%	3.30%	***	2.10%
<b>Humanities and Liberal Arts</b>					
Area Ethnic and Civilization Studies	2009-2010	10.10%	5.50%	***	3.80%
	2010-2011	***	6.50%	***	***
	2011-2012	***	6.00%	***	4.00%
Linguistics and Comparative Language and Literature	2009-2010	***	10.50%	***	***
French, German, Latin, and Other Common Foreign Language Studies	2009-2010	7.90%	4.80%	***	3.90%
	2010-2011	8.10%	4.60%	***	3.10%
	2011-2012	7.10%	5.40%	***	3.60%
English Language and Literature	2009-2010	9.20%	6.20%	5.70%	3.60%
	2010-2011	9.80%	6.50%	5.40%	3.70%
	2011-2012	8.80%	6.30%	5.00%	3.40%
Composition and Speech	2009-2010	***	4.70%	***	***
Liberal Arts	2009-2010	9.20%	6.20%	***	3.60%
	2010-2011	8.10%	6.30%	***	3.60%
	2011-2012	8.70%	5.40%	***	3.90%
Philosophy and Religious Studies	2009-2010	10.80%	6.80%	5.80%	3.30%
	2010-2011	9.50%	8.10%	5.90%	3.90%
	2011-2012	10.30%	6.40%	***	4.10%
Theology and Religious Vocations	2009-2010	***	3.90%	***	2.70%
	2010-2011	***	4.30%	***	3.10%
	2011-2012	***	4.50%	***	2.70%

\*\*\* indicates insufficient sample for the combined years



Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Art History and Criticism	2009-2010	***	8.80%	***	***
	2010-2011	***	8.30%	***	***
	2011-2012	***	6.70%	***	***
History	2009-2010	10.00%	6.00%	5.40%	3.70%
	2010-2011	9.30%	5.90%	5.70%	3.40%
	2011-2012	8.40%	5.40%	5.30%	3.40%
<b>Industrial Arts, Consumer Services, and Recreation</b>					
Family and Consumer Sciences	2009-2010	4.30%	4.20%	***	***
	2010-2011	6.40%	5.70%	***	2.70%
	2011-2012	7.10%	5.40%	***	3.50%
Physical Fitness, Parks, Recreation, and Leisure	2009-2010	8.30%	4.50%	***	***
	2010-2011	5.20%	4.20%	***	***
	2011-2012	4.40%	3.70%	***	***
Miscellaneous Industrial Arts and Consumer Services	2009-2010	***	6.60%	***	***
	2010-2011	***	5.30%	***	***
	2011-2012	***	4.60%	***	***
Transportation Sciences and Technologies	2009-2010	***	4.00%	***	***
	2010-2011	***	3.90%	***	***
	2011-2012	***	3.50%	***	***
<b>Law and Public Policy</b>					
Pre-Law and Legal Studies	2009-2010	***	7.60%	***	***
	2010-2011	***	6.60%	***	***
	2011-2012	***	6.20%	***	***
Criminal Justice and Fire Protection	2009-2010	7.60%	4.10%	***	3.10%
	2010-2011	8.90%	4.30%	4.40%	4.00%
	2011-2012	8.40%	4.00%	4.60%	3.30%

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Public Administration	2009-2010	***	7.30%	***	***
	2010-2011	***	6.00%	***	***
	2011-2012	***	6.10%	***	***
<b>Physical Sciences</b>					
Multi-Disciplinary or General Science	2009-2010	8.20%	4.60%	***	2.60%
	2010-2011	6.60%	3.60%	***	2.30%
	2011-2012	5.20%	3.40%	***	3.30%
Chemistry	2009-2010	6.60%	4.90%	***	2.00%
	2010-2011	5.80%	6.10%	3.20%	2.30%
	2011-2012	4.50%	5.60%	3.20%	2.30%
Geology and Earth Science	2009-2010	***	5.10%	***	***
	2010-2011	***	6.20%	***	***
	2011-2012	***	5.90%	***	***
Physics	2009-2010	***	5.40%	***	2.80%
	2010-2011	***	5.60%	***	2.40%
	2011-2012	***	4.80%	***	2.70%
<b>Psychology and Social Work</b>					
Psychology	2009-2010	7.60%	6.00%	3.90%	3.30%
	2010-2011	9.20%	6.90%	3.90%	3.50%
	2011-2012	9.30%	6.30%	3.90%	3.30%
Human Services and Community Organization	2009-2010	***	7.30%	***	***
	2010-2011	***	9.20%	***	***
	2011-2012	***	7.30%	***	***
Social Work	2009-2010	6.60%	5.80%	4.70%	2.60%
	2010-2011	8.20%	6.50%	4.30%	3.80%
	2011-2012	8.50%	5.00%	4.10%	3.90%

