**Attitudinal Trends in Alternative Postsecondary Learning**

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Traditional postsecondary learning in the United States consists in obtaining a four-year degree and is associated with increased earnings and employment. These benefits come at substantial public and private cost. Concerns about a public debt crisis are now common. Recent scholarship questions the return of educational expenditure. Alternative approaches to education represent a technological improvement which may allow for employability signal generation and skill development at a fraction of the price of the traditional process. Key bottlenecks to adoption of alternative learning approaches include limited public awareness, limited learner favorability, and limited employer favorability. This paper identifies explanatory factors in favorability, attitudinal changes over time, and actionable strategies to solve for limited awareness and favorability.

**KEYWORDS:** Education economics, alternative education, debt crisis, signaling

**JEL CODES:** D12, I21, I22, I24, I25, I26

1. **Introduction**

The concept of a student debt crisis has found durable academic and media coverage. In 1999, Roots called the student loan debt crisis a lesson in unintended consequences[[1]](#footnote-1). He identified the issue as attributable in large part to the Guaranteed Student Loan Program of 1965.

It was neither a new lesson at that time, nor a lesson finally learned at that time. Hansendn and Rhodes discuss the student debt crisis in 1988[[2]](#footnote-2). Van Dusen published a genuinely prescient paper, *The Coming Crisis in Student Aid*, in February 1979[[3]](#footnote-3). Forbes noted in 2019[[4]](#footnote-4) that “Student loan debt in 2019 is the highest ever…There are more than 44 million borrowers who collectively owe $1.5 trillion in student loan debt in the U.S. alone.”

Recent work has called into question both the social return and the individual return to spending on education[[5]](#footnote-5). Alternatives to the status quo in education present the opportunity for significant economic benefit. From 1989 to 2012, the average cost of a year of undergraduate education in the US rose 79%[[6]](#footnote-6). Over the same period, per pupil public expenditure for K-12 students increased 27%[[7]](#footnote-7). This indicates that postsecondary education presents a particularly valuable area of exploration.

From 1989 to 2012, K-12 student expenditure increased significantly and the cost of a year of undergraduate education grew nearly three times more quickly, but the adjusted average starting salary of a college graduate decreased. In real terms, the average starting salary of a college graduate decreased about 9%[[8]](#footnote-8). Additional temporal sampling from 1960 to 2015 indicate that the longer trend for education is modestly positive, with a real increase of about 6% over that period. It’s worth noting that the highest paying years for the degree were observed around 1970 in real terms, and salaries after the Great Recession have remained lower than the early 2000s.

Because the price of college is rising several times faster than the rate at which the salary of new graduates is increasing, the traditional degree is becoming a dynamically worse financial investment, even while current research shows it is already a relatively poor choice compared to investing in a standard fund. College might still be an optimal consumption choice if students demand higher education as a leisure good, but survey data indicates that this is not the case. Among a mix of prospective and first year college students from ages 16-40[[9]](#footnote-9), Rachel Fishman finds that the top three reasons to go to college are improved employment, making more money, and getting a good job. Over 90% of respondents affirmed at least one of these reasons.

In *A New U,* Craig documents several faster and cheaper alternatives to college[[10]](#footnote-10). Craig establishes that many of these alternative education solutions are quickly growing in both supply and demand, but it is not obvious whether the programs Craig discusses representative of the broader ecosystem of alternative learning. Prior to Craig’s writing, Bryan Caplan argues for the signaling model of postsecondary credential value[[11]](#footnote-11). On Caplan’s view, the consumer of alternative credentials faces a signal composition problem which threatens the value of the credential. Traditional credentials may do a better job of signaling things like work ethic and conformity.

Alternative education, however, may endow real skills at a better rate than traditional education. If employers can obtain better-skilled workers for lower cost, they would be expected to have some willingness to give on conformity. In addition, as alternative credentials become more widely accepted, any stigma or nonconformity costs from pursuing alternative education is expected to diminish. Additionally, prior research has yet to establish magnitudes and dynamic trends on those magnitudes for many of these important effects.

This paper tests the hypothesis that employers are willing to give on conformity by analyzing attitudinal trends over time. While the managerial attitude is of key interest, the structure of the survey allows for the investigation of many interesting secondary relations.

