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Community College Bachelor's Degrees: How CCB Graduates' Earnings Compare to AAs and BAs

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We provide the first national descriptive analysis of the economic value of Community College Baccalaureate (CCB) degrees by examining graduates' early-career earnings, the costs of completing these programs, and the alignment between field of study and subsequent employment. Using administrative data and controlling for institution and field, we find that CCB graduates earn $4,000 to $9,000 more annually than Associate's (AA) degree holders one year after graduation but experience average earnings penalties of roughly $2,000 relative to traditional Bachelor's (BA) recipients. These averages mask substantial heterogeneity: penalties are largest in Computer and Information Technology and Engineering Technology, whereas CCB graduates in Nursing, other Healthcare fields, Business, and Criminal Justice exhibit minimal or no penalties. To contextualize these returns, we analyze tuition and fee structures across CCB-granting institutions and identify two dominant pricing models—constant and escalating. Total CCB program costs generally fall between those of AA and BA degrees, with escalating structures increasing upper-division prices by about 40 percent. Finally, we examine field-to-industry match patterns and find that CCB graduates in fields with well-defined occupational pathways, such as Health Professions and Education, are highly concentrated in aligned industries, while graduates in more diffuse fields, such as Computer Science, are more broadly dispersed. Together, these results provide an integrated assessment of CCB program returns, costs, and employment alignment. While limited in their causal interpretation, these findings offer initial evidence on the role of CCB programs in shaping labor market outcomes relative to alternative postsecondary credentials.

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COMMUNITY COLLEGE BACHELOR'S DEGREES: HOW CCB GRADUATES' EARNINGS COMPARE TO AAS AND BAS

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ABSTRACT: We provide the first national descriptive analysis of the economic value of Community College Baccalaureate (CCB) degrees by examining graduates' early-career earnings, the costs of completing these programs, and the alignment between field of study and subsequent employment. Using administrative data and controlling for institution and field, we find that CCB graduates earn $4,000 to $9,000 more annually than Associate's (AA) degree holders one year after graduation but experience average earnings penalties of roughly $2,000 relative to traditional Bachelor's (BA) recipients. These averages mask substantial heterogeneity: penalties are largest in Computer and Information Technology and Engineering Technology, whereas CCB graduates in Nursing, other Healthcare fields, Business, and Criminal Justice exhibit minimal or no penalties. To contextualize these returns, we analyze tuition and fee structures across CCB-granting institutions and identify two dominant pricing models—*constant* and *escalating*. Total CCB program costs generally fall between those of AA and BA degrees, with escalating structures increasing upper-division prices by about 40 percent. Finally, we examine *field-to-industry* match patterns and find that CCB graduates in fields with well-defined occupational pathways, such as Health Professions and Education, are highly concentrated in aligned industries, while graduates in more diffuse fields, such as Computer Science, are more broadly dispersed. Together, these results provide an integrated assessment of CCB program returns, costs, and employment alignment. While limited in their causal interpretation, these findings offer initial evidence on the role of CCB programs in shaping labor market outcomes relative to alternative postsecondary credentials.

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I. INTRODUCTION

The earnings gap between workers with and without a bachelor's degree has more than doubled over the past four decades (Autor, 2014; Ashworth and Ransom, 2019), indicating substantial and growing economic returns to postsecondary education. Yet, despite a rising premium for all students, and a particularly high premium for low-income and under-represented minority (URM) students, gaps in college attendance and bachelor's degree attainment between URM and non-URM students, and between low- and high-income students, have persisted and even widened. For instance, the White-Black gap in bachelor's degree completion grew from 13 percentage points in 1980 to 17 points in 2022, while the income gap in bachelor's degree attainment by age 24 nearly doubled between 1980 and 2019 (Cahalan et al., 2021; Reber and Smith, 2023).

There are a number of structural and systemic barriers that explain why these gaps exist. Indeed, a large body of research shows that differences between groups in K-12 school resources and experiences, financial and credit constraints, and informational barriers are predictive of differential educational attainment across race and income (see, for example, Dynarski, Page, and Scott-Clayton, 2022 and Dynarski et al., 2022 for comprehensive literature reviews). Moreover, URM and low-income students are more likely to live in areas with limited access to postsecondary institutions (Hillman, 2016; Hillman and Weichman, 2016) *and* are more sensitive to the distance they must travel to reach campuses (Acton, Cortes, and Morales, 2024; Acton, Cortes, Miller, and Morales, 2025), suggesting that geographic access may *also* be a major barrier to postsecondary enrollment and attainment for URM and low-income students.

One increasingly popular approach to expanding access to bachelor's degrees—and to closing the racial-ethnic and income gaps in educational attainment and earnings—is to offer them at community colleges. With less expensive tuition, more flexible class schedules, and better geographical accessibility for many, community colleges have historically served disproportionately large shares of URM and low-income students. To date, 24 states allow community colleges to offer bachelor's degrees (Community College Baccalaureate Association and Bragg and Associates, Inc., 2024), and the number of colleges awarding these degrees has grown tremendously in recent years. Between 2004 and 2022, the share of community colleges offering bachelor's degrees increased from 2.1% to 16.5% and the number of degrees awarded

more than quadrupled, from 3,327 to 16,059.[1] While they still account for a small share of all bachelor's degrees awarded nationally (approximately 0.8 percent in 2022), the share of bachelor's degrees awarded by community colleges is large and growing in many states that have adopted community college baccalaureate's programs. For example, in Florida and Washington, close to 9.5% and 5.3% of BAs were awarded by community colleges in 2022, respectively.[2]

Existing literature on the returns to schooling suggest potentially large, positive returns to enrollment in bachelor's degree programs (Goodman, Hurwitz, and Smith, 2017; Kozakowski, 2023; Lovenheim and Smith, 2022). In many cases, these longer-run earnings effects are driven by academically marginal students as well as students from low-income backgrounds (Dale and Krueger, 2002; Zimmerman, 2014)—the precise types of students that tend to enroll in community colleges. However, the relatively recent introduction of the community college baccalaureate's (hereafter referred to as CCB) programs and the small number of total degrees awarded have limited the scope for research on CCB graduate outcomes. Whereas descriptive work from Florida, California, and Washington has shown strong average earnings of CCB graduates in these states (see Meza and Love, 2023), it is important to continue to assess the labor market success of their graduates on a larger scale.

In this paper, we leverage data from the Postsecondary Employment Outcomes (PSEO) data of the U.S. Census Bureau, which covers 13 of the 24 states currently offering CCB degrees, to provide the first comprehensive, national study of CCB graduate labor market outcomes. In order to better understand how CCB graduates are faring relative to graduates of similar programs, we compare CCB graduate earnings one year following degree attainment to associate's degree holders in the same field from the same institution, as well as bachelor's degrees in the same field at public four-year colleges.[3] Thus, our analysis documents both the potential earnings *premium* relative to AA degree completers as well as the potential earnings *penalty* associated with CCB attainment compared to BA completers from traditional four-year colleges.

[1] Authors' calculations using data from IPEDS. We define community colleges as public postsecondary institutions that predominantly award degrees and certificates below the bachelor's degree level. See: https://nces.ed.gov/ipeds/use-the-data/institutional-groupings-in-ipeds.

[2] These calculations use state-reported volumes of CCBs awarded in Florida and Washington data on BAs awarded by state from the Integrated Postsecondary Education Data System (IPEDS).

[3] We use associate's degree and AA, as well as bachelor's and BA, interchangeably throughout the paper. In both cases, we mean to refer to the larger degree category (e.g., we mean BA to include bachelors of science as well as bachelors of arts).

Our findings indicate that the earnings associated with completing a CCB degree generally lie between those of an AA and a traditional BA, with meaningful differences across fields of study. On average, CCB graduates experience moderate earnings premia ranging from $4,000 to $9,000 a year over comparable AA degree completers one year after graduation. We observe larger relative earnings differences among CCB graduates in computer information systems, criminal justice, and nursing. Meanwhile, students who complete a CCB in business, agriculture, or engineering technology do not experience a significant earnings advantage relative to those who attain an associate's degree from the same institution and field. On the other hand, CCB graduates see penalties of approximately $2,000 a year relative to comparable BA graduates from traditional four-year colleges one year after graduation. Again, this average difference varies widely across fields, with CCB completers of bachelor's degrees in computer information systems and engineering technology experiencing the largest earnings gaps. Notably, CCB graduates in nursing and criminal justice fields attain earnings parity compared to peers who completed BAs in the same field from traditional four-year colleges.

We also examine field-to-industry match patterns and find that graduates from fields with well-defined occupational pathways are highly concentrated in aligned industries, whereas those from more diffuse fields are more broadly dispersed. For instance, in nursing—a field with narrowly defined occupational pathway—the labor market value of the credential may depend more on the degree level (AA vs. BA) than on whether the institution is a traditionally two-year or four-year college. In contrast, fields like computer science serve a broader set of industries, making the signaling value of institution type potentially more salient.

Lastly, to compare costs across institutions and CCB programs, we conduct a document analysis of publicly available information on college websites, extracting and coding tuition and fee data. We identify two common cost structures: a *constant* structure in which tuition remains the same across lower- and upper-division courses, and an *escalating* structure in which upper-division courses are priced higher. Across states, CCB costs generally fall between those of associate's and traditional bachelor's degrees, though a full accounting of student costs requires future work on housing, transportation, aid, and opportunity costs.

We emphasize several limitations to interpretation. First, our estimates are descriptive and do not account for selection into CCB programs, raising concerns about causal inference. Second, given the recent expansion of CCB offerings, we are limited to short-term earnings, namely labor

market outcomes measured one year after degree attainment. Third, our findings pertain to a subset of states included in the PSEO data and only include full-time employed graduates. Nonetheless, this analysis contributes to a nascent literature on CCB programs, offering timely evidence as additional states consider authorizing these degrees.

This paper proceeds as follows: Section II provides an overview of community college baccalaureate legislation and implementation, focusing on the states covered by the PSEO data. Next, Section III describes the PSEO data in detail before presenting an overview of the main results in Section IV. Section V offers insight into field-to-industry match patterns of CCB graduates. Section VI presents a document analysis of college websites, systematically extracting and coding cost data for cross-institutional comparisons. Lastly, Section VII concludes with a discussion of implications for policymakers and directions for further research on CCB programs.

II. BACKGROUND ON THE COMMUNITY COLLEGE BACCALAUREATE

The American community college has historically served many roles, including offering two-year associate degrees, vocational training, and shouldering much of the efforts for facilitating transfer to four-year institutions. As the popularity of the bachelor's degree increased over the course of the 20th and 21st centuries, however, community colleges were under significant pressure to provide affordable, localized pathways to the BA, particularly in applied fields facing local labor shortages, such as nursing. The community college baccalaureate (CCB) degree represents a significant evolution in the American higher education landscape, reflecting the shifting role of the community college and heightened demand for more accessible bachelor's degree options.

Despite significant national attention to community colleges, the movement toward CCB authorization at the state level went largely unnoticed. In 1989, West Virginia became the first state to authorize a community college to offer both associate and bachelor's degrees. Over nearly three decades, the CCB movement has gained significant momentum without garnering additional public or media attention. Following West Virginia's lead, other states, including Florida, Washington, and Georgia, enacted similar legislation, allowing community colleges to offer bachelor's degrees in specific high-demand fields. As of 2025, despite a large share of states passing CCB legislation, Florida and Washington are the only states in which nearly 100% of the state's community colleges are authorized to offer the degree (Love, Bragg, and Harmon, 2021). The expansion of CCB programs within and across states has been influenced by various factors,

including economic shifts, demographic changes, and the evolving needs of the labor market. Community colleges have increasingly positioned themselves as critical players in workforce development, offering programs narrowly tailored to regional economic demands such as Cannabis Science programs following states' legalization of medical and recreational use of the drug (Van Noy et al., 2023; Community College of Denver).

