Lightcast
Professional
Services

Talent Shortages and Student Outcomes Report

CECU Research Foundation

April 2025

About Lightcast

Lightcast is the world's leading authority on job skills, workforce talent, and labor market dynamics, providing expertise that empowers businesses, education providers, and governments to find the skills and talent they need and enabling workers to unlock new career opportunities. Headquartered in Boston, Massachusetts, and Moscow, Idaho, Lightcast is active in more than 30 countries and has offices in the United Kingdom, Italy, New Zealand, and India. The company is backed by global private equity leader KKR.

Lightcast
232 N Almon Street
Moscow, ID 83843
lightcast.io

About the CECU Research Foundation

The CECU Research Foundation prioritizes the funding of credible research into school outcomes and how proprietary career colleges fare in comparison to peer institutions in other sectors of higher education. The CECU Research Foundation is a 501(c)3 subsidiary of Career Education Colleges and Universities (CECU), the national association representing proprietary career schools. Studies funded by the CECU Research Foundation are executed independently and without bias from CECU or the Foundation in order to provide an accurate evaluation of the different sectors of higher education.

Acknowledgements

Lightcast gratefully acknowledges the support of the CECU Research Foundation. The content is solely the responsibility of the authors and does not represent the official views of the CECU Research Foundation or CECU. Proper acknowledgement of Lightcast should be included in publications, presentations, or other developed materials.

Introduction

For-profit colleges and universities occupy a distinctive space in American higher education, offering short-term, career-focused programs designed to serve adult learners, working students, and others historically underrepresented in postsecondary education. These institutions provide a pathway to credentials in high-demand fields such as health care, trades, and information technology, often through flexible formats that accommodate students balancing employment and family responsibilities.

Over the past several decades, research has highlighted both the strengths and challenges associated with the sector. Earlier studies found that for-profit institutions helped expand access to education, particularly in fields aligned with workforce demand, and were associated with increased credential attainment among underserved populations. In some cases, especially within two-year programs, graduates experienced higher rates of employment and were more likely to earn above the median wage for high school graduates. At the same time, concerns around student debt, loan default rates, and program quality led to increased regulatory oversight beginning in the late 2000s.

The past decade has brought significant changes to the sector. Regulatory measures, including the implementation of the Gainful Employment rule under the Obama administration in 2014, contributed to substantial enrollment declines, particularly among institutions subject to federal sanctions. Evidence suggests that when for-profit campuses closed, roughly half of the affected students did not re-enroll in other institutions. As a result, many entered the labor market with no postsecondary credential, raising concerns about long-term economic mobility and labor force readiness. These enrollment shifts also have implications for workforce supply, particularly in sectors that rely on certificate and associate-level training.

Simultaneously, the broader context of postsecondary education and labor demand has shifted. Online learning has expanded rapidly, enabling more flexible program delivery. Labor market conditions have tightened, with employers in many regions and industries reporting persistent shortages of skilled workers. These dynamics heighten the stakes of ensuring that all postsecondary sectors contribute effectively to talent development.

Despite declining enrollment and continued reputational challenges, for-profit institutions remain a significant entry point into higher education for many students who may not be well-served by public or nonprofit options. While this sector has been the focus of extensive prior research, much of that work predates recent regulatory changes, the widespread closure of low-performing or predatory institutions, and the continued expansion of online learning. As a result, existing findings may no longer reflect current conditions.

This report revisits the evidence using updated student outcome and labor market data to assess the current role of for-profit colleges and estimate the broader implications of their contraction or removal from the postsecondary landscape. Lightcast conducts two studies:

1. Talent Shortages. Lightcast estimates the effect on critical talent pipelines that would stem from the reduction in enrollment at for-profit institutions, using a model informed by the effects of prior for-profit institutional closures.
2. Student Outcomes. Lightcast evaluates for-profit program quality as measured in education and labor market outcomes, using data from a longitudinal dataset maintained by the Department of Education.

Background

For-profit colleges grew rapidly during the late 1990s and 2000s, driven by federal student aid eligibility, unmet demand for workforce-aligned education, and limited public capacity. These institutions offered short-term, flexible programs targeted at adult learners and students seeking quick entry into in-demand fields such as health care and skilled trades. This growth was particularly pronounced among large, publicly traded chains and online providers. For many students, especially those with caregiving responsibilities or limited access to traditional campuses, for-profits provided a viable route into higher education.

While these institutions expanded access, concerns emerged about tuition levels, loan outcomes, and program quality. Some studies praised the sector's responsiveness to labor market needs, characterizing for-profits as "nimble critters," able to adapt quickly to student and employer demand[1]. Others highlighted higher debt burdens and default rates compared to public counterparts[2]. Beginning in the late 2000s, this body of research informed a regulatory response that culminated in the implementation of the Gainful Employment rule in 2014. The rule aimed to restrict access to federal aid for programs that consistently failed to deliver earnings outcomes sufficient to manage typical student debt[3].

The rule had measurable effects. Sanctioned institutions experienced sharp enrollment declines, and some closed entirely. When for-profit colleges lost access to federal aid, students had limited alternatives. A study of such closures found that only 40 to 60 percent of displaced students re-

[1] Deming, D., Goldin, C., & Katz, L. (2012). "The For-Profit Postsecondary School Sector: Nimble Critters or Agile Predators?" Journal of Economic Perspectives, 26(1), 139–164.
[2] Cellini, S. R., & Turner, N. (2019). "Gainfully Employed? Assessing the Employment and Earnings of For-Profit College Students Using Administrative Data." Journal of Human Resources, 54(2), 342–370.
[3] Kelchen, R., & Liu, Z. (2022). "Did Gainful Employment Regulations Result in College and Program Closures?" Education Finance and Policy, 17(3), 454–478.

enrolled elsewhere, typically at community colleges, while many exited higher education altogether[4]. The consequences were particularly acute for students in certificate programs and for students of color, who were more likely to attend institutions affected by closures and less likely to re-enroll or complete a credential[5].

Broader analysis of college closures by the State Higher Education Executive Officers Association and the National Student Clearinghouse confirmed these trends. Students affected by closure were significantly less likely to persist, less likely to complete, and more likely to earn a lower-level credential than they had originally pursued. Abrupt closures—those without teach-out agreements or advance notice—had especially severe effects on re-enrollment and completion[6].

Despite widespread institutional closures and enrollment declines, for-profit institutions continue to serve significant numbers of students and have adapted in important ways. Many have invested in online infrastructure, narrowed program offerings, and restructured their operations to comply with new oversight. These shifts, along with rising workforce demand and persistent labor shortages in mid-skill occupations, underscore the need for updated evidence on the sector's contributions. Much of the existing research was conducted prior to these regulatory and economic changes. A reexamination is needed to understand the outcomes of students who enroll in for-profit programs and the potential labor market impacts if access to these institutions continues to decline.

Descriptive Profile of Institutions by Sector and Level

This section provides a comparative profile of for-profit colleges and universities relative to public and nonprofit institutions, focusing on enrollment scale, student characteristics, completion patterns, cost, and outcomes. Institutions are grouped by level (two-year, four-year) and sector (public, nonprofit, for-profit) to clarify their roles in the postsecondary ecosystem.

Institutional Size and Enrollments

Between the 2012–13 and 2022–23 academic years, enrollment patterns across U.S. postsecondary institutions diverged significantly by sector and level. Title IV institutions overall experienced an 8.3 percent decline in full-time-equivalent (FTE) enrollment, but the population trend masks sharper contractions within specific groups. For-profit institutions saw the most

[4] Cellini, S. R., Darolia, R., & Turner, L. (2020). "Where Do Students Go When For-Profit Colleges Lose Federal Aid?" American Economic Journal: Economic Policy, 12(2), 46–83.
[5] SHEEO & NSCRC. (2022). A Dream Derailed? Investigating the Impacts of College Closures on Student Outcomes.
[6] SHEEO & NSCRC. (2023). A Dream Derailed? Investigating the Causal Effects of College Closures on Student Outcomes.

pronounced declines, with 4-year for-profits down 41.2 percent and 2-year for-profits down nearly 50 percent. These losses far exceeded the national average and reflect both regulatory and economic pressures.