This paper presents findings in a novel data set on attitudes related to the use of alternative credentials. The first section gives the organization of the paper, the motivation, and the main and secondary hypotheses. The second section adds contextual information to the hypotheses in the form of basic prospective theory. The third section presents findings.

1. **Theory**

**2.1 Traditions Conceptualized**

The primary variable of interest for the present research is a favorability question on alternative credentials. Alternative credentials fit into a broader research area alternative education. Alternative education is defined simply as all education other than traditional education. Alternative education decomposes into three subtopics including alternative credentials, alternative pedagogy, and alternative pathways. Each of these alternative entities is defined by the negation of their traditional counterpart.

In service of an effective description of alternative credentials, traditions are described in this subsection. Traditions can be concisely described as intertemporal social norms. As such, traditions exist in socio-temporal space. The maximum socio-temporal space that such a tradition could occupy would be from the dawn of humankind until today, and among all humans. Tradition can be viewed on a spectrum, where some processes are more or less traditional, and the modal process among a group of comparable processes is the narrowly defined traditional process.

* 1. **Actual Traditions: A History of Accreditation in the United States**
  2. **Alternative Education Conceptualized**

Alternative education broadly encompasses all forms of formal and informal learning, but such a process space exceeds feasible study in a single paper, and frankly eludes sufficient study after combining all papers across several fields of research. Instead of studying alternative education holistically, researchers are in the practice of identifying and studying particular implementations of alternative education.

One benefit of this approach is that a researcher may identify particular alternatives to college as faster and cheaper than traditional education, but a weakness of this approach is that such findings appear small, rare, disbursed, and ad hoc. To collect such effects into a strong case against the existing norm, a systematic approach involves establishing alternativeness as a factor which can be tested for some effect.

Alternativeness can be conceptualized ordinally or cardinally. Remember that the three subtypes of alternative education are alternative credentials, alternative pathways, and alternative pedagogies. Within each of these three subtypes, solutions within a given subtype can be identified and ranked according to popularity. After ranking from most popular to n-popularity, an increase in rank number synonymously represents both decreasing traditionalness and increasing alternativeness.

By directly utilizing the underlying measure of popularity, a cardinal operationalization is achieved. Examples of popularity measures include familiarity with a program, number of applications, number of enrollments, or total expenditure toward a program, or simple survey-based measures of familiarity or favorability with respect to a specific program.

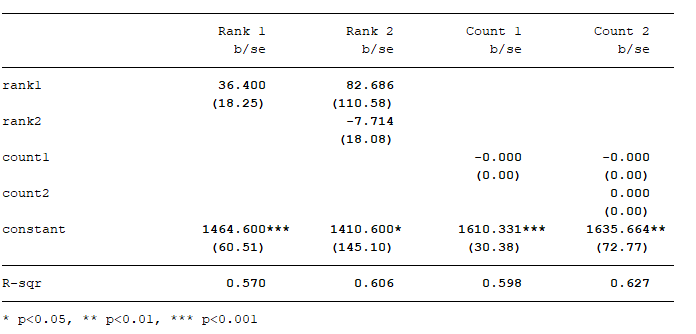
As a brief example, The College Board, which administrates the SAT, recognizes four types of high school in 2014 and other years. These types include public, religiously affiliated, independent, and a group combining other and unknown types of schools. Figure 1 shows reported measures of performance by type of high school, augmented with third party data for homeschoolers[[12]](#footnote-12). Table 1 shows basic model results for cardinal and ordinal operationalizations, with linear and marginal effects in their expected directions. Low significance is attributable to small sample size. Notice the non-trivial R-square values identified despite the small sample size.

Other research indicates that charter schools[[13]](#footnote-13) perform modestly better than public schools when standardizing by SAT score, although nationally representative charter school data could not be found, and gains vary importantly by state and other factors.

**Figure 1 – Summary SAT Score by School Type**



**Table 1 – Summary Models of SAT Score by Alternativeness**



**2.4 A Dynamic Model of Norms**

It’s expected and intuitive that rank alternativeness would have a positive linear and negative marginal effect. Traditions are a kind of durable norm or institution. It’s a foundational lesson of New Institutional Economics that norms, institutions, and other classes of informal rules are self-sustaining and socially valued[[14]](#footnote-14). If alternativeness continued to move in a positive direction ad infinitum, this would seem to indicate that traditions are perfectly opposed to maximal social value. This would be a jarring result which would fly in the face of much of mainline economics. Instead, the positive linear and negative marginal effects collectively indicate something much more compatible with orthodox economics. The indication is that some of tradition’s near neighbors represent an improvement, but continuing into the deeply alternative at some point detracts from value.