The proliferation of CCB programs has sparked discussions regarding their impact on higher education and the labor market. Proponents argue that these programs enhance access to higher education, particularly for non-traditional students, and contribute to local economic development by aligning educational outcomes with regional industry requirements. Conversely, critics express concerns about potential mission creep, resource allocation, quality of instruction, and the capacity of community colleges to effectively deliver bachelor's degree programs without compromising their traditional roles. Despite these debates, the trend toward offering bachelor's degrees at community colleges continues to grow, making research into and evaluation of their effectiveness critical to future evolution and success.

III. DATA AND DESCRIPTIVE STATISTICS

A. Description of Postsecondary Employment Outcomes (PSEO) Data

Research on the returns to CCB degrees has been limited by the relatively recent introduction of CCB programs and the small number of total degrees awarded. Single-state studies have provided strong, descriptive evidence in specific contexts (see Meza and Love, 2023), but the emerging nature of these programs combined with a lack of national, program-level earnings data has constrained the scope of study on earnings of CCB graduates. This paper fills the existing gaps by using the PSEO data to better understand the earnings of CCB graduates at a national level.

The PSEO data provides a unique source for analyzing post-graduation outcomes across institutions, degree levels, and fields of study (U.S. Census Bureau, 2024). Developed by the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) program, PSEO statistics are generated by matching postsecondary transcript data with a national database of jobs covering over 96% of U.S. employment (Abowd et al, 2009). The foundation for these data is state unemployment insurance (UI) records collected via a voluntary federal-state data sharing partnership. This approach allows for earnings and employment outcomes to be linked to graduates

regardless of where they work after graduation – a key limitation of state-level administrative data often used in research on higher education and labor market outcomes (Foote and Stange, 2022). National-level analyses of earnings at the institution or program-level often make use of the College Scorecard, which captures students nationwide who receive federal aid. While this sample is helpful for many analyses, the federal aid restriction is often particularly limited at the community college level, as it inadequately represents the diverse student populations served by these institutions, especially the non-traditional and working adult students who frequently pursue CCB degrees (Foote, 2022).

The PSEO data contains program-by-cohort level information on the distribution (median, 25th, and 75th percentiles) of graduates' earnings one-, five-, and ten-years post-graduation. Given the emerging nature of CCB programs, this paper largely makes use of the one-year earnings data, but future work that uses the PSEO data to explore CCB graduate earnings *trajectories* compared to their AA and BA peers will be an important contribution to our understanding of the longer-term effects of these programs. Additionally, PSEO provides industry and location information, which allow us to offer insight into whether CCB graduates secure employment in fields relevant to their training and in their local labor market. Although this research will largely focus on earnings, these data are equipped to tackle critical questions for specific programs that are explicitly designed to meet specific local workforce needs.

Despite these advantages, there are also important limitations to the PSEO data that circumscribe our interpretation of the results. The data only include graduates of participating institutions, therefore students who enroll but do not complete their degrees are absent from the sample. Furthermore, the PSEO data excludes graduates with insufficient labor market attachment in the reference year. Specifically, graduates who earn less than the annual equivalent of full-time work at the federal minimum wage or who have two or more quarters with no earnings are omitted from the earnings statistics. This restriction, while designed to reflect earnings for consistently employed graduates, may systematically exclude those with unstable employment, seasonal work patterns, or those who transition to self-employment—all potentially important outcomes for CCB graduates. Additionally, while the LEHD database covers most corporate and government employment, it notably excludes independent contractors, unincorporated self-employed workers, military personnel, and employees of certain non-profits. Using the PSEO flows data, we calculate

that roughly 22% of graduates from CCB programs that we identify in the PSEO flows data (described below) do not meet the labor force requirements to be included in the earnings data.[4]

B. Identifying CCB Programs within the PSEO Data

The first step in our analysis is to identify CCB programs within the PSEO data. To do so, we merge the detailed PSEO earnings at the institution-degree-program-cohort level with institution-level characteristics—such as institutional control, location, and awards conferred—from the Integrated Postsecondary Education Data System (IPEDS). We define programs as four-digit Classification of Instructional Program (CIP) codes.[5] We then identify CCBs as any bachelor's degree program at a public postsecondary institution that predominantly awards degrees below the bachelor's level and that does not offer graduate degrees. We exclude bachelor's degrees offered by institutions that are members of larger four-year university systems.[6]

This process identifies 108 unique CCB programs in the PSEO earnings data. Of these 108 programs, 54 (50%) have at least one cohort with a sufficient number of graduates identified in the labor market one year after degree completion to produce earnings statistics.[7] Due to the relatively recent proliferation of CCBs, only 30 (29%) and 18 (17%) programs have a sufficient number of graduates identified in the labor market five and ten years, respectively, following graduation. Thus, we concentrate our analysis on initial, one-year earnings outcomes to maximize sample size.

We also use the PSEO *flows* data (which is separate from the earnings data) for some supplemental analyses, specifically, to identify (1) what fraction of CCB graduates are employed in the state where they earned their degree; and (2) in which industries CCB graduates work. For

[4] Specifically, 22% of graduates from CCB programs that we identify in the PSEO flows data are classified as "jobless or marginally employed," meaning that they earn less than the annual equivalent of full-time work at the federal minimum wage or they have two or more quarters with no earnings. The corresponding percent of graduates who are "jobless or marginally employed" for associate's programs and traditional bachelor's programs are 40% and 31%, respectively. While this could suggest that CCB graduates are more likely to find employment, it may also be that the figures are higher for associate's and traditional bachelor's degree holders because they are more likely to continue their education after graduation.

[5] CIP (Classification of Instructional Programs) codes, used by the U.S. Department of Education, are a standardized way to define academic majors/programs.

[6] Specifically, we do not classify bachelor's degree programs at City University of New York (CUNY), State University of New York (SUNY), Pennsylvania State University, nor University of Wisconsin campuses as CCBs. We additionally exclude Texas Southmost College from our CCB definition, as it was part of University of Texas at Brownsville from 1991 to 2011.

[7] The Census Bureau does not release statistics for programs with a small number of graduates due to data privacy concerns.

these analyses, we identify a total of 244 unique CCB programs of which 122 (50%) have sufficient data to not be suppressed.

C. Descriptive Statistics

Figure 1 displays the geographic distribution of the CCB programs that we identify in the PSEO data. In Panel A, we present the number of unique programs we observe in each state. We observe programs across 10 states, with the majority coming from Georgia (43), Texas (20), and Colorado (15). In Panel B, we sum the number of graduates that the PSEO data tracks in the labor market from CCB programs in each state. Overall, the PSEO data tracks the employment and earnings outcomes of nearly 13,000 CCB graduates, with the majority coming from Georgia (3,853), Texas (3,219), and West Virginia (2,890). We do not observe any labor market outcomes for CCB programs in Hawaii, Ohio, and South Carolina.[8]

One reason why we observe many CCB graduates from West Virginia—despite its relatively low number of CCB programs—is that the state has allowed community colleges to confer bachelor's degrees since the late 1980s. Thus, we observe a large number of cohorts in the PSEO data. In Figure 2, we present the evolution of CCB graduates observed in the PSEO data across cohorts. We first show the number of CCB graduates we observe in the labor market in each cohort of the PSEO data. Beginning in the mid-2000s, we start to see an increase in the number of observed CCB graduates, which accelerates in the 2015-2020 period. Second, we show the number of graduates that we observe employed in the same state as the institution from which they earned their degree. Consistently over time, approximately 75% of CCB graduates who are employed are employed in-state, suggesting that CCBs may be important to state economic development goals.

Within the PSEO data, we also observe CCBs across a range of fields of study. In Figure 3, we present the number of CCB programs and graduates observed in the labor market across different fields of study, restricting the sample to the 54 programs where we observe graduates in the labor market. We classify fields of study by grouping together related classification of instructional program (CIP) codes. We provide the details of these groupings in Appendix Table A.1. Panel A shows that the majority of CCB programs are offered in nursing (11 programs), business (11 programs), and other allied health areas (8 programs), such as health and medical administrative

[8] The lack of data on CCB graduates in these states is likely a feature of recency of program introduction (in Ohio and South Carolina) or size of program (Hawaii). Ohio and South Carolina only began introducing programs in 2020.

services and dental support services. Panel B further shows that business and nursing graduates make up the majority of CCB holders in our samples, followed by liberal arts/general studies programs and those in education and human services.

The PSEO flows data additionally gives us information on the industries in which CCB graduates are employed. Figure 4 shows the number of CCB graduates that we observe in each industry as measured by its 2-digit North American Industry Classification System (NAICS) code. The top industries align well with the top fields of study, with Health Care and Social Assistance and Educational Services employing the most CCB graduates.

IV. RESULTS

A. Earnings Differences Between CCBs, AAs, and Traditional BAs

We begin our descriptive analysis on the labor market outcomes of CCB completers by examining short-term earnings across degree types—comparing CCB holders to those with associate's degrees (AAs) and those with bachelor's degrees from institutions other than community colleges (non-CC BAs). We report these summary statistics in Table 1, where Panel A presents earnings pooled across all fields of study and Panel B presents earnings when limiting the sample to disciplines in which CCB programs are offered within our sample (see Appendix Table A.1).[9] We weight the means by the number of graduates observed in the labor market for each institution-degree-CIP-cohort combination. Thus, Table 1 only includes programs for which we observe one-year earnings within the PSEO data.

Overall, completers of CCB programs experience a modest earning premium over those who with an associate's degree from community college. Pooling data across all fields of study, our estimates indicate that the median CCB graduate earns nearly $46,200 during their first year in the labor market following degree completion—approximately 15% ($6,000) more than those with an associate's degree or 14% ($5,600) more than those with an associate's degree in a field where CCBs are offered. This earnings gap is stable across the earnings distribution, with similar premia

[9] Note that reference to the median earner or those at the 25th and 75th percentiles in this section refers to the average at these percentiles across programs. That is, "the median CCB graduate earns nearly $46,200 during their first year in the labor market" refers to the *average*, median-earnings CCB graduate. Averages are weighted by the number of graduates in each program.

observed at the 25th and 75th percentiles, indicating that the CCB advantage applies similarly to both lower- and higher-earning graduates.

By contrast, CCB completers face an earnings penalty compared to graduates of traditional, non-CC BA programs. Narrowing the sample to fields of study where CCBs are available (Table 1, Panel B), we observe an 8% gap ($4,000) in median earnings relative to the median non-CC BA holder. Once again, these earnings differences are similar across the 25th, 50th, and 75th percentiles of the respective earnings distributions.

Next, we examine short-term earnings disparities across specific fields by comparing the median earnings of CCB completers to those of AA and non-CC BA graduates. Figure 5 presents these comparisons. In line with the aggregate metrics, CCB completers generally out-earn AA holders but lag behind traditional BA graduates, reinforcing the notion of CCBs as an intermediate credential that provides a substantial earnings advantage over associate's degrees without fully closing the gap with traditional four-year degrees. Figure 5 highlights several notable patterns across fields of study. For example, nursing is the only field where CCB graduates earn nearly the same as their non-CC BA peers, effectively closing the earnings gap. In contrast, computer information sciences show the largest disparity, with CCB completers earning significantly less than traditional BA graduates. Finally, criminal justice stands out as the only field where CCB graduates exceed the median earnings of non-CC BA holders.