Table 1. 12-Month Full-Time-Equivalent Enrollment by Sector and Level (2012–13 to 2022–23)

Title IV institutions, United States

Sector and Level	2012–13	2022–23	Change (%)
All Institutions	17,065,724	15,644,077	-8.3%
Public 4-Year	6,836,058	7,756,863	+13.5%
Private Nonprofit 4-Year	3,394,261	3,767,185	+11.0%
Private For-Profit 4-Year	1,295,973	761,804	-41.2%
Public 2-Year	4,580,736	2,757,538	-39.8%
Private Nonprofit 2-Year	45,415	47,458	+4.5%
Private For-Profit 2-Year	507,702	255,235	-49.7%
Public <2-Year	50,335	48,293	-4.1%
Private Nonprofit <2-Year	12,139	7,348	-39.5%
Private For-Profit <2-Year	343,105	242,353	-29.4%

Completions by Award Level and Sector

Postsecondary institutions in the United States confer a wide range of credentials, from short-term certificates to doctoral degrees. Patterns of credential production differ significantly by sector, reflecting institutional missions and the populations they serve.

In the 2022–23 academic year, public institutions awarded the majority of associate and bachelor's degrees. Public two-year colleges alone awarded more than 582,000 associate degrees and more than 500,000 sub-baccalaureate certificates. Public four-year institutions were the largest source of bachelor's degrees (1.3 million) and produced more than 450,000 master's degrees and nearly 100,000 doctoral or professional doctorates.

For-profit institutions were heavily concentrated in short- and medium-term workforce training. For-profit two-year and less-than-two-year institutions together awarded more than 250,000 certificates, including nearly 139,000 in programs lasting less than two years. For-profit four-year colleges awarded more than 99,000 bachelor's degrees and 63,600 master's degrees, in addition to nearly 33,000 certificates and over 40,000 associate degrees.

Nonprofit institutions remained oriented toward degree production, particularly at the bachelor's and graduate levels. Nonprofit four-year colleges awarded over 555,000 bachelor's degrees, 414,000 master's degrees, and nearly 95,000 post-baccalaureate or post-master's credentials. Their certificate production was minimal in comparison to other sectors.

Table 2. Number of Awards Conferred by Sector and Award Level, 2022–23

Sector and Level	Certificates (≤2 years)	Associate's Degree	Bachelor's Degree	Graduate/ Professional Degree	Total Awards
Public Four-Year	193,552	258,293	1,310,961	556,731	2,374,926
Public Two-Year	507,521	582,383	–	–	1,096,029
Private Nonprofit Four-Year	14,938	37,497	555,360	508,131	1,151,880
Private Nonprofit Two-Year	6,384	11,438	–	–	19,918
Private For-Profit Four-Year	32,669	41,562	99,021	71,663	250,841
Private For-Profit Two-Year	79,851	28,141	1	–	119,374
Public Less-than-Two-Year	38,557	–	–	–	38,580
Private Nonprofit Less-than-Two-Year	5,381	–	–	–	5,381
Private For-Profit Less-than-Two-Year	160,507	3	–	–	160,658

Note: Dashes (–) indicate that the award type is not applicable or was not conferred in measurable quantity. Doctoral and professional degrees include research doctorates, professional practice doctorates, and other doctorates.

Student Progress and Outcomes

Student outcomes, including completion within an extended timeframe, retention, and graduation, provide important insights into institutional effectiveness. These indicators also reflect how well institutions support students through to degree attainment, especially among nontraditional and part-time learners.

Completion Within Eight Years

Among students entering in the 2015–16 academic year, 46.1 percent completed a credential within eight years. Completion rates varied sharply by sector. Private nonprofit four-year institutions led with a completion rate of 61.4 percent, followed by public four-year colleges at 53.6 percent. For-profit four-year institutions reported a lower completion rate of 37.0 percent.

At the two-year level, for-profit colleges again outperformed other sectors in terms of completion, with 63.6 percent of students earning a credential within eight years. Nonprofit two-year institutions followed at 58.9 percent, while public two-year colleges trailed at 29.2 percent, reflecting both broader access and higher rates of part-time or stop-out enrollment.

Table 3. Percent of 2015–16 Cohort Completing an Award Within Eight Years by Sector and Level

Sector and Level	Any Award	Certificate	Associate's Degree	Bachelor's Degree
Public Four-Year	53.6%	1.5%	8.4%	43.8%
Private Nonprofit Four-Year	61.4%	0.7%	3.2%	57.4%
Private For-Profit Four-Year	37.0%	5.5%	8.7%	22.8%
Public Two-Year	29.2%	5.7%	23.5%	–
Private Nonprofit Two-Year	58.9%	30.4%	28.4%	0.1%
Private For-Profit Two-Year	63.6%	46.0%	17.6%	<0.1%

Note: Dashes indicate that award level is not applicable for the sector.

Retention Rates

Retention rates measure the percentage of students who remain enrolled at the same institution from one fall to the next. In 2023, public and nonprofit four-year institutions had the highest full-time retention rates, both exceeding 81 percent. For-profit four-year colleges reported a considerably lower rate of 61.3 percent. At the two-year level, for-profit institutions again stood out, with a full-time retention rate of 70.3 percent, compared to 64.5 percent at public two-year colleges and 73.3 percent at nonprofit two-year colleges.

Retention among part-time students was lower across the board. For-profit two-year institutions showed the highest part-time retention at 65.1 percent, followed by public two-year colleges at 44.2 percent. These differences suggest that for-profit institutions may offer more consistent scheduling or support structures for part-time learners, particularly in short-term or cohort-based programs.

Graduation Rates at 150% of Normal Time

Graduation rate within 150 percent of normal time (e.g., six years for a bachelor's degree, three years for an associate's degree) is a commonly reported benchmark. In 2017, 67.8 percent of students at private nonprofit four-year colleges completed a degree within this timeframe, compared to 58.8 percent at public four-year institutions and 44.4 percent at for-profit four-year institutions. At the two-year level, graduation rates were 60.0 percent for for-profit colleges, 58.5 percent for nonprofit colleges, and 33.8 percent for public colleges. For less-than-two-year institutions, graduation rates in 2020 ranged from 67.7 percent in nonprofit institutions to 71.9 percent in public and 68.1 percent in for-profit institutions.

Table 4. Graduation Rates Within 150% of Normal Time, by Sector and Level

Sector and Level	Four-Year Institutions	Two-Year Institutions	<2-Year Institutions
Public Institutions	58.8%	33.8%	71.9%
Private Nonprofit Institutions	67.8%	58.5%	67.7%
Private For-Profit Institutions	44.4%	60.0%	68.1%

Transfer Rates

Transfer-out rates help contextualize completion metrics, particularly at two-year institutions where many students intend to continue their education elsewhere. In 2022–23, public four-year institutions reported a mean transfer-out rate of 23 percent, comparable to nonprofit four-year institutions (25 percent) and for-profit four-year institutions (22 percent). Among two-year institutions, public colleges had a transfer-out rate of 16 percent. The rate for private nonprofit two-year colleges was 19 percent, and for private for-profit two-year colleges, the rate was 6 percent.

Table 5. Mean Transfer-Out Rates by Sector and Level, 2022–23

Sector and Level	Transfer-Out Rate
Public Four-Year	23%
Private Nonprofit Four-Year	25%
Private For-Profit Four-Year	22%
Public Two-Year	16%
Private Nonprofit Two-Year	19%
Private For-Profit Two-Year	6%

Student Characteristics

Undergraduate student populations differ substantially by institutional sector and level, reflecting the diversity of missions, programs, and student pathways across the postsecondary landscape. These differences are particularly evident in age, gender, race and ethnicity, enrollment intensity, and entry type.

Age

The share of adult learners aged 25 and older varies widely across sectors. Less-than-two-year and two-year private for-profit institutions enrolled some of the highest proportions of adult students, at 47 percent and 55 percent, respectively. In contrast, less-than-two-year public institutions served predominantly traditional-aged students, with only 7 percent aged 25 or older. At the four-year

level, for-profit institutions also served an older population, with 72 percent aged 25 and above, compared to 23 percent at nonprofit and 16 percent at public four-year colleges.

