

HIGHER EDUCATION: TOO MUCH OF A (POTENTIALLY) GOOD THING?

*Omer Kimhi & Tammy Harel Ben Shahar**

Recent decades have seen a dramatic expansion of higher education. Americans are accessing higher education at growing rates, at the undergraduate level and beyond. Though this phenomenon is widely celebrated, this Article argues that the proliferation of higher education also has a dark side.

Using empirical evidence, we show that American higher education is plagued by an “arms race.” Individuals acquire more education than they need for performing their job or for personal growth in order to gain an edge in a competitive job market. As people gain more education, employers become more selective, further fueling the educational arms race.

This Article argues that this arms race is both socially wasteful and unjust. It is wasteful because individuals and the public invest enormous resources in higher education without increasing work productivity or contributing to economic growth. It is unjust because it benefits those who can afford to study while others are forced to either incur huge debt to fund education or work in low-paying, menial jobs.

This Article then discusses several legal solutions aimed at mitigating the educational arms race. The suggestions are designed to target only cases in which the expansion of higher education is indeed inefficient and unjust rather than to restrict higher education generally. The first suggestion involves “banning the higher-education box”; that is, higher-education requirements should be considered discriminatory when they cause racial disparity and are unjustified by business necessity. Second, we suggest imposing a “signaling fee” on employers when they hire overeducated workers, and

* Omer Kimhi is an associate professor at the University of Haifa Faculty of Law. Tammy Harel Ben Shahar is an assistant professor at the University of Haifa Faculty of Law and the Academic Director of the Clinics for Law and Social Change. This Article was presented at the Rapaport Center at Boston College Law School in a conference entitled “Debt, Degrees and Democracy: A Critical Look at the Value of College Completion.” The authors wish to thank Patricia McCoy and the conference participants, as well as Dan Halliday, for helpful comments and discussions.

third, we propose encouraging practices of lifelong learning and on-the-job-training. Adopting these (and perhaps other) measures is crucial in order to reverse the educational arms race and safeguard higher education as the socially beneficial institution it should be.

TABLE OF CONTENTS

I.	INTRODUCTION.....	762
II.	THE EXPANSION OF HIGHER EDUCATION AND THE HUMAN CAPITAL APPROACH	766
III.	SIGNALING	771
	A. <i>The Signaling Model</i>	771
	B. <i>Evidence of Signaling from the US Job Market</i>	776
IV.	WHAT'S WRONG WITH SIGNALING?.....	780
	A. <i>Positional Goods and the Educational Arms Race</i>	781
	B. <i>Signaling Is Inefficient</i>	783
	C. <i>Educational Arms Races Create Inequality</i>	785
V.	POSSIBLE SOLUTIONS.....	788
	A. <i>Divesting from Higher Education, Taxing Higher Education</i>	788
	B. <i>Ban the Educational Credentials Box?</i>	790
	C. <i>Signaling Fee</i>	797
	D. <i>Encouraging Lifelong Learning</i>	801
VI.	CONCLUSION.....	804

I. INTRODUCTION

A dramatic boost in higher education has occurred in the last few decades. Americans are acquiring higher education at an unprecedented rate, and people who used to be unable to access higher education are now increasingly enrolling in colleges.¹ This process is celebrated by many who believe it creates profuse benefits for individuals and for society as a whole, but the proliferation of higher education has a dark side.

As more people acquire higher education, employers become more selective in their hiring policies. Jobs that until recently named only a high school diploma as a prerequisite increasingly demand that candidates have a bachelor's degree ("BA") or even graduate degree.² This hiring practice pushes more people to obtain higher education to

1. Pau Balart, *The Increase in College Premium and the Decline in Low-Skill Wages: A Signaling Story*, 18 J. PUB. ECON. THEORY 363, 363–64, 376 (2016).

2. Press Release, Career Builder, Education Requirements for Employment on the Rise, According to CareerBuilder Survey (Mar. 20, 2014), <http://www.careerbuilder.com/share/aboutus/pressreleasesdetail.aspx?ed=12%2F31%2F2014&id=pr813&sd=3%2F20%2F2014>.

gain an edge in an increasingly competitive market.³ In this Article, we show that this process, characterized by economists and social scientists as an educational “arms race,” is socially wasteful. Enormous resources are spent by individuals and the public on higher education, but this huge investment does not increase work productivity and does not contribute to economic growth.⁴ Candidates may earn academic diplomas, but they do not learn skills that improve job performance or lead to personal development. Additionally, since unequal access still plagues higher education, the educational arms race aggravates racial and class inequality.⁵ Persons from disadvantaged backgrounds who are unable to acquire a degree are left with a shrinking choice of low-paying, menial jobs, and social inequality worsens.

Unfortunately, these observations have not found traction in legal and public discourse thus far. As a result, legal regulation to contend with the challenges created by the proliferation of higher education and the resultant arms race has never been contemplated. What little critical writing there is focuses mainly on the (important) challenge of unequal access to higher education, usually calling for further widening of access. These critics do not realize that the expansion of higher education may actually be the problem rather than the solution. It aggravates the educational arms race and thereby widens social inequality. This Article aims to close this gap. First, it introduces the concept of the “educational arms race” to the legal audience, detailing its causes and consequences and placing it within a wider social and economic context.⁶ Second, it proposes legal strategies to slow the educational arms race and diminish harmful aspects of the expansion of higher education.⁷

This Article begins with a detailed description of the rapid expansion of higher education and seeks an explanation of this extraordinary social phenomenon.⁸ The most common explanation is offered by the human capital approach, which posits that a growing number of jobs in the modern job market require knowledge that can be obtained through higher education. College, it is argued, imparts advanced skills that increase productivity and facilitate social growth.⁹ However, as we demonstrate in detail, there is convincing evidence that refutes this intuitive explanation. First, studies show

3. See BRYAN CAPLAN, *THE CASE AGAINST EDUCATION: WHY THE EDUCATION SYSTEM IS A WASTE OF TIME AND MONEY* 3 (2018). A detailed description can be found in Part II, *infra*.

4. See *infra* Subpart IV.B.

5. See *infra* Subpart IV.C.

6. See *infra* Parts II–III.

7. See *infra* Part V.

8. See *infra* Part II.

9. See GARY S. BECKER, *HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS WITH SPECIAL REFERENCE TO EDUCATION* 19 (3rd ed. 1993).

that the lion's share of the skills and knowledge taught in college are completely irrelevant to job effectiveness. Even when knowledge or skills might be relevant to job performance, students' ability to apply them in contexts other than those in which they were taught is limited. When students are confronted with problems that require applying knowledge presented in school, their performance is often unimpressive.¹⁰ In addition, empirical research persistently finds evidence of a phenomenon called the "sheepskin effect"; diplomas (traditionally written on sheepskin, hence the name) have independent financial worth above and beyond the "wage premium" associated with every additional year of education.¹¹ In other words, employers are willing to pay more to employees with a diploma than employees with the same level of education who have not obtained one. The diploma itself, rather than the student's education, explains up to a quarter of the total return for completing sixteen years of schooling and more than half of the return for completing a college degree (as opposed to merely a high school degree).¹² This, and other empirical evidence detailed in this Article, shows that the value attached to higher education cannot be convincingly explained by its contribution to the productivity of graduates.

