

RESEARCH REPORT

Mismatch

How Many Workers with a Bachelor's Degree Are Overqualified for Their Jobs?

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Mismatch: How Many Workers with a Bachelor's Degree Are Overqualified for Their Jobs?

The cover of the May 30, 2016, issue of the *New Yorker* magazine depicts a graduate from the class of 2015 on the clean-up crew for the class of 2016's graduation ceremonies.¹ The sketch reflects the widespread sentiment that many college graduates are in jobs that do not need their high level of skills and for which they are paid much less than those college graduates who are in jobs that do use their skills. To underscore this point, many people cite figures about the high number of college-educated workers (i.e., workers who hold at least a four-year degree) in low-skill jobs: for example, 567,000 people with a bachelor of arts or science degree (BA) are retail sales workers, and 497,000 are customer service representatives. Appendix A lists low-skill occupations that employ large numbers of workers with BAs (BA workers).

Many researchers have struggled with the question of which jobs require a college education. Before 1850, colleges and universities only served the children of elite landowners and the clergy. Starting in the late 19th century, specialized schools accredited by professional organizations developed for teachers, lawyers, doctors, scientists, and some technical fields (e.g., engineering, architecture, and accounting). The Morrill Land-Grant College Acts of 1862 and 1890 provided federal money to states to create new colleges that focused on agriculture and engineering.²

The expansion of college beyond these fields started with the GI Bill after World War II and continued as baby boomers moved from high school to college in record numbers. Many researchers doubted that so many college graduates could be absorbed by the labor market. As early as 1970, Berg described education as “the great training robbery,” and Freeman’s 1976 book, *The Overeducated American*, predicted that many college graduates would not find appropriate employment and would face relatively low earnings over their careers. In fact, some early signs did indicate we were overeducating our young people: the BA earnings premium over high school workers’ earnings fell from 1970 to 1980.

These concerns turned out to be misplaced, however, as college graduates’ earnings rose steadily from 1980 to 2000 while the pay of those with less education stagnated. What changed? College graduates went to work in the middle and upper echelons of the business world as managers, sales

representatives, and specialists in finance, information technology, computing, auditing, advertising, and human resources (Rose 2010), jobs that are largely closed to employees with only a high school diploma.

There is a huge literature on the rising BA premium,³ and studies estimate that typical college graduates earn \$1 million more over their careers than people with just a high school diploma (Carnevale, Rose, and Cheah 2011; Julian and Kominski 2011). But researchers still claim that many college-educated people are in jobs for which they are overqualified. (I use *overqualified* in this report; other researchers have used terms such as *underemployed*, *overeducated*, and even *mal-employed*.) The most cited reference is a study from the New York Federal Reserve Bank (Abel, Dietz, and Su 2014), which found that 33 percent of college graduates are overqualified; if graduate degree holders are excluded, the share of those with just a BA who are overqualified for their current positions is 43 percent. In two other prominent studies, the estimates of overqualification ranged from 48 percent (Vedder, Denhart, and Robe 2013) to 28 percent (Fogg and Harrington 2011).

Nevertheless, the message that getting a college degree is worthwhile has been widely accepted. For example, recent college graduates in two government educational surveys overwhelmingly answered in the affirmative that they thought their college education was worth the cost.⁴ Further, a 2014 poll from the Pew Research Center of college graduates ages 25 to 32 found that 86 percent reported they were in a “career job” or in a job that was “a stepping stone” toward a career job. Overwhelming numbers of high school students believe in the importance of postsecondary education and say they intend to earn a four-year degree. These beliefs have led to 66 percent of high school graduates in 2013 enrolling in postsecondary education in the year following their graduation; the comparable figures in earlier years were 50 percent in 1965 and 60 percent in 1990.⁵

So there appears to be a disconnect between reports of college not paying off and the reality of high wages, graduates’ reports of satisfaction with their employment after college, and the optimism that young college graduates have about their future. That the estimates of the share of college graduates who are overqualified range from 28 to 48 percent also means there is no agreement on how to measure this factor. If college graduates are failing to get good jobs in large numbers, then a lot of money is being wasted, and many people are being misled.

This study developed a new approach to determine whether college graduates are employed in “good-fit” jobs. I used three large data sets: the “long form” samples from the 1980 and 2000 US censuses and the 2014 American Community Survey. Each of these data sets has at least 1 million observations of people currently working with their corresponding demographic, educational,

occupational, and earnings information. Further, the coding of all three surveys has been synchronized by a team of researchers at the University of Minnesota.⁶ For each of the three years (1980, 2000, and 2014), I evaluated up to 449 occupations to see if they were good-fit jobs for someone with a college degree (appendix B provides a more detailed discussion of sources and methods).

Because this methodology is based on statistical tests that include earnings tests, it found a higher percentage of college-educated workers in good-fit jobs than other approaches. Further, these statistical tests can be applied in different years to identify whether an occupation is a good fit for a college-educated worker based on the specific conditions of each year.

Consequently, the key findings are as follows:

- In 2014, 25 percent of college-educated workers were overqualified for their jobs.
- The share of overqualified workers in 1980 was slightly lower than the 2014 rate, but the 2000 overqualification rate was 5 percentage points lower because of the strong economy.
- Younger BA workers consistently had higher overqualification rates in all years, but the gap was greatest during the weak economy of 2014.
- The earnings penalty for college-educated workers in jobs they were overqualified for grew over time and reached 50 percent in 2014; this growth was because of virtually no change in the earnings of college-educated workers in jobs for which they were overqualified versus a \$20,000 increase for BA workers in jobs for which a person with a BA would be a good fit (BA good-fit jobs).
- Because of the big jump in the number of college-educated workers, fewer non-college-educated workers were employed in high-paying BA good-fit jobs.
- The pay of non-college-educated workers in good-fit BA jobs increasingly trailed the pay of college-educated workers in these jobs; although this occurred for both male and female workers, the gap grew more among male workers than female workers.
- The pay gap between college-educated and non-college-educated workers in jobs for which a person with a BA would be overqualified (BA-overqualified jobs) was much smaller than the comparable difference in BA good-fit jobs.
- In 2014, the overqualification rate of college-educated African Americans was 7 percentage points higher than the rate for similar whites, and the rate for Hispanics was a full 10

percentage points higher than for whites. These gaps were very similar to the differences in 1980 but were larger than the differences in 2000, when the economy was very strong.

All these findings are consistent with the overall growing BA earnings premium over non-college-educated workers, and they identify some of the exact pathways in which these differences have developed.

Defining Good-Fit and Overqualified Jobs

The creation and expansion of public education has been justified in two ways. First, because the United States has had many immigrants, publicly provided, free education was considered useful for teaching everyone English and socializing young people to become informed citizens. Second, literacy, numeracy, and the ability to follow directions for task completion were thought to improve overall productivity. Economists who measure productivity view the amount and quality of education as an input in the economy that leads to economic growth and to higher earnings for workers with more education (Gordon 2016).

In the past 15 years, an “accountability” movement has emerged to ensure that more education leads to earnings and productivity gains that far exceed the cost of a college education. Florida, one of the leaders in this movement, developed a system to track the earnings of graduates from each high school, college, and training program to show which students had the highest earnings in the 10 years following their graduation.⁷ Various other bodies have tried to do similar analyses (with less comprehensive data) for each four-year college and two-year institution.⁸

Given how much public attention focuses on the monetary returns to education, it is surprising that all the major studies on BA employment have not included earnings in their definition of an appropriate job. My definition of a good-fit job for BA workers takes into account both the concentration of BA workers in that job as well as their earnings. I began by computing the concentration of college-educated workers and those with a graduate degree (called the “BA group” because it contains all BA workers and those with higher education) in each occupation to determine if the share of college-educated workers in that occupation was greater than the overall share of college-educated workers in the economy. This computation divided occupations with a higher than average college-educated workforce from those with a less than average concentration. For each group, different earnings tests were used to determine which occupations were a good fit for BA workers and which were occupations for which BA workers were overqualified.

This approach was not intended to identify the “perfect match” for college graduates but rather to determine if employment in a specific occupation gives college-educated workers a high probability of using their acquired skills and earning a salary that is at, above, or just below the median earnings for all college-educated workers of that gender. College-educated people should bring unique skills to the workplace that make going to college worthwhile. If people with some college education or an associate of arts (AA) degree have the same earnings as those with BAs in an occupation, it is hard to justify the time and costs of going to college. (See Quintini [2011] and Leuven and Oosterbeek [2011] for literature reviews and appendix B for a presentation of other approaches).

It is important to understand four things about the data and the nature of occupations. First, given that the earnings of female workers are much lower than those of male workers with the same level of education, I conducted separate analyses for male and female workers. If the workers were combined into a common pool, jobs that employed mainly women would be more likely to fail an earnings test, and jobs that employed mainly men would be more likely to pass an earnings test. In my approach, the share of college-educated workers in BA-overqualified jobs was always close to the same for each gender. In general, most occupations were rated similarly as being a good fit or not for both genders.

Second, with 436 occupations for a labor force of 140 million in 2014, there was broad diversity within many occupations in the tasks performed and the level of earnings. For instance, an insurance agent can head an agency of 10 insurance agents, or be one of the junior agents in a shop, or sell policies to companies of many hundreds of workers. The first and third of these insurance agent positions pays a lot more than the second.

Third, within virtually every defined occupation, there were workers with each of the five educational levels used in this study: high school incomplete, high school diploma or general equivalency diploma (GED), some college but no four-year degree, bachelor’s degree, and graduate degree. For example, among the 263,000 male taxi cab drivers in 2012, 35,000 had not finished high school, 35,000 had a bachelor’s degree, and 9,000 had a graduate degree (with the rest split between having some college education and a high school diploma). At the other end of the earnings spectrum, of the 575,000 operating managers, 285,000 had a four-year or graduate degree, and 97,000 had a high school diploma.