Gender

Gender distributions show that women are the majority in all sectors. Male students comprised 44 percent of undergraduates at less-than-two-year for-profit colleges and 45 percent at public institutions at the same level. At the two-year level, males comprised 39 percent of undergraduates at for-profit colleges and 43 percent at public colleges. The greatest difference in the gender distribution of enrolled students between for-profit and public colleges was at the four-year level, where the male share of four-year private colleges was 33 percent compared to 44 percent at four-year public colleges.

Race and Ethnicity

Racial and ethnic composition illustrates sharp contrasts across sectors. White students accounted for 85 percent of enrollment at less-than-two-year public institutions but made up only 22 percent at for-profit colleges. Inversely, Hispanic students accounted for 50 percent of these students at for-profit colleges compared to 4 percent at public colleges, and black students accounted for 22 percent of these students at for-profit colleges compared to 1 percent at public colleges. Directionally, these trends are consistent at the two-year level, with black and Hispanic students accounting for a larger share of the student body at for-profit colleges than at public colleges. At the four-year level, for-profit and public colleges near parity in the share of Hispanic students, at 21 percent and 22 percent respectively, but for-profit colleges continue to have a larger share of black students, 24 percent compared to 11 percent at public colleges. Asian student representation peaked at four-year public colleges, where they made up 8 percent of the undergraduate population.

Table 6. Undergraduate Student Characteristics by Sector and Level, 2022-23

	< 2-year			2-year			4-year		
	Private FP	**Private NP**	**Public**	**Private FP**	**Private NP**	**Public**	**Private FP**	**Private NP**	**Public**
Age									
% 25 and Older	47%	89%	7%	55%	54%	29%	72%	23%	16%
Gender									
% Male	44%	29%	45%	39%	30%	43%	33%	43%	44%
Race/Ethnicity									
White	22%	<1%	85%	27%	42%	43%	34%	50%	47%
Black	22%	97%	1%	25%	35%	13%	24%	11%	11%
Hispanic	50%	3%	4%	33%	11%	27%	21%	16%	22%
Asian	1%	<1%	2%	3%	3%	6%	4%	6%	8%

The sections that follow extend the descriptive analysis by examining the implications of declining for-profit enrollment for the labor market and for students themselves. The **Talent Shortages** analysis models how reductions in program completions at for-profit institutions could affect workforce supply in key occupational areas. Drawing on federal data and occupational projections, this section estimates the size and scope of potential shortages under varying enrollment scenarios and identifies the sectors most reliant on for-profit training pipelines.

The **Student Outcomes** analysis compares educational and labor market outcomes across public, nonprofit, and for-profit institutions using the Beginning Postsecondary Students Longitudinal Study (BPS:12/17). This section documents differences in persistence, credential attainment, employment, and earnings by institutional sector and level. It provides a detailed account of the analytic approach, outcome definitions, and regression specifications, and presents results disaggregated by population subgroup and program type.

Together, these analyses offer updated evidence on how for-profit colleges serve students and the broader labor market.

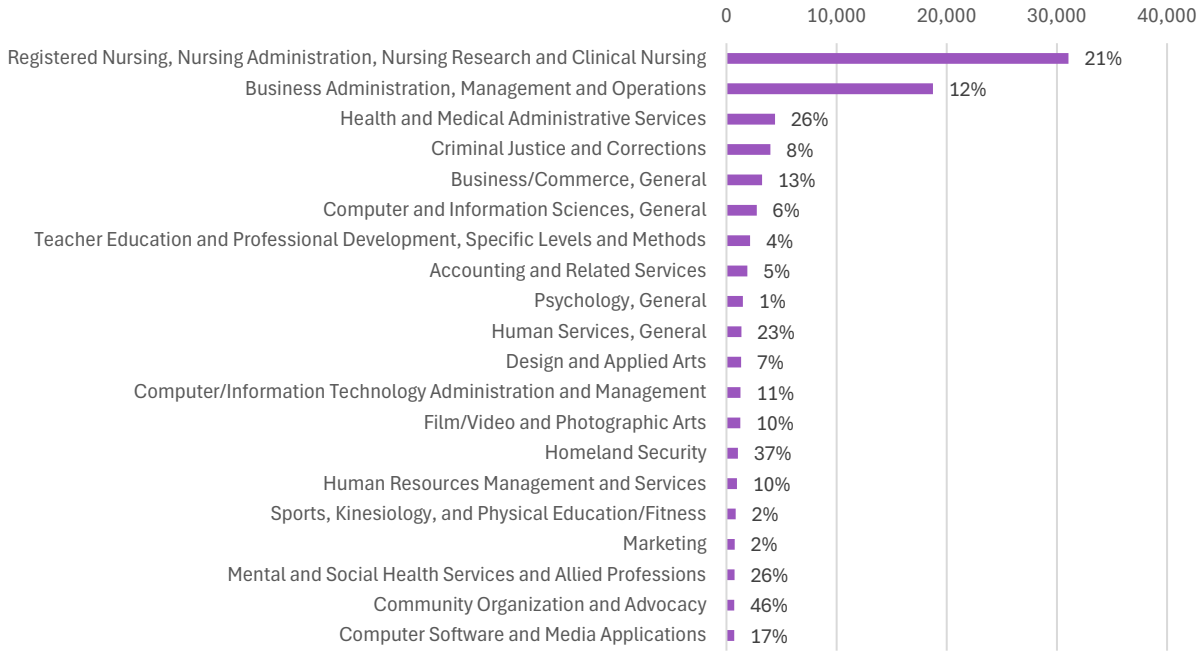
Talent Shortages

In the current economic environment, talent shortages already pose a significant challenge to regional economies. With many hard-to-fill openings, further intensifying these shortages would lead to operational inefficiencies, reduced productivity, and increased labor costs as businesses compete for a shrinking pool of workers. These challenges can result in slower economic growth and a decrease in taxes that fund important social services and education. This analysis estimates how a reduction in for-profit enrollment and completions could exacerbate existing talent shortages.

For-profit colleges confer degrees aligned with many areas of workforce need, including healthcare, business, and information technology. For-profit colleges also confer degrees in areas that are anticipated to see a tightening labor supply as incumbent workers retire, including vehicle maintenance and electrical and power installation. The figures below show the fields of study with the highest number of completions from for-profit colleges at the associate and bachelor's levels, as well as the for-profit share of total completions in those fields of study and award levels. For instance, for-profit institutions are responsible for over 13,000 associate degree completions in Registered Nursing, or 16% of all associate degree completions in that field of study. At the bachelor's level, for-profit institutions saw over 31,000 completions in Registered Nursing, or 21% of all bachelor's completions in this field of study.

Figure 1. For-Profit Associate Degree Conferrals and Share of Total Associate Degree Conferrals, 2022-23

Figure 2. For-Profit Bachelor's Degree Conferrals and Share of Total Bachelor's Degree Conferrals, 2022-23



To further evaluate the role that for-profit colleges play in the talent supply pipeline, Lightcast estimated the effect on supply and demand under two scenarios:

1. For-profit institutions continue to confer awards at their current level
2. For-profit enrollment declines by 50%

In order to conduct this analysis, Lightcast linked the conferrals shown in the above figures to labor market openings using a degree-to-occupation crosswalk. The degree-to-occupation map is derived from Lightcast's database of social profiles, which include workers' education and career histories. Lightcast's US profile database currently contains profiles for nearly 140 million distinct individuals. Lightcast profiles data is gathered from publicly available information on the web, third-party resume databases and job boards, the recruiting industry, opt-in data from employers and applicant tracking systems, and various consumer databases.