B. Regression-Adjusted Earnings Differences

While the descriptive comparisons shown in Table 1 and Figure 5 provide initial insights into earnings differences by degree type and field of study, they conflate these patterns with other factors correlated with earnings and degree attainment type. To assess whether the observed disparities persist after accounting for observable characteristics—including geographic and temporal variation across cohorts and fields of study—we turn to regression-adjusted estimates. Specifically, we estimate regressions of the following form:

$$Earnings_{idfc} = \beta \cdot CCB_{idf} + \boldsymbol{X}_{idfc} \cdot \boldsymbol{\Gamma} + u_{idfc} \quad (1)$$

where $Earnings_{idfc}$ is an earnings outcome for students who graduate from institution *i* with degree type *d* in field of study (4-digit CIP code) *f* in cohort *c*. We regress this earnings outcome on an indicator, CCB_{idf}, which is equal to 1 if degree *d* in CIP code *f* at institution *i* is a CCB

program, and 0 otherwise. We then iteratively add fixed effects at the cohort, CIP code, and state levels to adjust for earnings differences across time, fields, and geography. For comparisons to associate degree holders, we further add institution and institution-by-CIP fixed effects to compare outcomes between students who earn AA and CCB degrees in the *same institution* and field of study. For comparisons to traditional bachelor's degree holders, we add state-by-CIP fixed effects, comparing students who earn CCB and traditional BA degrees in the *same state* and field of study.

Table 2 presents the estimates of β, comparing earnings outcomes between CCB graduates and AA graduates across three percentiles of the earnings distribution.[10] Panel A shows estimates for median earnings, while Panel B and C show earnings at the 25th and 75th percentiles, respectively. The table shows results from multiple model specifications, progressively adding fixed effects to control for a richer set of time-constant characteristics at the cohort, state, and institution-by-CIP levels. Estimates from our preferred specifications, shown in Column 6, compare earnings of CCB and AA graduates within the same institution and field of study, while controlling for temporal variation across cohorts.

Consistent with the summary statistics presented above, we estimate a moderate earnings premium for CCB graduates relative to AA graduates. Specifically, completing a bachelor's degree at a community college is associated with a median earnings increase of approximately $5,700, or 14% above the median earnings of AA graduates from the same institution and field of study, in our preferred specification. We also find positive returns to a CCB degree at both the lower and upper ends of the earnings distribution, though the magnitude of the premium varies. At the 25th percentile, CCB graduates earn approximately $4,300 more than their AA peers, representing a 13.8% increase. In contrast, at the 75th percentile, the earnings premium exceeds $8,800, amounting to a 16.7% advantage over AA graduates. Collectively, these patterns indicate that the economic returns to a CCB degree are positive across the earnings distribution, with graduates earning more than their AA counterparts at all three percentiles. Moreover, the earnings premium increases throughout the earning distribution, suggesting that the relative advantage of a CCB degree is more pronounced among higher-earning graduates.

[10] Note that the data groups AA graduates into three-year cohorts (i.e., the 2010 cohort is graduates from 2010-11, 2011-12, and 2012-13 school years), whereas CCB and BA graduates are combined into five-year cohorts (i.e., the 2010 cohort is 2010-11, 2011-12, 2012-13, 2013-14, and 2014-15 graduates). We do not formally adjust for this difference in cohort grouping, as average earnings at each percentile are fairly stable across cohorts.

Next, Table 3 reports the estimates of β, comparing CCB graduates to BA graduates from four-year institutions. Again, we present results from multiple specifications, showing our preferred estimates in Column 5. This specification includes fixed effects accounting for time-invariant characteristics at the cohort and state-by-CIP levels, enabling comparisons of earnings among graduates from the same state and field of study, but who differ in having completed their bachelor's degrees at a community college versus a traditional four-year institution.

We estimate that graduates who complete a bachelor's degree at a community college earn approximately $2,800 less in median annual earnings than those from traditional four-year institutions—a 5.5% earnings penalty relative to the median for four-year college graduates. We estimate a comparable earnings penalty among lower-earners, as shown in Panel B—approximately $2,300 less at the 25th percentile or a 6.1% difference relative to four-year college graduates. Notably, however, there is a smaller and statistically insignificant difference in earnings between CCB and traditional BA graduates among higher earners: at the 75th percentile, CCB graduates earn just under $1,500 less, or 2.3% below those who graduated with traditional BAs.

We conclude our regression analysis by estimating earnings differences between CCB, AA, and traditional BA graduates across a range of fields. Specifically, we aggregate fields of study to 11 groupings (shown in Appendix Table A.1) and then estimate our most saturated version of regression equation (1) separately for each field of study aggregation. Figures 6 and 7 show estimates of β comparing earnings between CCB graduates and, respectively, AA and BA graduates at the 25th, 50th, and 75th percentiles of the earnings distribution.[11]

While we estimate a clear and moderate earnings premium for CCB graduates relative to AA holders in the aggregate, we note meaningful variation across fields. As illustrated in Figure 6, four out of nine fields show a significant earnings advantage for CCB graduates. For example, CCB graduates in computer information systems have estimated median earnings approximately $10,000 higher than their AA peers. Similarly, CCB completion in criminal justice and nursing is associated with significant earnings gains throughout the distribution. In contrast, engineering technology CCB graduates are estimated to earn less than AA graduates in the same field—approximately $10,000 lower at the 25th percentile and $5,000 lower at the median—with no significant difference observed at the 75th percentile. Finally, we find no significant differences in

[11] We omit from the figures the estimates for biology and music programs, given the small number of graduates we observe in these CCB programs (see Figure 3).

earnings between CCB and AA graduates in business, agriculture, or other healthcare-related fields.

While CCB graduates tend to outperform AA holders across multiple fields of study, comparisons to graduates with traditional BAs show that this advantage is insufficient to close the earnings gap between CCB graduates and those with bachelor's degrees from traditional four-year institutions. As depicted in Figure 7, our regression estimates suggest that in most fields, completing a CCB is associated with a negative or null earnings differential relative to a traditional bachelor's degree. The largest estimated gap appears in computer and information technology, where CCB graduates earn nearly $30,000 less at the median than their peers who complete BAs at traditional four-year institutions. Smaller, but still significant, penalties are observed in agriculture and conservation, education, and liberal arts/general studies. Only in nursing and criminal justice we observe parity—or modest advantages, particularly among higher-earners—for CCB graduates relative to traditional BA holders. These patterns suggest that the relative value of a CCB depends critically on the chosen field of study.

V. Field of Study to Work Industry of CCB Graduates

Our previous analysis revealed that the CCB penalties with respect to traditional BAs *vary* greatly across field of study, with the largest gaps for Computer and Information Technology, as well as Engineering Technology graduates. Meanwhile, CCB graduates of nursing, other healthcare, business, and criminal justice programs see little to no penalties compared to traditional bachelor's degree holders. One plausible explanation for these differences is that fields differ in how *closely* they align with the set of industries in which graduates are employed. In fields like nursing, for example, where industry pathways are more narrowly defined, it may be the case that the labor market value of a credential is strongly associated with a degree type (AA vs. BA) and less dependent on the institution that conferred it (community college vs. traditional four-year institution). By contrast, fields like computer science are likely to train graduates for a broader set of industries, such that the signaling value of the institution type may be more salient.

To offer insights into this hypothesis, Table 4 shows a field-to-industry transition matrix—that is, the proportion of graduates by field of study employed across industries using the PSEO flows data. Specifically, we aggregate some of the CIP and NAICS industry codes to more closely align

with our field of study categories used in the PSEO earnings data. Consistent with our hypothesis, graduates in nursing are among those highly concentrated in their respective industries, whereas graduates of computer science, for example, are more broadly dispersed. As shown in bold in Table 4, 73% of employed CCB graduates from Health Professions and Related Programs (i.e., CIP code 51) work in Health Care and Social Assistance, and 78% of employed CCB graduates from education programs (i.e., CIP code 13) work in Educational Services, implying that many CCB graduates are finding employment in their field of study. Whereas Computer and Information Sciences (i.e., CIP code 11) are employed in a *much* broader set of industries, such as Agriculture, Construction, Manufacturing, Trade, Transportation and Related (17%), Professional, Scientific, and Technical Services (12%), Educational Services (29%), and Public Administration and Other Services (12%). Future work should investigate this hypothesis further and explore alternative explanations for earnings differences between CCB and traditional BAs across fields.

VI. COMPARING RETURNS TO COSTS

An important component in assessing the return on any investment in postsecondary education involves weighing *benefits* relative to *costs*. Thus far, we have focused solely on the benefits associated with CCB completion as they relate to the returns to associate and bachelor's degrees as comparable institutions. The overall cost of the program, however, is a key determinant of the net benefits for students, as well as for states. A common assumption is that CCB programs offered through community colleges have the *same* cost structure as a traditional associated degree program offered at the same college. In fact, the cost structure of these programs varies widely across states and even across institutions within states.

To better understand costs across institutions and CCB programs, we conduct a structured *document analysis* (Bowen, 2009) of publicly available information on college websites, systematically extracting and coding cost data for cross-institutional comparison.[12] Throughout this section, we largely refer to full-time tuition and fees as described in the cost of attendance

[12] Refer to Appendix A for specific details on our structured document analysis. Specifically, document analysis is a qualitative research method involving the systematic review and interpretation of documents to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009).

calculations provided by each institution.[13] When necessary, we refer to additional, separate tuition and fees, aggregated to full-time annual attendance. We use the institution's definition of full-time—atypically between 12 and 15 credit hours per semester—and assume no summer session enrollment. We analyze these cost data for the 2024-25 academic year in three states in the PSEO data that currently offer the most CCB programs (Georgia, Ohio, and Texas), which we believe to be illustrative of broader patterns of cost-setting across the CCB landscape.

Through the structured document analysis, we identified two prevalent cost structures in community colleges offering bachelor's degrees: *constant* and *escalating*. The first is to charge the same rate of tuition and fees across programs. Under this structure, the cost of attendance is roughly the same across all years of enrollment, thus we refer to this as a *constant* cost structure. The second common cost structure is to charge different rates for "lower" versus "upper" division courses, which we refer to as an *escalating* cost structure. In practice, this structure often means that the cost of the student's first two years of study is identical to the cost of pursing an associate degree; then in the second two years, once students begin their bachelor's degree coursework ("upper" division courses), the cost per credit hour increases.[14]

Georgia, for example, is a state in which community colleges charge the same price per credit regardless of the level of the course.[15] The resulting cost of a bachelor's degree in Georgia, therefore, is precisely double that of an associate degree (assuming four years of full-time attendance for a bachelor's degree and two years of full-time attendance for an associate degree). In Georgia, this total cost ranges from roughly $7,500 to $11,500 in tuition and fees for an associate degree and $15,000 to $22,500 in tuition and fees for a CCB degree.[16] This cost structure is in contrast to states like Texas and Ohio, in which institutions represent a mix of *both* constant and

[13] Cost of attendance information is statutorily required to be included on each college's webpage according to the Higher Education Act. We believe this information offers the most consistent approach to understanding costs faced by students across institutions.

[14] Note that these cost structures, and our findings more broadly, align with a contemporaneous report from Meza and Palicki (2025). The cost structure terminology used here originated in our analysis, developed independently of their report.

[15] These prices may vary across community colleges, but price per credit hour is constant within institution. Constant price structures within institutions are often mandated by the state. For example, in Texas, constant price structures are mandated for all schools with the exception of three institutions that participated in the CCB pilot program, which are allowed (and have opted for) escalating price structures for upper division courses (Texas Higher Education Coordinating Board, 2017).