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Social Science</b>					
Interdisciplinary Social Sciences	2009-2010	***	7.20%	***	***
General Social Sciences	2009-2010	***	6.80%	***	***
	2010-2011	***	8.20%	***	***
	2011-2012	***	6.00%	***	***
Economics	2009-2010	9.40%	5.70%	7.10%	4.30%
	2010-2011	10.40%	5.10%	6.80%	4.00%
	2011-2012	9.80%	4.40%	4.90%	3.50%
Anthropology and Archeology	2009-2010	10.50%	6.20%	***	3.80%
	2010-2011	12.60%	7.30%	***	4.00%
	2011-2012	10.90%	7.10%	7.10%	4.10%
Geography	2009-2010	***	5.60%	***	***
	2010-2011	***	5.90%	***	***
	2011-2012	***	6.00%	***	***
International Relations	2009-2010	***	4.80%	***	4.40%
	2010-2011	***	7.60%	***	***
	2011-2012	***	7.30%	***	***
Political Science and Government	2009-2010	9.10%	6.00%	5.10%	3.80%
	2010-2011	11.10%	5.70%	4.90%	3.50%
	2011-2012	10.90%	5.80%	5.90%	3.10%
Sociology	2009-2010	8.60%	5.40%	4.50%	3.90%
	2010-2011	9.90%	6.20%	4.90%	4.60%
	2011-2012	8.00%	5.80%	5.10%	4.50%

\*\*\* indicates insufficient sample for the combined years

**TABLE A4. Median earnings by detailed major, 2009-2012**

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Agriculture and Natural Resources</b>					
General Agriculture	2009-2010	***	\$49,000	***	***
Animal Sciences	2009-2010	***	\$48,000	***	***
	2010-2011	***	\$51,000	***	***
Natural Resources Management	2009-2010	***	\$57,000	***	***
	2010-2011	***	\$63,000	***	***
	2011-2012	***	\$62,000	***	***
<b>Architecture</b>					
Architecture	2009-2010	\$39,000	\$70,000	\$58,000	\$81,000
	2010-2011	\$38,000	\$73,000	\$53,000	\$85,000
	2011-2012	\$40,000	\$73,000	\$51,000	\$83,000
<b>Arts</b>					
Fine Arts	2009-2010	\$32,000	\$49,000	\$45,000	\$64,000
	2010-2011	\$31,000	\$53,000	***	\$62,000
	2011-2012	\$28,000	\$52,000	***	\$59,000
Drama and Theater Arts	2009-2010	\$28,000	\$49,000	***	\$60,000
	2010-2011	\$27,000	\$53,000	***	\$64,000
	2011-2012	\$28,000	\$52,000	***	\$62,000
Music	2009-2010	\$32,000	\$49,000	\$43,000	\$65,000
	2010-2011	\$32,000	\$53,000	***	\$63,000
	2011-2012	\$31,000	\$52,000	***	\$64,000
Commercial Art and Graphic Design	2009-2010	\$35,000	\$53,000	***	\$65,000
	2010-2011	\$35,000	\$56,000	***	\$65,000
	2011-2012	\$34,000	\$57,000	***	***
Film, Video, and Photographic Arts	2009-2010	\$32,000	\$54,000	***	***
	2010-2011	\$33,000	\$63,000	***	***
	2011-2012	\$31,000	\$56,000	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Studio Arts	2009-2010	***	\$44,000	***	***
	2010-2011	***	\$45,000	***	***
	2011-2012	***	\$44,000	***	***
<b>Biology and Life Science</b>					
Environmental Science	2009-2010	***	\$60,000	***	***
	2010-2011	***	\$68,000	***	***
	2011-2012	***	\$65,000	***	***
Biology	2009-2010	\$34,000	\$61,000	\$60,000	\$108,000
	2010-2011	\$32,000	\$65,000	\$59,000	\$107,000
	2011-2012	\$32,000	\$65,000	\$58,000	\$104,000
Biochemical Sciences	2009-2010	***	\$74,000	***	***
Miscellaneous Biology	2009-2010	***	\$60,000	***	***
<b>Business</b>					
General Business	2009-2010	\$40,000	\$65,000	\$65,000	\$97,000
	2010-2011	\$41,000	\$71,000	\$64,000	\$96,000
	2011-2012	\$41,000	\$69,000	\$61,000	\$91,000
Accounting	2009-2010	\$47,000	\$71,000	\$68,000	\$103,000
	2010-2011	\$46,000	\$75,000	\$68,000	\$100,000
	2011-2012	\$45,000	\$73,000	\$66,000	\$97,000
Business Management and Administration	2009-2010	\$39,000	\$65,000	\$63,000	\$87,000
	2010-2011	\$38,000	\$66,000	\$62,000	\$87,000
	2011-2012	\$37,000	\$65,000	\$59,000	\$83,000
Operations Logistics and E-Commerce	2009-2010	***	\$76,000	***	***
Business Economics	2009-2010	***	\$83,000	***	***
	2010-2011	***	\$85,000	***	***
Marketing and Marketing Research	2009-2010	\$40,000	\$70,000	\$65,000	\$91,000
	2010-2011	\$38,000	\$75,000	\$61,000	\$94,000
	2011-2012	\$37,000	\$72,000	\$58,000	\$94,000