Using the profiles data, Lightcast created proportionate degree-to-occupation crosswalks for each level of award conferred, associate degrees and bachelor's degrees. These crosswalks were created using time series data of individuals' educational and occupational experiences in the profiles dataset. A sub-sample of profiles for associate degree and bachelor's degree completers was created, requiring that profiles did not have missing data on start dates and end dates of educational and occupational experiences listed on the profile, requiring that the education-to-

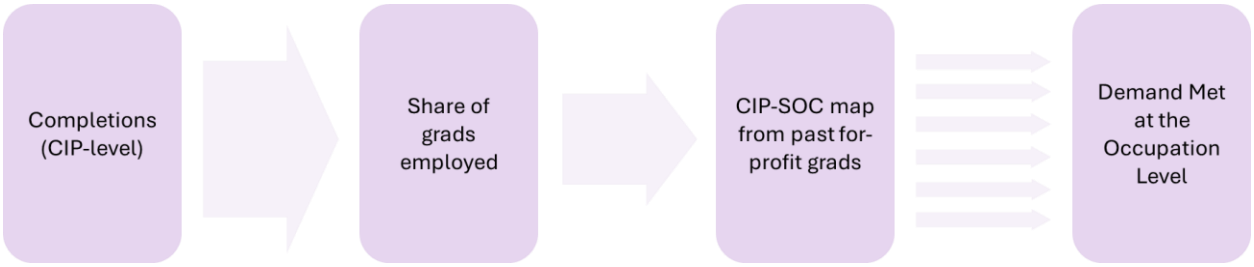
occupation transition occurred consecutively, and requiring that the job was held for at least 6 months. Profiles were only included if the listed graduation date from the educational experience of interest was in 2010 or later.

Lightcast then used data from the National Association of Colleges and Employers (NACE) to estimate the percentage of graduates by field of study who were employed or seeking full-time employment within six months of graduation. (This rate was only available at the bachelor's degree level, so the same rate was for both award levels analyzed.) This rate was used to estimate the share of completers who found a labor market match.

To measure demand at the occupation level, Lightcast used annual openings. Annual openings are derived from data in the BLS's Employment Projections data release[7] and are the combination of two segments of labor market demand. The first is growth, which measures occupation-level increase in the number of new openings from an increase in the number of new workers employed in that occupation. The second segment is replacements, which estimates demand based on workers leaving an occupation. Importantly, replacements data does not capture a worker changing employers but staying within an occupation – i.e., within-occupation turnover or churn. The summation of openings from growth and openings from replacements yields total annual openings, the basis of the measure of demand.

In order to estimate the number of job openings that are aligned with the education profile of recent graduates from associate or bachelor's degree programs, Lightcast leverages 5 years of data[8] from its job postings database. Each job posting in the database is classified with a minimum level of education required and a minimum number of years of experience required. Lightcast is then able to use job postings to estimate, at the occupation-level, the percent of an occupation's vacancies that are relevant for recent postsecondary grads. The supply-demand pipeline is shown in the diagram below.

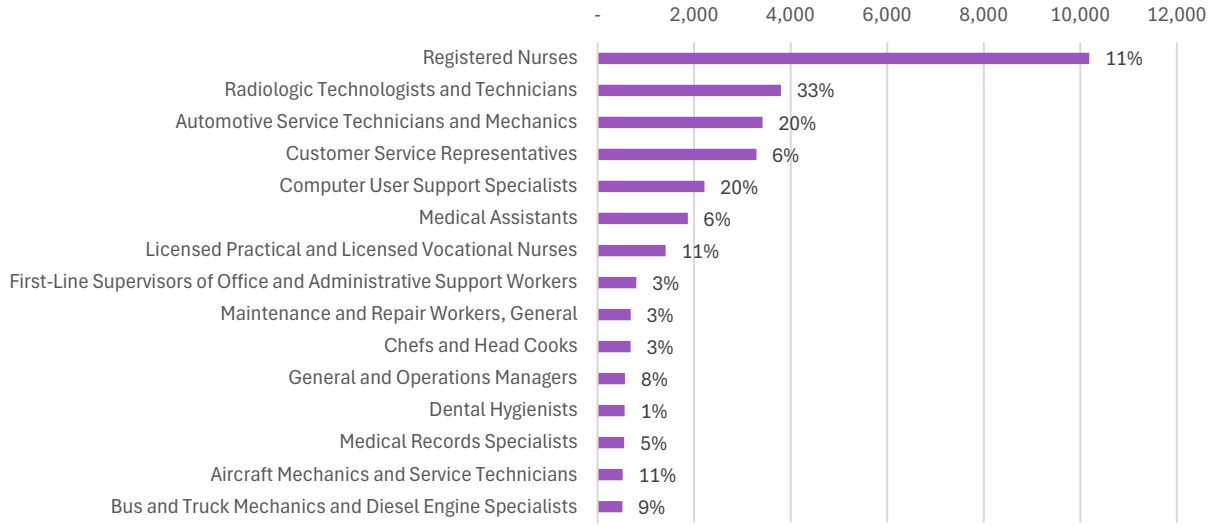
Figure 3. Supply-Demand Diagram



[7] More information on the BLS series can be found here: https://www.bls.gov/emp/documentation/data-overview.htm
[8] All job postings from years 2018, 2019, 2022, 2023, and 2024 were used in this analysis. This encompasses the most recent 5 years of posting data while removing anomalous labor market demand patterns during height of the COVID-19 pandemic in 2020 and 2021.

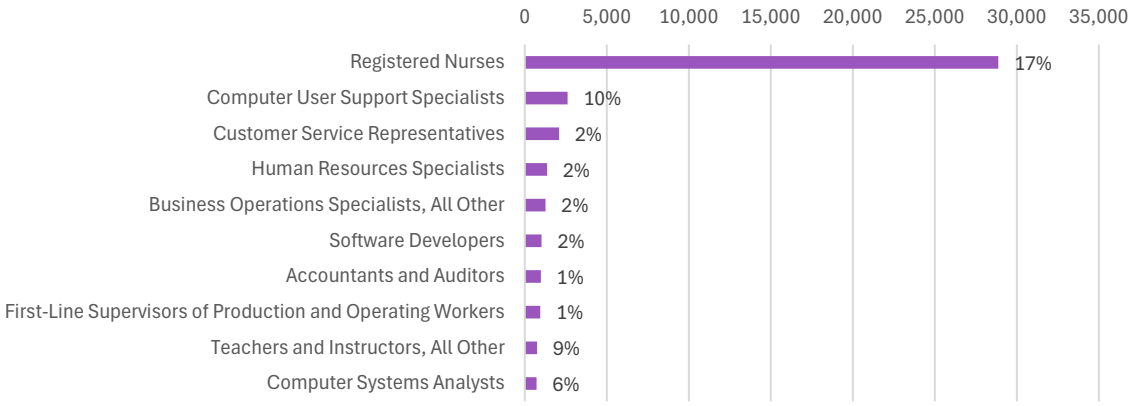
At current rates of conferrals, the for-profit system is an important source of talent for a number of in-demand occupations. For example, the for-profit system is a critical pipeline for associate's level demand for registered nurses (meeting 11% of demand), radiologic technologists and technicians (meeting 33% of demand), automotive service technicians and mechanics (meeting 20% of demand).

Figure 4. Number of Workers from the For-Profit Institution-to-Occupation Pipeline and Percent of Demand Met from For-Profit Institutions, Associate Degree Level



At the bachelor's level, the for-profit system is also an important source of talent for registered nurses (meeting 17% of demand), computer user support specialists (meeting 10% of demand) and miscellaneous teachers and instructors (meeting 9% of demand), among other occupations.