Education fits in as a non-special case of norms models. As a completely standard example, Conley and Neilson use a prisoner’s dilemma to demonstrate equilibrium adoption of social norms[[15]](#footnote-15). Suppose we modify this approach to account for dynamic technical improvement. In the present approach, consider an infinitely repeated prisoner’s dilemma where each round adds an additional option to choose cooperateN. CooperateN pays off (1 + cooperateN-1), and in the first round the participants are known to choose cooperate, because they have already equilibrated on the cooperate choice as a social norm. For the sake of modelling, also suppose there is a defectN added in each round as well, and it pays off (defectN-1 – 1), although it’s immediately obvious that coordination on such defects never obtains.

Alternative credentials include both technological improvements, and ostensibly technological degradation, relative to present-day norms, but according to the above game-theoretic representation, it’s not expected for society to equilibrate on any of the technologically degraded choices. Instead, it’s observed in the model that society will tend to adopt those preferred alternatives as they become available over time.

In a more complex model, suppose that instead of both players gaining certain knowledge of the new cooperate option, each player had some probability of knowledge of the new cooperate option and some level of risk aversion. It’s now seen that there is some delay in adoption of the new cooperate choice, and in some rounds one or both players may prefer to remain on the prior cooperate space, but eventually all players tend toward the highest value cooperate choice.

In a third model of highest complexity, suppose that ten new cooperate choices are added each round instead of a single choice each round. The first new cooperate choice is revealed to both players with certainty, the next is revealed with a 90% chance, the third with an 80% chance, and so on. We can see that in most cases, assuming randomly distributed risk aversion between 0 and 1, players will not choose the riskiest new cooperate option. Given usual models of nonlinear risk aversion, players will tend to disproportionately choose the new cooperation choice which is revealed with certainty.

This model perhaps clarifies why it is intuitive that a small alternativeness value would be beneficial relative to a huge alternativeness value. Alternatives have some risk involved and people are risk averse, so it’s intuitive that society will take small steps over time toward adoption of alternatives. That effect compliments the fact that traditions are considered as efficient starting points.

Alternativeness may simply be defined as the reverse of traditional, and we have already established that the strictly traditional process is also the modal process by frequency.

alternativeness finds a natural operationalization . That is, we can take various educational processes and order them by

While the present paper omits to test for this effect, an interesting study

An important concept becomes the Least Alternative Alternatives (LAA).

. From this vantage point, postsecondary accreditation is a peculiar and infant approach to learning and education. Private accrediting agencies began forming in the 1880s, and private accreditation had become a well-established element of the higher education landscape by the 1930s[[16]](#footnote-16). The G.I. Bill was signed into law in 1944[[17]](#footnote-17), and provisions of the bill boosted consumption of higher education. The number of degrees awarded by US colleges and universities more than doubled by 1940 and 1950. The increased consumption of education stimulated the formation of many new colleges, and some of these were “of dubious quality.[[18]](#footnote-18)” In 1952, the G.I. Bill was reauthorized, but this time G.I. Bill educational benefits would only be available for students enrolling at an accredited institution, and the U.S. Commissioner of Education was charged with publishing a list of federally recognized accredited institutions.

Over time, federal recognition criteria became more elaborate. A notable related act would be the 1992 Amendments to the Higher Education Act. Federal lending began in a military-oriented fashion with the National Defense Education Act of 1958, but lending was expanded to the general population with 1965 Higher Education Act and subsequent legislation[[19]](#footnote-19), and as earlier noted, Roots and many others identify this legislative trend as essentially causal to our present student debt crisis.

This brief history indicates that federal postsecondary accreditation is not only a new human institution, but new in the specific context of the United States as well. It’s true that accreditation in some form has existed since the 1880s, and therefore accreditation can be considered a traditional process in United States education, but there is an important difference between federal and private accreditation. The former form is both causal in the student debt crisis and decidedly less traditional over the course of the totality of American history.