The failure of the human capital approach to explain the expansion of higher education brings to the fore an alternative explanation: the signaling model of higher education, which is detailed in Part III. According to the signaling model, employers make hiring decisions under conditions of uncertainty (they do not know the candidates, and they do not know the quality of their job performance). In order to overcome the engrained uncertainty, employers resort to signals received from the candidates. Signals are statistical information about the candidates that are easily observable and that correlate with productivity. While signals can be varied (such as the candidates' appearance,¹³ socioeconomic background, or race), higher education is an extremely effective and potent signal, as it has both legal and epistemic advantages over other potential signals. From a legal perspective, higher education is a useful signal because considering credentials in hiring decisions is not considered discriminatory, whereas considering other statistical information such as race, gender, and criminal record may be

10. See *infra* Part II.

11. Bryan Caplan, *The Present Value of a Sheepskin*, LIBR. ECON. & LIBERTY (Jan. 20, 2012), https://www.econlib.org/archives/2012/01/the_present_val.html.

12. David A. Jaeger & Marianne E. Page, *Degrees Matter: New Evidence on Sheepskin Effects in the Returns to Education*, 78 REV. ECON. & STAT. 733, 736 (1996).

13. Employers may believe, for example, that tattoos are negatively correlated with job productivity. See *infra* Subpart III.A.

considered an unlawful employment practice.¹⁴ Epistemically, educational credentials are advantageous because they are robust indicators of various character traits desired by employers, including intelligence, diligence, persistence, and social conformism. According to the signaling model, higher education does not impart skills that increase productivity; instead, it is a screening tool for identifying the most productive candidates. Part III provides empirical evidence for the existence of signaling in the US labor market and shows that employers and employees openly admit that they view higher education primarily as a signal.

This Article then goes on, in Part IV, to explain why using academic credentials as a signal is socially undesirable. We argue that signaling causes inefficiency in the consumption of higher education.¹⁵ Due to the positional characteristics of education, in order to efficiently signal employers, candidates need to consume more education than other candidates do. Relying on well-established economic literature, including the work of two Nobel Prize laureates, Michael Spence and Kenneth Arrow, we show that this educational arms race is often suboptimal for all its participants. Students and the public spend enormous amounts of money and time in pursuit of higher education, but at the end of day, “when everyone stands on tiptoe, no one can see better.”¹⁶ In addition to being wasteful, the educational arms race is unjust.¹⁷ Given its cost, access to higher education remains highly unequal; members of minority groups and poor people are still less likely to obtain higher education than nonminority and middle-class persons are and, when they do, are less likely to attend prestigious institutions. The arms race has also changed the stakes. The consequences of remaining uneducated have become bleaker, as they now include being barred from all but the least-desirable and least-lucrative jobs. In an attempt to avoid being left behind, members of disadvantaged groups take on burdensome student loans they find hard to repay. Instead of being the great equalizer, therefore, higher education becomes a debt trap for disadvantaged individuals.¹⁸

Shedding light on the negative consequences of the proliferation of higher education, this Article puts forward what may seem, initially, as a radical argument—namely, that the expansion of higher education should be restricted using legal tools.¹⁹ The strategies recommended, however, are not hostile to higher education per se.

14. See, e.g., Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e-2(a) (2012).

15. See *infra* Subpart IV.B.

16. See FRED HIRSCH, *SOCIAL LIMITS TO GROWTH* 5 (1976).

17. See *infra* Subpart IV.C.

18. See *infra* Subpart IV.C.

19. See *infra* Part V.B.

Rather, they aim to combat the inefficient and unjust educational arms race and bring the rates of higher education back to levels that reflect its individual and social value.

The first proposal involves “banning the higher-education box”—that is, legally prohibiting employers from listing higher education as a prerequisite or asking job candidates about their higher education (at least in the initial stages of hiring) unless a relevant business necessity can be demonstrated.²⁰ Using educational credentials as a hiring criterion often results, we argue, in racially disparate hiring decisions, which means that higher education should be deemed a discriminatory classification under Title VII’s disparate-impact clause. The second possible solution is the imposition of a fee on employers that hire workers with a higher level of education than objectively required for the job.²¹ As opposed to taxing higher education directly, which we claim would only aggravate inequality,²² the suggested fee aims to make overeducated employees less attractive to employers, thereby undermining the motivational underpinnings of the educational arms race. Revenue from the fee, we argue, should go toward compensating persons harmed by the educational arms race or its demise—primarily those who incurred debt in order to study.²³ The third solution we present involves encouraging practices of lifelong learning and on-the-job-training.²⁴ These types of learning are better tailored for the workplace and can keep workers up to date over the span of their employment. Empirical studies show that while on-the-job-training increases workers’ effectiveness, it regrettably does not increase their income. This finding highlights the stark contrast between on-the-job-training and higher education, which increases income while failing, in many cases, to increase productivity. Consequently, we propose several measures, such as financial incentives, trade unions’ initiatives, and public service projects, that may create a gradual shift in employer attitudes toward, and behavior with respect to, on-the-job-training and educational credentials.

II. THE EXPANSION OF HIGHER EDUCATION AND THE HUMAN CAPITAL APPROACH

The demand for higher education in America is soaring, and Americans are acquiring more and more higher education. A growing number of occupations require college diplomas, and high school graduates are reacting by enrolling in growing numbers in college.²⁵

20. See *infra* Subpart V.B.

21. See *infra* Subpart V.C.

22. See *infra* Subpart V.A.

23. See *infra* Subpart V.C.

24. See *infra* Subpart V.D.

25. See Balart, *supra* note 1, at 363–64.

The increase in the number of college-educated job candidates makes employers increasingly selective in their choice of employees; they are requiring college diplomas even in low-level occupations.²⁶ This creates a vicious cycle. Increasing demand by employers induces further acquisition of degrees, which in turn makes employers even pickier.

One study compared the demand for employees holding a BA in 2007 and 2012 by looking at online job ads.²⁷ In all forty-one occupations surveyed, demand for employees with a BA grew, and in the vast majority of occupations (thirty-seven), the percentage growth in a mere five years was double-digit.²⁸ For example, in 2007, forty percent of jobs for dental hygienists required a BA, but by 2012, fifty-five percent of them did.²⁹ In 2007, thirty-three percent of jobs for cargo and freight agents required a BA, and this rose to forty-five percent in 2012.³⁰ The same pattern holds for photographers (from twenty-five percent requiring a degree to thirty-four percent); claims adjusters, examiners, and investigators (from forty-eight percent requiring a degree to sixty-five percent); purchasing managers (from sixty-five percent requiring a degree to eighty-four percent); and so on.³¹

According to the human capital approach, the increasing demand for higher education should be celebrated. Because of rapid technological developments, workers in modern workplaces need a growing set of advanced skills to perform jobs that traditionally required a more limited skill set.³² People who obtain higher education are better prepared for this demanding new world and are more productive workers.³³ Higher education, therefore, promotes efficiency in the workplace and facilitates growth for society as a whole. According to the human capital approach, since higher education increases productivity, it also raises individuals' income.³⁴ Wage data consistently shows a significant income gap between high school graduates and college graduates—a gap that persists even

26. Career Builder, *supra* note 2.

27. See Catherine Rampell, *Degree Inflation? Jobs That Newly Require B.A.'s*, N.Y. TIMES: ECONOMIX (Dec. 4, 2012, 7:00 AM), <https://economix.blogs.nytimes.com/2012/12/04/degree-inflation-jobs-that-newly-require-b-a-s/>. The study was performed by Burning Glass Technologies, a firm that provides job market analyses. *Id.*

28. Burning Glass Technologies, *Up-Credentialing: Growth in Job Ads Requiring Bachelor's Degree*, <https://docs.google.com/spreadsheets/d/1h9YANloCz-v7iR2FhJs4B1S1DdylyZH7C7UPYvAAzuA/pub?single=true&gid=0&output=html> (last visited Sept. 17, 2019).