[16] These tuition and fees reflect rough estimates based on publicly available information for the 2024-25 school year. These estimates assume that an associate degree takes four semesters of full-time tuition and fees and a bachelor's degree takes eight semesters of full-time tuition and fees.

escalating cost structures. In Texas, the constant cost structure is more common, but three colleges: Brazosport College, Midland College, and Tyler Junior College, all show evidence of an escalating cost structure (see Table 5 for details).[17] Across these three institutions, the upper division courses are roughly 40% more expensive than the lower division courses (roughly $1,300 per academic year). This results in significant cost differences: the tuition and fees for CCB programs at colleges with escalating cost structures are roughly $3,000 more expensive (over four years) than those with constant cost structures. However, we also note that even when CCB students pay tuition at the same rate as AA students, CCB students undertake a significant additional *time cost* associated with completing more credits.

However, the comparisons above focus solely on tuition and fees—that is, we include only costs that would not have otherwise been incurred, excluding potential differences in housing and food expenses. These other cost sources matter more when comparing CCBs to traditional BAs, where it is more common for students to live on-campus and thus incur significant housing costs. Even when making a simple comparison of CCBs to traditional BAs, however, tuition and fees at traditional four-year universities tend to be higher than at CCB-granting institutions. For example, in Georgia, the cost of a bachelor's degree at a traditional, four-year public university ranges roughly from $6,000 to $12,000 annually, or $24,000 to $48,000 across four years.[18] This means that the least expensive BA tuition and fees available at a public university in Georgia is still more expensive than the most expensive CCB available at a Georgia public college. Moreover, across all CCB-offering institutions, the average total cost of a CCB is roughly $16,800 compared to an average total cost of $31,000 for a BA at a traditional four-year institution (see Table 6). These estimates take only tuition and fees into account and assume eight semesters of full-time enrollment.

Our systematic data collection across the three states shows that, once again, CCB programs tend to bridge the gap between associate degree and bachelor's degree programs, with costs lying somewhere between the traditional costs of each degree. However, further research is needed to systematically consider the true cost differences faced by students opting for each program. A

[17] Note that the Texas colleges that use an escalating cost structure are all CCB pilot colleges. This pilot status allows them to charge higher upper division tuition and fees (Meza and Pawlicki, 2025).

[18] These annual bachelor's degree costs are pulled from the University System of Georgia's online cost calculator tool (https://www.usg.edu/cost-of-attendance). These costs reflect annual totals for tuition and mandatory fees scaled up to four years of full-time enrollment at public, predominantly BA-granting four-year colleges in the state.

systematic consideration of costs should consider not only tuition but also housing, transportation, financial aid availability, and the opportunity cost of schooling (i.e., foregone wages for the typical student in each program).

VII. Conclusion and Future Research

Our study provides the first integrated national evidence on the returns, costs, and employment alignment of CCB programs, offering new insight into how CCB pathways shape economic opportunity relative to alternative postsecondary credentials. Our results suggest that CCB degrees serve as an intermediate credential, offering a moderate earnings advantage over AA completion but not fully closing the earnings gap with BA degrees from traditional four-year colleges. Specifically, we find that CCB graduates earn a $4,000-$9,000 annual premium over AA degree holders, even when including controls that enable comparisons within the same institution and field of study. In contrast, when compared to traditional BA holders, CCB graduates see penalties of around $2,000 per year, after including controls that allow for within state and field of study comparisons. However, in some fields, such as nursing and criminal justice, we observe earnings parity for CCB graduates relative to traditional BA holders.

To further contextualize these returns, we conduct a structured document analysis of tuition and fee schedules across CCB-granting institutions, documenting two dominant cost structures—constant and escalating—and showing that total program costs generally fall between those of AA and traditional BA degrees. In addition, we examine how field-of-study–to–industry match patterns relate to earnings differences, finding that CCB graduates in fields with highly concentrated industry pathways (e.g., Health Professions and Education) are employed overwhelmingly in aligned industries, whereas graduates in more diffuse fields, such as Computer Science, exhibit broader industry dispersion.

We conclude by noting several important considerations for interpreting our findings. First, our analysis is descriptive and does not fully account for selection into CCB degrees. As a result, differences in earnings between CCB graduates and other degree holders may reflect both underlying differences in the populations pursuing these degrees and any causal effects of the degrees themselves. Second, due to the relatively recent adoption of CCB programs, we are limited in how far we can track graduates into the labor market. While this research focuses on earnings

within one year of graduation, future work can investigate how earnings evolve over the life cycle. Third, given the structure of the PSEO data, our analysis is restricted to graduates in a subset of states that offer CCB degrees and to individuals who obtain full-time employment.

Nonetheless, our results give an important insight into an understudied and rapidly growing degree. Additionally, we are currently conducting fieldwork for a complementary paper that will provide causal evidence on the returns to CCB programs (Acton, Morales, Turner, Miller and Cortes, 2025). We are conducting a resume audit study in which we submit fictitious applications to real job postings, experimentally varying the institution attended, degree awarded, and applicant race and ethnicity. Our pilot study focuses on early childhood education (ECE) programs, a sector that may be particularly impactful for women of color, who are overrepresented in the ECE workforce and often concentrated in low-wage positions. Findings from the pilot are informing the design of a larger national audit study that will expand to other fast-growing CCB fields (e.g., business, IT, and health) across the United States.

Both our descriptive analysis here and the on-going resume audit study provides evidence on an increasingly policy-relevant degree pathway. In 2025 alone, both Illinois (Hudson, 2025) and Iowa (Draisey, 2025) have seen proposed legislation that would allow community colleges to offer bachelor's degrees. Thus, our initial evidence on the earnings of CCB graduates across a wide range of states and fields of study that can be of use to policymakers, higher education administrators, and researchers. In addition, our findings speak directly to the renewed federal emphasis on "gainful employment" regulations, which evaluate programs based on whether graduates earn enough to reasonably repay educational costs. Because CCB graduates generally earn more than AA graduates while the CCB degree remains substantially less expensive than traditional BA programs, many CCB pathways are likely to meet or exceed gainful-employment benchmarks. However, variation across fields—and especially across cost structures—suggests that some programs may face greater scrutiny than others. Future work should examine CCBs through the lens of debt-to-earnings ratios and program-level accountability metrics to better understand their positioning under emerging federal oversight.

References

Abowd, John M., Bryce E. Stephens, Lars Vilhuber, Fredrik Andersson, Kevin L. McKinney, Marc Roemer, and Simon Woodcock. (2009). The LEHD Infrastructure Files and the Creation of the Quarterly Workforce Indicators. In Producer Dynamics: New Evidence from Micro Data, pp. 149-230. University of Chicago Press.

Acton, Riley K., Kalena E. Cortes, and Camila Morales. (2025). Distance to Opportunity: Higher Education Deserts and College Enrollment Choices. In *Financing Institutions of Higher Education*, eds. John Y. Campbell and Kaye Husbands Fealing. University of Chicago Press. *Also available:* National Bureau of Economic Research, No. 33085, October 2024.

Acton, Riley, Kalena E. Cortes, Lois Miller, and Camila Morales. (2025). Distance to Degrees: How College Proximity Shapes Students' Enrollment Choices and Attainment Across Race and ethnicity and Socioeconomic Status. *Economics of Education Review,* in press. https://doi.org/10.1016/j.econedurev.2025.102724. *Also available:* National Bureau of Economic Research, No. 33337, January 2025.

Acton, Riley[ⓡ], Camila Morales[ⓡ], Julia Turner[ⓡ], Lois Miller[ⓡ], and Kalena E. Cortes (2025). Estimating the Value of a New Postsecondary Credential: An Audit Study of Community College Bachelor's Degrees. Mimeo, November 16, 2025.

Ashworth, Jared, and Tyler Ransom. Has the College Wage Premium Continued to Rise? Evidence from Multiple US Surveys. *Economics of Education Review* 69 (2019): 149-154.

Autor, David H. (2014). Skills, education, and the rise of earnings inequality among the "other 99 percent." *Science*, 344(6186), 843–851.

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), 27–40. https://doi.org/10.3316/QRJ0902027

Cahalan, Margaret W., Marisha Addison, Nicole Brunt, Pooja R. Patel, and Laura W. Perna. "Indicators of Higher Education Equity in the United States: 2021 Historical Trend Report." Pell Institute for the Study of Opportunity in Higher Education, 2021.

Community College Baccalaureate Association (CCBA). (2024). URL: https://www.accbd.org/category/ccb-data/.

Community College of Denver. *Cannabis science and operations program.* Community college of Denver. https://www.ccd.edu/program/cannabis-science-and-operations.

Dale, S. B., and Krueger, A. B. (2002). Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables. *Quarterly Journal of Economics*, 117(4), 1491–1527.

Draisey, Brooklyn. (2025). "Lawmakers consider allowing bachelor's degree programs at community colleges." URL: https://iowacapitaldispatch.com/2025/01/29/lawmakers-consider-allowing-bachelors-degree-programs-at-community-colleges/.

Dynarski, Susan, Aizat Nurshatayeva, Lindsay C. Page, and Judith Scott-Clayton. Addressing Non-Financial Barriers to College Access and Success: Evidence and Policy Implications. Working Paper No. w30054. National Bureau of Economic Research, 2022.

Dynarski, Susan, Lindsay C. Page, and Judith Scott-Clayton. College Costs, Financial Aid, and Student Decisions. Working Paper No. w30275. National Bureau of Economic Research, 2022.

Foote, Andrew. (2022). Comparing earnings outcome differences between all graduates and title IV graduates. *Economics of Education Review*, Volume 89.

Foote, Andrew, and Kevin M. Stange. (2022). Attrition from Administrative Data: Problems and Solutions with an Application to Postsecondary Education. National Bureau of Economic Research, Working Paper No. 30232.

Goodman, J. S., Hurwitz, M., and Smith, J. (2017). Access to 4-year public colleges and degree completion. *Journal of Labor Economics*, 35(3), 829–867.

Hillman, Nicholas. "Geography of College Opportunity: The Case of Education Deserts." *American Education Research Journal*, 53, no. 4 (2016).

Hillman, Nicholas, and Taylor Weichman. Education Deserts: The Continued Significance of 'Place' in the Twenty-First Century. American Council on Education Center for Policy Research and Strategy, 2016.

Hudon, Walter. 2025. "Community Colleges Expand Four-Year Degree Options as Illinois Joins National Trend." URL: https://www.diverseeducation.com/institutions/community-colleges/article/15741004

Kozakowski, W. (2023). Are Four-Year Public Colleges Engines for Economic Mobility? Evidence from Statewide Admissions Thresholds. (EdWorkingPaper: 23 -727).

Love, Ivy, Debra Bragg, and Tim Harmon. (2021). "Mapping the Community College Baccalaureate." *New America.*

Lovenheim, M. F., and Smith, J. (2022). Returns to Different Postsecondary Investments: Institution Type, Academic Programs, and Credentials. NBER Working Paper Series (no. 29933).

Meza, E., and Love, I. (2023). "When community colleges offer a bachelor's degree: A literature review on student access and outcomes." New America

Meza, Elizabeth, and Colleen Pawlicki. (2025). "*How Much Less?* Examining the Tuition and Fees of Bachelor's Degrees Offered by Community Colleges." *University of Washington Research Report: Washington's CCB Degrees*.

Reber, Sarah, and Ember Smith. (2023) "College Enrollment Disparities: Understanding the Role of Academic Preparation." The Brookings Institution.

