

PSEO
COALITION

Program Productivity Metrics: Integrating PSEO Data at a Public University System

Applied Research Brief



This project was funded by a grant from the Postsecondary Employment Outcomes (PSEO) Coalition, made possible with support from Strada Education Foundation. The [PSEO Coalition](#) generates, analyzes, and shares employment data that demonstrates the value of higher education. The data are publicly available through a [dashboard](#) and [downloadable dataset](#) on the U.S. Census Bureau's website.

Program Productivity Metrics: Integrating PSEO Data at a Public University System

Applied Research Brief

Last Updated: Giana Malak, 30 June 2026

Background

[Post-Secondary Employment Outcomes](#) (PSEO) are an initiative of the U.S. Census Bureau to track earnings and employment outcomes for post-secondary education completers using data provided by universities/university systems, State Departments of Education, State Labor Market Information offices, and the U.S. Census Bureau. The University of North Carolina System (UNC System) and North Carolina partner agencies recently joined PSEO to enrich data available on UNC degree completers, particularly on outcomes outside of North Carolina. The UNC System has long partnered with North Carolina Department of Commerce to track earnings and employment outcomes for degree completers within North Carolina, though stakeholders have expressed interest in extending partnerships to be able to review outcomes regionally or nationally. NC Department of Commerce via the Labor & Economic Analysis Division (LEAD) make earnings and employment outcomes available publicly via the [NC Tower](#) platform. PSEO meets the tenants important to the UNC System, extends the publicly available data on UNC System degree completers, and provides valuable insights regarding those degree completers.

The [UNC System](#) is comprised of 16 public, 4-year universities and a public residential high school. A driving principle of the UNC System Office's work is to consider what's best for the state and system in addition to the individual institutions in the system, particularly as it is applied to program review. In recent years, the UNC System has reevaluated how it approaches program planning both in terms of new program proposal evaluation and existing program productivity review. The UNC System revised its [policy](#) and associated [regulation](#) to specify the metrics used to evaluate programs at all stages following an overarching theme to develop a framework built on transparency, replicability, and consistency. The four metric categories included in program planning are Student Demand, Workforce Alignment, Education Premium, and Student ROI. The planning team also created a [template and guidance](#) noting publicly available data sources that program planners could use to compile the requested metrics. While the UNC System's focus is on serving North Carolina and supporting the workforce needs within the state, stakeholders recognize that many of the system's degree completers find employment out of state. Adding PSEO data to

system metrics would allow decision-makers to have a more comprehensive overview of student outcomes without subscribing to a paid service.

Project Objective

This project aims to review national earnings and employment outcomes data available via PSEO with the goal of integrating PSEO location and wage data into the current new program proposal template and program productivity review metrics. NC Tower provides North Carolina-specific outcomes while PSEO has national data as well as measures for employment regionally and nationally. Given the larger scope, PSEO data may be particularly useful for smaller programs or programs that reach out-of-state employers. With the integration of PSEO data, additional information would be available when assessing program outcomes by comparing NC-specific data to regional or national data.

The primary audience for integrating PSEO into the program review metrics is academic affairs leaders, enrollment managers, career services leadership, and system-level policymakers seeking actionable tools to integrate postsecondary employment outcomes into routine planning and evaluation processes. Secondary audiences include faculty, accreditation liaisons, institutional researchers, and students or prospective students and parents interested in transparent, data-informed discussions of educational value.

Key Findings

Overall, not only has the UNC System produced close to 20% more degree completers over the last 20 years, the employment rate (percentage of degree completers who are active wage earners) has increased over time, both comparing cohort groups at the same post-completion point in time and within cohort groups reviewing later post-completion points in time. While The Great Recession (2007-2009) and COVID-19 pandemic impacted aggregated populations differently, all completion cohorts that preceded these events were impacted to some degree. Baccalaureate completers have the lowest employment rates at one-year post-completion (around 65% in aggregate) while doctoral-professional practice completers have the highest rates at one-year post-completion (around 80% in aggregate), though other rates are typically 70-75% in aggregate. Within program disciplines¹, the lowest employment rates are typically Philosophy and Religious Studies (38) at the baccalaureate and masters levels and History (54) at the doctoral-research/scholarship level (below 60%

¹ [Classification of Instructional Programs](#) (CIP) taxonomy are developed and maintained by the U.S. Department of Education's National Center for Education Statistics (NCES). All disciplines noted by their CIP Broad Subject Area (2-digit).

and as low as 38% in aggregate), while the highest employment rates are Computer and Information Sciences and Support Services (11), Education (13), and Engineering (14) at all applicable levels. Health Professions and Related Programs (51) and Business, Management, Marketing, and Related Services (52) also frequently had high employment rates.

