

Quantifying and Qualifying the Adjunct Penalty: The Impact of Faculty Composition on Postsecondary Value at 4-Year Institutions

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Executive Summary

This report explores the impact that institutional reliance on different types of adjunct faculty has on graduation rates and postsecondary value at four-year colleges and universities. Institution-level data from IPEDS,¹ College Scorecard and the Equitable Value Explorer² is utilized in a series of ordinary least squares analyses to measure the association between institutional reliance on adjunct faculty, and the academic and economic outcomes of the student-body. Results suggest that greater percentages of full-time, adjunct faculty—as opposed to part-time adjuncts or tenured/tenure-track faculty—are associated with lower graduation rates and postsecondary value at four-year institutions, net of institutional, student-body, and faculty controls. Greater faculty pay is also significantly associated with higher graduation rates and postsecondary value.

This paper defines postsecondary value in accordance with the Postsecondary Value Commission,³ which takes the median post-college earnings in 2018 for entrants of postsecondary institutions in 2008, minus average attendance costs and the median earnings of high school graduates in similar states; this formula establishes the minimum expected return on investment in college enrollment,

¹ National Center for Education Statistics (NCES). 2022. *Integrated Postsecondary Education Data System*. U.S. Department of Education. nces.ed.gov/ipeds/datacenter/DataFiles.aspx?gotoReportId=7&fromIpedes=true

² Postsecondary Value Commission. 2021b. *The Equitable Value Explorer – Data Documentation*. equity.postsecondaryvalue.org/methodology

³ Postsecondary Value Commission. 2021a. *Equitable Value: Promoting Economic Mobility and Social Justice Through Postsecondary Education*. postsecondaryvalue.org/wp-content/uploads/2021/05/PVC-Final-Report-FINAL.pdf

otherwise known as Threshold 0. Median 10-year-post-college earnings at an institution past Threshold 0 indicate economic value associated with attending an institution.

This report comes amidst an industry-wide rise in reliance on full-time faculty.⁴ For decades, the percentage of professors with tenure/tenure-track status has declined or plateaued. During the decade of the 2000s, especially amidst the Great Recession, this decline was mostly offset by increasing rates of part-time adjuncts. Since 2012, however, part-time adjunct percentages declined to pre-2002 levels, while tenure plateaued. The percentage of full-time adjuncts, meanwhile, steadily rose throughout both decades, from 15% of all college faculty in 2002, to 21% in 2021. This research suggests that reliance on full-time, adjunct faculty does not maximize the value of postsecondary enrollment for students and their communities.

Institutions wishing to maximize postsecondary value might consider prioritizing a stable workforce of well-paid, tenured/tenure-track professorships, supplemented by a flexible workforce of part-time adjuncts. This model presumably allows institutions the flexibility needed to provide the right number and kind of courses at open-enrollment institutions, where student enrollment fluctuates unpredictably. Public policy should account for heavy reliance on precarious, part-time labor by providing greater economic stability to part-time, adjunct faculty during periods of declining student enrollment. These resources could come from educational institutions themselves, in the form of higher pay and more generous benefits, or from the state in the form of expanded unemployment benefits, subsidized healthcare, or universal basic income. In order to reverse the decades-long trend of declining tenure, public colleges and universities will either need to secure more public funding, or reduce non-instructional expenses.

⁴ Tucker, dissertation forthcoming.

Introduction

From 1975 through 2011, the percentage of college faculty with tenure steadily declined, accompanied by an increase in the percentage of adjunct faculty,⁵ especially part-time adjuncts, who constituted nearly half of college faculty by end of the Great Recession in 2011 (Curtis 2013). From 2012 through 2021, however, tenure finally stabilized at approximately 34–35% of college faculty (See Figure 1). Part-time adjuncts, meanwhile, declined both in real numbers, and as a percentage of college faculty during this decade, replaced instead by full-time adjuncts, who have steadily risen from 18% of college faculty in 2002, to 24% by 2021 (See Figure 1).

The association between faculty status and academic success has been studied using both institutional-level (Christensen & Turner 2021; Coelho & Liu 2017; Ehrenberg & Zhang 2005) and individual-level data (Bettinger & Long 2010; Eagan & Jaeger 2008; Figlio 2015; Jaeger & Eagan 2009, 2010; Kezim, Pariseau, & Quinn 2005; Ran & Sanders 2020). Few studies, however, distinguish between professors, full-time adjuncts, and part-time adjuncts like Ehrenberg and Zhang (2005); fewer still analyze the economic impact that institutional reliance on adjunct faculty has on postsecondary value (Christensen & Turner 2021; Coelho & Liu 2017). This study aims to assess whether institutional reliance on different types of adjunct faculty at 4-year colleges is associated with higher or lower graduation rates, and with greater or lesser postsecondary value.