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Finance	2009-2010	\$48,000	\$78,000	\$78,000	\$108,000
	2010-2011	\$47,000	\$82,000	\$77,000	\$107,000
	2011-2012	\$47,000	\$83,000	\$75,000	\$107,000
Human Resources and Personnel Management	2009-2010	***	\$65,000	***	***
	2010-2011	***	\$64,000	***	\$78,000
	2011-2012	***	\$62,000	***	\$76,000
International Business	2009-2010	***	\$65,000	***	***
	2010-2011	***	\$69,000	***	***
	2011-2012	\$42,000	***	***	***
Hospitality Management	2009-2010	\$35,000	\$58,000	***	***
	2010-2011	\$33,000	\$64,000	***	***
	2011-2012	\$34,000	\$59,000	***	***
Management Information Systems and Statistics	2009-2010	***	\$79,000	***	***
	2010-2011	***	\$87,000	***	***
	2011-2012	***	\$88,000	***	***
Miscellaneous Business and Medical Administration	2009-2010	***	\$61,000	***	***
	2010-2011	***	\$64,000	***	***
	2011-2012	***	\$64,000	***	***
<b>Communications and Journalism</b>					
Communications and Mass Media	2009-2010	\$36,000	\$60,000	\$54,000	\$75,000
	2010-2011	\$35,000	\$64,000	\$52,000	\$75,000
	2011-2012	\$34,000	\$63,000	\$52,000	\$75,000
Journalism	2009-2010	\$35,000	\$63,000	***	\$74,000
	2010-2011	\$34,000	\$64,000	***	\$76,000
	2011-2012	\$34,000	\$63,000	***	\$76,000
Advertising and Public Relations	2009-2010	\$38,000	\$62,000	***	***
	2010-2011	\$35,000	\$64,000	***	***
	2011-2012	\$34,000	\$64,000	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Computers, Statistics, and Mathematics</b>					
Computer and Information Systems	2009-2010	\$46,000	\$74,000	***	\$92,000
	2010-2011	\$43,000	\$76,000	***	\$92,000
	2011-2012	\$47,000	\$75,000	***	***
Computer Science	2009-2010	\$54,000	\$87,000	\$83,000	\$108,000
	2010-2011	\$53,000	\$94,000	\$84,000	\$108,000
	2011-2012	\$53,000	\$93,000	\$83,000	\$107,000
Information Sciences	2009-2010	***	\$79,000	***	***
	2010-2011	***	\$87,000	***	***
	2011-2012	***	\$83,000	***	***
Computer Engineering	2009-2010	***	\$96,000	***	***
	2010-2011	***	\$105,000	***	***
	2011-2012	***	\$104,000	***	***
Miscellaneous Computer	2009-2010	\$38,000	\$65,000	***	***
	2010-2011	\$37,000	\$69,000	***	***
	2011-2012	\$36,000	\$66,000	***	***
Mathematics	2009-2010	\$43,000	\$76,000	***	\$98,000
	2010-2011	\$43,000	\$80,000	\$64,000	\$99,000
	2011-2012	\$42,000	\$80,000	\$64,000	\$96,000
<b>Education</b>					
General Education	2009-2010	\$37,000	\$47,000	\$50,000	\$65,000
	2010-2011	\$36,000	\$48,000	\$49,000	\$63,000
	2011-2012	\$34,000	\$48,000	\$49,000	\$62,000
Elementary Education	2009-2010	\$36,000	\$43,000	\$49,000	\$60,000
	2010-2011	\$35,000	\$45,000	\$49,000	\$60,000
	2011-2012	\$32,000	\$45,000	\$48,000	\$59,000