29. *Id.*

30. *Id.*

31. *Id.*

32. See BECKER, *supra* note 9, at 17.

33. *Id.* at 17–18.

34. *Id.*

after subtracting the costs of education and controlling for ability and family background.³⁵ Pursuant to the traditional explanation offered by the human capital approach, the direct link connecting education, productivity, and remuneration ensures that individuals will acquire the exact amount of education that is beneficial for them. In other words, individuals will obtain higher education as long as the gain (through higher wages) is higher than the cost of education as manifested in direct costs (tuition) and indirect costs (income loss while at school).³⁶ The educational requirements demonstrated in the labor market are understood, accordingly, as reflecting the increased productivity of workers who obtain higher education.

While this seems like a reasonable explanation, it turns out that the skills learned in higher education do not correspond to the actual changes in workplaces. College curricula, especially those of selective liberal arts colleges, have little to do with job performance in a vast majority of occupations.³⁷ Literature, history, languages, and philosophy, which constitute the bulk of what people learn in college, are typically irrelevant in the workplace, except to someone who is a teacher, an academic, or a worker in a small range of occupations in the literary and art fields.³⁸ According to one estimate, fewer than twenty-five percent of graduates major in topics that can be regarded as “highly useful” (such as engineering, health professions, computers, and agriculture),³⁹ and forty percent major in areas of “low usefulness” (such as theology, visual arts, social sciences, and history).⁴⁰

The discrepancy between what colleges teach and what is “relevant” in the labor market is not coincidental, nor does it indicate stagnation of higher-education institutions. It is related, rather, to how universities envisage their societal role and academic duty. Liberal education, academia believes, does not aspire to teach specific knowledge required for work; it aims to “develop critical and communicative powers and a sense of the complexity and diversity of the world.”⁴¹ This, arguably, is “the best preparation for work, for citizenship, and for a satisfying life.”⁴²

35. *Id.* at 17.

36. *Id.* at 17–18.

37. *See* CAPLAN, *supra* note 3, at 31–38.

38. *Id.* at 2.

39. *Id.* at 36. Even when students pursue studies that are somewhat related to workplace effectiveness in order for their education to be worth the premium, they must retain what they have learned. Studies of retention cast doubt on people’s ability to retain knowledge if it is not used regularly. *Id.* at 39.

40. *Id.* at 37.

41. Robert Shoenberg, *How Not to Defend Liberal Arts Colleges*, 95 LIBERAL EDUC. 56, 58 (2009), <https://www.aacu.org/publications-research/periodicals/how-not-defend-liberal-arts-colleges>.

42. *See id.* at 58–59.

Despite the lack of direct links between content studied in college and most modern workplaces, it is typically assumed that higher education develops students' general skills such as problem solving, critical thinking, and the ability to integrate information from multiple sources of data and draw conclusions based on it.⁴³ Humanities faculty often cite business leaders praising liberal education and the skills it instills, such as this director of an aerospace company: "I'll always go for the philosophy major. They know nothing about aerospace, but they know all about complexity—and that's what I need."⁴⁴

If indeed college imparts such skills, the human capital approach may be right in arguing that the expansion in higher education results in social growth. The scientific support for this claim, however, is weak. Numerous studies show that education is "narrow" in the sense that transfer and application of skills from the context in which they were taught to other contexts is dismally minimal.⁴⁵ Even in the most promising conditions of an experiment in which subjects are taught and then immediately required to solve a problem by transferring what they learned, the success rate is typically thirty percent.⁴⁶ When time passes or contexts are less similar, success rates are even lower.⁴⁷ One of the primary skills attributed to education is critical thinking. However, a large study compared critical thinking skills of college students in their first and fourth years and found no improvement.⁴⁸

Still, one might think that college does somehow transform workers and make them more productive, though not directly through the curricula they learn or the skills they acquire. One could insist that college is a "black box" of sorts that enhances workers' productivity through processes that have not yet been deciphered. This contention seems corroborated by the data about the remuneration of college graduates. Research consistently shows that college graduates outearn their noneducated peers, and this seems to be connected to the skills they acquire.⁴⁹ However, closely examining the evidence again raises significant doubts.

43. CAPLAN, *supra* note 3, at 31, 56.

44. Shoenberg, *supra* note 41, at 59.

45. For a description of various experiments concerning the ability to apply thinking tools and capabilities learned in other contexts, see CAPLAN, *supra* note 3, at 50–59.

46. *Id.* at 51–52.

47. *Id.* at 52.

48. *Id.* at 53. The study also compared high school students at the beginning and end of high school, finding a slight improvement, as well as graduate students at the beginning and end of their studies, again finding a slight improvement. *Id.*

49. See BECKER, *supra* note 9, at 17.

When looking at the premia college graduates receive for their education, much of the premia are not vested in the knowledge and skills that students obtain, but rather in the diplomas (the certificates) they receive. Diplomas have independent financial value that can be measured in isolation from the value of education.⁵⁰ This phenomenon is often referred to in literature as the “the sheepskin effect” because, historically, diplomas were printed on sheepskin.⁵¹

Empirical work demonstrating the sheepskin effect is abundant. In 1987, a study examined the monetary returns on education using Current Population Survey data on white males’ salaries.⁵² The data did not include information on degree attainment, only on the number of years studied, but the research demonstrated that years in which people tend to complete their studies have higher salary premia than other years.⁵³ According to the findings, salary returns on education are not continuous; they spike after eight, twelve, and sixteen years of schooling, which are typically years of graduation.⁵⁴ Later research reinforced these findings. In the mid-1990s, the sheepskin effect was examined using a different data set, which included both diplomas received and years in school.⁵⁵ Because some people do not graduate precisely in years eight, twelve, or sixteen of schooling, this data set enabled a more accurate evaluation of the sheepskin effect. This study found an even larger effect for diplomas than had previously been measured: “The estimated sheepskin effect for high school diploma receipt . . . is 18%. The marginal effect of completing a Bachelor’s degree . . . is 33%.”⁵⁶ The sheepskin effect explains a quarter of the total return for completing sixteen years of education and more than half of the return for earning a college degree.⁵⁷ In other words, the diploma itself is responsible for a significant portion of the wage premia obtained through education.

Since the late 1980s, dozens of studies have measured the sheepskin effect⁵⁸ and have found that it exists in different countries,

50. See Ross D. Boylan, *The Effect of the Number of Diplomas on Their Value*, 66 SOC. EDUC. 206, 206 (1993).

51. See CAPLAN, *supra* note 3, at 97.

52. Thomas Hungerford & Gary Solon, *Sheepskin Effects in the Returns to Education*, 69 REV. ECON. & STAT. 175, 175 (1987).

53. *Id.* at 176–77.

54. *Id.* at 176. For example, the estimated effect of education on the log of the wage is 0.42 for years nine and eleven of schooling; the coefficient jumps to 0.77 in the twelfth year, and then returns to 0.45 in the thirteenth year. *Id.*

55. Jaeger & Page, *supra* note 12, at 733.

56. *Id.* at 736.