⁵ Due to idiosyncrasies in reporting labor to IPEDS (NCES 2023), there are two different ways of categorizing college faculty. When tallying faculty at an institution, faculty are categorized by full- and part-time, as well as with or without tenure/tenure-track. When reporting demographics to IPEDS, faculty are only categorized by full- and part-time status. Finally, institutions only report salary data to IPEDS for full-time faculty, who are categorized as lecturers, instructors, assistant-professors, associate-professors, or full-professors. The majority of all three categories of professor are tenured or on the tenure-track (Zhang, Ehrenberg & Liu 2015); whereas the majority of lecturers and instructors are not. For simplicity, I will refer to all three categories of professor and all tenured/tenure-track faculty as ‘professors’ or ‘the professoriate;’ and I will refer to all lecturers and instructors, as well as all non-tenured/tenure-track faculty, as ‘adjunct faculty’ or ‘adjuncts.’ Graduate student instructors are not considered to be faculty by IPEDS and are not included in any models (NCES 2023).

This report conceives of postsecondary value in terms of the Postsecondary Value Commission's Postsecondary Value Framework (PVC 2021a), which seeks to determine whether structural inequalities are exacerbated by attendance costs at postsecondary institutions, or whether structural inequalities are alleviated by economic gains associated with college attendance. This paper utilizes the PVC's Equitable Value Explorer dataset (PVC 2021b), which combines data from College Scorecard, the Integrated Postsecondary Education Data System (IPEDS), and the American Community Survey (ACS) to estimate the median post-college earnings in 2018 for entrants of postsecondary institutions in 2008, net of average attendance costs, minus the median earnings of high school graduates in similar states, otherwise referred to as Threshold 0, the minimum expected return on investment in a college education. Income exceeding Threshold 0 represent average economic returns associated with attending an institution (PVC 2021b). Using ordinary least squares regression analysis, this report tests whether 4-year institutions' graduation rates and median post-college earnings exceeding Threshold 0 are associated with faculty status, as well as a number of control variables, including institutional and student-body characteristics, faculty demographics, and full-time faculty pay.

My findings detailed below indicate that postsecondary value from attending 4-year institutions is significantly diminished, as are graduation rates, by institutional reliance on full-time, adjunct faculty. The theorized mechanism is that academic progress is stymied and postsecondary value diminished when institutions are over-reliant on full-time adjuncts, who are not an adequate replacement for tenured professors. Policy suggestions include reconsidering the industry-wide shift toward reliance on full-time adjuncts over the last two decades, and instead prioritizing a stable workforce of tenured professorships, supplemented by a flexible workforce of part-time adjuncts, if open-enrollment is to be maintained.

Prior Literature

Academic outcomes

Most research on the effect of adjunct faculty focuses on academic outcomes. Their conclusions regarding the effects of adjunct faculty may seem inconsistent with one another, but are due to analyses of different populations, different ways of categorizing faculty by status, and varying outcome variables. Jaeger and Eagan (2009) study California's community college system, finding that exposure to part-time faculty reduces graduation rates, and decreases students' odds of transferring to a 4-year college (Eagan & Jaeger 2008). On the other hand, their analysis (Jaeger & Eagan 2010) of a public, 4-year system finds part-time faculty to be generally associated with reduced student retention, but positively associated with student retention at doctoral-intensive institutions, which the authors attribute to better institutional support of part-time faculty.

In their study of grades by faculty status at one small business school, Kezim, Pariseau, and Quinn (2005) conclude that adjunct faculty tend to give higher grades than tenured faculty, contributing to grade inflation over time. In a more recent study of 150,000 students in a community college system, Xu (2019) found that part-time faculty were associated with higher grades, but lower subsequent course enrollment and performance. Ran and Sanders (2020) came to a similar conclusion in their study six community colleges, finding that part-time faculty tend to give higher grades than full-timers, but are associated with lower grades in subsequent courses, which they suggest may be due to decreased opportunities for student mentoring.

Figlio, Schapiro, and Soter (2015), meanwhile, come to the opposite conclusion in their study of Northwestern University, splitting faculty based on tenure status, not full- or part-time status. The authors (Figlio et al. 2015) find that students tend to receive better grades in future

classes of a similar subject when their first-term classes are taught by adjunct faculty, as opposed to tenured/tenure-track faculty. The authors suggest that this overall trend is driven by the low performance of the bottom quarter of tenured/tenure-track faculty. Bettinger and Long (2010) examine over 43,000 students at public, 4-year colleges in Ohio, finding that taking introductory courses with part-time faculty makes students more likely to take more classes in that field and switch majors altogether. One explanatory mechanism the authors postulate is that adjuncts may introduce students to new professions that they had not previously considered (Bettinger & Long 2010).