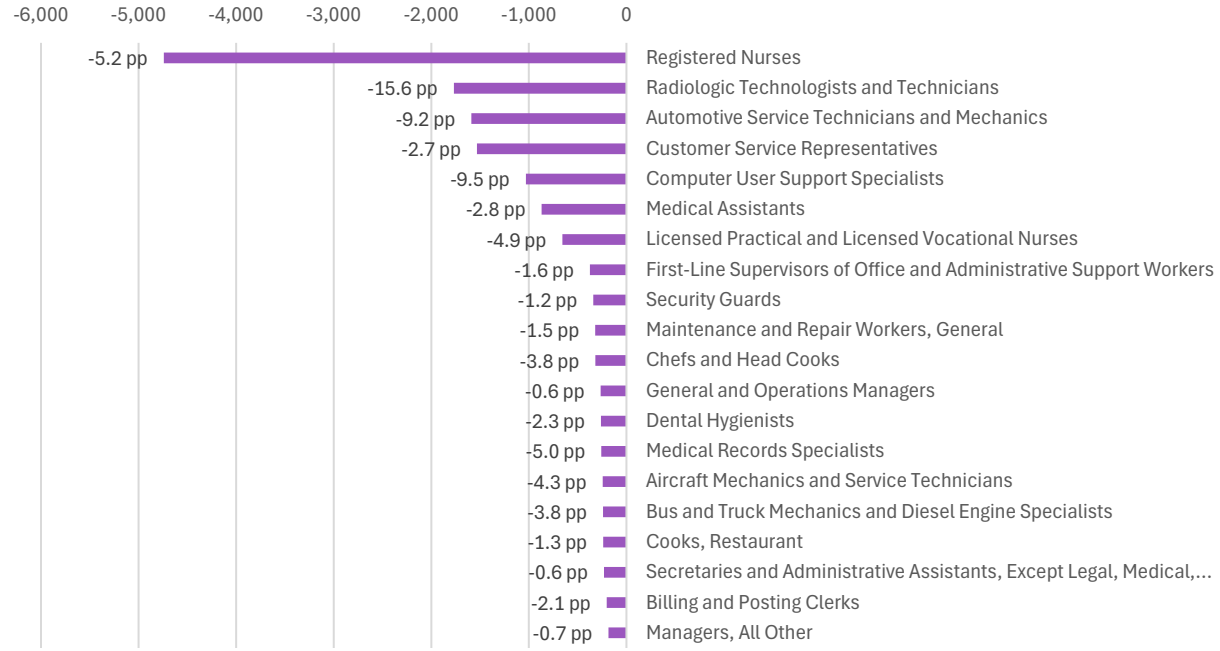
Figure 5. Number of Workers from the For-Profit Institution-to-Occupation Pipeline and Percent of Demand Met from For-Profit Institutions, Bachelor's Degree Level



To simulate the effects of a reduction in enrollment by 50%, Lightcast used the following calculations, derived from the previously referenced SHEEO reports that studied the effects of prior for-profit college closures.

At the associate degree level, if for-profit college enrollment capacity were to decline by 50%, an estimated 40.1% of affected students would re-enroll in another institution. The completion rate for re-enrollees is estimated at 25.4%. And of those re-enrollee completers, an estimated 42.0% earn an associate degree, with the remainder earning a lower-level credential. Therefore, a 50% reduction in associate's level for-profit enrollment due to closures would result in a 47% reduction in the talent supply from the for-profit system (including those who re-enroll in public and non-profit institutions). This reduction would shift the supply pipeline for registered nurses by 5.2 percentage points, for radiologic technicians by 15.6 percentage points, and for automotive service technicians by 9.2 percentage points.

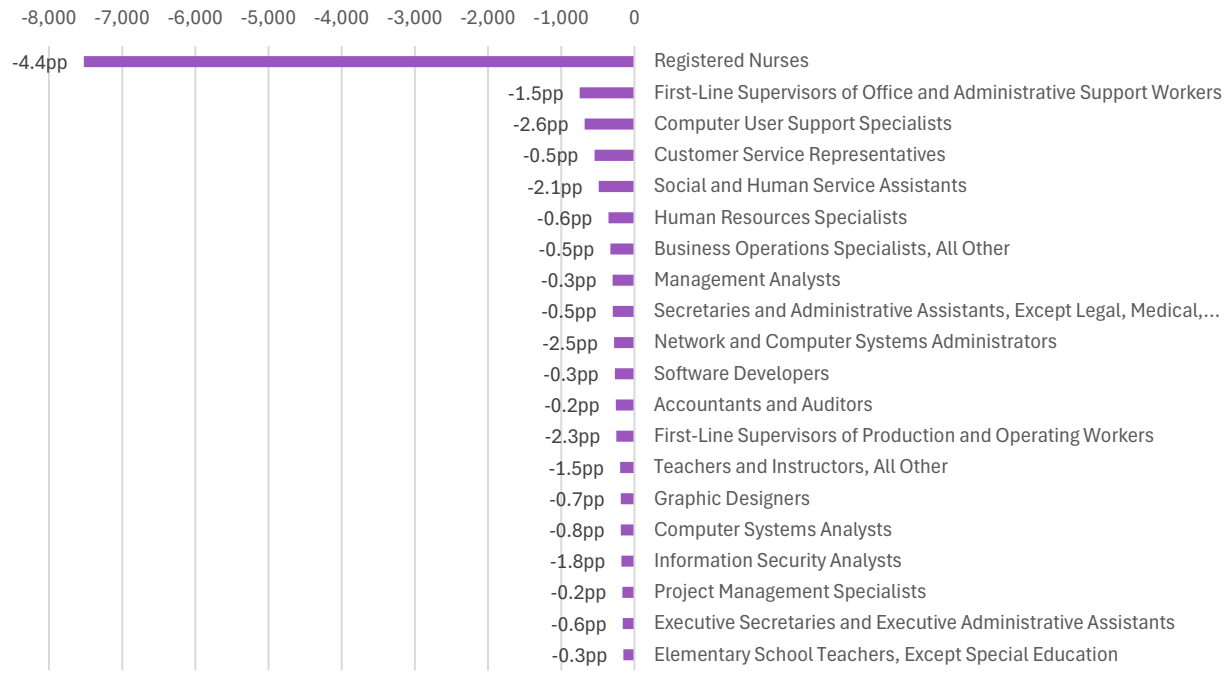
Figure 6. Reduction in Supply from For-Profit Institution-to-Occupation Pipeline (and Percentage Point Decline) after 50% Reduction in Enrollments, Associate Degree Level



At the bachelor's degree level, if for-profit college enrollment capacity were to decline by 50%, an estimated 70.1% of affected students would re-enroll in another institution. The completion rate for re-enrollees is estimated at 28.8%. And of those re-enrollee completers, an estimated 73.3% earn a bachelor's degree, with the remainder earning a lower-level credential. Therefore, a 50% reduction in bachelor's level for-profit enrollment due to closures would result in a 26% reduction in the talent supply from the for-profit system (including those who re-enroll in public and non-profit institutions). This reduction would shift the supply pipeline for registered nurses by 4.4

percentage points, computer user support workers by 2.6 percentage points, and network and computer systems administrators by 2.5 percentage points.

Figure 7. Reduction in Supply from For-Profit Institution-to-Occupation Pipeline (and Percentage Point Decline) after 50% Reduction in Enrollments, Bachelor's Degree Level



Student Outcomes

This report compares student outcomes across for-profit, nonprofit, and public institutions using the Beginning Postsecondary Students (BPS:12/17) data product to assess how students fare in different segments of the postsecondary landscape. The analysis focuses on four core outcomes: persistence, attainment, employment, and earnings. Together, these measures provide a multidimensional view of student success and institutional performance, capturing both educational progression and labor market returns.

Data and Methods

Beginning Postsecondary Students (BPS:12/17) Longitudinal Data

Data and Measures

The BPS:12/17 tracks a nationally representative sample of students who began postsecondary education for the first time in the 2011–12 academic year. Students were surveyed at the end of

their first, third, and sixth years, providing data on enrollment status, degree attainment, employment, and earnings. The survey also captures a wide range of demographic and academic background variables. This study uses the following BPS outcome measures:

- **Persistence**: Indicates whether a student remained enrolled in postsecondary education or attained a credential one year after initial enrollment.
- **Attainment**: Indicates whether a student earned any postsecondary credential, including a certificate, associate degree, or higher, within 150% of normal time.
- **Employment**: Indicates whether students in the labor market were employed—full-time or part-time—at the time of the six-year follow-up survey.
    - **Unemployed in 2017**: Indicates whether a graduate was unemployed at any time between January and June 2017.
    - **Full-Time Employment**: Indicates whether an employed graduate worked an average of 35 or more hours per week.
    - **Employment in Field**: Indicates whether an employed graduate reported that their job was related to their field of study.
    - **Job Satisfaction**: Indicates whether the graduate expressed satisfaction with their current job.
- **Earnings**: Annual income reported by the student at the time of the final follow-up survey, used as a continuous measure.