57. *Id.*

58. See, e.g., John Bitzan, *Do Sheepskin Effects Help Explain Racial Earnings Differences?*, 28 ECON. EDUC. REV. 759 (2009); Ana M. Ferrer & W. Craig Riddell, *The Role of Credentials in the Canadian Labour Market*, 35 CANADIAN J. ECON. 879 (2002); Jin Heum Park, *Estimation of Sheepskin Effects and Returns to Schooling Using the Old and the New CPS Measures of Educational*

in different populations, and when using different data bases.⁵⁹ Further, it persists even after controlling for measured ability.⁶⁰

The size of the effect varies somewhat from study to study, but the effect is consistently present.⁶¹ Consequently, the evidence proves that employers value the diploma itself above and beyond the education it certifies, and the argument made by the human capital approach—that the content of education is what employers value—is largely refuted.

III. SIGNALING

The human capital theory fails to fully explain the proliferation of higher education and the wage gap between those who hold degrees and those who do not. Signaling emerges as an alternative explanation. According to the signaling model, the reason the educational arms race developed and continues to escalate is that employers use education as a signal for productivity and therefore as a criterion for hiring workers.⁶²

A. *The Signaling Model*

Underlying the signaling model is the premise that job markets operate with incomplete information.⁶³ Job candidates vary from one another in their potential productivity, but their differences are not readily observable to employers.⁶⁴ It is hard for employers, even after studying CVs and conducting interviews, to ascertain candidates' intelligence, trustworthiness, and diligence. Comparing numerous

Attainment (Princeton Univ., Working Paper No. 338, 1994), <http://harris.princeton.edu/pubs/pdfs/338.pdf>.

59. See, e.g., Thomas K. Bauer et al., *Sheepskin Effects in Japan*, 26 INT'L J. MANPOWER 320 (2005); S. McGuinness, *Graduate Overeducation as a Sheepskin Effect: Evidence from Northern Ireland*, 35 APPLIED ECON. 597 (2003); Jhon James Mora & Juan Muro, *Sheepskin Effects by Cohorts in Colombia*, 29 INT'L J. MANPOWER 111 (2008); Jesper Antelius, *Sheepskin Effects in the Returns to Education: Evidence on Swedish Data* (Trade Union Inst. for Econ. Research, Working Paper Series 158, 2000).

60. See, e.g., Harley Frazis, *Selection Bias and the Degree Effect*, 28 J. HUM. RESOURCES 538, 546 (1993) (controlling for IQ and high school GPA); Thomas Kane & Cecilia Rouse, *Labor-Market Returns to Two- and Four-Year Colleges: Is a Credit a Credit and Do Degrees Matter?*, 85 AM. ECON. REV. 600, 602 (1995) (correcting for ability).

61. Bryan Caplan, who analyzed various studies, estimates that, controlling for ability, every year of additional education increases income by 4.2%, but a bachelor's degree increases it by an additional thirty percent and a graduate degree increases it by almost an additional twenty percent. See CAPLAN, *supra* note 3, at 99–100. Although the exact numbers can be contested, the phenomenon seems robust. See *id.*

62. See Brian Connelly et al., *Signaling Theory: A Review and Assessment*, 37 J. MGMT. 39, 42–43 (2011).

63. See *id.* at 40.

64. CAPLAN, *supra* note 3, at 14.

candidates along all of these traits is practically impossible, so employers are forced to make hiring decisions in conditions of uncertainty. To do so, they need a quick screening method that is only partly sensitive to individual characteristics.

One way to alleviate uncertainty is to use statistical information—easily observable information about candidates that correlates with job productivity.⁶⁵ By using statistical information, employers can make effective hiring decisions that are relatively cheap and efficient. Think of the extreme example of body art: if tattooed candidates are statistically less productive than nontattooed ones, rational hiring practice entails selecting the latter instead of selecting candidates randomly (using no information).⁶⁶ Although tattoos have nothing to do with working skills, rejecting workers with tattoos will help employers weed out poorer candidates because of the statistical connection between tattoos and productivity.⁶⁷ Employers will still, undoubtedly, make some bad hiring choices because there may be weak candidates who do not have tattoos and excellent candidates who do. Still, this selection strategy is superior to what would otherwise be random selection.

Higher education, according to the signaling model, serves a similar function in hiring decisions.⁶⁸ The skills and qualities required to obtain a college degree are also those that make an efficient worker: motivation, perseverance, organizational skills, discipline, diligence, and intelligence.⁶⁹ Therefore, even if higher education does not develop relevant skills and does not impart relevant knowledge, people who have college degrees are statistically more likely to be productive employees. The correlation between what makes a successful college student and what makes an efficient worker renders education an excellent signal for employers.⁷⁰ Other observable features (signals) may correlate with job productivity,

65. See Joseph Stiglitz, *The Theory of "Screening," Education, and the Distribution of Income*, 65 AM. ECON. REV. 283, 283 (1975).

66. See Andrew R. Timming, *Visible Tattoos in the Service Sector: A New Challenge to Recruitment and Selection*, 29 WORK, EMP. & SOC'Y 60, 68 (2015) (discussing how employers, using no further information, are less inclined to hire job candidates with tattoos because of the negative public opinion of tattoos).

67. See Michael T. French et al., *Tattoos, Employment, and Labor Market Earnings: Is There a Link in the Ink?*, 82 S. ECON. J. 1212, 1215–16 (2016).

68. Kenneth J. Arrow, *Higher Education as a Filter*, 2 J. PUB. ECON. 193, 194 (1973).

69. Some writers refer to educational credentials as signaling a more specific characteristic of workers, "trainability," which includes some of the traits detailed above, such as intelligence, diligence, etc. David B. Bills, *Credentials and Capacities: Employers' Perceptions of the Acquisition of Skills*, 29 SOC. Q. 439, 440 (1988). Obviously, completing college is a relevant indication of trainability. *Id.*

70. Of course, the use of credentials does not exclude other considerations. *Id.* at 446.

such as IQ tests, appearance (tattoos or clothing), or even zip code.⁷¹ However, education is especially popular with employers because of its two advantages over other potential signals, namely the legal advantage and the epistemic advantage.

The legal advantage is related to the fact that relying on certain kinds of statistical information may constitute illegal discrimination.⁷² Statistical evidence suggesting, for example, that people of a particular race are likely to be more productive workers would be considered discriminatory. But facially neutral criteria may also be deemed discriminatory if they have a discriminatory effect.⁷³ Thus, courts have found the use of IQ test scores in hiring procedures discriminatory because it results in racial inequality, unless the employer can prove that the test is job related.⁷⁴ Requiring a college diploma, on the other hand, has never been legally challenged and is therefore permissible according to current legal doctrine, even when no relation to the job can be demonstrated.⁷⁵ In Subpart V.B of this Article, we question whether the current doctrinal distinction between IQ tests and educational credentials is justified, but as the law now stands, employers are encouraged to use educational credentials rather than other signals.

The second advantage of using educational credentials as a signal is an epistemic one; that is, it concerns the quality of the prediction that education offers compared to other available signals. Educational credentials offer an extremely robust signal and are therefore likely to result in better hiring decisions. Usually when we think about education and what it indicates, intellectual ability comes to mind. Successfully completing postsecondary education requires a certain level of intelligence, so employers who seek intelligent workers rationally prefer college graduates.⁷⁶ But the information

71. Zip code correlates with productivity for two reasons: first, distance from the workplace is significant in determining persistence in jobs; second, zip code correlates with socioeconomic status, which can be of significance in work performance. For the use of zip codes in hiring decisions and the discriminatory outcomes this may have, see Marianne Bertrand & Sendhil Mullainathan, *Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination*, 94 AM. ECON. REV. 991, 1003 (2004).