In many occupations, people with more education earned more than those with less education. This finding was especially true for occupations in which the range of responsibilities varied. For example, among operating managers, those with a graduate degree had median earnings of \$105,000, those with a BA earned \$78,000, those with some college or an AA earned \$64,000, those with a high school

diploma earned \$60,000, and those who did not finish high school earned \$58,000. For occupations for which ranges of responsibilities did not vary, there was no special return for more education. For example, the earnings by education among taxi drivers were almost identical in 2014 for those with different educational attainment levels: taxi drivers with a high school diploma, some college education, or an AA had a median income of \$36,000 in 2014 versus the \$31,000 median for taxi drivers without a high school diploma or a BA or graduate degree.

In occupations in which earnings varied by education, workers with less than a college degree had lower earnings than college-educated workers in that occupation but usually had higher earnings than their typical earnings in other jobs. For example, the earnings of people with some college, high school, or less than a high school education who worked as operating managers were considerably higher than their overall median levels in other occupations.

Fourth, a limited number of occupations—I call them the intellectual and caring professions—offered most people with a BA or graduate degree earnings levels considerably below that of the typical college-educated worker. Examples include members of the clergy; primary, middle, and secondary school teachers; social workers; artists; and writers. In fact, 10 percent of men with a BA and nearly 20 percent of men with a graduate degree in 2014 were in these low-paying professional occupations. This number was so high because fully three of four workers in these jobs had either a four-year or graduate degree. The key factor here is that they chose these lower-paying jobs, and it would be a mistake to use their low earnings as a justification for categorizing these jobs as not a good fit for college-educated workers.

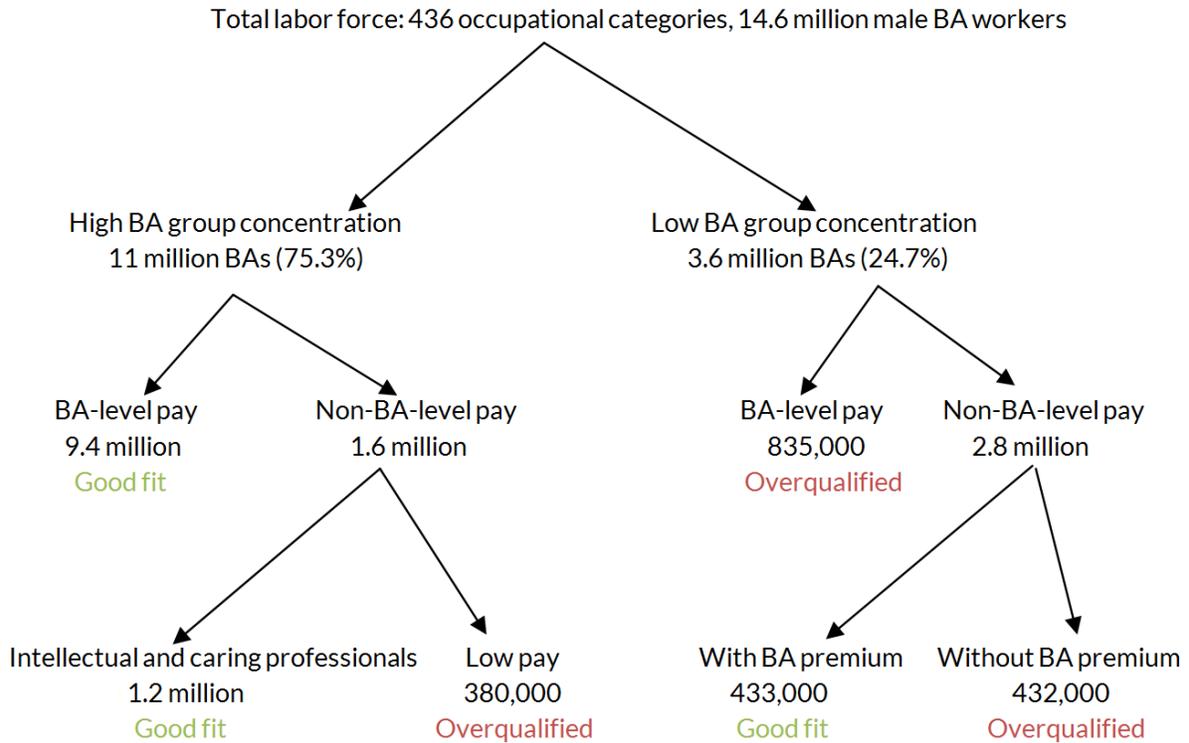
Using male workers in 2014 as the example, figure 1 lays out the decision tree for determining whether an occupation was a good fit for college-educated workers. The first test was based on the concentration of workers in that occupation with a BA or graduate degree. The BA group included those with graduate degrees because having people with a graduate degree in an occupation usually leads to higher earnings for those with a BA in that occupation. For male workers in 2014, 31.5 percent had a BA or graduate degree.

Therefore the first test of all male employment divided occupations into those in which the BA group was either over or under 31.5 percent. In 2014, there were 167 occupations with a higher than average concentration of BA and graduate degree earners. These occupations included over 75 percent of all BA workers, 84 percent of workers with graduate degrees, and 40 percent of all workers. With the few exceptions of occupations with a very small number of cases, the median earnings of college-educated workers in each of these occupations were higher than the median earnings of those with some college education or an AA degree in the same occupations.

The second test identified occupations with high concentrations of BA and graduate workers but a low level of earnings (defined as median earnings in the occupation of \$48,000). This level was 80 percent of the median of all male BA workers (\$60,000) but still considerably higher than the overall median earnings level of male workers with some college or an AA degree. This test limited the scope of the concentration test and reflected the fact that in tough times, many BA graduates may congregate in occupations that are not career jobs.

FIGURE 1

Decision Tree for Determining Overqualification, Male BA Workers in 2014



Source: American Community Survey, 2014.

Note: "BA group" includes graduate degrees. Intellectual and caring professionals are those in occupations that have a very high percentage of workers with a four-year or graduate degree but that offer considerably lower earnings than such workers might earn elsewhere (e.g., clergy, public school teachers, and social workers).

Although the group with a high BA concentration and non-BA-earnings contained 14 percent of all male BA workers (1.6 million workers), the vast majority (80 percent) were employed in the intellectual and caring professions. I treated intellectual and caring professions as good-fit jobs because they have very high BA group shares and because people choose these jobs for reasons beyond just pay. The remaining 380,000 male BA workers in these relatively low-paying positions (2.6 percent of all male BA workers) were reclassified as being in BA-overqualified jobs because of their low pay. Table 1 lists the

specific occupations with the largest numbers of BA workers that fall into this category, that is, low-paying occupations with high concentrations of BA workers outside of the intellectual and caring professions. With the exception of recreation and fitness workers, these occupations are part of the office economy, so they *may* provide opportunities or contacts to move up to more professional office jobs.

TABLE 1

Occupations with Many BA Workers but Low Pay

Occupation	Number	Median pay	BA group share
Office and administrative support	68,106	\$37,000	39%
Secretaries and administrative assistants	46,851	\$33,000	37%
Recreation and fitness workers	41,504	\$30,000	38%
Bookkeeping, accounting, and auditing clerks	40,526	\$39,000	34%
Paralegals and legal assistants	28,764	\$43,000	66%
Insurance claims and policy processing clerks	24,992	\$41,500	44%
Meeting and convention planners	24,237	\$45,400	64%

Source: American Community Survey, 2014.

Note: BA = bachelor of arts or science degree. Data are for male BA workers.

The next task was to determine whether any niches existed in occupations with a low BA group concentration that provided BA workers with earnings opportunities that mirrored what they would get in good-fit jobs. In addition to having higher pay, the pay of BA workers in these occupations must be considerably higher (at least 10 percent) than those in the same job with some college education or an AA. This stipulation was intended to identify occupations in which the unique skills of those with a college degree are manifested. These occupations consisted mainly of managers and supervisors who probably earn more than workers with less education in these jobs because they have larger operations to manage or supervise (table 2). In contrast, firefighting was not included as a good-fit job, even though the BA workers' earnings in this occupation were relatively high, because the gap in earnings between those with and without BAs was quite small. (The median pay of male firefighters with BAs was \$65,000, and the pay for those with some college or an AA degree in this occupation was \$62,000.)

Consequently, the 433,000 male BA workers (3.0 percent of all BA workers) employed in occupations in which their pay was high and they earned more than those with less education were reclassified as being in a good-fit job. This addition to the number of BA workers in good-fit jobs was only a few tenths of a percentage point higher than the number of BA workers who were downgraded to being overqualified because they were in occupations with a high BA group concentration but low earnings. In other words, the share of BA workers in good-fit jobs was not greatly affected by these earnings tests. However, the average earnings of good-fit BA workers were somewhat higher than they

otherwise would have been as a result of the earnings test because lower-paid BA workers were excluded, and BA workers in occupations with low concentrations of BA workers but large BA pay premiums were included.

TABLE 2

Occupations with Relatively Few BA Workers but High Pay

Occupation	Number	Median pay	BA group share	BA premium
With BA premium				
Transportation, storage, and distribution managers	37,644	\$65,000	28%	35%
First-line supervisors of production and operating workers	88,875	\$65,000	15%	18%
Aircraft mechanics and service technicians	10,947	\$65,000	10%	16%
Supervisors, protective service workers, all other	11,390	\$62,000	31%	38%
Industrial and refractory machinery mechanics	18,227	\$60,000	6%	20%
First-line supervisors of correctional officers	7,286	\$59,000	21%	18%
Supervisors of transportation and material-moving workers	27,461	\$52,000	19%	16%
First-line supervisors of landscaping, lawn service, and grounds-keeping workers	15,499	\$48,000	17%	17%
Food service and lodging managers	120,579	\$47,000	29%	31%
Without BA premium				
Firefighters	50,207	\$65,000	19%	5%
Diagnostic-related technologists and technicians	22,265	\$60,000	30%	5%
Postal service mail carriers	27,440	\$56,000	18%	0%
First-line supervisors of construction trades and extraction workers	62,571	\$60,000	12%	0%
Postal service clerks	13,044	\$56,000	19%	2%
Engineering technicians, except drafters	46,542	\$50,000	16%	0%
Pipelayers, plumbers, pipefitters, and steamfitters	17,398	\$48,000	4%	0%
Sheriffs, bailiffs, correctional officers, and jailers	40,286	\$47,000	14%	4%

Source: American Community Survey, 2014.