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Physical and Health Education Teaching	2009-2010	***	\$52,000	***	***
	2010-2011	***	\$53,000	***	\$72,000
	2011-2012	***	\$53,000	***	\$68,000
Early Childhood Education	2009-2010	***	\$41,000	***	***
	2010-2011	***	\$43,000	***	***
	2011-2012	***	\$41,000	***	***
Secondary Teacher Education	2009-2010	***	\$51,000	***	***
	2010-2011	***	\$52,000	***	***
	2011-2012	***	\$50,000	***	***
Special Needs Education	2009-2010	***	\$47,000	***	\$65,000
	2010-2011	***	\$49,000	***	\$64,000
	2011-2012	***	\$48,000	***	***
Language and Drama Education	2009-2010	***	\$47,000	***	***
	2010-2011	***	\$48,000	***	***
	2011-2012	***	\$48,000	***	\$64,000
Art and Music Education	2009-2010	***	\$49,000	***	***
	2010-2011	***	\$51,000	***	***
	2011-2012	***	\$50,000	***	***
Miscellaneous Education	2009-2010	***	\$52,000	***	\$65,000
	2010-2011	***	\$54,000	***	\$65,000
	2011-2012	***	\$54,000	***	***
<b>Engineering</b>					
General Engineering	2009-2010	***	\$81,000	***	\$108,000
	2010-2011	\$59,000	\$87,000	***	\$107,000
	2011-2012	\$57,000	\$86,000	***	\$107,000
Chemical Engineering	2009-2010	***	\$102,000	***	\$114,000
	2010-2011	***	\$106,000	***	\$115,000
	2011-2012	***	\$104,000	***	\$118,000

\*\*\* indicates insufficient sample for the combined years



Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Civil Engineering	2009-2010	\$54,000	\$87,000	***	\$108,000
	2010-2011	\$54,000	\$91,000	***	\$107,000
	2011-2012	\$52,000	\$91,000	***	\$104,000
Electrical Engineering	2009-2010	\$62,000	\$97,000	\$87,000	\$119,000
	2010-2011	\$61,000	\$101,000	\$87,000	\$121,000
	2011-2012	\$62,000	\$103,000	\$88,000	\$122,000
Industrial and Manufacturing Engineering	2009-2010	***	\$87,000	***	\$109,000
	2010-2011	***	\$89,000	***	***
	2011-2012	***	\$88,000	***	***
Mechanical Engineering	2009-2010	\$63,000	\$92,000	***	\$113,000
	2010-2011	\$61,000	\$96,000	***	\$114,000
	2011-2012	\$59,000	\$96,000	***	\$116,000
Miscellaneous Engineering	2009-2010	***	\$78,000	***	***
Industrial Production Technologies	2009-2010	***	\$74,000	***	***
	2010-2011	***	\$80,000	***	***
Miscellaneous Engineering Technologies	2009-2010	***	\$73,000	***	***
	2010-2011	***	\$76,000	***	***
	2011-2012	***	\$76,000	***	***
<b>Health</b>					
Health and Medical Administrative Services	2009-2010	***	\$61,000	***	***
	2010-2011	***	\$63,000	***	***
	2011-2012	***	\$59,000	***	***
Nursing	2009-2010	\$52,000	\$70,000	***	\$88,000
	2010-2011	\$51,000	\$71,000	***	\$88,000
	2011-2012	\$50,000	\$71,000	***	\$88,000
Pharmacy, Pharmaceutical Sciences, and Administration	2009-2010	***	\$114,000	***	***
	2011-2012	***	\$114,000	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Treatment Therapy Professions	2009-2010	***	\$68,000	***	***
	2010-2011	***	\$73,000	***	***
	2011-2012	***	\$69,000	***	***
Miscellaneous Health Medical Professions	2009-2010	\$39,000	\$60,000	\$60,000	\$81,000
	2010-2011	\$37,000	\$64,000	\$60,000	\$83,000
	2011-2012	\$35,000	\$62,000	***	\$78,000
<b>Humanities and Liberal Arts</b>					
Area Ethnic and Civilization Studies	2009-2010	\$38,000	\$54,000	***	\$79,000
	2010-2011	***	\$60,000	***	***
	2011-2012	***	\$58,000	***	\$88,000
Linguistics and Comparative Language and Literature	2009-2010	***	\$53,000	***	***
French, German, Latin, and Other Common Foreign Language Studies	2009-2010	\$35,000	\$54,000	***	\$70,000
	2010-2011	\$33,000	\$59,000	***	\$70,000
	2011-2012	\$33,000	\$56,000	***	\$73,000
English Language and Literature	2009-2010	\$35,000	\$56,000	\$53,000	\$74,000
	2010-2011	\$33,000	\$60,000	\$53,000	\$74,000
	2011-2012	\$32,000	\$59,000	\$51,000	\$73,000
Composition and Speech	2009-2010	***	\$54,000	***	***
Liberal Arts	2009-2010	\$33,000	\$54,000	***	\$76,000
	2010-2011	\$33,000	\$56,000	***	\$76,000
	2011-2012	\$32,000	\$59,000	***	\$75,000
Philosophy and Religious Studies	2009-2010	\$33,000	\$52,000	\$54,000	\$70,000
	2010-2011	\$31,000	\$54,000	\$54,000	\$71,000
	2011-2012	\$31,000	\$56,000	***	\$69,000
Theology and Religious Vocations	2009-2010	***	\$43,000	***	\$54,000
	2010-2011	***	\$46,000	***	\$53,000
	2011-2012	***	\$47,000	***	\$50,000