Ehrenberg and Zhang (2005) are some of the only authors to test the adjunct-penalty hypothesis using IPEDS and College Scorecard's nationally comprehensive, institution-level data, similar to that used in this paper. The authors (Ehrenberg & Zhang 2005) even control for both full- and part-time adjunct faculty separately, with tenured faculty as the comparison group. Ehrenberg and Zhang include 734 postsecondary institutions in their study (2005), finding that institutions' part-time faculty percentages and their non-tenure-track faculty percentages are both negatively associated with student graduation rates, when controlling for one another, as well as a number of institutional and student-body characteristics. This research by Ehrenberg and Zhang (2005) is the most like my own in this report, albeit without an analysis of postsecondary value.

Postsecondary value

The impact of adjunct faculty on students' post-college economic outcomes has not yet been the main focus on research. Coelho and Liu (2017) include institutions' full-time faculty percentage and average full-time faculty salaries as control variables in their analysis of IPEDS and PayScale data, finding no significant association ($P < 0.05$) between full- and part-time

faculty percentages and median post-college earnings for students. The authors (Coelho & Liu 2017) did find consistent, significant, positive associations between full-time faculty salaries and median post-college earnings for students. Christensen and Turner (2021:5), in their study of program-level data at over 1,200 community colleges for the *Brookings Institution*, control for the percentage of faculty who are full-time, as well as average full-time faculty salaries, but find both variables to be insignificant in most of their models predicting loan-repayment and “net earnings premium.” The authors (Christensen & Turner 2021) do find average full-time faculty salaries to be significantly associated with loan payments for entrants to certificate programs.

Conceptual Framework

My own research examines institution-level data, similar to Christensen and Turner (2021), Coelho and Liu (2017), and Ehrenberg and Zhang (2005). Like Ehrenberg and Zhang (2005), I will measure graduation rates as a dependent variable, and categorize faculty into three tiers: tenured/tenure-track professors, full-time adjuncts, and part-time adjuncts. Similar to Christensen and Turner (2021), I will use a dependent variable that attempts to capture overall postsecondary value by weighing an institution’s median post-college earnings against net costs of attendance and earnings of a state’s high school graduates. In my case, I will use the Equitable Value Explorer’s continuous variable representing median, 10-year-post-college earnings past Threshold 0 (PVC 2021b). By taking these variables into consideration, as well as faculty salaries, faculty demographics, institutional and student-body characteristics, I aim to determine whether faculty status is significantly associated with postsecondary value.

Data & Methods

For this research on postsecondary value at 4-year institutions, I utilize the Postsecondary Value Commission’s Equitable Value Explorer (PVC 2021b), which itself is created using public

data from IPEDS (NCES 2022), College Scorecard, and the ACS. My main dependent variable is based on the Equitable Value Explorer's Threshold 0, which uses the College Scorecard's 10-year-post-college earnings data from 2018 (PVC 2021b). To calculate Threshold 0, the average student investment for attending an institution is added to the median post-college earnings of high school graduates in similar states (PVC 2021b). Thus Threshold 0 represents the annual earnings enrollees at a college would need to pay for their education and earn as much as someone in their same state with no college experience (PVC 2021b). To gauge the degree to which institutions are providing earnings premiums and postsecondary value, each institution's Threshold 0 value is subtracted from its median 10-year-post-college earnings of enrollees (PVC 2021b); positive values of median post-college earnings past Threshold 0 represent postsecondary value associated with attending a college; negative values represent an institution failing to provide postsecondary value to students and communities. Finally, I add a constant to each value, making them all positive, before taking their natural log: $\ln(x+\text{constant})$.

I supplement the Equitable Value Explorer data with IPEDS' 8-year graduation rate from 2016 (NCES 2022), as well as several variables pertaining to institutional, student-body, and faculty characteristics in the year of original enrollment, 2008. These include:

- A. The percentage of faculty who are tenured/tenure-track, full-time adjuncts, or part-time adjuncts (disaggregated).
- B. The percentage of faculty who are Black. Percentages of other racial groups were not significant, and did not add to the overall model enough to warrant inclusion.
- C. The percentage of faculty who are women.
- D. The average, annual, unadjusted salaries (natural log) of full-time professors and full-time adjuncts (disaggregated).

- E. The percentage of students receiving Pell Grants.
- F. The percentage of students who are women.
- G. The percentage of students who are White. The percentage of students who are Black had to be omitted from both models due to collinearity with the percentage of faculty who are Black. Percentages of other racial groups were not significant, and did not add to the overall model enough to warrant inclusion.
- H. The percentage of first-time, full-time students.
- I. The percentage of students who are over age 25 at enrollment.
- J. The percentage of students who submitted SAT scores.
- K. Students' 75th percentile math SAT scores.
- L. Instructional expenditures per full-time-equivalent student (natural log).
- M. Institution size (categorical).
- N. Degree of urbanicity (categorical).
- O. Sector: public or private-non-profit.
- P. Carnegie classification.
- Q. National region.