Note: BA = bachelor of arts or science degree. Data are for male BA workers.

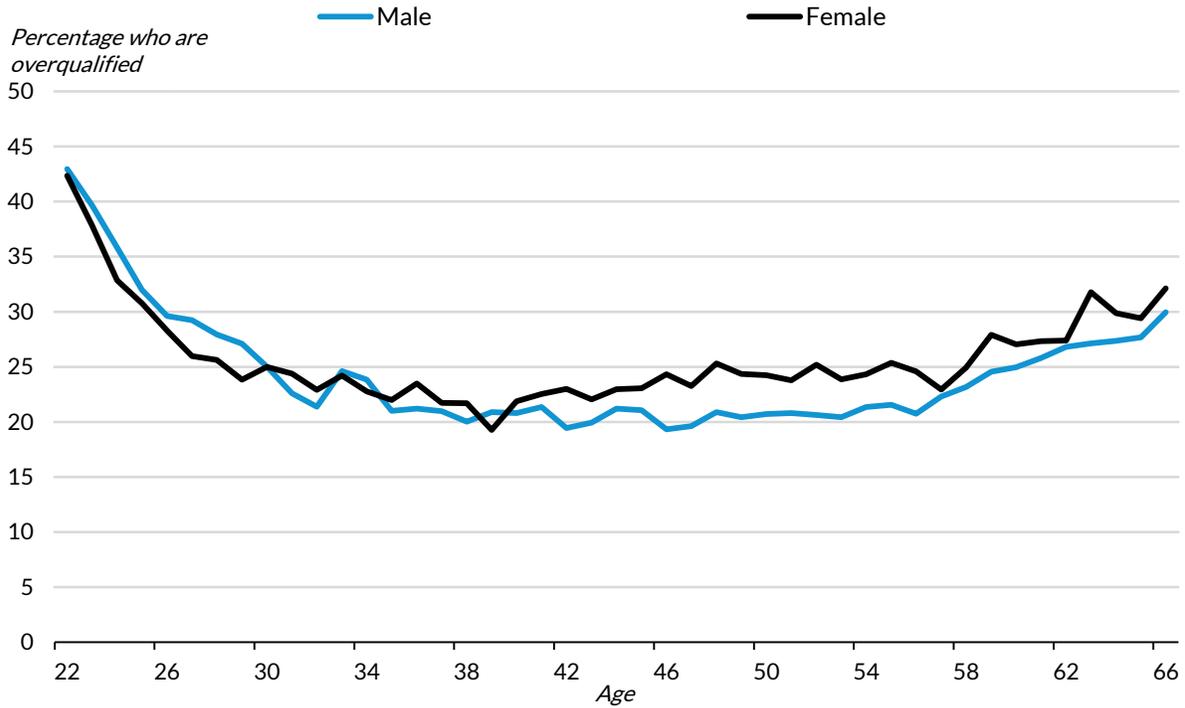
Findings: Incidence of Overqualification

All College-Educated Workers

About one-quarter of workers with BAs were overqualified for their current positions in 2014 (figure 2). Overqualification rates were highest for younger workers but declined steeply from ages 22 to 30, suggesting that the most serious problems of finding a good niche are in the first years after graduation. Overall the women’s overqualification rate was slightly higher (25.8 versus 24.3 percent). However,

figure 2 shows that women’s overqualification rates were lower than men’s rates from ages 22 to 29 but then become higher than men’s from age 35 on.

FIGURE 2
Rates of College Graduate Overqualification by Age, 2014



Source: American Community Survey, 2014.

The initial high rate of overqualification for young BA workers partially resulted from their high rate of part-time employment, because some of these young BA graduates were in graduate school and others had yet to find an appropriate match for their interests and skills. As the overqualification rate declined from 43 percent at age 22 to 29 percent at age 27, the share working part-time decreased from 39 to 27 percent. Overall, the women’s overqualification rate for new graduates was 32.3 percent versus 33.8 percent for comparably aged men.

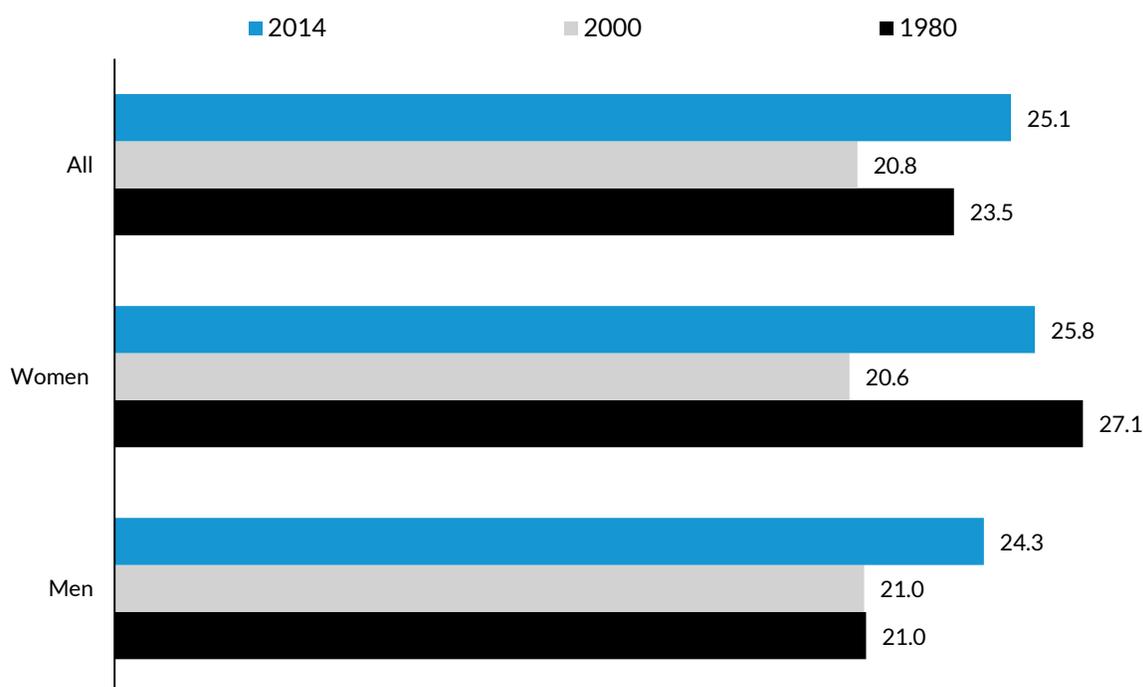
Overqualification levels have changed over time for both men and women with a BA but no graduate degree (figure 3). Overall, the BA overqualification rate was 23.5 percent in 1980, declined to 20.8 percent in 2000, and then rose to 25.1 percent in 2014. This fairly narrow range nevertheless reflects the different macroeconomic climates in those three years, from the new arrival of many young college-educated baby boomers in 1980 to the strong economy in the Clinton years to the slow recovery following the Great Recession, which began in 2008.

In 1980, female college graduates were more likely to be in jobs for which they were overqualified than comparable men (27 to 21 percent). Many of these women were in clerical jobs because there were many barriers to them entering business managerial and professional jobs. Female BA workers who were in professional jobs were heavily concentrated in K-12 teaching, social work, and nursing. As the women's movement and other political and economic shifts rendered more jobs open to female BA workers, women's long-term involvement in the labor market increased. By 2000, men and women had very comparable rates of overqualification. This change meant men had the same level of overqualification as in 1980, but women's overqualification rate fell dramatically from 1980 to 2000.

FIGURE 3

Changing Overqualification Levels of BA Workers, 1980-2014

Percentage who are overqualified



Source: Author's computations from the 2014 American Community Survey and 1980 and 2000 samples of the US Decennial Census.

Note: BA = bachelor of arts or science degree.

By 2014, the overqualification rates were up significantly for both male and female college graduates. For women, this increase was a 5 percentage-point shift from 2000; the men's shift was just over 3 percentage points. One factor that may have hurt female college graduates more than their male counterparts was their heavier reliance on intellectual and caring professional jobs, particularly as

school teachers. These jobs tend to be in the public sector, and the financial collapse of 2008 and its aftermath had a negative impact on public-sector spending.

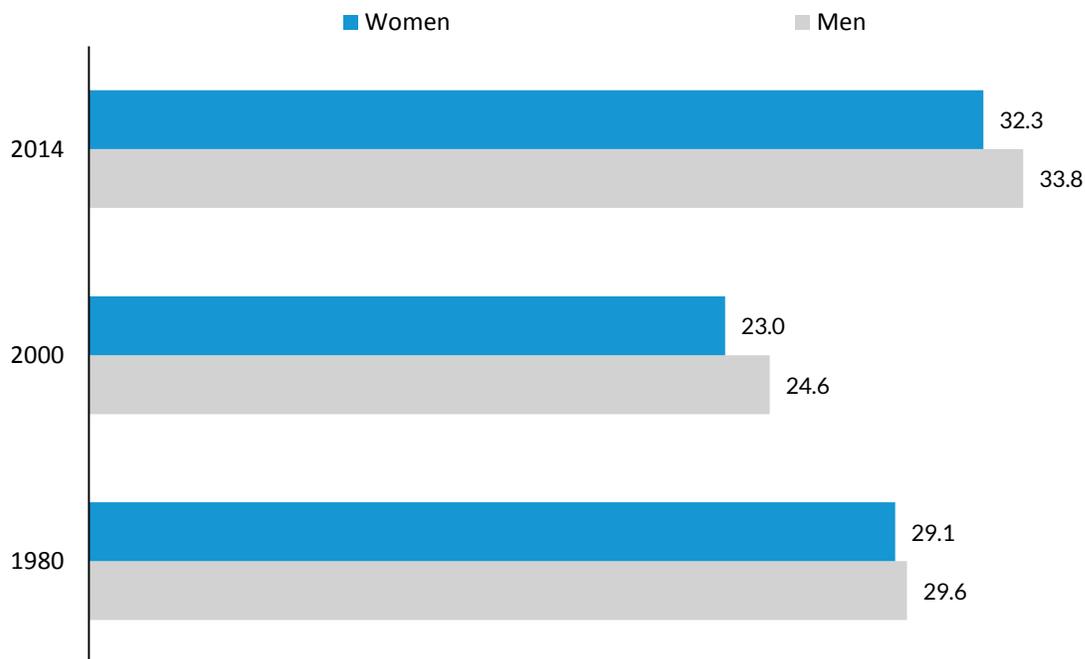
Young Workers

The overqualification rate I found among young college graduates was 10 percentage points lower than the 44 percent rate reported by Abel, Dietz, and Su (2014). Using yearly data back to 1990, they found that the overqualification of young BA workers is sensitive to the business cycle and rises when the economy is weak.⁹ The movement over time of the overqualification rate of college graduates ages 22 to 27¹⁰ showed the same trends as that of all college graduates (figure 4 compared with figure 2): the overqualification rates were highest in 2014 and lowest in 2000. One difference was that the increase in overqualification between 2000 and 2014 was greater for young BA workers (9 percentage points) than for all BA workers (4 percentage points).