Texas Higher Education Coordinating Board. (2017). Baccalaureate degree programs at public [PowerPoint slides]. https://reportcenter.highered.texas.gov/training-materials/presentations/aqw-sb-2118-powerpoint/

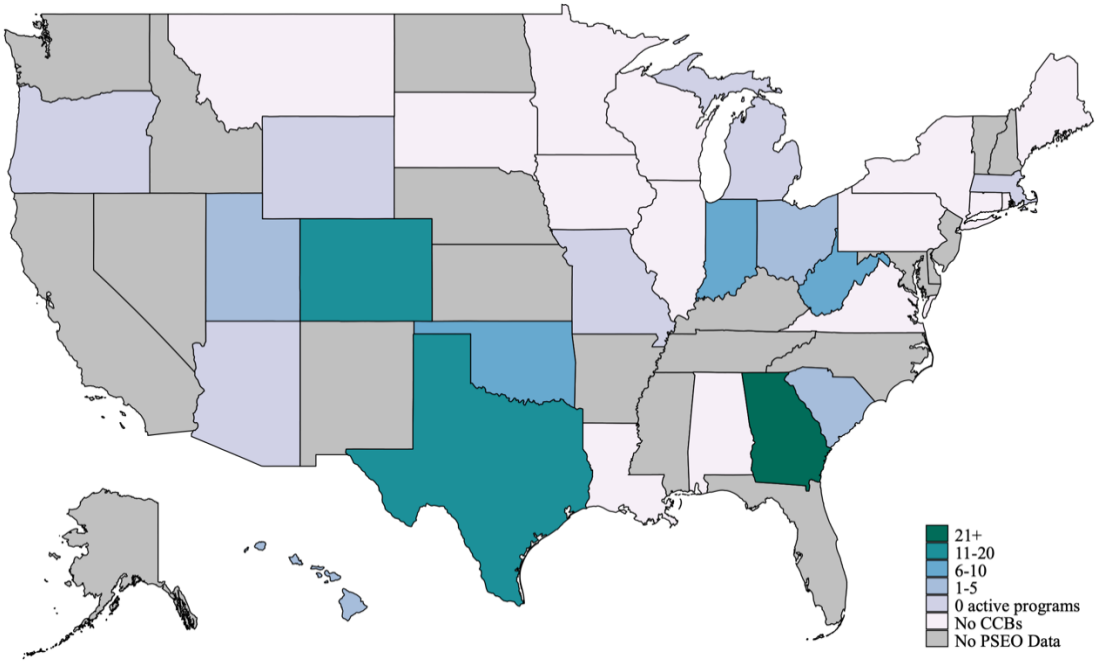
U.S. Census Bureau. (2025). Post-Secondary Employment Outcomes Data (Experimental) (2001-2021). Washington, DC: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program, accessed on April 1, 2025 at https://lehd.ces.census.gov/data/pseo_experimental.html. Version R2024Q4.

Van Noy, Michelle, Andrew Weaver, Allison Forbes, and Debra Bragg. (2023). "The Community College Role in Economic Development: A Conceptual Model." *Education and Employment Research Center Working Paper Series*.

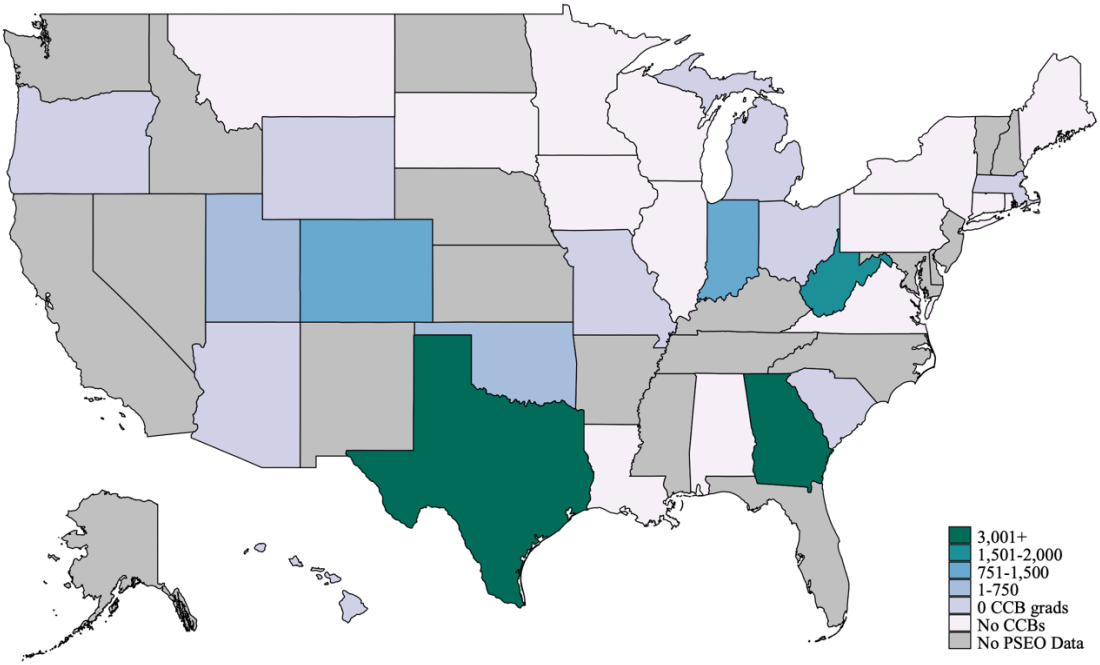
Zimmerman, S. D. (2014). The Returns to College Admission for Academically Marginal Students. Journal of Labor Economics, 32(4), 711–754.

Figure 1: PSEO Data Coverage of CCB Programs

A. Programs per State

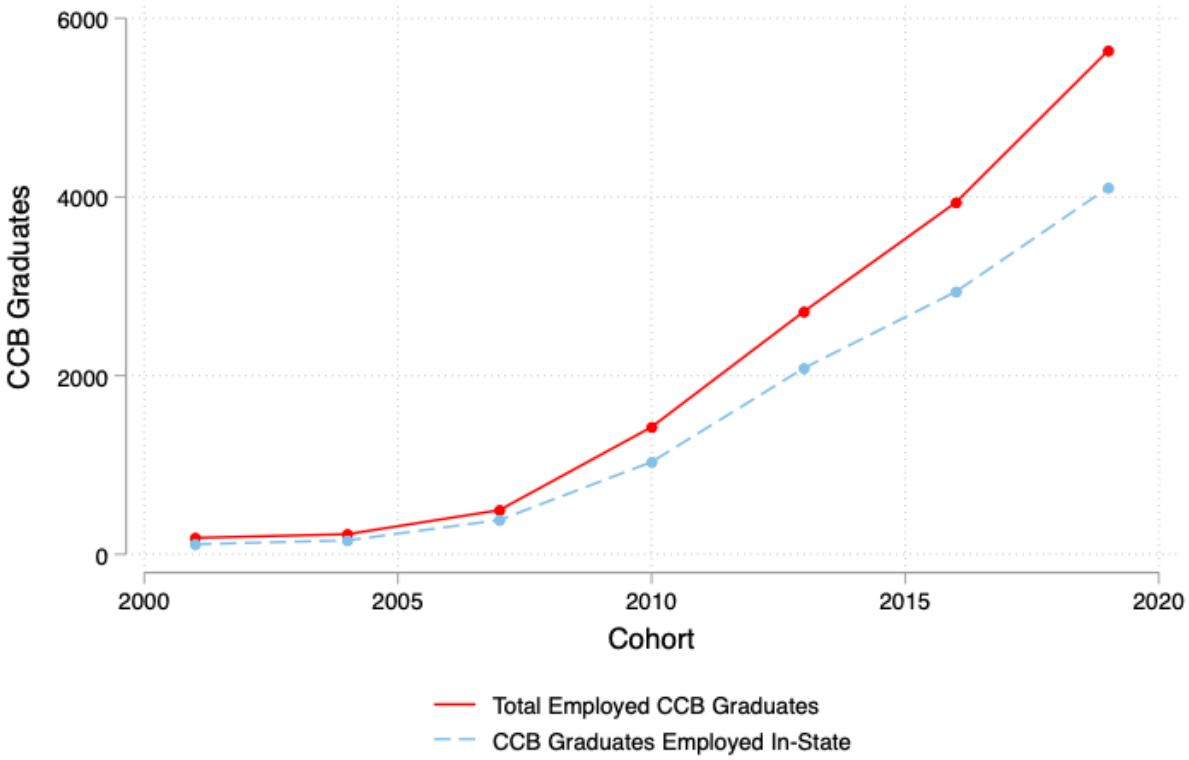


B. Graduates per State



Notes: Author's state tabulations, Postsecondary Employment Outcomes (PSEO) data. Figure shows the geographic distribution of CCB programs (Panel A) and graduates (Panel B) across the U.S. Grey indicates that there is no PSEO data available (regardless of CCB status). Light pink indicates that PSEO has data available, but the state does not offer CCBs. Light purple indicates that the state offers CCBs and PSEO data are available, but there have yet to be any graduates from active programs. Data are at the institution-degree-CIP-cohort level are collapsed to the state level.

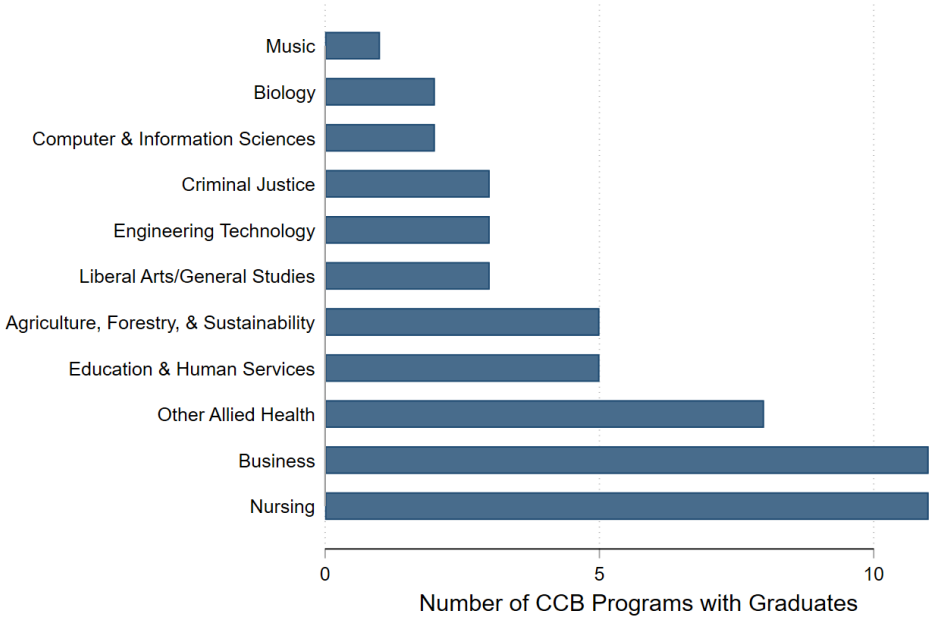
Figure 2: Growth of CCB Programs



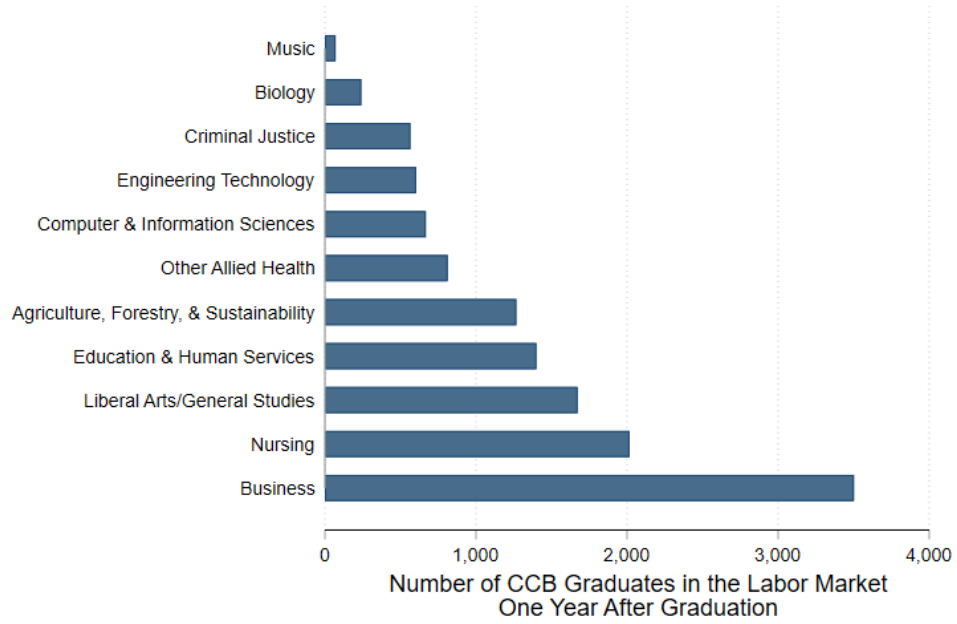
Notes: Author's tabulations, Postsecondary Employment Outcomes (PSEO) data. Figure shows the total number of employed CCB graduates per year (in red) and the number of CCB graduates employed in the same state that they completed their degree (blue). Data at the institution-degree-cohort level collapsed to the cohort level.