My final sample size includes 527 four-year institutions when predicting graduation rates, and 520 when predicting median earnings past Threshold 0. These are not a random sampling of colleges, but rather a convenience sample of every public and private-non-profit, four-year institution that has reported every variable to IPEDS and the College Scorecard. All analyses omit for-profit institutions and two-year institutions.

Two ordinary least squares regression analyses are used to predict each dependent variable: institutional graduation rates and post-college earnings past Threshold 0. All models

control for all faculty, student, and institutional characteristics. A p-value of <0.05 will be required for statistical significance. Estimates of variance inflation factors (VIF) will be run for all models, with a required value of <10 .

Results

[Table 1 about here]

Table 1 displays descriptive statistics for the 527 postsecondary institutions in my final population. There are only four-year, public and private-non-profit institutions in the population, and therefore no community colleges or certificate programs, which explains the relatively high graduation and faculty tenure rates.

[Table 1 about here]

Table 2 displays the results of the two regression models. Model 1 predicts nearly 87% of the variation in graduation rates at 527 four-year colleges. Model 2 predicts 70% of the variation in median post-college earnings past Threshold 0, or postsecondary value. In both models, the percentage of full-time adjunct faculty at an institution is significantly, negatively associated with student outcomes, net of all controls; whereas the percentage of part-time adjuncts is not. Higher average salaries for professors are significantly associated with higher graduation rates and postsecondary value; full-time adjunct salaries were not significantly associated with graduation rates, but were significantly, positively associated with postsecondary value, net of all controls. The percentage of faculty who are women are not significantly associated with either outcome variable. The percentage of Black faculty at an institution is significantly, positively associated with graduation rates, but is negatively associated with postsecondary value.

The percentage of a student body on Pell Grants is significantly, negatively associated with both institutional graduation rates and postsecondary value, net of all controls. Institutions'

percentage of female students are significantly, positively associated with graduation rates, but significantly, negatively associated with postsecondary value. The percentage of a student body that is White was significantly, positively associated with graduation rates, but not postsecondary value, net of all controls. The percentage of a class enrolling at age 25 or over was significantly, negatively associated with institutional graduation rates, but not postsecondary value. The percentage of enrollees at an institution who are full-time, first-time students is significantly, negatively associated with graduation rates, but not postsecondary value. The percentage of an institution's student body that submitted SAT scores is significantly, positively associated with graduation rates, but not postsecondary value. A student body's 75th percentile SAT math scores is significantly, positively associated with both institutional graduation rates and postsecondary value, net of all controls. Institutional expenditures per full-time-equivalent student were not significantly associated with either outcome variable. Private colleges were associated with higher graduation rates, but not postsecondary value, net of all controls.

Discussion & Conclusion

Institutional labor flows

Institutions with higher percentages of full-time adjuncts are associated with lower graduation rates and postsecondary value; whereas neither institutions' percentage of tenured/tenure-track faculty or their percentage of part-time adjuncts significantly predict graduation rates or postsecondary value, regardless of which one is used as the control group. Since this research examines institution-level data, the most pertinent explanation for these results is that institutional labor practices impact graduation rates and postsecondary value. A greater percentage of full-time adjuncts at an institution must either come at the expense of tenured/tenure-track faculty, or part-time adjuncts. Unlike tenured/tenure-track faculty, full-time

adjunct faculty typically do not have research or administrative duties; while this focus on teaching may allow full-time adjuncts to be paid less than tenured/tenure-track faculty, graduation rates and postsecondary value at 4-year institutions may suffer if full-time adjuncts are unable to make up for the lost administrative and research expertise provided by tenured/tenure-track faculty.

Simultaneously, 4-year institutions that rely on full-time adjuncts over part-time adjuncts may be less capable of maintaining the right number and kind of faculty, in response to fluctuating student enrollment. Classes can quickly become overcrowded or inaccessible at open-enrollment institutions with inflexible labor practices. Open college enrollment is seen by many as a public good, key to achieving equity for racial minorities and the working-class (Attewell & Lavin 2007). Such a policy, however, is only economically and bureaucratically feasible with last-minute hires and fires, which critics of institutional reliance on part-time adjuncts claim is not worth the cost to workers (AFT 2020; Childress 2019; Kezar, DePaola & Scott 2019). These claims, however, rely largely on an ideal type of part-time adjunct with only one source of household income. The few empirical studies of part-time adjuncts that use nationally representative data suggest that most part-time adjuncts either have primary full-time jobs, or are retirement age (Tucker, forthcoming); when accounting for other sources of personal income, part-time adjuncts on average have competitive wages and annual incomes with their full-time faculty counterparts (Toutkoushian & Bellas 2003; Tucker forthcoming).