FIGURE 4

Changing Overqualification Levels among Young College Graduates

Percentage who are overqualified



Source: Author's computations from the 2014 American Community Survey and 1980 and 2000 samples of the US decennial census.

Once again, there was not a big difference between the overqualification rates in 1980 and 2014: the 2014 level was 3 percentage points higher for women and 4 percentage points higher for men than the 1980 level. This small difference undercuts statements like, “When I graduated from college, I never had to worry about a job, but now this is not the case.”¹¹ The difficulty of finding a good-fit job is concentrated in the first years after graduation and ends up being much lower in the prime earning years of 35 to 55. When people look back, their difficulties of finding the right job may seem distant and unimportant. It is not unreasonable to believe that today’s graduates will have the same experience, and the Pew poll cited earlier affirms their optimism about finding a career job.

Race and Ethnicity

Next, I examined racial and ethnic differences in overqualification (figure 5). To simplify the presentation, men and women are combined because their stories were virtually the same in relative terms (i.e., how men and women of a specific race or ethnicity compared with white men and women). In all three years of the study, non-Hispanic whites with BAs had significantly lower overqualification rates than nonwhites. For example, in 2014, the white BA overqualification rate was 23.4 percent compared with an African American rate of 30.4 percent and a Hispanic rate of 33.5 percent. In other words, the African American rate was 7 percentage points higher than the white rate, and the Hispanic rate was a full 10 percentage points higher. African Americans and Hispanics had worse labor market outcomes, even among the highly educated group of four-year college graduates.

The situation in 2014 was similar to the one in 1980, when African Americans and Hispanics had overqualification rates that were 8 and 11 percentage points higher than white rates. In 2000, the overqualification rates were lower than they were in 1980 for all racial/ethnic groups, and the gap between whites and others was smaller. These findings underscore the importance of a strong macroeconomy for these underrepresented minorities.

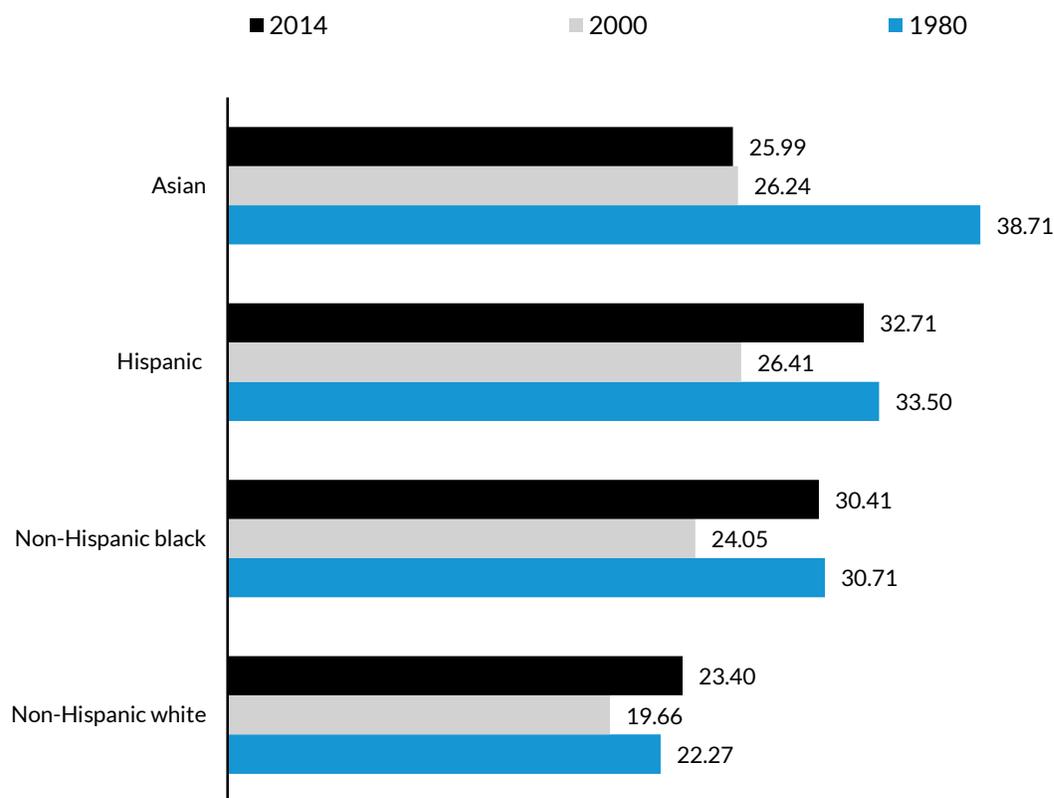
The final group was a combination of Asians and other races that was mainly composed of workers of Asian descent but also included a small group of mixed-race people plus people who were not Asian, Caucasian, African, or African American. Asians and other races in 1980 had an overqualification rate higher than any other group in any year (nearly 39 percent). But this high rate was an anomaly and may reflect that workers of those races with BA degrees were younger and relatively new to the United States. By 2000, the rate of Asians and other races in BA-overqualified jobs had declined to 26 percent and was comparable to the African American and Hispanic rates. In the transition from 2000 to 2014, the overqualification rate for Asians and other races hardly changed despite it increasing significantly

for all other groups in the economy. This achievement brought the rate of overqualification among Asian and other-race BA workers to within 2.6 percentage points of the white rate. Clearly this movement was driven by the greater acceptance of those races, based on those who came to the United States for college and graduate school and stayed here and from those who were born in America, who got college degrees at rates slightly higher than white Americans.

FIGURE 5

Overqualification of the College Educated by Race and Ethnicity, 2014

Percentage who are overqualified



Source: Author's computations from the 2014 American Community Survey and 1980 and 2000 samples of the US Decennial Census.

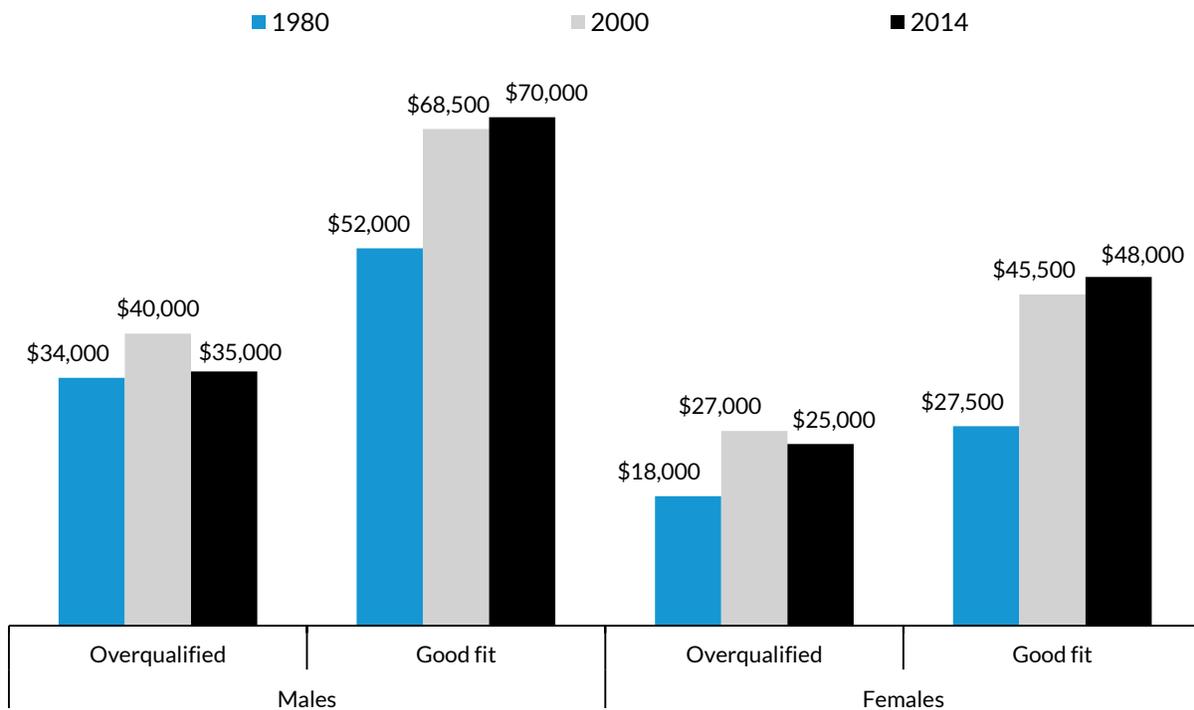
Data on Earnings

Surprisingly, of the three major studies on overqualification that have received extensive public attention, only Fogg and Harrington (2011) presented data on the difference in earnings between BA workers who are good fits for their jobs and who are overqualified for their jobs. They reported that the

mean earnings of BA workers overqualified for their jobs were \$37,600, 43 percent less than the \$66,500 of BA workers in good-fit jobs. I found an even larger earnings gap between BA workers who were good fits and who were overqualified for their jobs than Fogg and Harrington because I categorized jobs with high BA concentrations but low BA earnings as BA-overqualified jobs, but I considered jobs with high BA premiums in low BA group concentrations to be BA good-fit jobs. Relative to the Fogg and Harrington approach, my approach reduced the average earnings of the overqualified BA workers and did not change the earnings of good-fit BA workers.