Figure 3: Fields of Study of CCB Programs

Panel A. Programs

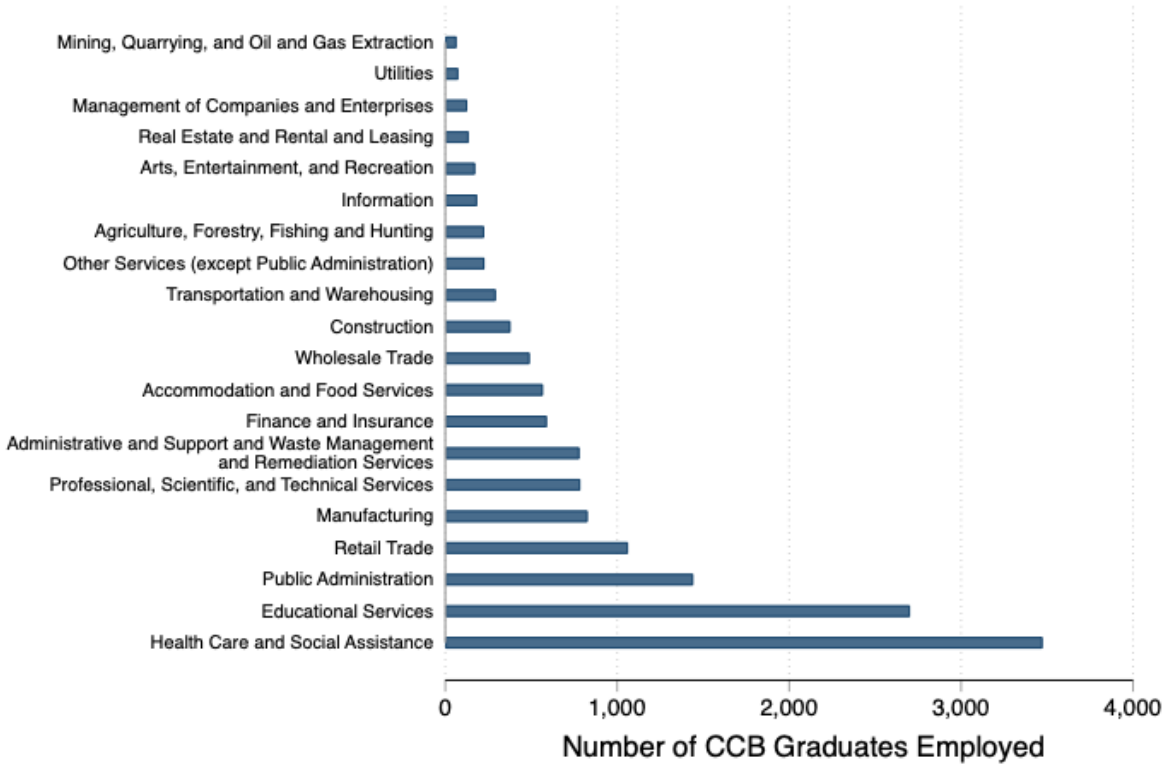


Panel B. Graduates



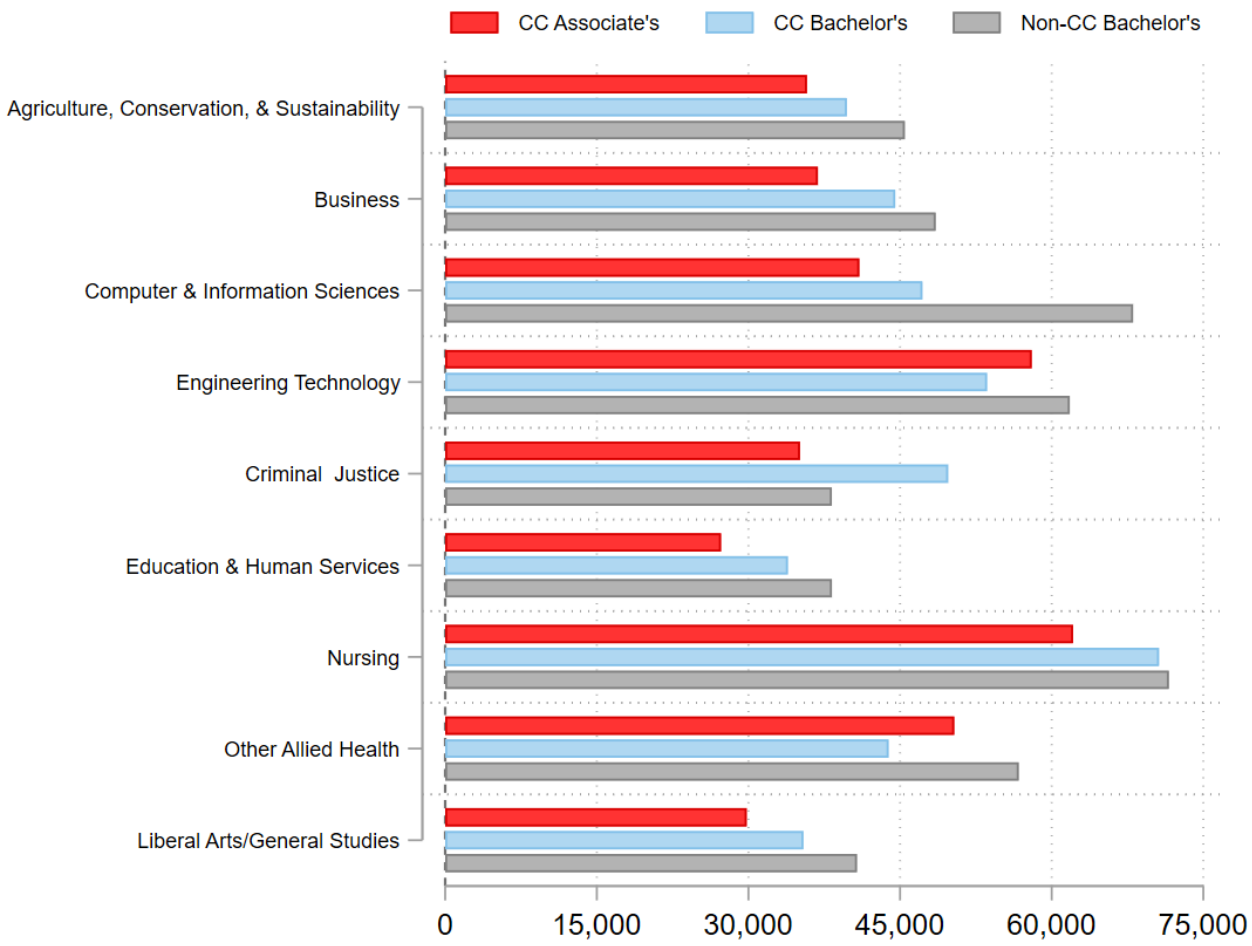
Notes: Author's tabulations, Postsecondary Employment Outcomes (PSEO) data. Figure shows the number of CCB programs (Panel A) and employed graduates (Panel B) by field of study. Data at the institution-degree-CIP-cohort level are collapsed to field of study levels. Fields of study are constructed by grouping together related classification of instructional program (CIP) codes. Details of these groupings can be found in Appendix Table A.1.

Figure 4: Industries of Work of CCB Graduates



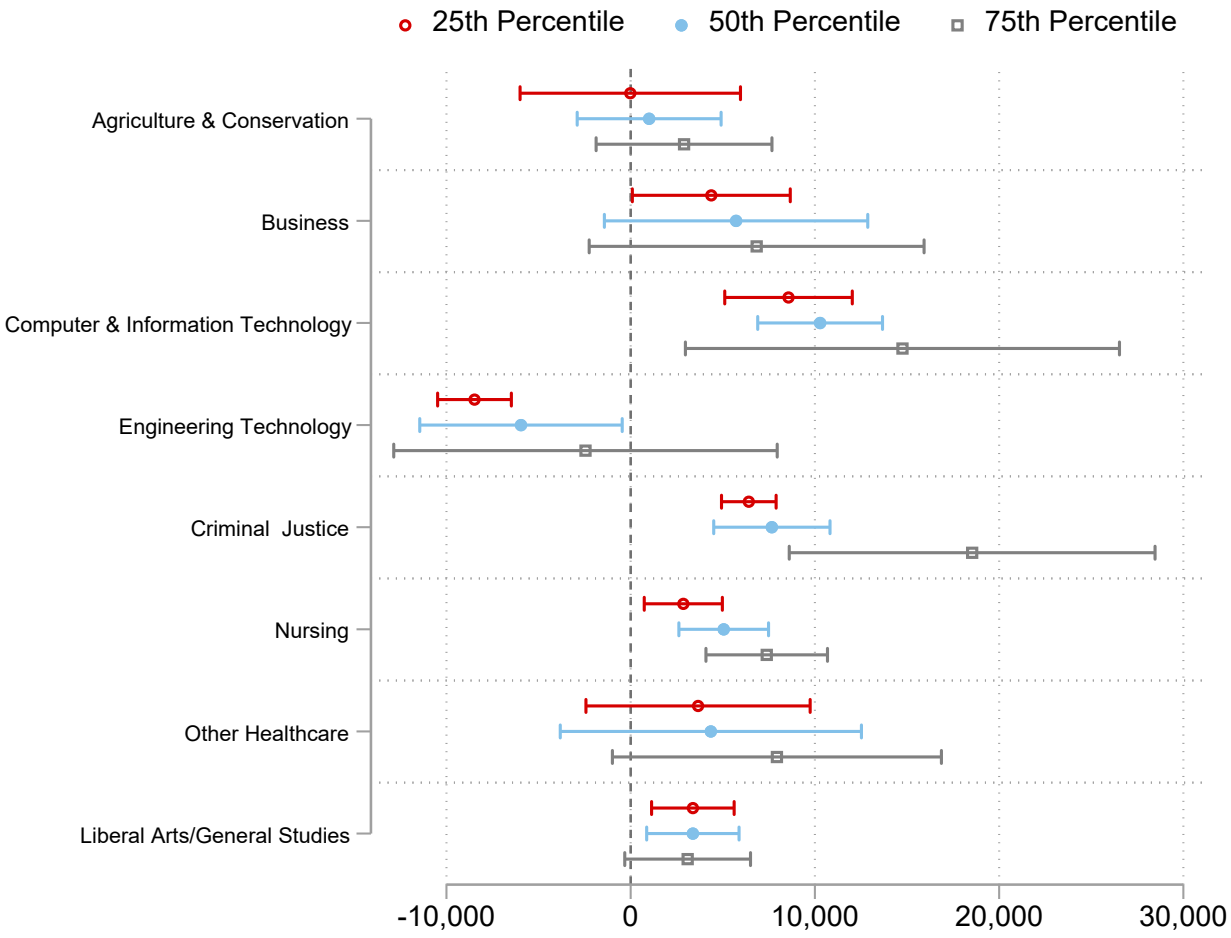
Notes: Author's tabulations, Postsecondary Employment Outcomes (PSEO) data. Figure shows the number of CCB graduates that we observe in each industry as measured by its 2-digit North American Industry Classification System (NAICS) code. Data at the institution-degree-cohort-industry level are collapsed to industry levels.