There are a few policies that would address concerns over exploitation of part-time adjuncts, while still allowing institutions to best serve students and communities by relying on a stable workforce of tenured professors, supplemented by a flexible workforce of part-time adjuncts. One solution would be to pay part-time adjuncts more, allowing them to better weather

any economic storms they may encounter in their precarious careers. My research (Table 2, Model 2) suggests that postsecondary value is enhanced by higher salaries for both professors and full-time adjuncts; while there is no IPEDS data on part-time adjunct pay, it would not be surprising if enhancing this led to increased postsecondary value too. This policy, however, would rely on greater public investment in postsecondary education.

Another public policy that would make precarious, part-time work more desirable, while not coming out of institutional budgets, would be expanded unemployment benefits. In their study of recessions and welfare policies, Viebrock and Clasen (2009:313) suggest that economically liberal countries with low job security can effectively shorten recessions with the “Golden Triangle” of flexible labor markets, generous unemployment benefits, and emphasis on enhancing human capital. Americans already emphasize human capital enhancement during recessions; college enrollment typically runs counter-cyclical to economic recessions (Mattila 1982; Dellas & Sakellaris 2003; Barrow & Davis 2012). As discussed previously, such sudden, large increases in student enrollment are only feasible with flexible labor practices. Generous unemployment benefits are the one piece missing from achieving an equitable economic policy in such an economically liberal country.

Conflict of Interest and Data Availability Statements

This work was funded by an award from the Institute for Higher Education Policy. The author states that there is no conflict of interest to report. All data analyzed in this paper is available to download from the Equitable Value Explorer (PVC 2021b) and IPEDS (NCES 2022).

References

- American Federation of Teachers (AFT). 2020. *An Army of Temps: AFT 2020 Adjunct Faculty Quality of Work/Life Report*.
(aft.org/sites/default/files/media/2020/adjuncts_qualityworklife2020.pdf)
- Attewell, Paul, & David Lavin. 2007. *Passing the Torch: Does Higher Education for the Disadvantaged Pay Off Across Generations?* New York: Russell Sage.
- Barrow, Lisa, & Jonathan Davis. 2012. “The upside of down: Postsecondary enrollment in the Great Recession.” *Economic Perspectives*, 36(4): 117–129.
- Bettinger, Eric P., and Bridget T. Long. 2010. “Does cheaper mean better? The impact of using adjunct instructors on student outcomes.” *The Review of Economics and Statistics*, 92(3): 598–613.
- Childress, Herb. 2019. *The Adjunct Underclass: How America’s Colleges Betrayed their Faculty, their Students, and their Mission*. Chicago, IL: University of Chicago Press.
- Christensen, Cody, and Lesley J. Turner. 2021. *Student Outcomes at Community Colleges: What Factors Explain Variation in Loan Repayment and Earnings?* The Brookings Institution. Retrieved Jan. 12, 2024 (luminafoundation.org/wp-content/uploads/2021/10/student-outcomes-at-community-colleges.pdf)
- Coelho, Philip R. P., and Tung Liu. 2017. “The returns to college education – An analysis with college-level data.” *Eastern Economic Journal*, 43(4): 604–620.
- Curtis, John W. 2013. “Trends in Instructional Staff Employment Status, 1975–2011.” Washington D.C.: American Association of University Professors. Retrieved Jan. 10, 2024 (aaup.org/sites/default/files/files/AAUP_Report_InstrStaff-75-11_apr2013.pdf)

- Dellas, Harris and Plutarchos Sekellaris. 2003. "On the cyclicity of schooling: Theory and evidence." *Oxford Economic Papers*, 55(1): 148–172. (doi.org/10.1093/oeq/55.1.148)
- Eagan, M. Kevin, and Audrey Jaeger. 2008. "Effects of exposure to part-time faculty on community college transfer." *Research in Higher Education*, 50: 168–88. (<https://doi.org/10.1007/s11162-008-9113-8>)
- Ehrenberg, Ronald G., and Liang Zhang. 2005. "Do tenured and tenure-track faculty matter?" *The Journal of Human Resources*, 40(3): 647–659. (<https://www.jstor.org/stable/4129555>)
- Figlio, David N., Morton O. Schapiro, and Kevin B. Soter. 2015. "Are tenure track professors better teachers?" *The Review of Economics and Statistics*, 97(4): 715–724. (https://doi.org/10.1162/REST_a_00529)
- Jaeger, Audrey, and M. Kevin Eagan. 2009. "Unintended consequences: Examining the effects of part-time faculty members on associate's degree completion." *Community College Review*, 36(3): 167–194. (<https://doi.org/10.1177/0091552108327070>)
- Jaeger, Audrey, and M. Kevin Eagan. 2010. "Examining retention and contingent faculty use in a state system of public higher education." *Educational Policy*, 20(10): 1–31. (<https://doi.org/10.1177/0895904810361723>)
- Kezar, Adrianna, Tom DePaola, and Daniel T. Scott. 2019 *The Gig Academy: Mapping Labor in the Neoliberal University*. Baltimore, MD: Johns Hopkins University Press.
- Kezim, Boualem, Susan E. Pariseau, and Frances Quinn. (2005). "Is grade inflation related to faculty status?" *Journal of Education for Business*, 80(6): 358–363.
- Mattila, J. Peter. 1982. "Determinants of male school enrollments: A time-series analysis." *Review of Economics and Statistics*, 64(2): 242–251.