The point of this exercise is both to familiarize the reader with a bit of relevant history, and to soften and normalize the vocabulary and topic of the present paper. Caplan rightly argues that part of the signal of a traditional degree is to signal conformity, but throughout most of history it would be the nonconformist who possesses the thing we now call a traditional degree. Given this prior information, it becomes more plausible that society might one day return to such a situation. Obtaining a federally accredited undergraduate degree is a rather new practice, although we call it a tradition, and it has always been dubiously socially beneficial.

Traditional education is loosely synonymous with accredited education in the United States, but there are important technical differences. Accredited credentials in the context of the US include the high school diploma, the accredited undergraduate degree, and an accredited graduate degree, but it is nontraditional to pursue education through the graduate level because most Americans don’t do this.

In fact, it’s not technically traditional to get a college degree. Technically speaking, the American tradition is to enroll in a college degree and never complete the degree. The history of factors leading to higher enrollment in higher education in the United States, was previously discussed, but it’s an important historical watermark to notice that 51% of Americans immediately enrolled in college after high school completion beginning in 1975[[20]](#footnote-20). Between 1975 and 2011, the immediate college enrollment rate increased from 51 percent to 68 percent. Immediate transition to college has plateaued after the turn of the century. The immediate college enrollment rates for 4-year and for 2-year colleges in 2016 were not measurably different from 2000[[21]](#footnote-21).

Enrolling in college has technically been a tradition since 1975, but obtaining a degree never has been a tradition. The fact that immediate enrolment has moved from a positive trend to a plateau, and has been stably flat for more than a decade, casts doubt on a renewal of a positive trend. For the foreseeable future, immediate enrolment will be flat, or perhaps see a small decline.

In 2016, for example, the percentage of students enrolling in college in the fall immediately following high school completion was 69.8%[[22]](#footnote-22), but in 2016 the percentage of the adult population with a bachelor’s degree or higher was 33.4%[[23]](#footnote-23) for “the first time in decades of data.” To reiterate the point, the strictly modal pattern of educational attainment would be for an American student to obtain a diploma, enroll in an accredited bachelor’s degree program, and never complete that program.

While the above describes the strictly modal pattern, enrollment plus noncompletion does not describe the state of being desired by those who enroll. The desired situation would be college graduation. As all ideas are antecedent to action, the desire to complete college is identified as more traditional than the actualization of college completion. This nuance is lost when speaking loosely, and as a result the four-year degree is loosely considered a traditional credential.

Traditional pedagogy is the lecture format. K-12 education and higher education have both typically utilized this teaching method during and outside of the post-1975 period of interest, despite wide knowledge on the ineffectiveness of this approach. In 2014, for example, a meta-analysis of 225 studies found that undergraduate students in classes with traditional lectures are 1.5 times more likely to fail than students in classes that use active learning methods[[24]](#footnote-24).

\*another motivation is pay equity and education access; minorities and non-traditional learners (remember that women aren’t a minority) are benefited thru this

\*it’s worth thinking through other alternative education options: 1) outside of higher ed 2) hybrid higher ed solutions and alt path to traditional cred, 3)considerations with online learning, 4) what about just picking a cheap 4 year school? 5) vocational?

1. **Findings**

Previous research found student indifference toward debt[[25]](#footnote-25) on the part of undergraduate students. The present paper replicates and extends such findings by identifying generalized youth antagonism to alternative credentials. The young people I surveyed include young people both within and without college, meaning it is a genuine youth effect and not simply the observation of selection bias among those undergraduates who have already selected into college education and the associated debt. Contrary to the stereotype of the innovative youth against the in-their-ways elderly, my research indicates alternative credentials are better marketed to the elderly. Plausible reasons include the fact that those with a college degree realize how little they obtained in the way of skills and career or life success attributable to that degree, while the youth realize a combination of risk aversion, lack of skin in the game, and a longer time horizon for repayment. Parents of college aged children may think twice before spending such a large chunk of change. Grandparents and older generations may remember a time when such a credential wasn’t needed, and society seemed to work quite well.

1. **Applications**

There are several important microeconomic applications of the present research. Key applications include individual application during the interview process, individual application in the context of corporate politics, firm application in competitive analysis, and individual application while facing the education consumption decision.

During the application process, an individual who has received alternative education should bear in mind the preferred model of alternative education favorability. The employment candidate will have opportunities to observe interviewers who will interview on behalf of the employer and contribute to an employment decision. The candidate can strategically communicate their educational history by observing interviewers and roughly calculating their favorability to alternative education.