Sample Characteristics

To contextualize the BPS sample, we compared the demographic characteristics of first-time students in BPS:12/17 with the full undergraduate population at for-profit institutions in Fall 2011 using IPEDS. As shown in Table 7, first-time students differ in certain ways from the broader for-profit student body. Only 33.5 percent of BPS for-profit students were age 25 or older, compared to 65.3 percent in IPEDS. Similarly, just 17 percent of BPS students were enrolled part-time, versus 28.9 percent sector-wide. These differences reflect a key element of the BPS dataset: it captures only first-time college entrants. As a result, the BPS survey captures responses from a more traditional student profile, a profile more resembling that of public colleges than that of for-profit colleges.

The BPS survey has historically served as the primary data source for research on student outcomes in the for-profit sector. Notable studies using earlier BPS cohorts include Cellini and Chaudhary (2014), who analyzed labor market returns and found no earnings advantage for students attending for-profit institutions; Deming, Goldin, and Katz (2012), who compared debt and default rates across sectors; and Darolia, Koedel, Martorell, Wilson, and Perez-Arce (2014), who examined short-term outcomes such as persistence and attainment.

Table 7. Comparison of BPS:12/17 Sample and IPEDS Population for For-Profit Institutions

Student Characteristic	BPS Fall 2011 For-Profit Students (First-Time Entrants Only)	IPEDS Fall 2011 For-Profit Students (All Undergraduates)	Key Difference
Age 25 and Over	33.50%	65.30%	BPS underrepresents older students
Female	64.90%	61.00%	Slight overrepresentation in BPS
Part-Time Enrollment	17.00%	28.90%	BPS overrepresents full-time students
Hispanic or Latino	29.00%	16.50%	Overrepresented in BPS

Analytical Method

Our analytical approach was designed to maximize the utility of the BPS dataset while maintaining methodological rigor. We estimated multivariate regression models for all outcome measures, using logistic regression for binary outcomes—such as persistence, attainment, and employment—and linear regression for continuous earnings outcomes. All models controlled for relevant student characteristics, including demographics, socioeconomic background, and academic preparation. Sampling weights were applied to ensure national representativeness, and standard errors were adjusted to account for the complex survey design.

All analyses were conducted using NCES PowerStats, which provides secure access to restricted BPS data. While PowerStats limits flexibility in model specification and variable construction, it allows for robust estimation of nationally representative results within the structure of the dataset.

Strengths and Limitations of BPS

The BPS:12/17 dataset offers several strengths for analyzing student outcomes by institutional sector. Its longitudinal design enables direct tracking of student trajectories across multiple years, capturing both short-term and medium-term outcomes for a nationally representative sample of first-time college entrants. Because it includes detailed individual-level data, BPS allows for robust statistical control of background characteristics such as socioeconomic status, academic preparation, and demographic traits. This makes it well suited to isolate sector-level differences in outcomes like persistence, attainment, and early employment.

At the same time, BPS has important limitations, particularly in its application to the for-profit sector. Most notably, BPS includes only students who were enrolling in college for the first time in 2011–12. As shown in the comparison to IPEDS data, these first-time students represent a

relatively small and unrepresentative subset of the broader for-profit undergraduate population, which includes large numbers of returning adult learners and transfer students. The BPS sample also excludes students who began their education before 2011–12, even if they were enrolled in a for-profit program during the study period. As a result, while BPS findings are valuable for understanding traditional college entrants, they do not fully capture the outcomes of the full student population served by for-profit colleges.

Another limitation is that key outcomes—such as employment, earnings, and job satisfaction—are self-reported and may be subject to recall bias or reporting error. Additionally, analyses conducted using PowerStats, while methodologically rigorous, are constrained to a limited set of model specifications and variables. Despite these challenges, BPS remains one of the most informative national datasets for studying student outcomes across sectors and continues to be a foundational source for policy and research.

Results

The following analysis presents results from the BPS:12/17 study, focusing on first-time college entrants across institutional sectors. We examine four key outcomes: persistence, attainment, employment, and earnings. Persistence and attainment are analyzed based on students' initial institution level, with separate models for those who began at less-than-two-year, two-year, and four-year institutions. Employment and earnings outcomes are examined by the highest credential attained by the end of the study period, allowing for sector comparisons among sub-baccalaureate and bachelor's degree recipients. All results are derived from fully adjusted regression models controlling for relevant student and institutional characteristics.

Persistence After One Year

We estimated logistic regression models to examine persistence one year after entry, defined as whether a student was enrolled or had completed a credential by the end of the 2012–13 academic year. Models were estimated separately for students who began at less-than-two-year or two-year institutions and for those who began at four-year institutions.

≤ 2-Year Institutions

Among students at less-than-two-year and two-year institutions, those who enrolled at for-profit colleges had significantly higher odds of persisting than their peers at public institutions. Specifically, students at for-profit institutions had 1.5 times higher odds of persisting than students at public colleges (OR = 0.667, $p < 0.01$). Differences between for-profit and nonprofit institutions were not statistically significant.

4-Year Institutions

In contrast, at four-year institutions, students who began at for-profit colleges had significantly lower odds of persisting than their peers at public institutions. Specifically, for-profit students had 37 percent lower odds of persisting compared to students at public colleges (OR = 1.580 $p < 0.01$). While for-profit students also had lower odds of persisting than those at nonprofit colleges (OR = 1.457), this difference was not statistically significant. These results suggest that for-profit institutions offering bachelor's programs face greater challenges with student retention than their public and nonprofit counterparts.

Table 8. Likelihood of Persistence after 1-Year

Predictor	≤ 2-Year OR	4-Year OR
Institutional Sector (Ref = For-profit)		
Public	0.667**	1.580**
Nonprofit	0.685	1.457
Gender (Ref = Male)		
Female	1.362**	1.418**
Race (Ref = White or Asian)		
Underrepresented Minority (URM)	1.243	1.212
Attendance Intensity (Ref = Full-time)		
Exclusively part-time	0.520***	0.479
Mixed full-time and part-time	0.935	0.839
Employment while Enrolled (Ref = Full-time)		
No job	0.856	0.896
Part-time	0.983	0.935
Age Group (Ref = 25 and older)		
24 and under	0.911	1.098*
Has any Dependents in 2014 (Ref = Yes)		
No	2.081***	2.556***
First-generation Status (Ref = First-generation)		
Not first-generation	1.976**	1.101
Pell Grant Status (Ref = Recipient)		
No pell-grant received	1.354*	1.567**
Index of Risk and Nontraditional Students 2012 (Ref = None)		
5 to 7 risk factors	0.666***	0.410***
1 to 4 risk factors	0.594**	0.692
Grade point average 2011-12 (Ref = 3.01 - 4.00*)*		
0.00 - 1.00	0.247***	0.181***
1.01 – 2.00	0.360***	0.265***
2.01 – 3.00	0.611***	0.568**
Confidence in Academic Success (Ref =Confident in success*)*		
No indication of confidence	0.537***	0.525**

*Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Attainment within 150% of Normal Completion Time

To assess differences in credential completion across sectors, we estimated a series of logistic regression models predicting certificate, associate, and bachelor's degree attainment. Each model was restricted to students who entered a corresponding credential program—certificate or associate at less-than-4-year institutions, associate at 4-year institutions, and bachelor's at 4-year institutions. Models adjusted for a range of background and enrollment characteristics, including academic confidence, enrollment intensity, Pell Grant receipt, first-generation status, risk index, dependent status, and, where available, online enrollment. Results are presented separately by institutional level and credential type, with for-profit institutions serving as the reference group in all models.