System-wide, median wages have increased over time², both comparing cohort groups at the same post-completion point in time and within cohort groups reviewing later post-completion points in time with few exceptions. In aggregate, the higher credential completers earned more than lower credential completers, and this result was more apparent when comparing within program disciplines. The median wage at one-year post-completion in the most recent cohort was around \$45k for baccalaureate earners, \$62k for masters earners, \$86k for doctoral-research/scholarship earners, and \$76k for doctoral-professional practice earners. Within program disciplines, the lowest median wages were typically Visual and Performing Arts (50) at all applicable levels, but otherwise varied between non-STEM disciplines depending on the degree level. Computer and Information Sciences and Support Services (11), Engineering (14), and Business, Management, Marketing, and Related Services (52) typically reported the highest wages depending on the degree level.

System-wide, the vast majority of UNC System wage-earning degree completers work in the South Atlantic Division and a majority of those wage earners work in North Carolina. Baccalaureate completers have the highest rates (above 80% in aggregate) while doctoral-research/scholarship completers have the lowest rates (around 60% in aggregate). Table 1 below illustrates all UNC System baccalaureate programs, all cohorts, one-year post-completion geography breakouts with 77% in-state and 10% in the South Atlantic Division outside of North Carolina. The most popular regions vary by degree level and program discipline, but are typically either Middle Atlantic, Pacific, or East North Central Divisions. Within program disciplines, Education (13) graduates at all applicable degree levels consistently reported the highest rates (above 90%) in the South Atlantic Division and in North Carolina. While not typically the absolute lowest, Computer and Information Sciences and Support Services (11) graduates at all applicable degree levels consistently reported some of the lowest rates in the South Atlantic Division with the majority of wage earners outside the region in the Pacific Division.

² As of the Spring 2026 publication, PSEO adjusts wage data to 2023-equivalent dollars; wages have increased relatively in adjusted dollars, not just due to inflation over time.

Reviewing data at the institutional level resulted not only in differences in aggregate by institution, but also between institutions among program disciplines e.g. UNC-CH's Business, Management, Marketing, and Related Services (52) program may be the highest ranked when compared to other institutions' values in the same metric among business, management, marketing and related services programs while their Family and Consumer Sciences/Human Sciences (19) program may be the lowest ranked among family and consumer sciences/human sciences programs.

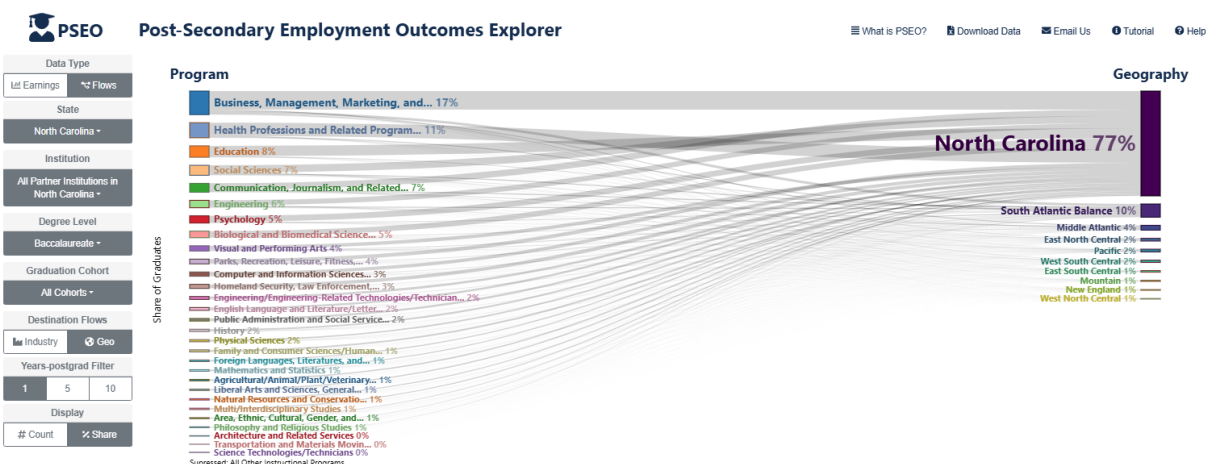


Figure 1: [PSEO Explorer](#) showing geography breakout for all baccalaureate programs

Application of Results

When considering the factors that could explain some of the findings, it is difficult to deconflate the impact of major economic/social shifts like the Great Recession (2007-2009)³ and COVID-19 pandemic⁴ from true changes in outcomes comparing data over time. While data reviewers expect some level of fluctuation, these two events significantly impacted all sectors over multiple years, and an additional cohort cycle may better represent outcomes as a reflection of the program/university. Similarly, additional years of outcome data made available for more recent cohorts will afford more relevant insights for existing programs.