72. See 42 U.S.C. §2000e-2(a) (2012).

73. *Griggs v. Duke Power Co.*, 401 U.S. 424, 431 (1971).

74. *Id.* at 431, 436. In *Griggs*, the Supreme Court explained that such a requirement de facto reinforced prior discriminatory practices, and the employer was unable to prove the connection between a high school diploma and successful performance on the job. *Id.*

75. Previous decisions have only considered whether a college diploma is permissible criteria where a relation to the job can be demonstrated. See, e.g., *State ex rel. Crandall v. McIntosh*, 103 S.W. 1078 (Mo. 1907) (finding that a college diploma of dentistry serves as permissible criteria for a job as dentist).

76. See Joseph D. Matarazzo & David O. Herman, *Relationship of Education and IQ in the WAIS—R Standardization Sample*, 52 J. CONSULTING & CLINICAL

employers receive from educational signals indicates much more than intellect; it includes various other qualities that are equally important for success on the job.⁷⁷ Graduating college requires students to work hard—read, write papers, hand in assignments, study for exams—which requires diligence, perseverance, and discipline.⁷⁸ In addition, attending college attests to some level of social conformity because in our digital era, intelligent people can independently learn all the material taught in college. Graduating from college signals that the candidate was willing to set aside some of her independence and obey the social expectation of going to a formal educational institution. She accepts authority, is able to operate within a bureaucracy, and is organized and independent enough to comply with its complex requirements.⁷⁹ These qualities are also required in a working environment and are therefore valuable to employers.⁸⁰ The educational signal, unlike other signals, is thus able to provide information about a wide range of qualities. From a single line in a résumé, an employer can infer candidates' intellect, diligence, conformity, time management skills, and more. In this sense, the educational credential is an extremely rich signal compared to other signals, which typically attest to a narrower set of skills or character traits.

The epistemic advantage of using education as a signal has an additional important aspect: education features multiple evaluators and points of evaluation. College graduation is a signal that encapsulates the accumulated experience of several years and evaluations by many teachers in numerous courses. The sheer number of evaluators and tasks on which the student is evaluated gives the education signal a validity and reliability advantage, even compared to evaluations performed by the employer itself. The information an employer can glean from a short interview or a screening test does not compare with the vast amount of information transmitted by a college credential.

PSYCHOL. 631, 631 (1984); Andrew Weiss, *Human Capital vs. Signalling Explanations of Wages*, 9 J. ECON. PERSP. 133, 144 (1995).

77. Jim Kjelland, *Economic Returns to Higher Education: Signaling v. Human Capital Theory; An Analysis of Competing Theories*, 16 PARK PLACE ECONOMIST 70, 73 (2008).

78. See Arrow, *supra* note 68, at 193 (“Educators on the other hand, have long felt that the activity of education is a process of socialization; the latent content of the process, the acquisition of skills such as the carrying out of assigned tasks, getting along with others, regularity, punctuality, and the like, being at least as important as the manifest objectives of conveying information.”).

79. See CAPLAN, *supra* note 3, at 17; JOHN IMMERWAHR, GREAT EXPECTATIONS: HOW THE PUBLIC AND PARENTS—WHITE, AFRICAN AMERICAN AND HISPANIC—VIEW HIGHER EDUCATION 10 (2000), <https://eric.ed.gov/?id=ED444405>.

80. David J. Topor et al., *Influences of Traits and Assessment Methods on Human Resource Practitioners' Evaluations of Job Applicants*, 21 J. BUS. & PSYCHOL. 361, 372 (2007).

Naturally, there are other ways to choose among prospective employees. Critics may argue that on-the-job screening achieves better outcomes than even the best statistical evidence.⁸¹ As explained, signaling is designed to bridge employers' information gap and to decrease the uncertainty in the hiring process.⁸² Hiring an employee, and then evaluating her performance, and adjusting her wages according to her actual productivity (and terminating her employment if necessary) seems like the optimal solution.⁸³

Although initially appealing, this option has various flaws. First, studies concerning on-the-job evaluation find that it takes employers quite some time to learn their employees' actual abilities and align their wages with their productivity.⁸⁴ Some studies estimate that employers' initial errors in evaluating employees decline by an average of only twenty-six percent during the first year, fifty-one percent after three years, and sixty-four percent after five years.⁸⁵ Additionally, it takes employers much longer to correctly evaluate the true capabilities of noneducated employees than it does to learn educated workers' abilities.⁸⁶ Employers are able to correctly assess the capabilities of educated employees fairly quickly, whereas accurately figuring out noneducated employees' abilities may take more than a decade.⁸⁷ Using educational credentials as signals for worker effectiveness is, therefore, rational.

Second, on-the-job screening is effective only when employers can terminate an employee or adjust her pay easily and without cost. When employers are contractually bound to pay a certain wage, or when employees enjoy legal protection from termination, this possibility loses its appeal.⁸⁸ On-the-job screening may be costly even absent any legal constraints on termination or wage reduction. Many jobs involve a lengthy training period during which employees acquire the knowledge and develop the skills they need for the job. During training, they are not expected to be fully productive, so by the time their capabilities can be evaluated, their employer has already invested a substantial amount in their training. Hiring new

81. See Stiglitz, *supra* note 65, at 290–91.

82. See *supra* Part I.

83. See Brendan O'Flaherty & Aloysius Siow, *On the Job Screening, Up or Out Rules, and Firm Growth*, 25 CANADIAN J. ECON. 346, 347 (1992).

84. See Fabian Lange, *The Speed of Employer Learning*, 25 J. LAB. ECON. 1, 16 (2007).

85. *Id.*; see also Arrow, *supra* note 68, at 195.

86. See Peter Arcidiacono et al., *Beyond Signaling and Human Capital: Education and the Revelation of Ability*, 2 AM. ECON. J.: APPLIED ECON. 76, 82–83 (2010).

87. *Id.* at 76, 81–82.

88. Most employers will prefer not to fire but rather to not promote and not offer higher pay—slowly pushing out the employee, who will move on to the next job, where they will again be judged by their credentials. See CAPLAN, *supra* note 3, at 25.

employees to replace them is costly, and therefore, it makes sense for employers to screen workers at the outset.

B. Evidence of Signaling from the US Job Market

The theoretical appeal of the signaling model is corroborated with ample empirical evidence of real-world practices. One example is the “sheepskin effect.” As explained, a diploma has independent financial value in isolation from the value of the education acquired, and research shows it accounts for a large portion of the education premium.⁸⁹ The sheepskin effect perfectly coincides with the signaling model. It reveals that the diploma (the signal) is what employers are actually seeking, rather than the skills and knowledge that education imparts. A student who studied diligently throughout four years of college but for some reason missed a final exam (and hence did not receive a diploma) is worth less in the labor market than his peer who graduated without attending a single class. But the sheepskin effect is by no means the only evidence for the existence of signaling.