- National Center for Education Statistics (NCES). 2022. *Integrated Postsecondary Education Data System*. Washington D.C.: U.S. Department of Education. Retrieved Mar. 2, 2022 (nces.ed.gov/ipeds/datacenter/DataFiles.aspx?gotoReportId=7&fromIpeds=true)
- National Center for Education Statistics (NCES). 2023. *2022-3 Survey Materials > FAQ*. Washington D.C.: U.S. Department of Education. Retrieved Aug. 7, 2023 (surveys.nces.ed.gov/ipeds/public/survey-materials/faq?faqid=2)
- Postsecondary Value Commission (PVC). 2021a. *Equitable Value: Promoting Economic Mobility and Social Justice Through Postsecondary Education*. Retrieved Jan. 11, 2024 (postsecondaryvalue.org/wp-content/uploads/2021/05/PVC-Final-Report-FINAL.pdf)
- Postsecondary Value Commission (PVC). 2021b. *The Equitable Value Explorer – Data Documentation*. Retrieved Jan. 12, 2024 (equity.postsecondaryvalue.org/methodology)
- Ran, Florence X., and Jasmine Sanders. 2020. “Instruction quality or working conditions? The effects of part-time faculty on student academic outcomes in community college introductory courses.” *AERA Open*, 6(1). (<https://doi.org/10.1177/2332858420901495>)
- Toutkoushian, Robert K., and Marcia L. Bellas. 2003. “The effects of part-time employment and gender on faculty earnings and satisfaction: Evidence from the NSOPF:93.” *The Journal of Higher Education*, 74(2):172–195.
- Viebrock, Elke, and Jochen Clasen. 2009. “Flexicurity and welfare reform: A review.” *Socio-Economic Review*, 7:305–331. DOI: 10.1093/ser/mwp001
- Xu, Di. 2019. “Academic performance in community colleges: The influences of part-time and full-time instructors.” *American Educational Research Journal*, 56(2): 368–406. [doi-org.proxy.wexler.hunter.cuny.edu/10.3102/0002831218796131](https://doi.org.proxy.wexler.hunter.cuny.edu/10.3102/0002831218796131)

Zhang, Liang, Ronald G. Ehrenberg, and Xiangmin Liu. 2015. "Changing faculty employment at four-year colleges and universities in the United States." *NBER Working Paper Series* No. 21827. nber.org/papers/w21827

Figure 1: Postsecondary faculty by status (2002–2011, 2012–2021)

Figure 1a: Postsecondary faculty by status (2002–2011)