≤ 2-Year Institutions

Students who began at for-profit two-year and less-than-two-year institutions had significantly higher odds of earning a certificate or associate degree within three years compared to their peers at public and nonprofit institutions (combined due to sample size constraints). Specifically, students at for-profit institutions had 5.75 times the odds of completing a credential compared to those who started at public or nonprofit colleges (OR = 0.174, $p < 0.001$). These findings underscore the comparatively strong short-term completion outcomes observed at for-profit institutions offering sub-baccalaureate programs.

4-Year Institutions

Among students who entered associate degree programs at four-year institutions, those who began at for-profit colleges had significantly higher odds of earning a credential by June 2014 than their peers at public or nonprofit institutions. Specifically, the odds of associate degree attainment were 2.00 times greater for students at for-profit institutions compared to those at public or nonprofit colleges (OR = 0.501, $p < 0.01$). In contrast, among bachelor's degree seekers, students who began at for-profit institutions had significantly lower odds of completing a degree within six years of initial enrollment. Their odds of earning a bachelor's degree were 46 percent lower than those of students who started at public or nonprofit four-year colleges (OR = 1.847, $p < 0.01$).

Table 9. Likelihood of Degree Attainment

Predictor	≤ 2-Year OR (AA or Cert)	4-Year OR (AA)	4-Year OR (BA)
Institutional Sector (Ref = For-profit)			
Public or nonprofit	0.174***	0.501**	1.847**
Gender (Ref = Male)			
Female	1.113	0.815	1.598***
Race (Ref = White or Asian)			
Underrepresented Minority (URM)	0.845	1.280	-
Attendance Intensity (Ref = Full-time)			
Exclusively part-time	0.318***	0.362**	0.017***
Mixed full-time and part-time	0.736	0.920	0.735***
Employment while Enrolled (Ref = Full-time)			
No job, part-time	1.108	0.828	
Age Group (Ref = 25 and older)			-
24 and under	0.743	0.686	-
Has any Dependents in 2014 (Ref = Yes)			
No			2.334***
Pell Grant Status (Ref = Recipient)			
No Pell-grant received	1.270**	0.959	1.934***
Index of Risk and Nontraditional Students 2012 (Ref = None)			
5 to 7 risk factors	0.689***	0.276***	0.458***
1 to 4 risk factors	0.501**	0.218***	0.171*
Grade point average 2011-12 (Ref = 3.01 - 4.00*)*			
0.00 - 1.00	0.263***	0.213**	-
1.01 – 2.00	0.247***	0.065***	-
2.01 – 3.00	0.519***	0.523**	-
First-generation Status (Ref = First-generation)			
Not first-generation			1.589***
Confidence in Academic Success (Ref =Confident in success*)*			
No indication of confidence	0.470***	0.525**	0.369***
Certificate or degree program entirely online (Ref = Yes*)*			
No			2.175***

*Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001*

Employment

To examine differences in employment outcomes across postsecondary sectors, we estimated a series of logistic regression models predicting the likelihood of unemployment, full-time employment, employment in a related field, and job satisfaction. These models adjust for credential type, institutional characteristics, student demographics, regional factors, and prior work history to isolate the association between institutional sector and labor market outcomes. Results are presented separately for sub-baccalaureate and bachelor's degree recipients to account for differences in credential pathways and labor market expectations.

Sub-Baccalaureate Unemployment

Among sub-BA credential holders, we found no statistically significant differences in unemployment outcomes by sector. Graduates from for-profit institutions had lower odds of experiencing unemployment than graduates from public or nonprofit institutions, but the difference was not statistically significant (OR = 0.897, $p > 0.05$).

Bachelor's Degree Unemployment

Among bachelor's degree recipients, we observed significant differences by sector. Graduates from for-profit institutions had significantly lower odds of experiencing unemployment compared to their peers from public and nonprofit four-year institutions (OR = 1.150, $p < 0.05$). This suggests that despite their lower completion rates, for-profit bachelor's degree programs may provide advantages in employment stability for those who successfully complete their programs. The strong emphasis on workforce readiness in for-profit colleges may be one reason why the likelihood of unemployment after graduation is lower among for-profit grads.

Other Predictors of Unemployment

Other significant predictors of unemployment across credential levels included gender, race/ethnicity, and employment history. Notably, Black or African American graduates showed significantly higher odds of experiencing unemployment compared to White graduates at both the sub-baccalaureate (OR = 2.349, $p < 0.001$) and baccalaureate levels (OR = 1.560, $p < 0.001$). Additionally, employment history as measured by number of jobs held between 2014-2017 was negatively associated with unemployment for both credential levels (OR = 0.611 and OR = 0.789, $p < 0.001$), suggesting that job mobility may serve as a protective factor against unemployment.

Table 10. Likelihood of Experiencing Unemployment in 2017

Predictor	Sub-BA OR	BA OR
Institutional Sector (Ref = For-Profit)		
Public/Nonprofit	0.897	1.150*
Degree Type (Ref = AA or AA & Cert)		
Certificate Only	0.865	-
Gender (Ref = Female)		
Male	0.740**	1.035
Race/Ethnicity (Ref = White)		
Black or African American	2.349***	1.560***
Hispanic or Latino	1.138	1.357**
Asian/Other/Multiracial	1.101	1.337**
Region (Ref = Northeast)		
Midwest	0.832	1.219*
South	0.95	1.315***
West	1.039	1.221
Employment History		
Number of Jobs (2014 - 17)	0.611***	0.789***
Carnegie Classification (Ref = Baccalaureate)		
Associate's	-	0.829
Research/Master's	-	0.798*
Special Focus & Other	-	0.536***
Occupation Type of Current or Last Job (Ref = High-Skill)		
Midskill	-	9.332***
Lowskill	-	1.323***

*Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001*

Sub-Baccalaureate Full-time Employment

Among sub-baccalaureate credential holders, we found significant differences in the likelihood of full-time employment by institutional sector. Specifically, graduates from for-profit institutions had approximately 2 times higher odds of securing full-time employment compared to their peers from public and nonprofit institutions (OR = 0.505, $p < 0.001$). This suggests that for-profit sub-baccalaureate programs may provide advantages in obtaining full-time employment, potentially due to their career-focused curricula or industry connections.

Bachelor's Degree Full-time Employment

Similarly, among bachelor's degree recipients, we observed significant differences by sector. Graduates from for-profit institutions showed approximately 1.5 times higher odds of full-time employment compared to their peers from public and nonprofit four-year institutions (OR = 0.687, $p < 0.01$). This finding reinforces the pattern seen at the sub-baccalaureate level and suggests that

for-profit institutions may effectively prepare graduates for immediate full-time employment across credential levels.

Table 11. Likelihood of Full-time Employment

Predictor	Sub-BA OR	BA OR
Institutional Sector (Ref = For-Profit)		
Public/Nonprofit	0.505***	0.687**
Degree Type (Ref = AA or AA & Cert)		
Certificate Only	0.907	-
Gender (Ref = Female)		
Male	2.258***	1.032
Race/Ethnicity (Ref = White)		
Black or African American	0.582	0.534***
Hispanic or Latino	0.659	0.657**
Asian/Other/Multiracial	0.702	0.614***
Employment History		
Occupation Type of Current or Last Job (Ref = High-Skill)		
Midskill	0.272***	0.333***
Lowskill	0.785	0.742**

*Significance levels: * p < 0.05, ** p < 0.01, *** p < 0.001*

Sub-Baccalaureate Employment in Related Field

Among sub-baccalaureate credential holders, we found no significant differences in the likelihood of working in a field related to one's studies across sectors. Specifically, graduates from for-profit institutions had odds of being employed in their field of study that were statistically comparable to those of public institution graduates (OR = 0.925, $p > 0.05$). This suggests that for-profit institutions at the sub-baccalaureate level prepare students for employment within their field of study at rates similar to their public counterparts.

Bachelor's Degree Employment in Related Field

Among bachelor's degree recipients, however, we observed significant differences by sector. When compared to for-profit institutions, graduates from nonprofit institutions had significantly lower odds of being employed in a field related to their studies (OR = 0.330, $p < 0.01$). Public institution graduates also showed lower odds of field-related employment compared to for-profit graduates, though this difference was not statistically significant (OR = 0.779, $p > 0.05$). These findings suggest that for-profit bachelor's degree programs may provide stronger alignment between curriculum and subsequent career placement than their nonprofit counterparts.