Unlike Fogg and Harrington (2011), I was able to examine how the earnings gap changed over time. I found that the pay gap between BA good-fit jobs and BA-overqualified jobs has increased substantially over time. For men, the earnings of overqualified workers were almost the same in 1980 and 2014, but the earnings of men in good-fit jobs increased by nearly \$20,000 (figure 6). Women in BA-overqualified jobs had real earnings gains of 40 percent from 1980 to 2014, but those in BA good-fit jobs saw their real earnings grow 75 percent.

FIGURE 6
BA Workers' Median Real Earnings by Type of Job, 1980, 2000, and 2014



Source: Author's computations from the 2014 American Community Survey and 1980 and 2000 samples of the US decennial census.

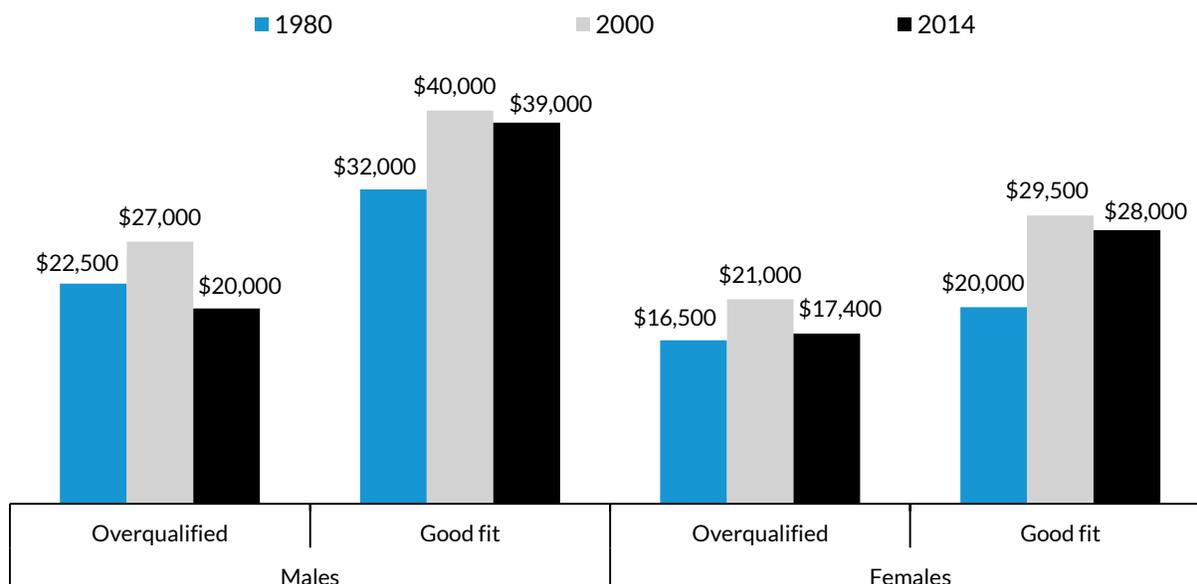
Note: BA = bachelor of arts or science degree; BA worker = worker holding a BA.

The movements of these earnings show that the penalty for BA workers in jobs for which they were overqualified grew during these years. In 1980, male BA workers overqualified for their jobs earned 35 percent less than male BA workers who were good fits for their jobs. By 2000, the deficit had grown to 41 percent, and it grew to 50 percent by 2014. The gap for female BA workers followed a similar trajectory: 35 percent in 1980, 41 percent in 2000, and 48 percent in 2014. Underlying these growing gaps is the differential rate of growth of real median earnings from 1980 to 2014. The earnings of men in good-fit jobs in 2014 were 35 percent higher than they were in 1980. By contrast, the earnings of college-educated men in BA-overqualified jobs barely changed, growing just 3 percent. The comparable numbers for college-educated women were 75 percent growth in BA good-fit jobs and 40 percent growth in BA-overqualified jobs.

For young college graduates, the penalty for not being in a good-fit job was remarkably similar to the penalty for all graduates (figure 7). Although the penalty for being in a BA-overqualified job versus a BA good-fit job worsened from 34 percent in 1980 to 50 percent in 2014 for all male BA workers, the comparable penalty for young male BA workers increased from 30 to 49 percent over these years. The comparable numbers for women were from 35 to 48 percent for all college graduates and from 17 to 38 percent for young female BA workers.

FIGURE 7

Median Earnings of Young BA Workers by Type of Job, 1980, 2000, and 2014



Source: Author’s computations from the 2014 American Community Survey and 1980 and 2000 samples of the US decennial census.

Note: BA = bachelor of arts or science degree; BA worker = worker holding a BA.

Although these ratios moved in tandem, the earnings gains of young college graduates noticeably trailed the real gains of all college graduates. Among college graduates in good-fit jobs, men had a 35 percent real gain from 1980 to 2014, and women had a 75 percent gain. For young college graduates, however, the growth rates were much lower—21 percent for men and 39 percent for women. Among all college graduates in BA-overqualified jobs, the growth rates were just 3 percent for men and 40 percent for women. But for overqualified young college graduates, men had an earnings decline of 11 percent, and women's earnings grew just 3 percent.

BA Overqualification and Earnings by Race and Ethnicity

Relative to whites, African Americans and Hispanics with BAs in good-fit jobs earned 25 and 18 percent less in 2014, respectively (figure 8). The gaps were similar in 1980. In contrast, Asian and other-race male BA workers in good-fit jobs had almost the same earnings as comparable whites in 2014, and Asian and other-race female BA workers in good-fit jobs earned 21 percent more than comparable whites.

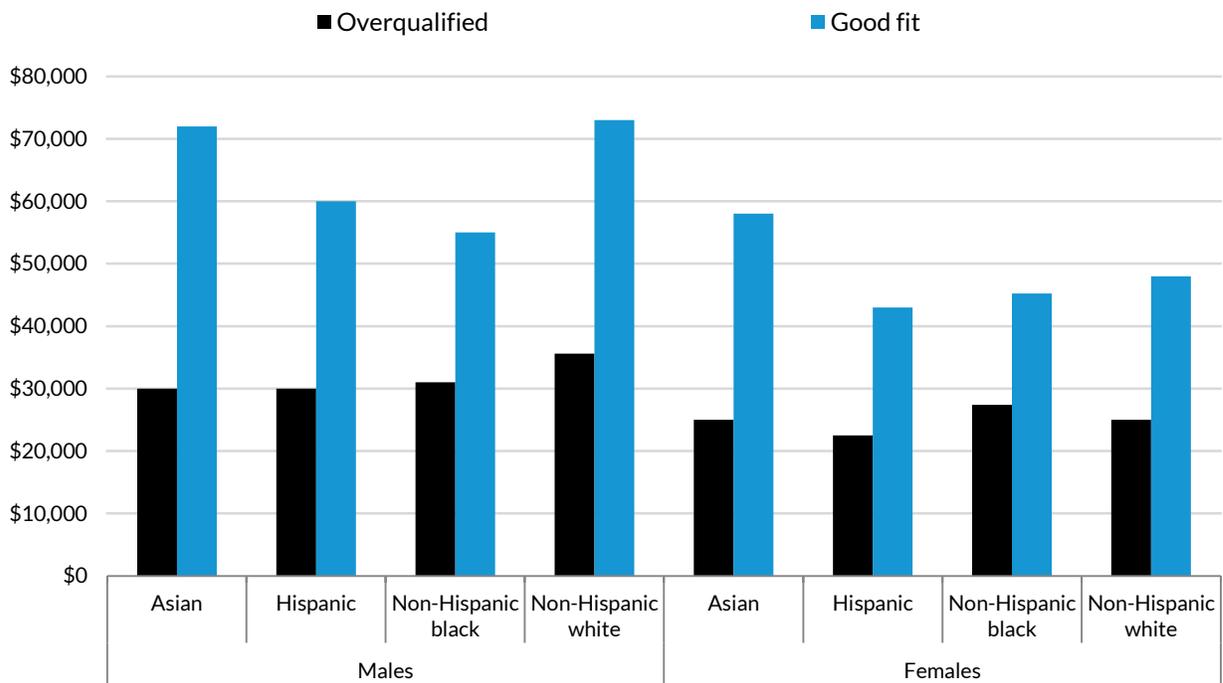
In terms of BA workers overqualified for their jobs, white men had an advantage over the three other racial and ethnic groups—13 percent for African Americans and 16 percent for both Hispanics and Asians and other races. For female BA workers, however, all the nonwhites in jobs for which they were overqualified had significantly higher earnings than comparable whites in 1980 (at least 20 percent for African Americans and Asians and other races and 10 percent for Hispanics). By 2014, this advantage reduced or disappeared—African American women still earned more (10 percent) than white women; Asian women and women of other races had the same earnings as white women; and Hispanics trailed white women and Asian women and women of other races by 10 percent.

Consequently, the penalty for being overqualified (the difference between the blue and black columns in figure 8) in 2014 was largest for Asians and other races, because overqualified Asian and other-race men earned 58 percent less than those in a good-fit job. The comparable figure for Asian and other-race women was 57 percent. Overqualified white and Hispanic men and women BA workers all earned about one-half of their good-fit counterparts. African Americans had the lowest penalty for being overqualified—44 percent for men and 39 percent for women.

Overall, African American and Hispanic men suffered from three deficits compared with white men and Asian and other-race men. First, they were less likely to have BA or graduate degree: 26 percent of African Americans and 21 percent of Hispanics held a BA versus 40 percent of whites and Asians and other races. Second, if they had a BA, they were less likely to be in a good-fit job; and third, their

earnings in a good-fit BA job were lower than comparable earnings for whites and Asians and other races. Consequently, the overall median BA earnings for whites in 2014 were \$63,000 versus \$45,000 for African-Americans and \$48,000 for Hispanics. For female BA workers, these factors were not as strong because African American women were less likely to take breaks from the labor market for family responsibilities than white women. Consequently, their median earnings were very close to those of whites (\$40,000 versus \$41,000, respectively). Hispanic women did slightly worse with a median of \$36,000.