In the context of corporate politics, an individual may already be employed and may be seeking to garner consensus within the organization for a policy change. An example of a desired policy change might be to eliminate the requirement for a traditional degree from certain job requisitions, or to allow specific alternative credentials to substitute for that requirement in some cases. Many corporations offer thousands of dollars per employee in tuition assistance. A second example of a desired policy change might be to modify tuition assistance to target CLEP testing, so that recipients would be able to more quickly and cheaply obtain college credit, and potentially reduce assistance outlays from the employer. Bearing in mind the preferred model might assist a change advocate in identifying those individuals best predisposed to agreement with the change, facilitating consensus building and execution of that change.

For both above scenarios, a key rhetorical strategy is to ask a person about whether they are familiar with alternative credentials. If they are not, talk a bit about them. After ensuring the concept is familiar, proceed to ask whether the person thinks these will soon become conventional. This is a key non-observable factor which is extremely explanatory in the model, but when asked in conversation it comes across in a non-technical, comfortable way. Handled properly, this question can be a good ice breaker and help the person asking the question to understand their audience without giving away the views of the person asking the question. The findings in the present paper indicate that people are receptive to alternative credentials even if they aren’t familiar with the topic, and that they become more favorable as they learn more[[26]](#footnote-26). Outside of formal processes, these positive effects may indicate that conversation around alternative credentials is generally positive, and it might be applicable as ordinary leisure conversation material, which might eventually contribute to wider social acceptance by word of mouth.

Regarding competitive analysis from the firm perspective, particularly in the case of labor competition, firms already know that alternative education is important. People often learn about alternative learning providers through their employer. This is reflected in the findings from the present research in that unemployed status has a highly significant association with lack of knowledge about alternative learning providers[[27]](#footnote-27). While employers are already driving alternative learning adoption, this kind of learning is typically used as a layer of professional learning, upskilling, or continuous education on top of a prior traditional degree.

The competitive trend is the tendency to allow that learning to substitute for the degree. This improvement to the prior human resource process allows access to a larger pool of qualified candidates who tend to accept offers at lower salary. Google was in early on this trend. In 2013, Laszlo Bock, Senior Vice President at Google, was interviewed by Adam Bryant of The New York Times. He stated that Google’s data at that time indicated that on the job performance was insignificantly related to GPA or test scores after 2-3 years, and the proportion of people without any college education at Google was increased over time[[28]](#footnote-28). Years later, in 2018, a well-known salary aggregator called Glassdoor reported on 15 major companies, including Google, which no longer required a degree[[29]](#footnote-29). Glassdoor stated, “Increasingly, there are many companies offering well-paying jobs to those with non-traditional education or a high-school diploma.”

Alternative learning providers are also a key approach to improving workforce diversity[[30]](#footnote-30). In order to align with other industry-leading firms, drive down labor cost, and improve workforce diversity, the present findings suggest a best practice policy is to marginally reduce traditional educational requirements in as many professional positions as feasible for a given firm.

Facing the education consumption decision includes at least two sub-scenarios. In one scenario the consumer is the student, and in another scenario the consumer is financing a third-party student. Typically, a financier would be a parent paying for their child to receive additional education, but there are many non-parental cases of third-party financing. Employers are a key example of non-parental education financing.

The important takeaway from the findings for individuals facing education consumption choices is that most people are favorable to the idea that alternative credentials