Figure 5: Median Earnings of CCB, AA, and BA Graduates



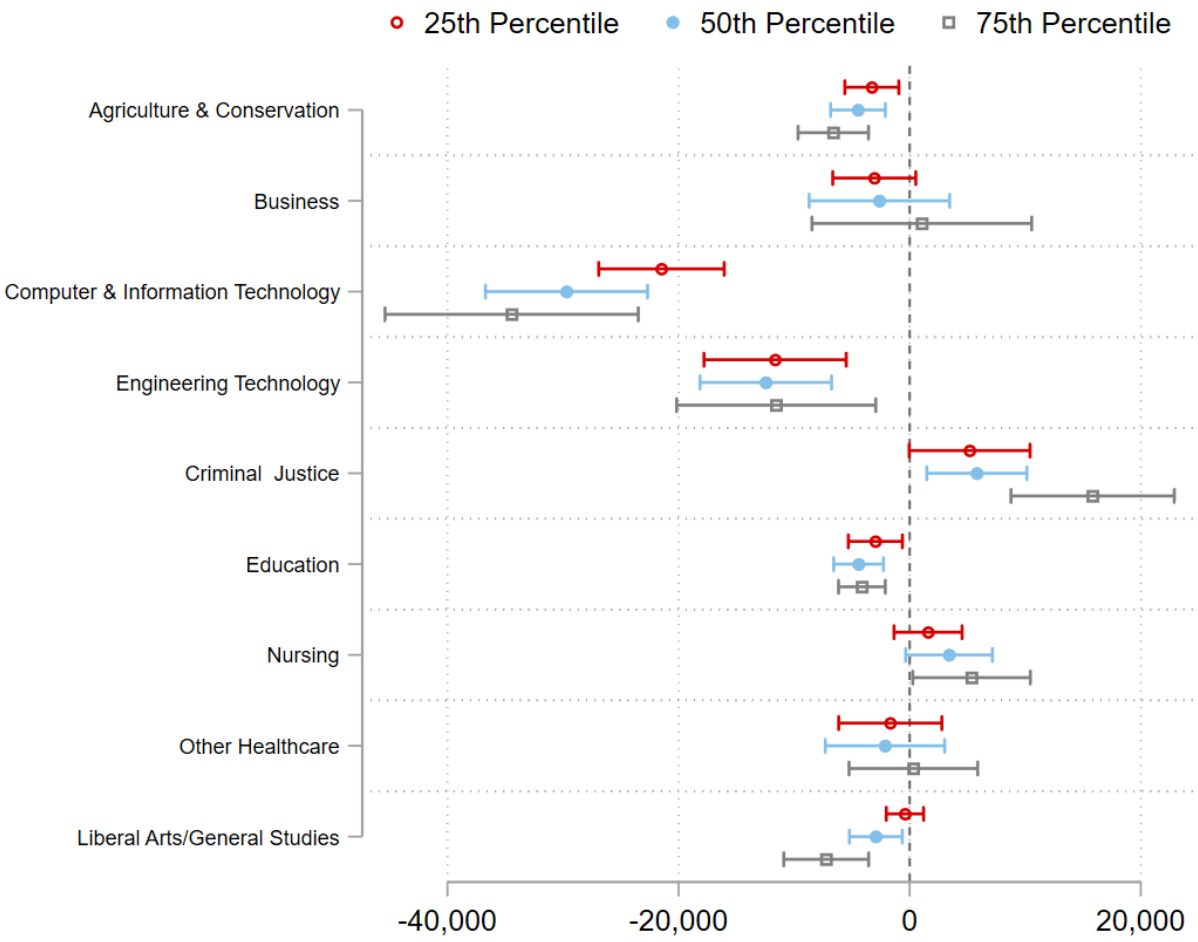
Notes: Author's tabulations, Postsecondary Employment Outcomes (PSEO) data. Figure shows average earnings of median-earner graduates with associate, CCB, and bachelor's degrees one-year post-graduation. Data at the institution-degree-CIP-cohort level are collapsed to field of study levels. Fields of study are constructed by grouping together related classification of instructional program (CIP) codes. Details of these groupings can be found in Appendix Table A.1.

Figure 6: CCB Degree Premium Over AA Degree



Notes: Figure shows regression-adjusted estimates of CCB graduate earnings compared to AA graduate earnings. Regressions include cohort, state, and CIP-by-institution fixed effects. Regressions are estimated separately for each field of study. Fields of study are constructed by grouping together related classification of instructional program (CIP) codes. Details of these groupings can be found in Appendix Table A.1. Note that standard errors do not account for added noise (Census privacy protection measure) and are thus understated.

Figure 7: CCB Degree Penalty vs. Traditional BA Degree



Notes: Figure shows regression-adjusted estimates of CCB graduate earnings compared to BA graduate earnings. Regressions include cohort and CIP-by-state fixed effects. Regressions are estimated separately for each field of study. Fields of study are constructed by grouping together related classification of instructional program (CIP) codes. Details of these groupings can be found in Appendix Table A.1. Note that standard errors do not account for added noise (Census privacy protection measure) and are thus understated.

Table 1: Summary Statistics by Institution and Degree Type

	Commumity College:		Public Four-Year:	Earning	Earning
	CCBs	AAs	Traditional BAs	Difference:	Difference:
	(1)	(2)	(3)	CCBs - AAs	CCBs - BAs
Panel A: All Fields of Study					
Number of graduates in PSEO earnings data	155.5	886.8	613.2		
Number of graduates in IPEDS	171.9	1864.6	684.7		
25th Percentile Earnings	$35,220	$30,368	$35,048	$4,852	$172
50th Percentile Earnings	$46,185	$40,244	$46,491	$5,941	-$307
75th Percentile Earnings	$60,320	$52,902	$59,399	$7,418	$921
Business	0.273	0.073	0.092		
Nursing	0.157	0.164	0.076		
Liberal Arts, General Studies, & Humanities	0.130	0.344	0.025		
Education & Human Services	0.109	0.016	0.067		
Agriculture, Forestry, & Sustainability	0.099	0.003	0.006		
Allied Health	0.063	0.069	0.011		
Computer & Information Sciences	0.052	0.014	0.018		
Engineering Technology	0.047	0.013	0.003		
Criminal Justice	0.044	0.037	0.026		
Any of the above	*0.974*	*0.733*	*0.324*		
Observations(program-by-cohort)	142	15,049	51,872		
Number of Programs	54	5,937	11,865		
Panel B: Fields of Study with CCBs					
Number of graduates in PSEO earnings data	155.5	1147.3	1155.8		
Number of graduates in IPEDS	171.9	2407.6	1150.0		
25th Percentile Earnings	$35,220	$30,803	$38,393	$4,417	-$3,173
50th Percentile Earnings	$46,185	$40,593	$50,069	$5,591	-$3,885
75th Percentile Earnings	$60,320	$53,338	$63,758	$6,982	-$3,437
Business	0.273	0.099	0.255		
Nursing	0.157	0.222	0.213		
Liberal Arts, General Studies, & Humanities	0.13	0.467	0.07		
Education & Human Services	0.109	0.022	0.185		
Agriculture, Forestry, & Sustainability	0.099	0.005	0.016		
Allied Health	0.063	0.094	0.032		
Computer & Information Sciences	0.052	0.02	0.051		
Engineering Technology	0.047	0.018	0.01		
Criminal Justice	0.044	0.051	0.073		
Any of the above	*0.974*	*0.998*	*0.905*		
Observations(program-by-cohort)	142	7,158	13,730		
Number of Programs	54	2,509	2,921		

Notes: Panel A summarizes variables over program-cohort pairs with non-missing earnings outcomes in the PSEO data. Panel B restricts the sample to program-cohort pairs in CIP codes where CCBs are awarded (see Appendix Table A.1). Columns (1) and (2) include programs offered by community colleges, which we define as public postsecondary institutions that predominantly award degrees and certificates below the bachelor's level and do not offer graduate programs. Columns (3) include bachelor's-degree granting institutions that are not community colleges.

Table 2: Earnings of Community College Bachelor's Degree Graduates Compared to Associate's Degree Graduates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: 50th Percentile Earnings						
CCB Degree	5591.4***	5117.1*	4580.9***	5033.0**	6436.0***	5684.9***
	(1471.6)	(2687.0)	(1733.4)	(1998.4)	(1487.5)	(902.1)
Percentage increase[a]	[13.8%]	[12.6%]	[11.3%]	[12.4%]	[15.9%]	[14.0%]
Obs(program-by-cohort)	7,300	7,300	7,300	7,300	7,298	6,893
Panel B: 25th Percentile Earnings						
CCB Degree	4416.9***	4084.6*	3868.3***	3890.3***	4851.3***	4264.4***
	(1248)	(2212)	(1110)	(1248)	(970)	(772)
Percentage increase[a]	[14.3%]	[13.3%]	[12.6%]	[12.6%]	[15.7%]	[13.8%]
Obs(program-by-cohort)	7,300	7,300	7,300	7,300	7,298	6,893
Panel C: 75th Percentile Earnings						
CCB Degree	6982.2***	6285.4*	6030.5**	7194.0**	8992.7***	8885.3***
	(1826)	(3446)	(2813)	(3179)	(2501)	(1333)
Percentage increase[a]	[13.1%]	[11.8%]	[11.3%]	[13.5%]	[16.9%]	[16.7%]
Obs(program-by-cohort)	7,300	7,300	7,300	7,300	7,298	6,893
Cohort Fixed Effects (FEs)		X	X	X	X	X
CIP Code FEs			X	X	X	X
State FEs				X	X	X
Institution FEs					X	X
CIP-by-Institution FEs						X

Notes: All specifications are weighted by the number of graduates observed in the labor market in the PSEO data. Robust standard errors are presented in parentheses. [a]Percentage increase relative to the 50th/25th/75th percentile of Associate's (AA) earnings are presented in brackets. * p<0.10, ** p<0.05, *** p<0.010.

Table 3: Earnings of Community College Bachelor's Degree Graduates Compared to Traditional Bachelor's Degree Graduates

	(1)	(2)	(3)	(4)	(5)
Panel A: 50th Percentile Earnings					
CCB Degree	-3884.5**	-5803.2***	-5813.8***	-3942.3***	-2768.6**
	(1554.8)	(1682.3)	(1048.8)	(1195.9)	(1250.5)
Percentage decrease[a]	[-7.8%]	[-11.6%]	[-11.6%]	[-7.9%]	[-5.5%]
Obs(program-by-cohort)	13,872	13,872	13,872	13,852	13,827
Panel B: 25th Percentile Earnings					
CCB Degree	-3173.2**	-4895.7***	-4502.6***	-3378.0***	-2327.1***
	(1311)	(1415)	(761)	(882)	(869)
Percentage decrease[a]	[-8.3%]	[-12.8%]	[-11.7%]	[-8.8%]	[-6.1%]
Obs(program-by-cohort)	13,872	13,872	13,872	13,852	13,827
Panel C: 75th Percentile Earnings					
CCB Degree	-3437.5*	-5665.6***	-6111.3***	-2992.9*	-1496.2
	(1951)	(2113)	(1554)	(1656)	(1798)
Percentage decrease[a]	[-5.4%]	[-8.9%]	[-9.6%]	[-4.7%]	[-2.3%]
Obs(program-by-cohort)	13,872	13,872	13,872	13,852	13,827
Cohort Fixed Effects (FEs)		X	X	X	X
CIP Code FEs			X	X	X
State FEs				X	X
CIP-by-Institution FEs					X

Notes: All specifications are weighted by the number of graduates observed in the labor market in the PSEO data. Robust standard errors are presented in parentheses. [a]Percentage decrease relative to the 50th/25th/75th percentile of non-CC BA earnings are presented in brackets. * p<0.10, ** p<0.05, *** p<0.010.