FIGURE 8
BA Workers' Earnings in BA Good-Fit and BA-Overqualified Jobs, by Race and Ethnicity, 2014



Source: Author's computations from the 2014 American Community Survey.

Note: BA = bachelor of arts or science degree; BA worker = worker holding a BA. See report text for definition of BA good-fit and BA-overqualified jobs.

Using the Results on Good Fit and Overqualification to Understand Rising Inequality

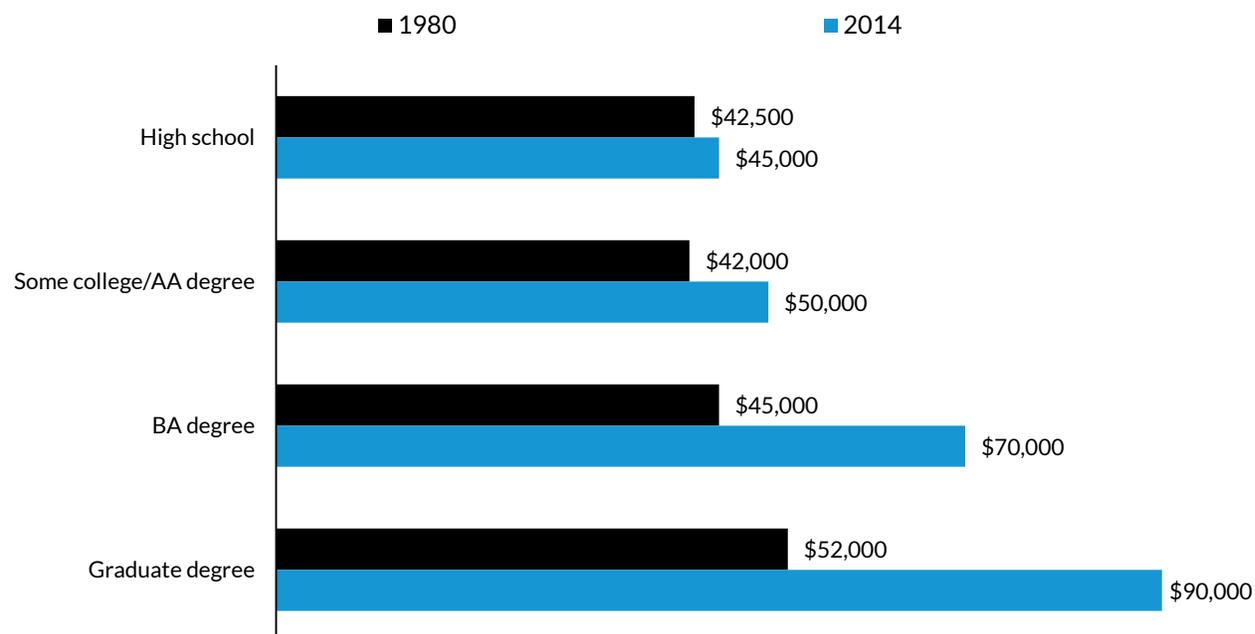
This new research on identifying BA workers in good-fit jobs in 1980 and 2014 leads to some insights on the rising BA earnings premium over workers with less formal education. The share of BA workers in

good-fit jobs was about the same in 1980 and 2014—that is, there was no large historical movement of BA workers into better-fitting jobs. Instead, the rising BA advantage was driven by two factors. First, in both BA good-fit and BA-overqualified jobs, the earnings of college-educated workers increased much more than the earnings of workers with less education. Second, non-college-educated workers earned considerably more when they were employed in good-fit BA jobs (40 percent of all employment) than when they were employed in BA-overqualified jobs (60 percent of all employment). The huge increase in the number of college-educated workers created a problem for non-college-educated workers because a smaller share of non-college-educated workers were employed in BA good-fit jobs in 2014 than had been employed in similar jobs in 1980.

The earnings of men with different levels of education in good-fit BA jobs varied little in 1980, ranging from \$42,000 to \$52,000 (figure 9). By 2014, that narrow band had developed into a gap, with high school graduates in BA jobs earning \$45,000 while college graduates in BA jobs earned \$90,000. The BA earnings premium over high school workers in good-fit BA jobs grew from a scant 6 percent in 1980 to 56 percent in 2014; the BA premium versus some college education or an AA grew from 7 to 40 percent.

FIGURE 9

Men’s Earnings by Education in BA Good-Fit Jobs, 1980 and 2014



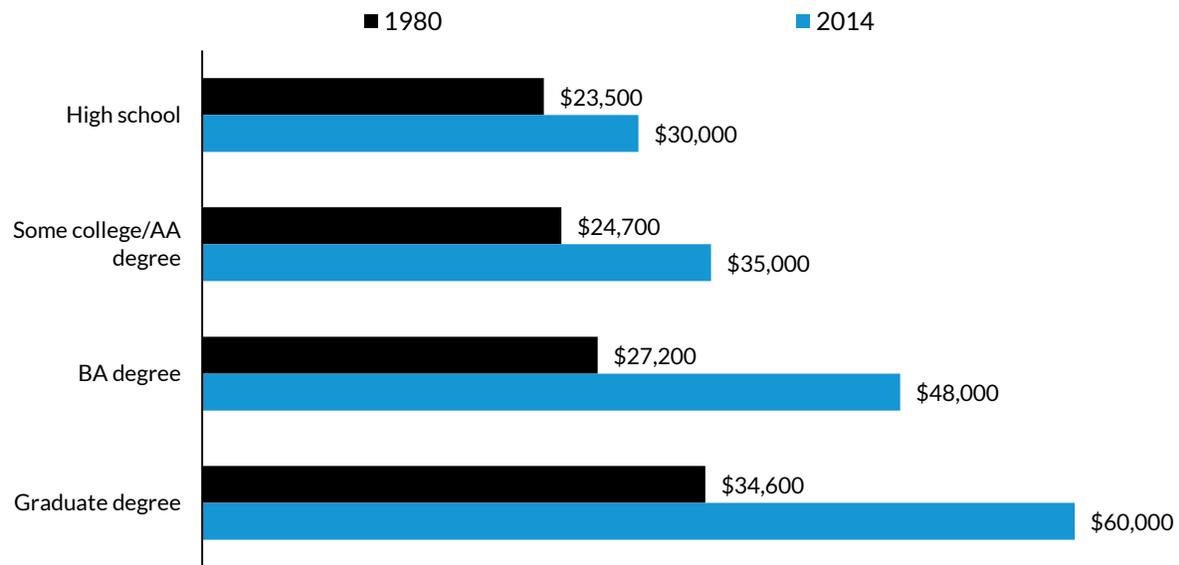
Source: Author’s computations from the 2014 American Community Survey and 1980 sample of the US decennial census.

Note: AA = associate degree; BA = bachelor of arts or science degree. See report text for definition of BA good-fit jobs.

The same pattern existed for women in BA good-fit occupations: their earnings ranged from \$23,500 to \$34,600 in 1980 versus \$30,000 to \$60,000 in 2014 (figure 10). Once again, the growth was highest for those with BA or graduate degrees. Consequently, the BA earnings premium over high school workers in good-fit BA jobs grew from 16 percent in 1980 to 60 percent in 2014, and the BA premium versus some college or an AA grew from 10 to 37 percent. These 2014 BA premiums for women were almost exactly the same as the BA premiums for men.

FIGURE 10

Women’s Earnings by Education in BA Good-Fit Jobs, 1980 and 2014



Source: Author’s computations from the 2014 American Community Survey and 1980 sample of the US decennial census.

Note: AA = associate degree; BA = bachelor of arts or science degree. See report text for definition of BA good-fit jobs.

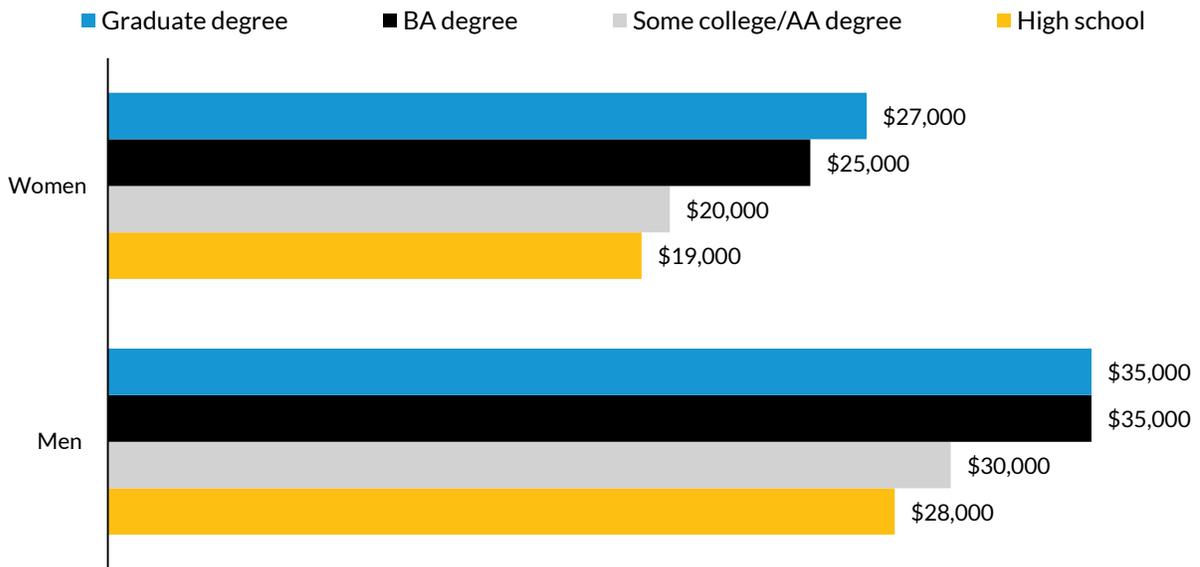
Among all workers in non-BA jobs in 2014, the trend was much more muted. Although college-educated workers in these jobs earned more than those without a college degree, the gap was much smaller than the gap between these two groups employed in good-fit BA jobs. In BA-overqualified jobs, college-educated men earned 17 percent more than those with some college education or an AA; for BA women the advantage was 25 percent (figure 11). The earnings advantages for BA workers versus workers with a high school education in 2014 were slightly higher—25 percent for men and 32 percent for women—and all these advantages were much smaller than in the BA good-fit portion of the labor market.