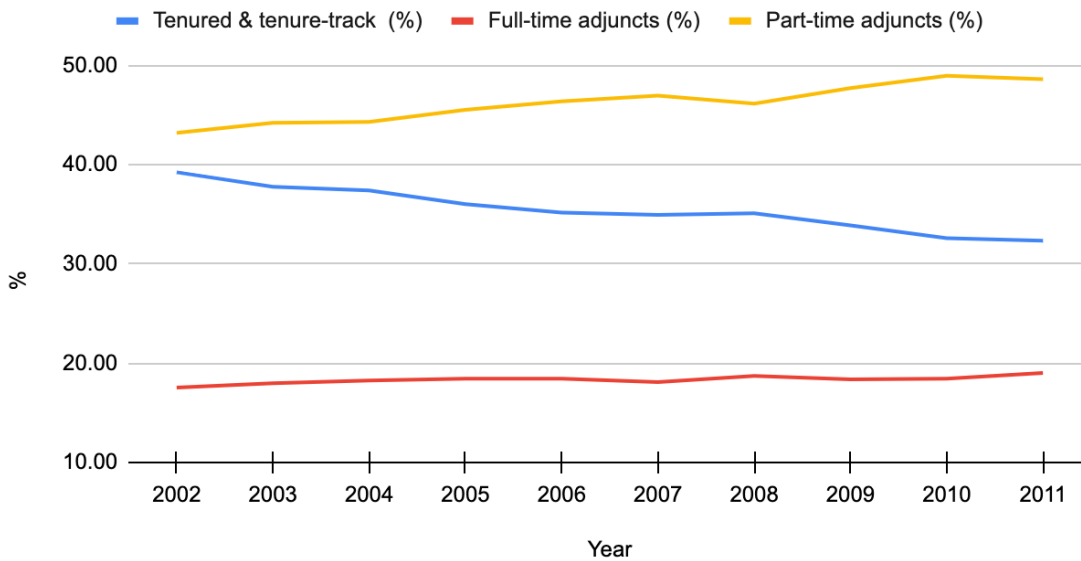
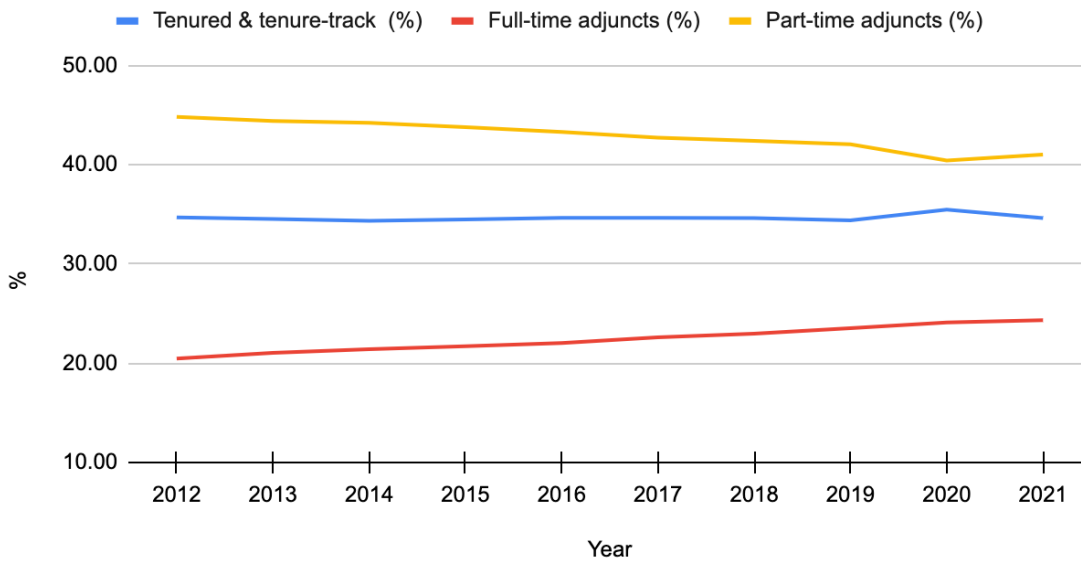


Figure 1b: Postsecondary faculty by status (2012–2021)



Note: Data taken from IPEDS’ “Employees by Assigned Position” files (NCES 2022). Due to generational reporting differences on the surveys, the period before 2012 and the period including and after it are not directly comparable (NCES 2023). Figure 1a includes “all instruction, with faculty status” (NCES 2023). Figure 1b includes “instructional staff, with faculty status” (NCES 2023). Models do not include graduate assistant instructors, who are not considered to have faculty status (NCES 2023).

Table 1: Descriptive statistics for institutions (N=527 institutions)

Characteristics	Variable	Category	Percentage or Mean
Outcomes	Graduation	8-year Graduation rate (2016)	60.10%
	Postsecondary Value	Median 10-year-post-college earnings past Threshold 0 (2018)	\$16,307
Faculty	Status	Tenured/tenure-track	53.65%
		Full-time adjuncts ¹	17.75%
		Part-time adjuncts	28.60%
	Demographics	White	78.40%
		Black	6.03%
Hispanic		3.02%	
Asian		5.32%	
Avg. Annual Salary	Women	44.64%	
	Full-time professors	\$74,356	
Students	Miscellaneous	Full-time adjuncts ²	\$48,110
		Receiving Pell Grants	27.75%
	Demographics	Full-time first-time	19.94%
		Submitting SATs	62.13%
		75th percentile SAT score	596
Institution	Finances	White	65.21%
		Black	11.56%
	Sector	Hispanic	6.68%
		Women	56.76%
		Age 25+	15.51%
Institution size	Finances	Instructional expenditures per full-time equivalent	\$12,036
		Public	54.84%
	Sector	Private-non-profit	45.16%
		<1,000	5.12%
		1,000–4,999	38.52%
		5,000–9,999	20.11%
Carnegie category	10,000–19,999	17.46%	
	20,000+	18.79%	
	Doctoral I	18.79%	

	Doctoral II	9.30%
	Master's I	39.09%
	Master's II	4.55%
	BA, liberal arts	10.82%
	Baccalaureate, general	13.28%
	BA/AA	0.38%
	Associates	1.14%
	Theological	0.76%
	Health	0.38%
	Engineering	0.57%
	Business	0.38%
	Other	0.57%

Region	Northeast	27.51%
	Midwest	23.91%
	South	37.38%
	West	11.20%

Locale	Large City	19.73%
	Midsize city	14.99%
	Small city	13.85%
	Large suburb	14.99%
	Midsize suburb	1.90%
	Small suburb	3.42%
	Fringe town	5.12%
	Distant town	9.68%
	Remote town	7.59%
	Fringe rural	6.07%
	Distant rural	1.71%
	Remote rural	0.95%