Table 4: Field-to-Industry Transition Matrix - Field of Study to Work Industry of Community College Bachelor's Degree Graduates

Panel A: Field of Sudy of CCB Graduates (CIP codes)	***Panel B: Work Industry of CCB Graduates (2-digit NAICS codes)***								
	Ag., Constr., Mfg., Trade, Transp., & Related	Information, Finance, Insurance, & Real Est.	Professional, Scientific, & Tech. Services	Admin. & Support, Mgmt. of Cos., & Waste Mgmt. & Remediation Svcs.	**Educational Services**	**Health Care & Social Assistance**	Arts, Entertainment, & Recreation	Accommodation & Food Services	Public Adminstration & Other Services
Agriculture, Transportation, & Related	0.54	0.03	0.05	0.06	0.09	0.01	0.06	0.01	0.14
Biological & Biomedical Sciences	0.29	0.07	0.10	0.05	0.16	0.15	0.02	0.06	0.11
Business, Management, Marketing, & Related Support Services	0.26	0.11	0.06	0.07	0.22	0.10	0.01	0.05	0.11
Computer & Information Sciences & Support Services	**0.17**	**0.07**	**0.12**	**0.12**	**0.29**	**0.09**	**0.00**	**0.02**	**0.12**
Homeland Security, Law Enforcement, Firefighting & Related Protective Svcs.	0.22	0.03	0.02	0.07	0.04	0.10	0.01	0.04	0.48
Education	0.08	0.01	0.01	0.03	**0.78**	0.05	0.01	0.02	0.02
Engineering & Related	0.54	0.02	0.21	0.06	0.06	0.04	0.00	0.01	0.05
Liberal Arts, General/Multidisciplinary Studies, English, and History	0.23	0.09	0.06	0.06	0.09	0.21	0.01	0.07	0.20
Mathematics & Statistics	0.34	0.14	0.07	0.09	0.07	0.07	0.03	0.09	0.10
Social Sciences, Public Administration & Social Service Professions	0.11	0.02	0.01	0.07	0.16	0.43	0.00	0.04	0.15
Visual & Performing Arts	0.34	0.15	0.05	0.11	0.18	0.06	0.07	0.05	0.01
Health Professions & Related Programs	0.07	0.02	0.01	0.06	0.06	**0.73**	0.00	0.02	0.03

Notes: Author's aggregated some of the CIP (Classification of Instructional Program) codes and 2-digit NAICS (North American Industry Classification System) industry codes to more closely align with our field of study categories used in the PSEO earnings data. For completeness, refer to Appendix Table A2 for all disaggregated 2-digit CIP codes and NAICS codes, for equivalent table for Associate's degree holders refer to Appendix Table A3, and for traditional bachelor's degree holders refer to Appendix Table A4.

Table 5: Institutional Cost Structures for Associate's and Community College Baccalaureate Degrees

	Type of Cost Structure	Annual Costs		Total Costs	
		AA cost (1)	CCB cost (2)	AA cost (3)	CCB cost (4)
Georgia					
Abraham Baldwin Agricultural College	Constant	$1,900	$1,900	$3,800	$7,600
Atlanta Metropolitan State College	Constant	$1,945	$1,945	$3,890	$7,780
Georgia Highlands College	Constant	$1,923	$1,923	$3,846	$7,692
Georgia Military College	Constant	$2,805	$2,805	$5,610	$11,220
Gordon State College	Constant	$2,141	$2,141	$4,282	$8,564
South Georgia State College	Constant	$1,895	$1,895	$3,790	$7,580
Ohio					
Central Ohio Technical College	Constant	$5,376	$5,376	$10,752	$21,504
Cincinnati State Technical & Community College	Constant	$4,528	$4,528	$9,056	$18,112
Clark State College	Constant	$4,200	$4,200	$8,400	$16,800
Columbus State Community College	Constant	$5,788	$5,788	$11,576	$23,152
Cuyahoga Community College	Constant	$3,249	$3,249	$6,498	$12,996
Edison State Community College	Constant	$4,598	$4,598	$9,196	$18,392
Hocking College	--	--	--	--	--
James A. Rhodes State College	Constant	$4,680	$4,680	$9,360	$18,720
Lorain County Community College	Constant	$4,524	$4,524	$9,048	$18,096
Marion Technical College	Constant	$5,208	$5,208	$10,416	$20,832
North Central State College	Escalating	$5,260	$6,060	$10,520	$22,640
Sinclair Community College	Constant	$3,528	$3,528	$7,056	$14,112
Washington State Community College	Escalating	$4,772	$7,620	$9,544	$24,785
Zane State College	Constant	$4,572	$4,572	$9,144	$18,288
Texas					
Alvin Community College	Constant	$2,272	$2,272	$4,544	$9,088
Austin Community College	Constant	$2,550	$2,550	$5,100	$10,200
Brazosport College	Escalating	$2,773	$4,404	$5,546	$14,354
Collin County Community College	Constant	$2,160	$2,160	$4,320	$8,640
Dallas College	Constant	$2,376	$2,376	$4,752	$9,504
Del Mar College	Constant	--	--	--	--
Galveston College	Constant	$2,726	$2,726	$5,452	$10,904
Grayson College	Constant	$3,052	$3,052	$6,104	$12,208
Houston Community College	Constant	$2,541	$2,541	$5,082	$10,164
Laredo College	Constant	$4,080	$4,080	$8,160	$16,320
Lone Star College	Constant	$3,330	$3,330	$6,660	$13,320
Midland College	Escalating	$3,180	$4,470	$6,360	$15,300
Navarro College	Constant	$1,504	$1,504	$3,008	$6,016
Northwest Vista College	Constant	$3,412	$3,412	$6,824	$13,648
Odessa College	Constant	$3,360	$3,360	$6,720	$13,440
Palo Alto College	Constant	$3,412	$3,412	$6,824	$13,648
San Antonio College	Constant	$3,412	$3,412	$6,824	$13,648
San Jacinto College	Constant	$2,490	$2,490	$4,980	$9,960
South Texas College	Constant	$4,920	$4,920	$9,840	$19,680
St. Philip's College	Constant	$3,412	$3,412	$6,824	$13,648
Trinity Valley Community College	--	--	--	--	--
Tyler Junior College	Escalating	$3,616	$4,516	$7,232	$16,264
Weatherford College	Constant	$4,960	$4,960	$9,920	$19,840

Notes: Costs reflect publicly available data from college websites of expected annual cost for a full-time student at each college. Associate's (AA) degree costs reflect two years of full-time enrollment in lower-division courses. Community College Baccalaureate (CCB) degree costs reflect four years of full-time enrollment in both lower and upper division courses.

Table 6: Average Cost Structures for Associate's and Community College Baccalaureate Degrees

	Panel A: Average CCB Cost			Panel B: Average AA Cost		Panel C: Average BA Cost
	Constant	Escalating	Difference	Escalating	Overall	Overall
	(1)	(2)	(3)	(4)	(5)	(6)
Georgia	$16,812	--	$0	--	$8,406	$31,248
Ohio	$18,273	$23,712	$5,439	$10,032	$9,137	$37,911
Texas	$12,438	$15,306	$2,868	$6,379	$6,219	$42,438

Notes: Costs reflect publicly available data from college websites of expected annual cost for a full-time student at each college. Associate's (AA) degree costs reflect two years of full-time enrollment in lower-division courses. Community College Baccalaureate (CCB) degree costs reflect four years of full-time enrollment in both lower and upper division courses. Average AA costs at Escalating and Constant cost structure institutions reflect the cost of two years of lower division coursework at colleges whose CCB programs reflect an escalating or constant cost structure, respectively.

APPENDIX A:
Institution Cost Data Collection

In this appendix, we provide a detailed, step-by-step description of the structured document analysis used to extract and code tuition and fee data from publicly available institutional websites for the 2024–25 academic year. All information was accessed in October 2025.

To obtain the most current program-level cost information, we manually collected tuition and fee data for each CCB program. Starting with the list of CCB programs, which we identified using the Postsecondary Education Data System (IPEDS),[1] we navigated to each institution's website and located its published cost of attendance (COA). Because institutions receiving Title IV aid are required to post COA information, this measure is the most consistently available across our sample. COA pages typically include a breakdown of cost components; for our analysis, we rely exclusively on the totals for tuition and required fees.

Institutions sometimes report separate COA figures for lower- and upper-division coursework. When such distinctions are provided, we record these costs separately. If COA pages do not differentiate by course level, we consult two additional sources: (1) the institution's general tuition and fees page and (2) the specific program page. Tuition pages often indicate whether upper-division or bachelor's-level coursework incurs additional charges. If neither the COA page, tuition page, nor program page provides evidence of differential pricing, we assume that tuition and fees are identical for associate and bachelor's degree programs at that institution.

We exclude fees that vary by subject area rather than by degree type. For example, nursing programs—at both the associate and bachelor's levels—often levy additional fees due to equipment or clinical requirements. Because these charges are program-specific rather than degree-specific, we do not incorporate them into our analysis. All results presented focus solely on base tuition and required fees across degree types.

[1] Refer to Section III for further details.

Appendix Table A.1: Classification of CCB CIP Codes

Field Category	CIP Code	CIP Name	Graduates
Agriculture, Forestry, & Sustainability	1.01	Agricultural Business & Management	99
	1.06	Applied Horticulture & Horticultural Business Services	165
	1.99	Agriculture, Agriculture Operations, & Related Sciences, Other	624
	3.05	Forestry	169
	30.33	Sustainability Studies	210
Biology	26.01	Biology, General	241
Business	52.01	Business/Commerce, General	149
	52.02	Business Administration, Management & Operations	3280
	52.99	Business, Management, Marketing, & Related Support Services, Other	73
Computer & Information Sciences	11.01	Computer & Information Sciences, General	420
	11.10	Computer/Information Technology Administration & Management	248
Criminal Justice	43.01	Criminal Justice & Corrections	416
	43.99	Homeland Security, Law Enforcement, Firefighting & Related Protective Services, Other	150
Education & Human Services	13.10	Special Education & Teaching	242
	13.12	Teacher Education & Professional Development, Specific Levels & Methods	887
	13.13	Teacher Education & Professional Development, Specific Subject Areas	82
	44.00	Human Services, General	189
Engineering Technology	15.04	Electromechanical Instrumentation & Maintenance Technologies/Technicians	134
	15.06	Industrial Production Technologies/Technicians	332
	15.15	Engineering-Related Fields	138
Liberal Arts, General Studies, & Humanities	24.01	Liberal Arts & Sciences, General Studies & Humanities	1673
Music	50.09	Music	71
Nursing	51.38	Registered Nursing, Nursing Administration, Nursing Research & Clinical Nursing	2017
Allied Health	51.06	Dental Support Services & Allied Professions	174
	51.07	Health & Medical Administrative Services	607
	51.09	Allied Health Diagnostic, Intervention, & Treatment Professions	32

Notes: CIP (Classification of Instructional Programs) codes, used by the U.S. Department of Education, are a standardized way to define academic majors/programs.