The 1980 earnings levels for men in BA-overqualified jobs were not that different from the 2014 levels. Men with a high school education actually earned slightly less in 2014 than in 1980, and the

growth rate for each of the other three educational levels was an anemic 10 percent. Women, by contrast, had more growth because they started at very low earnings (\$16,000 to \$18,000) for BA-overqualified jobs. Consequently, although high school-educated workers in these jobs had a real earnings gain of 10 percent, those with some college education or an AA had a gain of 24 percent, and those with a BA or graduate degree had gains of 41 and 48 percent, respectively.

FIGURE 11

Earnings by Education in BA-Overqualified Jobs, 2014



Source: Author's computations from the 2014 American Community Survey.

Note: AA = associate degree; BA = bachelor of arts or science degree. See report text for definition of BA-overqualified jobs.

An important change not shown in these comparisons within occupational groups is the declining presence of those without a college degree in BA good-fit jobs. In 1980, those with a BA or graduate degree held 45 percent of the coveted, high-paying BA good-fit jobs. By 2014, this figure had risen to 58 percent. Table 3 shows this change by comparing the shares of workers by gender in good-fit BA jobs in 1980 and 2014. Not surprisingly, few workers who had not finished college were in these higher-paying jobs (10 percent for men and 12 percent for women). For those with just a high school education, 36 percent of male workers and 26 percent of female workers in 1980 were in BA good-fit jobs. By 2014, these shares had dropped to 21 percent of men and 18 percent of women. For those with some college education or an AA, 50 percent of men and almost 39 percent of women were employed in BA good-fit jobs in 1980. By 2014, the comparable shares for men and women with some college education fell to

37 and 33 percent, respectively. All these movements away from the high-paying occupations in the economy exerted a downward pressure on the earnings of workers without a college degree.

TABLE 3

Share of Workers in BA Good-Fit Jobs, 1980 and 2014

Level of education	Men		Women	
	1980	2014	1980	2014
No high school completion	21%	10%	14%	12%
High school diploma	36%	21%	26%	18%
Some college or AA	50%	37%	39%	33%

Source: Author’s computations from the 2014 American Community Survey and 1980 sample of the US decennial census.

Notes: AA = associate degree; BA = bachelor of arts or science degree. See report text for definition of BA good-fit jobs.

Finally, Table 4 presents data on changes of the division of the labor force into BA good-fit and BA-overqualified jobs in 1980 and 2014. Overall, the share of BA good-fit jobs increased from 39 percent in 1980 to 45 percent 2014. This is consistent with the shifting economic focus from manufacturing to office work, health care, and education. Driving this change was the huge increase of women in BA good-fit jobs—from 31 percent in 1980 to 48 percent in 2014. As so many women moved in, the male share in BA good-fit jobs decreased slightly from 46 percent in 1980 to 43 percent in 2014.

TABLE 4

BA Good-Fit Jobs and Median Earnings, 1980 and 2014

	1980	2014
Share of labor force in a good-fit jobs		
Men	46%	43%
Women	31%	48%
All	39%	45%
Median earnings (2014 dollars)		
<i>Men</i>		
BA good-fit job	\$48,000	\$61,000
BA-overqualified job	\$29,500	\$28,000
Good-fit advantage	64%	118%
<i>Women</i>		
BA good-fit job	\$26,000	\$42,000
BA-overqualified job	\$16,000	\$19,500
Good-fit advantage	63%	115%

Source: Author’s computations from the 2014 American Community Survey and 1980 sample of the US decennial census.

Notes: BA = bachelor of arts or science degree. See report text for definition of BA good-fit and BA-overqualified jobs.

In terms of earnings changes, men had lower earnings in BA-overqualified jobs in 2014 than they had in 1980; for women in BA-overqualified jobs, earnings rose modestly. For both male and female workers,

however, the earnings gains in BA good-fit jobs was substantial. Consequently for both men and women, the premium for being in a BA good-fit job over being in a BA-overqualified job *almost doubled*.

Conclusion

The mass media have sent mixed messages about the effectiveness of higher education. Although one set of articles presents the importance of getting a college degree for achieving economic success, another set highlights the problems college graduates have in getting good jobs. Other stories track the rising level of student debt, a not-so-subtle message that obtaining a four-year degree might not be the best strategy for everyone. Finally, a number of studies have focused on the share of college-educated workers who are overqualified for their jobs.

The methodology developed in this report breaks new ground by

1. not trying to tie a job to a level of education but just identifying good-fit jobs (although this report only looked at those college graduates without a graduate degree, the same approach could be used for any educational level);
2. incorporating earnings in the methodology used for defining good-fit jobs;
3. being based on statistical procedures that can be applied specifically for each year (this permits historical comparisons that have not been made before); and
4. identifying the split between BA good-fit jobs and BA-overqualified jobs (which permits reporting the changing earnings by education in these two groups).

Several findings stand out. First, the finding of a BA overqualification rate of 25 percent is lower than most other estimates. Similarly, the estimate for young BA workers is much lower than the figures cited elsewhere.

Second, the finding that the overall BA overqualification rate in 1980 was almost the same as the overqualification rate in 2014 is contrary to conventional wisdom that it was easier for recent college graduates to get a good job right out of college in the past than in the present. But it should not be surprising that the BA overqualification rates in 1980 were similar to those in 2014. The 1980 cohort of young graduates was in a market flooded with waves of new baby boomer BA workers. Graduates in 2014 faced a job market in which the economy was still recovering from the Great Recession, which started in 2008. The causes for the BA overqualification rates in the two years differed, but the effects were similar.

However, focusing only on the similarity of overqualification rates in 1980 and 2014 obscures the third major finding: after dropping between 1980 and 2000, the BA overqualification rate grew between 2000 and 2014. The worsening conditions following the 2008 financial crisis led to overqualification rates rising for all categories of workers, but the ones who were hit hardest were young BA workers.

This study added much new information concerning earnings to the overqualification literature. Very few studies have reported earnings differences based on good-fit and overqualified employment. Of particular interest is the fourth major finding of a rising earnings penalty for college graduates who do not find a good-fit job. In 1980, college graduates in BA-overqualified jobs earned one-third less than those in good-fit jobs. By 2014, college graduates who did not find a good-fit occupation earned just half that of their peers who did. This finding shows that the trend of rising earnings inequality affected the distribution of earnings within the group of college graduates.

The final four findings concern the mechanisms in which inequality based on education has risen. In particular, the division of employment into BA good-fit occupations and BA-overqualified occupations reveals a bifurcated economy in which pay is much higher in BA good-fit jobs than in BA-overqualified jobs. The fifth major finding is that for both genders, the pay for every educational level was much higher in BA good-fit occupations than in BA-overqualified jobs in 2014 (Figures 9–11). Overall the median pay of all workers (college educated and non-college educated) in good-fit BA jobs was at least 115 percent higher than the pay of those in BA-overqualified jobs. The sixth finding is that this gap increased dramatically from its 1980 level of 63 percent.

The seventh key finding is that those without a college degree were less likely to be in a BA good-fit job in 2014 than they were in 1980. Since these jobs paid more, the reduced ability to get these jobs lowered their average earnings. Finally, the eighth key finding is that within BA good-fit jobs, the earnings gap between those with a college degree and those without a college degree widened.

In two reports from the Georgetown Center on Education and the Workforce, I collaborated with Anthony Carnevale to argue that expanding postsecondary education was the most effective way to grow the economy and address inequality (Carnevale and Rose 2011; 2015). We estimated that moving toward the Obama administration's goal of having 60 percent of the labor force with a certificate, two-year degree, or four-year degree could increase total output by \$500 billion a year. Further, because of the increased supply of college-educated workers and the decreased share of those without a BA, the level of earnings inequality would decline.

Appendix A. Supplementary Table

TABLE A.1

Jobs with Most Overqualified BA Holders, 2014

	Number	Share in job with BA	Avg. earnings for worker with BA	Avg. earnings for worker with some college education or AA
Men				
Retail salespersons	305,024	22%	\$35,000	\$20,000
Customer service representatives	207,807	27%	\$38,000	\$21,900
Drivers/sales workers and truck drivers	153,604	6%	\$30,100	\$35,000
Food service and lodging managers	120,579	29%	\$47,000	\$36,000
Security guards and gaming surveillance officers	101,707	16%	\$29,300	\$24,000
Laborers and freight, stock, and material movers	86,945	6%	\$25,000	\$21,000
Janitors and building cleaners	81,964	6%	\$25,000	\$25,000
Chefs and cooks	78,970	5%	\$25,000	\$17,000
Waiters	76,214	13%	\$20,000	\$13,000
Stock clerks and order fillers	72,104	8%	\$23,300	\$16,700
Cashiers	70,400	10%	\$15,700	\$9,700
Women				
Secretaries and administrative assistants	539,386	21%	\$32,000	\$30,000
Customer service representatives	288,798	20%	\$31,800	\$23,000
Retail salespersons	261,943	18%	\$18,500	\$12,000
Teacher assistants	169,207	23%	\$16,200	\$15,500
Waitresses	153,414	11%	\$16,000	\$11,900
Office clerks, general	150,481	18%	\$30,000	\$25,000
Bookkeeping and other auditing clerks	141,643	17%	\$32,000	\$32,000
Cashiers	140,676	7%	\$12,000	\$9,600
Receptionists and information clerks	126,064	15%	\$20,200	\$20,000
Office and administrative support workers (NEC)	122,270	34%	\$34,000	\$32,000
Nursing, psychiatric, and home health aides	119,279	9%	\$21,600	\$20,000
Childcare workers	112,534	16%	\$12,800	\$10,800

Note: AA = associate degree; avg. = average; BA = bachelor of arts or science degree; NEC = not elsewhere counted.

Source: Author's computations from the 2014 American Community Survey.