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Art History and Criticism	2009-2010	***	\$56,000	***	***
	2010-2011	***	\$56,000	***	***
	2011-2012	***	\$56,000	***	***
History	2009-2010	\$35,000	\$58,000	\$56,000	\$85,000
	2010-2011	\$34,000	\$64,000	\$59,000	\$85,000
	2011-2012	\$32,000	\$62,000	\$58,000	\$85,000
<b>Industrial Arts, Consumer Services, and Recreation</b>					
Family and Consumer Sciences	2009-2010	\$33,000	\$47,000	***	***
	2010-2011	\$33,000	\$48,000	***	\$66,000
	2011-2012	\$31,000	\$47,000	***	\$65,000
Physical Fitness, Parks, Recreation, and Leisure	2009-2010	\$32,000	\$54,000	***	***
	2010-2011	\$31,000	\$54,000	***	***
	2011-2012	\$30,000	\$53,000	***	***
Miscellaneous Industrial Arts and Consumer Services	2009-2010	***	\$70,000	***	***
	2010-2011	***	\$69,000	***	***
	2011-2012	***	\$67,000	***	***
Transportation Sciences and Technologies	2009-2010	***	\$76,000	***	***
	2010-2011	***	\$80,000	***	***
	2011-2012	***	\$80,000	***	***
<b>Law and Public Policy</b>					
Pre-Law and Legal Studies	2009-2010	***	\$52,000	***	***
	2010-2011	***	\$54,000	***	***
	2011-2012	***	\$53,000	***	***
Criminal Justice and Fire Protection	2009-2010	\$37,000	\$60,000	***	\$76,000
	2010-2011	\$35,000	\$64,000	\$52,000	\$77,000
	2011-2012	\$34,000	\$63,000	\$52,000	\$75,000
Public Administration	2009-2010	***	\$63,000	***	***
	2010-2011	***	\$64,000	***	***
	2011-2012	***	\$64,000	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
<b>Physical Sciences</b>					
Multi-Disciplinary or General Science	2009-2010	\$38,000	\$65,000	***	\$92,000
	2010-2011	\$37,000	\$64,000	***	\$98,000
	2011-2012	\$36,000	\$64,000	***	\$91,000
Chemistry	2009-2010	\$35,000	\$67,000	***	\$109,000
	2010-2011	\$34,000	\$75,000	\$56,000	\$109,000
	2011-2012	\$31,000	\$73,000	\$57,000	\$111,000
Geology and Earth Science	2009-2010	***	\$68,000	***	***
	2010-2011	***	\$76,000	***	***
	2011-2012	***	\$75,000	***	***
Physics	2009-2010	***	\$87,000	***	\$108,000
	2010-2011	***	\$92,000	***	\$108,000
	2011-2012	***	\$95,000	***	\$109,000
<b>Psychology and Social Work</b>					
Psychology	2009-2010	\$32,000	\$52,000	\$53,000	\$71,000
	2010-2011	\$32,000	\$54,000	\$52,000	\$69,000
	2011-2012	\$31,000	\$53,000	\$50,000	\$68,000
Human Services and Community Organization	2009-2010	***	\$42,000	***	***
	2010-2011	***	\$42,000	***	***
	2011-2012	***	\$42,000	***	***
Social Work	2009-2010	\$32,000	\$43,000	\$47,000	\$60,000
	2010-2011	\$31,000	\$45,000	\$43,000	\$60,000
	2011-2012	\$31,000	\$44,000	\$43,000	\$58,000
<b>Social Science</b>					
Interdisciplinary Social Sciences	2009-2010	***	\$49,000	***	***
General Social Sciences	2009-2010	***	\$54,000	***	***
	2010-2011	***	\$55,000	***	***
	2011-2012	***	\$53,000	***	***