Other Predictors of Employment in Related Field

Several other factors significantly predicted whether graduates worked in fields related to their studies. Across both credential levels, occupation type was strongly associated with field-related

employment, with mid-skill (OR = 0.286 sub-BA and OR = 0.117 BA, $p < 0.01$ and $p < 0.001$) and low-skill (OR = 0.333 sub-BA and OR = 0.228 BA, $p < 0.001$) occupations showing significantly lower odds of field-related employment compared to high-skill occupations. Industry of employment also played an important role, with retail sales showing particularly low odds of field-related employment at both credential levels (OR = 0.196 sub-BA and OR = 0.274 BA, $p < 0.001$). Additionally, race/ethnicity emerged as a significant predictor at the bachelor's level, with Black or African American graduates showing significantly lower odds of field-related employment compared to White graduates (OR = 0.340, $p < 0.01$).

Table 12. Likelihood of Being Employed in Field Related to Studies in 2017

Predictor	Sub-BA OR	BA OR
Institutional Sector (Ref = For-Profit)		
Public/Nonprofit	0.925	-
Public		0.779
Nonprofit		0.330**
Degree Type (Ref = AA or AA & Cert)		
Certificate Only	0.954	-
Gender (Ref = Female)		
Male	1.137	1.159
Race/Ethnicity (Ref = White)		
Black or African American	0.557	0.340**
Hispanic or Latino	0.630	1.001
Asian/Other/Multiracial	0.789	0.743
Industry of primary employer		
Government, Education	0.621	1.274*
Retail Sales	0.196***	0.274***
Something Else	0.413***	0.651
Carnegie Classification (Ref = Associate's)		
Baccalaureate	-	0.346***
Special Focus/Other	-	0.501
Occupation Type of Current or Last Job (Ref = High-Skill)		
Midskill	0.286**	0.117***
Lowskill	0.333***	0.228***

*Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Sub-Baccalaureate Job Satisfaction

Among sub-baccalaureate credential holders, we found no significant differences in job satisfaction by institutional sector. Specifically, graduates from for-profit institutions reported job satisfaction levels that were comparable to those of public institution graduates (OR = 0.902, $p > 0.05$). Nonprofit institution graduates had directionally lower odds of job satisfaction, but the difference was not statistically significant (OR = 0.776, $p > 0.05$).

Bachelor's Degree Job Satisfaction

Similarly, among bachelor's degree recipients, we observed no significant differences in job satisfaction by institutional sector. Although nonprofit institution graduates showed somewhat higher odds of job satisfaction compared to for-profit graduates (OR = 1.386, $p > 0.05$), and public institution graduates showed slightly higher odds (OR = 1.121, $p > 0.05$), neither difference reached statistical significance. These findings indicate that institutional sector does not significantly predict job satisfaction among bachelor's degree holders.

Other Predictors of Job Satisfaction

The strongest predictors of job satisfaction were salary and job alignment with career goals. Graduates whose current jobs were not related to their intended future work reported lower odds of job satisfaction at both the sub-baccalaureate (OR = 0.504, $p < 0.01$) and baccalaureate levels (OR = 0.227, $p < 0.001$). For bachelor's degree holders, industry of employment emerged as a significant predictor, with those working outside healthcare, retail, and government/education reporting higher odds of job satisfaction (OR = 1.728, $p < 0.01$). Additionally, race/ethnicity was a meaningful predictor among bachelor's degree holders, with non-White graduates showing lower odds of job satisfaction compared to White graduates (OR = 0.707, $p < 0.05$).

Table 13. Likelihood of Job Satisfaction in 2017

Predictor	Sub-BA OR	BA OR
Institutional Sector (Ref = For-Profit)		
Public	0.902	1.121
Nonprofit	0.776	1.386
Degree Type (Ref = Cert only)		
AA or AA & Cert	1.0333	-
Gender (Ref = Female)		
Male	0.866	0.905
Race/Ethnicity (Ref = White)		
Not White	0.769	0.707*
Job Related to Future Intended Work (Ref = Yes)		
No	0.504**	0.227***
Industry of employer (Ref = Healthcare)		
Something else	-	1.728**
Retail Sales	-	1.299
Government, Education	-	1.218
Occupation Type of Current or Last Job (Ref = High-Skill)		
Midskill	0.581	0.916
Lowskill	0.276**	1.350

*Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Earnings

To examine the relationship between institutional control and earnings while controlling for relevant factors, we conducted multiple linear regression analyses separately for sub-baccalaureate and bachelor's degree recipients. These analyses allowed us to isolate the effect of institutional sector while accounting for demographic characteristics, job attributes, and employment patterns.

Sub-Baccalaureate Earnings

For sub-baccalaureate graduates, our regression analysis revealed no significant difference in earnings between for-profit and public/nonprofit institution graduates (-$62.31, $p > 0.05$) after controlling for other factors. This finding contrasts with the unadjusted comparisons, which showed mixed patterns with certificate holders from public/nonprofit institutions earning 17.0% more than their for-profit counterparts, while for-profit associate's degree graduates earned a slight 1.2% premium over public/nonprofit peers.

Bachelor's Degree Earnings

Similarly, our regression analysis for bachelor's degree recipients found no statistically significant earnings difference between graduates of for-profit and public/nonprofit institutions ($637.98, $p > 0.05$) when controlling for the same set of factors. This result differs from the unadjusted comparison showing for-profit bachelor's degree graduates earning 5.7% more than their public/nonprofit peers.

Other Predictors of Earnings Across Credential Levels

The regression analyses identified several significant predictors of earnings across both credential levels. Gender emerged as a strong factor, with female graduates earning significantly less than males at both credential levels, though the gap was larger for sub-baccalaureate (-$5,259.90, $p < 0.001$) than bachelor's graduates (-$2,789.72, $p < 0.01$).

Income background significantly influenced sub-baccalaureate earnings, with both low and middle-income graduates earning over $4,000 less than high-income peers. Job-education alignment was crucial for both groups, with those working in fields unrelated to their studies experiencing substantial earnings penalties (-$4,445.61 and -$5,054.23, $p < 0.001$).

Occupation type consistently showed that mid-skill and lower-skill positions earned significantly less than high-skill occupations, while hours worked weekly was positively associated with earnings for both groups, with each additional hour contributing approximately $850-900 to annual earnings ($p < 0.001$).

Table 14. Linear Regression Coefficients Predicting 2017 Annual Earnings by Credential Level

Predictor	Sub-BA Coefficient	BA Coefficient
Intercept	11,652.37***	11,395.47***
Institutional Sector (Ref = For-Profit)		
Public/nonprofit	-62.31	637.98
Gender (Ref = Male)		
Female	-5,259.90***	-2,789.72
Income Group 2012 (Ref = High)		
Low	-4,131.50**	-1,958.01
Low middle; High middle	-4,353.11***	-1,832.69
Race/Ethnicity (Ref = White)		
Not White	-744.92	-1,678.25
Job Related to College Studies (Ref = Yes)		
No	-4,445.61***	-5,054.23***
Occupation Type (Ref = High-Skill)		
Midskill	-6,865.30***	-10,737.17***
Lowskill	-4,731.485**	-6,119.59***
Job Hours Worked Weekly	843.61***	903.87***
Number of Jobs 2014-2017	-136.57	-198.75

*Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Conclusion

The two studies conducted by Lightcast – the Talent Shortages study and the Student Outcomes study – indicate the meaningful contribution to labor force supply from for-profit institutions and the success of these institutions in persistence, attainment, employment, and earnings. The simulated reduction in enrollments meant fewer entrants to critical roles in healthcare, IT, business, and other sectors. With respect to student outcomes, the for-profit sector serves a more diverse student population to higher persistence at two-year institutions, higher attainment at two-year and four-year institutions, lower likelihood of bachelor's level graduates facing unemployment, higher likelihood of two-year sub-bachelor's employment, and similar earnings.