1. <https://heinonline.org/HOL/LandingPage?handle=hein.journals/swulr29&div=22&id=&page=&t=1556581085> [↑](#footnote-ref-1)
2. <https://www.sciencedirect.com/science/article/abs/pii/0272775788900751> [↑](#footnote-ref-2)
3. <https://eric.ed.gov/?id=EJ198251> [↑](#footnote-ref-3)
4. <https://www.forbes.com/sites/zackfriedman/2019/02/25/student-loan-debt-statistics-2019/#5a7501b9133f> [↑](#footnote-ref-4)
5. A recommended example: Caplan, Bryan. *The case against education: Why the education system is a waste of time and money*. Princeton University Press, 2018. [↑](#footnote-ref-5)
6. This represents a price increase from $11,862 to $21,222 in constant 2016 dollars. This price includes tuition and fees and room and board rates charged for full-time students in degree-granting postsecondary institutions. <https://nces.ed.gov/programs/digest/d17/tables/dt17_330.10.asp> [↑](#footnote-ref-6)
7. This represents an increase from $8,654 to $11,011 in constant 2014 dollars. <https://nces.ed.gov/programs/digest/d15/tables/dt15_236.15.asp> [↑](#footnote-ref-7)
8. From 1989 to 2012, a decrease of $4,385 from $49,487 to $45,102 in constant 2016 dollars is observed. (4385/49487) = .089. From 1960 to 2012 an increase from $47,442 to $50,219 is observed. <https://www.naceweb.org/job-market/compensation/salary-trends-through-salary-survey-a-historical-perspective-on-starting-salaries-for-new-college-graduates/> [↑](#footnote-ref-8)
9. Rachel Fishman, “College Decisions Survey: Deciding to Go to College,” New America Foundation, May 28, 2015, https:// [www.newamerica.org/education-policy/edcentral/collegedecisions](http://www.newamerica.org/education-policy/edcentral/collegedecisions) [↑](#footnote-ref-9)
10. <https://www.amazon.com/New-Faster-Cheaper-Alternatives-College/dp/1946885479> [↑](#footnote-ref-10)
11. Caplan, Bryan. *The case against education: Why the education system is a waste of time and money*. Princeton University Press, 2018. [↑](#footnote-ref-11)
12. <https://hslda.org/content/docs/news/2016/201606240.asp> [↑](#footnote-ref-12)
13. Di Carlo, Matthew. "The Evidence on Charter Schools and Test Scores. Policy Brief." *Albert Shanker Institute* (2011). [↑](#footnote-ref-13)
14. Dequech, David. "Institutions and norms in institutional economics and sociology." *Journal of Economic Issues* 40.2 (2006): 473-481. [↑](#footnote-ref-14)
15. Conley, John P., and William Neilson. "Endogenous games and equilibrium adoption of social norms and ethical constraints." *Games and Economic Behavior* 66.2 (2009): 761-774. [↑](#footnote-ref-15)
16. <http://www.acics.org/accreditation/content.aspx?id=2258> [↑](#footnote-ref-16)
17. <https://www.ourdocuments.gov/doc.php?flash=false&doc=76> [↑](#footnote-ref-17)
18. <https://www.chea.org/recognition-accreditation-organizations> [↑](#footnote-ref-18)
19. <https://www.luminafoundation.org/looking-back-to-move-forward-1> [↑](#footnote-ref-19)
20. <https://nces.ed.gov/programs/coe/pdf/Indicator_CPA/coe_cpa_2013_01.pdf> [↑](#footnote-ref-20)
21. <https://nces.ed.gov/fastfacts/display.asp?id=51> [↑](#footnote-ref-21)
22. <https://nces.ed.gov/fastfacts/display.asp?id=372> [↑](#footnote-ref-22)
23. <https://www.census.gov/newsroom/press-releases/2017/cb17-51.html> [↑](#footnote-ref-23)
24. <https://www.pnas.org/content/111/23/8410> [↑](#footnote-ref-24)
25. <https://www.sciencedirect.com/science/article/abs/pii/0167487096800146> [↑](#footnote-ref-25)
26. Technically, `reg voi cprovider1` indicates that when a person doesn’t know of any alternative learning providers, there is still a constant of 6.4 in the simple linear regression, indicating positive favorability to the variable of interest. In addition, cprovider1 itself has a significant, positive effect, indicating that informing a person about an alternative learning provider is expected to have a positive impact to the variable of interest, which is alternative credential favorability. [↑](#footnote-ref-26)
27. Technically, `reg cprovider1 isunemployed` identifies a linear effect of unemployed status on learning providers knowledge with a p-value of about 0.000 and a considerable magnitude of -.6. [↑](#footnote-ref-27)
28. <https://www.nytimes.com/2013/06/20/business/in-head-hunting-big-data-may-not-be-such-a-big-deal.html> [↑](#footnote-ref-28)
29. <https://www.glassdoor.com/blog/no-degree-required/> [↑](#footnote-ref-29)
30. <https://www.cio.com/article/3250634/want-a-more-diverse-workforce-hire-bootcamp-graduates.html> [↑](#footnote-ref-30)