\*\*\* indicates insufficient sample for the combined years

Major	Years	Recent college graduate	Experienced college graduate	Young graduate degree holder	Experienced graduate degree holder
Economics	2009-2010	\$52,000	\$81,000	\$82,000	\$117,000
	2010-2011	\$49,000	\$85,000	\$76,000	\$117,000
	2011-2012	\$47,000	\$83,000	\$75,000	\$113,000
Anthropology and Archeology	2009-2010	\$30,000	\$51,000	***	\$70,000
	2010-2011	\$29,000	\$53,000	***	\$71,000
	2011-2012	\$29,000	\$57,000	\$50,000	\$69,000
Geography	2009-2010	***	\$64,000	***	***
	2010-2011	***	\$66,000	***	***
	2011-2012	***	\$64,000	***	***
International Relations	2009-2010	***	\$71,000	***	\$108,000
	2010-2011	***	\$76,000	***	***
	2011-2012	***	\$75,000	***	***
Political Science and Government	2009-2010	\$38,000	\$70,000	\$71,000	\$102,000
	2010-2011	\$37,000	\$74,000	\$65,000	\$99,000
	2011-2012	\$38,000	\$74,000	\$64,000	\$98,000
Sociology	2009-2010	\$35,000	\$54,000	\$53,000	\$69,000
	2010-2011	\$33,000	\$54,000	\$51,000	\$68,000
	2011-2012	\$32,000	\$54,000	\$49,000	\$67,000

\*\*\* indicates insufficient sample for the combined years

# Data Sources and Methodology

**Data source:** *American Community Survey* (1-year files) micro data 2009-2012<sup>4</sup>. The sample consists of full-time, full-year workers with positive earnings between the ages of 22 and 54. Data from two years are pooled for all analyses. All results are weighted by the weights provided and earnings are adjusted to 2011 levels using the Consumer Price Index Research Series (CPI-U-RS)<sup>5</sup>.

The data on major field of study is part of the *American Community Survey* long form and is coded by the Census Bureau<sup>6</sup>. This list can be downloaded from the Census Bureau website. The majors that are listed in the report appear on the College Board website<sup>7</sup> as “This major often leads to the Bachelor’s degree.” Majors that are listed as “This program most often leads to a graduate degree” or “This major is most often offered at the certificate and Associate’s degree levels” are collapsed as detailed in the pages of the report.

**Sample size and representativeness:** The minimum sample size to be considered for inclusion is 100 for each major. This corresponds roughly to a ratio of the estimated standard error to the cell percentage of 15 percent. While the *American Community Survey* can be considered a representative sample of individuals in the United States, the sample is not necessarily representative of those who chose those majors in their undergraduate education.

Educational attainment for Bachelor’s degree holders is not further differentiated among those who received a Bachelor of Science, Bachelor of Arts, or other specialized Bachelor’s degrees. For instance, in Architecture, graduates from five-year, professionally accredited Bachelor of Architecture degrees cannot be distinguished from graduates with a four-year, pre-professional or non-professional Bachelor’s degree in Architecture.

---

4 [http://www.census.gov/acs/www/data\\_documentation/pums\\_data/](http://www.census.gov/acs/www/data_documentation/pums_data/)

5 <http://www.bls.gov/cpi/cpiurs.htm>

6 [http://www.census.gov/acs/www/data\\_documentation/pums\\_documentation/](http://www.census.gov/acs/www/data_documentation/pums_documentation/)

7 <https://bigfuture.collegeboard.org/explore-careers/college-majors>





From Hard Times to Better Times can be accessed online at  
[cew.georgetown.edu/report/hard-times-2015/](http://cew.georgetown.edu/report/hard-times-2015/)

**The Georgetown University**  
**Center on Education and the Workforce**  
3300 Whitehaven Street, NW, Suite 3200  
Washington, D.C. 20007

[cew.georgetown.edu/](http://cew.georgetown.edu/)