Additional data from the labor market and surveys of employers and employees tells a similar story. Studies show that employers often impose education prerequisites on newly hired employees, even when a degree is in no way necessary for the performance of the job. A survey conducted by the Bureau of Labor Statistics (the “Bureau”) shows that college graduates are often employed in jobs that do not necessitate higher education.⁹⁰ The Bureau created an objective matrix that assesses the level of education that each job requires.⁹¹ The matrix classifies occupations into eight groups according to the level of education the Bureau found occupations typically require—less than high school diploma, high school diploma or equivalent, associate degree, BA, and so on.⁹² The Bureau then compared its objective assessment with the level of education employees actually

89. *See supra* Part II.

90. *See Education and Training Assignments by Detailed Occupation*, BUREAU OF LAB. STAT., <https://www.bls.gov/emp/tables/education-and-training-by-occupation.htm> (last modified Oct. 24, 2017) [hereinafter *Education Assignments*]; *Educational Attainment for Workers 25 Years and Older by Detailed Occupation*, BUREAU OF LAB. STAT., <https://www.bls.gov/emp/tables/educational-attainment.htm#top> (last modified Oct. 30, 2018) [hereinafter *Educational Attainment*].

91. *See Measures of Education and Training*, BUREAU OF LAB. STAT., <https://www.bls.gov/emp/documentation/education/tech.htm> (last modified Oct. 24, 2017).

92. *Id.* The classification was carried out by the Bureau’s economists based on an analysis of qualitative and quantitative information from various sources. For more detailed descriptions of the classification and the different sources used, see *Employment Projections*, BUREAU OF LAB. STAT. (Oct. 24, 2017), <https://www.bls.gov/emp/documentation/education/tech.htm>.

hold.⁹³ The data reveals significant discrepancies.⁹⁴ A large share of college graduates are employed in jobs that do not need their education, per the Bureau's objective assessment. For example, the Bureau classifies "claims adjusters, examiners, and investigators" as an occupation for which the suitable level of education is a high school diploma.⁹⁵ Yet according to the Bureau, 40.7% of the employees working in this line of work have a BA.⁹⁶ The Bureau classifies "first-line supervisors of non-retail sales workers" as an occupation requiring a high school diploma, yet close to one third of those employed as supervisors of non-retail sales workers hold a BA.⁹⁷ The same is true for sales representatives (with 42.9% of employees holding a BA), administrative workers (28.9%), customer service representatives (21.5%), and more.⁹⁸ In all these occupations, a degree is not needed for job performance, yet employers prefer to hire college graduates.⁹⁹

Additional evidence emerges from contrasting the educational credentials required of new recruits with the average education level of current employees. In 2014, a large study analyzed millions of job ads and, by specific occupations, compared the percentage of ads requiring a BA with the percentage of current employees holding that degree.¹⁰⁰ A wide gap was found between the two groups, indicating that employers require credentials that they did not require in the past.¹⁰¹ For example, though only nineteen percent of executive secretaries and executive assistants have a BA, sixty-five percent of ads for such workers specified that one was required.¹⁰² While only seventeen percent of supervisors of production and operating workers have a BA, sixty-two percent of postings required one.¹⁰³ For help desk jobs, the figures are thirty-nine percent and sixty to seventy

93. See *Measures of Education and Training*, *supra* note 91.

94. See *Education Assignments*, *supra* note 90; *Educational Attainment*, *supra* note 90.

95. *Education Assignments*, *supra* note 90.

96. *Educational Attainment*, *supra* note 90.

97. *Education Assignments*, *supra* note 90; *Educational Attainment*, *supra* note 90.

98. *Education Assignments*, *supra* note 90; *Educational Attainment*, *supra* note 90.

99. A study conducted by Vedder et al. confirms this trend. The authors list many jobs, such as retail and sales workers, cashiers, stock clerks, and order fillers, in which millions of college graduates are employed even though the work could be performed equally well by one with no postgraduate education. See RICHARD VEDDER ET AL., WHY ARE RECENT COLLEGE GRADUATES UNDEREMPLOYED? 16 (2013), <https://files.eric.ed.gov/fulltext/ED539373.pdf>.

100. BURNING GLASS TECHNOLOGIES, MOVING THE GOALPOSTS: HOW DEMAND FOR A BACHELOR'S DEGREE IS RESHAPING THE WORKFORCE 4-5 (2014), https://www.burning-glass.com/wp-content/uploads/Moving_the_Goalposts.pdf.

101. *Id.* at 2.

102. *Id.* at 5.

103. *Id.* at 7.

percent.¹⁰⁴ The trend is apparent not only within specific occupations but also quite generally. When jobs are grouped into occupation families, the gap between the credentials required of new employees and those held by current employees demonstrates a clear pattern: the labor market forces people to earn college educations and then work in jobs that do not necessitate a degree.¹⁰⁵

It could be argued that the gap between existing workers' education and the requirements in job ads does not mean that higher education is not needed—rather, that veteran employees who lack education are less productive, and new, educated employees are better workers. This may be the case in some jobs that have changed, requiring skills that are taught in higher education.¹⁰⁶ Many of the occupations, however, including those with the largest growth in demand for BA's, have not changed in any discernable way that might substantiate this claim.¹⁰⁷ It is highly unlikely, for example, that the jobs of dental hygienists, medical equipment preparers, photographers, and claims adjusters have changed in a manner that justifies the increased demand for college diplomas.¹⁰⁸ Signaling is a more persuasive explanation—employers seek educational credentials because it helps them make better hiring decisions.

Another indication that higher education is used as a signal for preexisting skills is what employers themselves say when asked about credentials and their role in hiring practices. One study found that employers seek college graduates for the same jobs currently performed by less-educated workers.¹⁰⁹ Based on the survey, the researchers concluded that “employers defaulted to using college

104. *Id.* at 14.

105. VEDDER ET AL., *supra* note 99, at 30 (“The mismatch between the educational requirements for various occupations and the amount of education obtained by workers is large and growing significantly over time. The problem can be viewed two ways. In one sense, we have an ‘underemployment’ problem: College graduates are underemployed, performing jobs which require vastly less educational tools than they possess. The flip side of that, though, is that we have an ‘overinvestment’ problem: We are churning out far more college graduates than required by labor-market imperatives. The supply of jobs requiring college degrees is growing more slowly than the supply of those holding such degrees. Hence, more and more college graduates are crowding out high-school graduates in such blue-collar, low-skilled jobs as taxi driver, firefighter, and retail sales clerks. Credential inflation is pervasive.”).

106. *See* BURNING GLASS TECHNOLOGIES, *supra* note 100, at 4. This could include computer and mathematical occupations, which have an average credentials gap of twenty-one percent, and architecture and engineering professions, which have an average credentials gap of ten percent. *Id.*

107. VEDDER ET AL., *supra* note 99, at 8.

108. *See* Rampell, *supra* note 27.