Appendix B. Methods and Sources

Because the methodology for this study relied on detailed analyses of up to 449 separate occupations for both men and women, datasets with large numbers of cases were needed. For the most recent data, the 2014 American Community Survey, with 1.3 million cases of working people with earnings and occupational coding [the Integrated Public Use Microdata Series (IPUMS) OCC2010 variable], was used. The other two years were based on samples of the US decennial censuses. The 5 percent sample of the 1980 census contained 4.3 million cases, and the 1 percent sample of the 2000 census contained 1.2 million cases. The number of occupations differed slightly across the three years: 436 in 2014, 449 in 2000, and 351 in 1980. All the datasets were downloaded from the IPUMS site. A major advantage of this source is that all the data are harmonized to have similar coding across many variables. Finally, only median earnings were used because they best reflected typical pay, and the earnings in different years were converted to 2014 dollars using the personal consumption expenditure price deflator, which was created for the National Income and Product Accounts by the Bureau of Economic Analysis of the US Department of Commerce.

The main building block for determining whether an occupation was a good or bad fit for a specific level of education was to create two datasets (one each for female and male workers) for each year with weighted numbers of workers by each of five educational levels (less than high school, high school or GED credential, some college or two-year degree, four-year degree, and graduate degree). Starting in 1993, census surveys asked a question about degree attainment. Before that (including the 1980 census), the education question asked about highest grade completed. In addition to having data on the educational distribution, data on median earnings by each of the five educational levels were computed for each occupation by gender.

The next step was to define educational concentrations for each education level. Rather than look at the simple share of one educational level in each occupation, I defined an educational group as the share of that education level and every higher level. In other words, the BA group is the share of bachelor's and graduate degree workers in each occupation (similarly, the combined some college and AA group included all workers with any postsecondary education). The logic behind this choice is that jobs with more educated workers lead to higher earnings. Defining by educational group avoided trying to define a single appropriate education level for each job by focusing on the characteristics of a good fit based on the likelihood of having high earnings.

Determining a good-fit job involved the following procedure, with all steps being done separately for male and female workers in each year. Four examples of male workers (marketing and convention planners, elementary and middle school teachers, transportation managers, and distribution managers, and first-line construction supervisors) are used to demonstrate how the rules were applied.

1. Tentatively mark any job for which the BA group share was greater than the economy-wide BA group share as being a good-fit job for BA workers. For men in 2014, the overall share of the college group was 31.5 percent; this meant that marketing and convention planners and elementary and middle school teachers passed this test because they had college group shares of 64 and 95 percent, respectively. In contrast, transportation managers and construction supervisors failed this test because their college group shares were 28 and 16 percent, respectively.
2. Check for low earnings in occupations that pass step 1, but exclude intellectual and caring professions because people in these jobs were not trying to maximize their earnings. Low earnings were defined as the maximum of halfway between the overall median earnings of BA workers and of those with some college or an AA or 80 percent of median BA earnings. Eighty percent of low-earning BA workers worked in intellectual and caring professions. The remaining 20 percent in low-paying, high BA concentration jobs (just a few percentage points of all BA workers) were reclassified as being a bad fit.

Because the male median earnings level in 2014 was \$60,000, both occupations cited above that passed the size of the college group test did not pass this test. Elementary and middle school teachers had low median earnings (\$43,000), but they were not subject to this test because they were part of the intellectual and caring professions. Meeting planners, however, lost their designation as being in a good-fit job because their median earnings were \$45,400.

3. Identify occupations in which the BA group share was below the overall share of the BA group share that had BA workers' earnings above or near the overall BA workers' median earnings. The minimum earnings level was once again the maximum of (a) halfway between the overall BA and some college education or AA earnings or (b) 80 percent of BA earnings. Workers who met this test were provisionally classified as having good-fit jobs. This classification applied to distribution managers and construction supervisors because their college group shares were 28 and 16 percent, respectively.
4. Test to see that BA earnings in these occupations were at least 10 percent higher than the median earnings of those in the same occupations with some college education or an AA. Occupations that failed this test were reclassified as a bad fit. Distribution managers passed

this test because their median earnings were \$65,000, but those with some college education in this occupation had median earnings of just \$48,000. Construction supervisors failed this test even though those with a college degree in this occupation had high earnings (\$60,000). But the median earnings of workers with some college education or an AA in this occupation were also \$60,000, which meant that the high earnings of the college educated in this occupation were not uniquely related to their higher levels of skill. In most of these occupations, the difference in earnings between college-educated workers and workers with some college education was large. The 10 percent premium was chosen as a minimum additional amount that indicated that BA workers were being rewarded for their unique skills. If a higher minimum threshold was used, the difference would be only a few tenths of 1 percent.

Appendix C. Other Approaches to Determining Overqualification

The first approach used in many studies to determine overqualification is to rely on expert analysis of the working conditions of each occupation to classify jobs as good fit. Two US government agencies use this approach, but they report very different estimates of the level of overqualification. On the one hand, the projections division of the Bureau of Labor Statistics produces a listing of occupations with one of the data elements being the “typical entry-level education.”¹² Vedder, Denhart, and Robe (2013) used the 2010 version of this dataset and found that 48 percent of BA workers are in occupations for which the typical-entry level education is less than a bachelor’s degree. On the other hand, the US Department of Labor has an online tool (O*Net) with a tremendous amount of information on each occupation, including sections on tasks, tools and technology, knowledge, skills, abilities, work activities, work context, education, interests, work style, and work values.¹³ On the basis of this information, each occupation is assigned to one of five “job zones” that is meant to reflect the level of educational preparation needed to succeed in this occupation. An occupation in job zone 4 is associated with a BA degree, and an occupation in job zone 5 is associated with having a graduate degree. Fogg and Harrington (2011) used this classification and found that 28 percent of BA workers are overqualified.

Another approach relies on surveying incumbent workers in each occupation. Oddly, O*Net also reports the answers of a survey of incumbents in each of these occupations in terms of “education requirements.” Although O*Net does not use this type of data as the basis of their job zones, Abel, Dietz, and Su (2014) did, and they found that 33 percent of college graduates were not in jobs for which at least 50 percent said a BA or graduate degree was required. This figure included those with graduate degrees as well as bachelor’s degrees. Because the share of graduate degree workers in BA-overqualified jobs was small, the share of just BA workers in BA-overqualified jobs was 43 percent.

A final approach is to use “realized matches” in the labor force. A common procedure is to use the mean number of years of schooling for each three-digit occupation and categorize those combinations as a good match with years of schooling that were plus or minus one standard deviation from the mean. This method was first proposed by Verdugo and Verdugo (1989). Leuven and Oosterbeek (2011, 9) criticized this approach because “the realized match is the result of demand and supply forces, and does not only reflect requirements.” Although my approach used the realized match approach, it differed from the pure educational approach on two grounds: first, I used a grouping approach and included all

education levels above the studied level as the level of concentration; second, I included earnings tests that rejected bad matches if earnings were low.

Notes

1. The cover of the May 30, 2016, *New Yorker* can be seen at <http://archives.newyorker.com/?i=2016-05-30#folio=CV1>.
2. For a short summary of higher education in the United States, see the Wikipedia entry at https://en.wikipedia.org/wiki/History_of_higher_education_in_the_United_States.
3. See, for example, Goldin and Katz (2010).
4. The first survey, Beginning Postsecondary Students, 2003–2009, is available at <https://nces.ed.gov/surveys/bps/>, and the second, Baccalaureate and Beyond, 2008–2012, is available at <https://nces.ed.gov/surveys/b&b/>.
5. See Table 302.20, Percentage of Recent High School Completers Enrolled in 2- and 4-year Colleges, by Race/Ethnicity: 1960 through 2013, Digest of Educational Statistics, accessed August 30, 2016, http://nces.ed.gov/programs/digest/d14/tables/dt14_302.20.asp.
6. See <https://usa.ipums.org/usa/> for a discussion of the IPUMS data sets and methods.
7. The federal effort for tracking income can be found at <https://collegescorecard.ed.gov/>.
8. See the *College Salary Report* from Payscale (<https://www.payscale.com/college-salary-report>) and reports from the College Measures project at the American Institutes for Research (<http://www.air.org/project/college-measures>).
9. To determine how many young college BA workers were overqualified in earlier years, Abel, Dietz, and Su (2014) used definitions that were based on 2009 O*Net data.
10. Some recent college graduates are over 27, but because the data sources do not reveal when people graduated from college, recent college graduates are limited by current age.
11. Ronald Brownstein, “Even Baby Boomers Think It’s Harder to Get Started Than It Used to Be,” *Atlantic*, June 11, 2015, <http://www.theatlantic.com/business/archive/2015/06/even-baby-boomers-think-its-harder-to-get-started-than-it-used-to-be/395609/>.
12. See the Bureau of Labor Statistics’ “Employment Projections” at <http://data.bls.gov/projections/occupationProj>.
13. The “Find Occupations” tool at O*Net OnLine is available at <https://www.onetonline.org/find/>.

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About the Author



Stephen J. Rose is an affiliated scholar in the Income and Benefits Policy Center at the Urban Institute. He is a nationally recognized labor economist and has spent the last 35 years researching and writing about the interactions between formal education, training, career movements, incomes, and earnings. His book *Social Stratification in the United States* was originally published in 1978, and the seventh edition was released in 2014. His book *Rebound: Why America Will Emerge Stronger from the Financial Crisis* addresses the causes of the financial crisis and the evolving structure of the US economy over the last three decades.

Rose has worked with large longitudinal and cross-sectional data sets to develop unique approaches to understanding long-term income and earnings movements. He recently coauthored the report “The Economy Goes to College” showing that the high-end service economy of work in offices, health care, and education was the main driver of the US postindustrial economy, responsible for 64 percent of employment, 74 percent of earnings, and over 80 percent of workers with a bachelor’s or advanced degree.

Before coming to Urban, Rose held senior positions at the Georgetown University Center on Education and the Workforce, Educational Testing Service, the US Department of Labor, Joint Economic Committee of Congress, the National Commission for Employment Policy, and the Washington State Senate. His commentaries have appeared in the *New York Times*, *Washington Post*, *Wall Street Journal*, and other print and broadcast media. He has a BA from Princeton University and an MA and PhD in economics from the City University of New York.

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