The [2025 Biennial Program Productivity Review Report](#) identified a few programs with increasing Student Demand and negative ROI based on earned wages in North

³ Jaison R. Abel and Richard Deitz, "Underemployment in the Early Careers of College Graduates Following the Great Recession", https://www.nber.org/system/files/working_papers/w22654/w22654.pdf#:~:text=The%20image%20of%20a%20young%20newly%20minted,level%20not%20seen%20since%20the%20early%201990s.

⁴ Sean M. Smith, "Unemployment rises in 2020, as the country battles the COVID-19 pandemic", <https://www.bls.gov/opub/mlr/2021/article/unemployment-rises-in-2020-as-the-country-battles-the-covid-19-pandemic.htm#:~:text=June%202021-,Unemployment%20rises%20in%202020%2C%20as%20the%20country%20battles%20the%20COVID,lost%20because%20of%20the%20pandemic.>

Carolina. These programs are History at Appalachian State University, Drama/Dramatics/Theatre Arts at East Carolina University, Art/Art Studies at UNC-Asheville and UNC-Greensboro at the baccalaureate level and Biological/Biomedical Sciences at East Carolina University at the doctoral-research/scholarship level. PSEO does not provide a direct comparison since these programs were assessed at the 6-digit level in the Biennial Report and institutional program outcomes are typically available at the 2-digit level for PSEO; however, the PSEO outcomes are generally more positive for the broad disciplines. While PSEO reports that completers of these baccalaureate programs have lower median wages by around \$10k when compared to all baccalaureate completers of the respective institutions, median wages improve over time. The Biological/Biomedical Sciences doctoral-research/scholarship program reported about 33% lower one-year post-completion median wages, though reduced the difference to about 7% by five-year post-completion and largely closed the gap by the ten-year post-completion point. These doctoral-research/scholarship completers have a higher representation out of state compared to other doctoral-research/scholarship completers from ECU, which may explain the difference in results between the two reports.

Currently, [Academic Program Planning](#) includes metrics limited to North Carolina wage data in three of four categories⁵: Workforce Alignment, Education Premium, and Student Return on Investment (ROI). Workforce Alignment includes a measure of the UNC Workforce as ratio or percentage of UNC completers in the North Carolina workforce. Education Premium includes a measure of UNC Completers Premium as a ratio or difference of median wages earned compared to median wages of earners with a lesser degree or no post-secondary degree working in a related field.⁶ Student ROI is calculated as median wages compared to net cost using North Carolina matched wage data. Additional calculations could include PSEO (national) median wages of UNC graduates as well as a metric for percentage of wage earners in the South Atlantic Division and nationally for comparison.

Methods

PSEO⁷ uses unit-record matched data that are aggregated by several possible academic or workforce categories to limit the need for small count suppression. PSEO also limits the population to wage earners who reported at least two quarters of income with an annual average income above the poverty line in a given year. This

⁵ The fourth category is Student Demand, which does not include wage data.

⁶ For baccalaureate programs, the comparison population may be any/all earners with no post-secondary degree regardless of field.

⁷ PSEO publishes complete methodology details documentation at https://lehd.ces.census.gov/data/pseo_documentation.html.

project further limited the scope to baccalaureate, masters, and doctoral degrees with doctoral degrees separated between Professional Practice and Research/Scholarship, focusing on the most recent applicable completion cohorts available for a given metric.

This project uses pseoe_nc and pseof_nc data files provided by PSEO to provide descriptive statistics on the aggregated population. When the count of wage earners exceeded the IPEDS reported count of graduates, a calculated percentage was capped at 100%. Longitudinal summaries used data as provided for a given metric regardless of whether additional metrics were available for the same aggregated population e.g. if the five-year post-completion measure was available while the one-year post-completion measure was suppressed, the five-year post-completion value was used in the metric evaluation.

Limitations

PSEO provides data on wage-earning completers though there are some types of wage earners who are specifically excluded from reporting such as self-employed and military personnel. PSEO data does not distinguish between non-earners who are unemployed/underemployed and non-earners who are seeking an additional post-secondary credential. Likewise, a graduate's wages and outcomes are reported by graduation cohort regardless of any additional post-secondary credential or training received before or after the degree completion.

Not all data are available at the CIP Broad Subject Area (2-digit) or CIP Specialization Group (4-digit), and currently no data for the UNC System are available at the CIP level (6-digit).

The Best Practices document published along with this Research Brief has additional details on reporting limitations.

Conclusions

These data provide strong evidence of employment success for UNC System graduates. The increase in employment rates over time suggests that employers value the credential earned. Further analysis in conjunction with [National Student Clearinghouse](#) data would help explain if the increase in employment rates is also as a result of fewer graduates seeking additional credentials post-completion. The increase in wages over time implies that employers continue to value these degrees and are willing to pay employees higher wages making the credential more valuable. Given the high retention rate in North Carolina and the South Atlantic Division, the UNC System is not only providing educational opportunities for North Carolinians, but also providing

credentials necessarily for the statewide and regional workforce demand, a key tenant to the UNC System mission.