109. *See* JOSEPH FULLER & MANJARI RAMAN, DISMISSED BY DEGREES: HOW DEGREE INFLATION IS UNDERMINING U.S. COMPETITIVENESS AND HURTING AMERICA'S MIDDLE CLASS 2 (2017), <http://www.hbs.edu/managing-the-future-of-work/Documents/dismised-by-degrees.pdf>.

degrees as a proxy for a candidate's range and depth of skills."¹¹⁰ College degrees, the authors argued, are used as a screening device, which is the source of the rising demand for educated employees and the cause of what they refer to as "degree inflation."¹¹¹ Other studies reached similar conclusions¹¹² and support the signaling model over competing theories.¹¹³ One study, which combined interviews and observations of hiring committees' meetings in high-paying jobs, concluded that employers rely on education as a "strong proxy" for their candidates' underlying abilities.¹¹⁴ Employers paid little attention to the content of the education candidates had acquired (the degree or the courses taken) or to their academic performance as represented by their grades; instead, they focused on the institutions' prestige and candidates' admission criteria.¹¹⁵ They preferred candidates who attended highly selective institutions, assuming that admission to an elite school is a credible indication that a candidate has outstanding abilities.¹¹⁶ Another large survey took a different approach and asked 25,000 employees with different levels of education to assess the relationship between their job and their schooling.¹¹⁷ The results indicate that the connection between work and education varies widely among fields of study. Fewer than half of the participants in the survey who studied humanities or social sciences said their job was closely connected to their education, and

110. *Id.*

111. *Id.*

112. Bills, *supra* note 69, at 440. Bills defines the screening theory as follows: Here, the role of schooling is to sort out the able from the less able and to allow employers to weed out poor candidates. . . . While the screening position does not preclude the possibility that job candidates acquire useful skills in school, it does maintain that the relationship between schooling and job assignment can come about even when they do not.

Id.

113. *Id.* at 447. The employers interviewed in Bills' survey explained that educational credentials provide them with information about potential candidates, but they admitted that they are willing to forgo that information when better information indicators are available. *Id.* at 446.

114. Lauren Rivera, *Ivies, Extracurriculars, and Exclusion: Elite Employers' Use of Educational Credentials*, 29 RES. SOC. STRATIFICATION & MOBILITY 71, 72 (2011).

115. *Id.* at 72, 79 ("[I]n many ways, the credential that elite employers valued was not the education received at a top school but rather a letter of acceptance from one.").

116. *Id.* at 72. The study also showed that employers appreciated candidates' extracurricular activities, giving them more weight than grades. *Id.* at 82. The particular type of extracurricular activity engaged in was not always of the utmost importance to employers, who were mostly interested in the signal that participation in general sends: possession of social skills and efficient time management skills. *See id.* at 82.

117. David Walters, *The Relationship Between Postsecondary Education and Skill: Comparing Credentialism with Human Capital Theory*, 34 CANADIAN J. HIGHER EDUC. 97, 110 (2004).

approximately one third admitted there was no connection whatsoever.¹¹⁸ Interestingly, though, the data shows that despite the lack of relevance to their job, even humanities and liberal arts students pocket a handsome income premium for their college degrees.¹¹⁹

All these findings compel the conclusion that employers value higher education not because of the skills it gives workers but primarily because of the signal they believe it to be. As a result, there is a wide (and growing) range of jobs for which higher education is not necessary, but accessing them is nonetheless impossible without a college diploma.

IV. WHAT'S WRONG WITH SIGNALING?

In order to understand the perils of using higher education as a signal, one must first acknowledge education's positional character. The ability to signal one's productivity through educational credentials depends upon one's relative position compared to other candidates. This competitive or positional aspect of education is what underlies the educational arms race and what creates the two main negative effects of signaling, which we detail in this Part: its wasteful nature and the fact that it increases inequality.¹²⁰

Before proceeding to explain positionality and its harms, a comment is in order. For methodological purposes we assume, for the moment, a pure signaling model. In other words, we assume that higher education teaches no job skills at all and has no other benefits for individuals, such as the enjoyment derived from learning or the appreciation of literature and art. Accordingly, education's value is vested entirely in the signal it sends employers. While clearly not an accurate depiction of the value of education, this assumption helps elucidate the dangers of signaling. After clarifying the harms signaling may cause, and when we focus on possible solutions,¹²¹ this assumption will be relaxed. We will then concede that in addition to being a signaling mechanism, higher education may impart skills (for certain occupations more than others) and be valuable for noninstrumental reasons—meaning that even if it is not useful for employment, individuals benefit from higher education. Legal

118. *Id.* at 113.

119. See John O'Mahony et al., *Valuing the Humanities*, 52 AUSTRALIAN ECON. REV. 226, 226 (2019). Admittedly, the results varied greatly by field of study. In technical fields, such as engineering or health, students feel a strong link between what they do and what they studied. Walters, *supra* note 117, at 113.

120. Signaling may have further undesirable social outcomes. For example, it incentivizes schools to teach only what is instrumental in college admission, thereby depriving children of meaningful educational experiences. See Daniel Halliday, *Private Education, Positional Goods, and the Arms Race Problem*, 15 POL., PHIL. & ECON. 150, 151 (2016).

121. See *infra* Part V.

solutions should be tailored to mitigating the negative effects of signaling without preventing the creation of higher education's positive effects. We will address this challenge shortly. First, however, we discuss the social harms of the educational arms race.

A. *Positional Goods and the Educational Arms Race*

Goods are positional when their value depends (at least in part) on how much others have, declining when others have more of it.¹²² In an auction, for example, in order to know whether a person seeking to buy a painting has “enough” money, it is insufficient to know how much money she has. The bidder may have ten dollars and win the painting or \$1,000,000 and fail to win it—it all depends on the other bids. Similarly, votes in a political campaign are positional—what matters is not how many votes a candidate has; in order to win, she must have more votes than the other candidates. “Snob goods”—designer clothes, yachts, diamonds—are also positional because they derive (at least some of) their value from their scarceness.¹²³ Yacht owners attain status through a signaling mechanism: owning a yacht tells society something about its owner's status,¹²⁴ and the signal loses its effectiveness when the good is ubiquitous.¹²⁵

Education, which is the focus of this Article, is a paradigmatic positional good. A local college degree is extremely valuable when all other candidates have only high school diplomas, but if the candidate is competing with an Ivy League graduate, she is unlikely to get the

122. See HIRSCH, *supra* note 16, at 2; Massimiliano Vatiere, *The Institutional Microeconomics of Positional Goods 2* (June 2011) (unpublished manuscript), <https://extranet.sioe.org/uploads/ismie2011/vatiere.pdf>. For the moral ramifications, see Harry Brighouse & Adam Swift, *Equality, Priority, and Positional Goods*, 116 *ETHICS* 471 (2006); Tammy Harel Ben Shahr, *Positional Goods and the Size of Inequality*, 26 *J. POL. PHIL.* 103 (2018).

123. Stan J. Liebowitz & Stephen Margolis, *Seventeen Famous Economists Weigh in on Copyright: The Role of Theory, Empirics, and Network Effects*, 18 *HARV. J.L. & TECH.* 435, 449–50 (2005).

124. Economists sometimes call this kind of consumption “conspicuous consumption” because its value depends on it being visible. See ROBERT H. FRANK, *LUXURY FEVER: WHY MONEY FAILS TO SATISFY IN AN ERA OF EXCESS* (1999); Robert H. Frank, *Should Public Policy Respond to Positional Externalities?*, 92 *J. PUB. ECON.* 1777, 1779 (2008) [hereinafter *Public Policy*]; Robert H. Frank, *The Demand for Unobservable and Other Nonpositional Goods*, 75 *AM. ECON. REV.* 101, 101 (1985); Judith Lichtenberg, *Consuming Because Others Consume*, 22 *SOC. THEORY & PRAC.* 273, 277 (1996); Edward J. McCaffery, *The Tyranny of Money*, 98 *MICH. L. REV.* 2126, 2127 (2000) (reviewing Frank, *LUXURY FEVER*). It has been shown, however, that individuals also care about their absolute level of consumption in regard to positional goods, as well as their relative consumption of nonpositional goods such as insurance and vacation. Francisco Alpizar et al., *How Much Do We Care About Absolute Versus Relative Income and Consumption*, 56 *J. ECON. BEHAV. & ORG.* 405, 405, 417 (2005).