Note: Population only includes public and private-non-profit, 4-year colleges. Median post-college earnings past Threshold 0 variable taken from the Equitable Value Explorer (PVC 2021b). 8-year graduation rate taken from IPEDS 2016 “Graduation Rates” files (NCES 2022). Faculty variables taken from IPEDS 2008 “Employees by Assigned Position,” “Fall Staff,” and “Instructional Staff/Salaries A” files (NCES 2022). Student-body characteristics taken from IPEDS 2008 “Fall Enrollment,” “12-Month Enrollment,” and “Admissions and Test Scores” files (NCES 2022). Institutional characteristics taken from IPEDS “Institutional Characteristics” and

“Finance” files (NCES 2022). ¹ For the faculty status variable, “adjuncts” refer to faculty without tenure/tenure-track status (NCES 2023). ² For the faculty pay variable, “adjuncts” refer to “instructors” and “lecturers,” while “professors” include “full-,” “associate-,” and “assistant-professors” (NCES 2023).

Table 2: Ordinary least squares regression models predicting institutional 8-year graduation rates and 10-year-post-college earnings past Threshold 0 for 2008 entrants

Independent Variable	Variable Category	Model 1	Model 2
		DV: 8-year graduation rate; N=527; R2=0.8673	DV: Median 10-year-post-college earnings past Threshold 0 (ln); N=520; R2=0.7009
% Faculty full-time adjuncts ¹		-0.051*	-0.001*
% Faculty part-time adjuncts		-0.005	-0.001
% Faculty Black		0.168***	-0.002**
% Faculty women		-0.037	0.001
Average salary (ln), professors		14.944***	0.239***
Average salary (ln), full-time adjuncts ²		3.565	0.120**

% Students receiving Pell Grants		-0.109**	-0.002**
% Students women		0.156***	-0.004***
% Students White		0.101***	-0.001
% Students age 25+		-0.401***	0.000
% Students full-time, first-time		-0.310***	0.000
% Students submitting SAT scores		0.048***	0.000
75th % SAT score		0.104***	0.001***

Instructional expenditures per full-time-equivalent student (ln)		-0.225	-0.004

Institution size (Ref. = <1,000)	1,000–4,999	3.194**	-0.016
	5,000–9,999	2.521	-0.026
	10,000–19,999	3.609	-0.045
	20,000+	6.656**	-0.029

Sector (Ref. = Public)	Private non-profit	7.035***	0.017

Carnegie designation (Ref. = Baccalaureate, general)	Doctoral I	4.071*	0.080*
	Doctoral II	-1.241	0.032
	Master's I	1.675	0.038
	Master's II	1.986	0.004
	BA, liberal arts	2.855*	-0.019
	BA/AA	-1.168	0.026
	Associates	-1.736	0.085
Theological	6.263	-0.127	

	Health	0.931	0.425***
	Engineering	1.942	0.293***
	Business	9.915*	-0.015
	Other	2.165	0.295***
Region (Ref. = Northeast)	Midwest	-0.490	0.025
	South	-3.104***	0.002
	West	1.747	0.021
Locale (Ref. = Large City)	Midsized city	1.377	0.012
	Small city	1.926	0.025
	Large suburb	2.889**	0.029
	Midsized suburb	-0.756	0.010
	Small suburb	2.366	0.032
	Fringe town	3.923**	-0.018
	Distant town	3.552**	0.012
	Remote town	3.038*	0.022
	Fringe rural	2.730	0.005
	Distant rural	-0.608	-0.059
	Remote rural	-0.049	-0.033
Constant		-215.868***	6.649***

Note: Populations only includes public and private-non-profit, 4-year colleges. Median 10-year-post-college earnings past Threshold 0 variable taken from Equitable Value Explorer (PVC 2021b). 8-year graduation rate taken from IPEDS 2016 “Graduation Rates” files (NCES 2022). Faculty variables taken from IPEDS 2008 “Employees by Assigned Position,” “Fall Staff,” and “Instructional Staff/Salaries A” files (NCES 2022). Student-body characteristics taken from IPEDS 2008 “Fall Enrollment,” “12-Month Enrollment,” and “Admissions and Test Scores” files (NCES 2022). Institutional characteristics taken from IPEDS “Institutional Characteristics” and “Finance” files (NCES 2022). ¹ For the faculty status variable, “adjuncts” refer to faculty without tenure/tenure-track status (NCES 2023). ² For the faculty pay variable, “adjuncts” refer to “instructors” and “lecturers,” while “professors” include “full-,” “associate-,” and “assistant-professors” (NCES 2023). *P<0.05, **P<0.01, ***P<0.001.