125. See *supra* note 124.

job.¹²⁶ Desirable jobs are limited and competitive, and education is one of the most important factors in the race. A “good” education, or a sufficient one, is therefore wholly relative: “In a society where illiteracy is common, having a high school diploma gives an individual great advantage. However, where many others have college education, the value of high school education diminishes, forcing high school graduates to work in positions that are much less desirable, powerful and lucrative.”¹²⁷

As a result of education’s positional nature, as people acquire education, others must consume more education to obtain the same opportunities that were previously available for less.¹²⁸ The same social positions are now accessible only to individuals who are willing (and able) to accrue higher educational expenses. This process is inefficient because people who do not have an authentic desire for education are forced to consume additional education merely to “keep up.” As is the case in other positional arms races, additional consumption by one party is then matched by all others (or all with the financial ability to compete), so the goal of obtaining relative advantage is frustrated. All participants in the race remain in the same relative position despite their growing investment, and the escalation that ensues is socially wasteful.

The educational arms race could, in principle, “go on endlessly, until janitors need PhDs, and household workers and babysitters will be required to hold advanced degrees.”¹²⁹ And while this is still a distant dystopia, we have certainly reached the point in which many people are overeducated for their jobs.¹³⁰

126. See Harry Brighouse, *Educational Equality and School Reform*, in EDUCATIONAL EQUALITY 15, 30 (Graham Haydon, ed., 2010) (“Whether someone achieves high status or income depends not just on their own talents and what they do with them, but on the design of the social institutions they are lucky, or unlucky, enough to inhabit.”); ADAM SWIFT, HOW NOT TO BE A HYPOCRITE: SCHOOL CHOICE FOR THE MORALLY PERPLEXED PARENT (2003).

127. Tammy Harel Ben Shahr, *Equality in Education: Why We Must Go All the Way*, 19 ETHICAL THEORY & MORAL PRAC. 83, 85 (2016).

128. Education has been described as a prisoner’s dilemma in which less education would be more efficient for everyone, but because of the arms race, everyone chooses a suboptimal course of action, namely, engaging in an educational arms race. Ruth Jonathan, *State Education Service or Prisoner’s Dilemma: The ‘Hidden Hand’ as Source of Education Policy*, 38 BRIT. J. EDUC. STUD. 116, 117 (1990).

129. Randall Collins, *Credential Inflation and the Future of Universities*, 2 ITALIAN J. SOC. EDUC. 228, 235 (2011) (giving examples of educational arms races, one of which is that “in the late Chinese dynasties, massive competition over official degrees kept the gentry studying for exams into their 40s”); Halliday, *supra* note 120, at 155 (describing an educational arms race in South Korea).

130. One might object that there is nothing wrong with being an educated janitor or carpenter—people can enjoy education even if it is not required for their work. We agree this is possible and address this possibility later. At this stage,

B. Signaling Is Inefficient

According to the National Center for Education Statistics, in 2016–2017, the total expenditure of postsecondary institutions in the United States amounted to \$584 billion.¹³¹ Teaching, including faculty salaries and benefits, was the largest expense category, accounting, on average, for more than thirty percent of the total expenditure.¹³²

Michael Spence, who was awarded a Nobel Prize for the development of the signaling theory, constructed a simple model to explain the adverse social effects of signaling.¹³³ In his model, Spence divides the population into two groups according to their productivity level (high vs. low) and argues that both suffer disvalue as a result of signaling.¹³⁴ According to the model, employers set a certain level of education (y^*) as a threshold to differentiate between people with high and low productivity.¹³⁵ Spence argues that even when y^* is optimally defined and serves as the perfect signal to distinguish the highly productive workers from those with low productivity, signaling can be harmful to society.¹³⁶ Higher education, under Spence's basic signaling model, merely sorts individuals according to their preexisting skills; it does not increase the size of the pie, but only determines who gets a larger piece of it.¹³⁷ The enormous investment in education, therefore, has no economic returns—on the contrary, it may render society worse off.¹³⁸ Low-productivity workers are harmed by signaling because it decreases their salary. Signaling separates the highly productive workers from the less productive, so the less productive receive lower salaries than they would if no such separation took place.¹³⁹ The highly productive employees may also be harmed by signaling, despite the fact they are granted higher salaries as a result of their education.¹⁴⁰ Their overall position in terms of cost-benefit may be preferable in a no-signaling world in which they receive lower pay but are not required to spend on education, compared to a signaling world in which their salary is higher but they must incur the costs of acquiring a y^* level of

we assume a pure signaling model, whereby education has no value other than its signaling value.

131. *Postsecondary Institution Expenses*, NAT'L CTR FOR EDUC. STAT., https://nces.ed.gov/programs/coe/indicator_cue.asp (last updated May 2019).

132. *Id.*

133. See Michael Spence, *Job Market Signaling*, 87 Q.J. ECON. 355, 358 (1973).

134. *Id.* at 361, 363–64.

135. *Id.* at 361–62, 364.

136. See *id.* at 362–64.

137. See *id.* at 362.

138. See *id.* at 363–64.

139. *Id.*

140. *Id.*

education. Since signaling is a social fact, highly productive workers have little choice but to incur the costs of education, but they would be better off earning less and being free from education expenses.

Kenneth Arrow, another Nobel Prize laureate, addressed the information benefits that can be derived from education, thereby taking direct issue with signaling.¹⁴¹ As opposed to Spence, who assumes that it makes no difference (in terms of output) who performs which job, Arrow observed that optimal allocation of workers to specific positions is significant for production and therefore has positive social value.¹⁴² Accordingly, signaling may have social value if it improves the allocation of workers.¹⁴³ Arrow shows that even under the assumption that signaling is beneficial in this way, the social benefits from education are limited, and the market equilibrium created as a result of supply and demand of education may be, depending on the level of education costs, Pareto inferior.¹⁴⁴ Individuals who meet admissions criteria and who are able to afford tuition will attend college, but—accounting for education costs—they may earn less than they would have had there been no higher-education signaling at all.¹⁴⁵ Importantly, even if we believe that the ranking of individuals has, in and of itself, informational value that increases output, it is unclear that there is any substantial marginal benefit of an additional year in school. Once people are accepted to college and thereby ranked according to their expected productivity, the marginal social value of each year of actual education may be null.¹⁴⁶

The crucial insight underlying both Spence's and Arrow's arguments is the existence of divergence between the private and social returns from higher education: assuming signaling exists,

141. Arrow, *supra* note 68, at 194.

142. *See id.* at 194, 202.

143. *See id.* at 202.

144. *Id.* at 202–14. Pareto efficiency is an economic concept that compares two possible states (conditions) of the world—A and B. State A will be considered Pareto efficient (or Pareto optimal) to state B when no one is worse off in state A than in state B and at least one person is better off in state A than in state B. Correspondingly, state A will be considered Pareto nonefficient (or Pareto inferior) to state B, when no one is better off in state A than in state B and at least one person is better off in state B compared to state A. For a more elaborate discussion of these concepts in the context of social welfare, see Barry P. Brownstein, *Pareto Optimality, External Benefits and Public Goods: A Subjectivist Approach*, 4 J. OF LIBERTARIAN STUD. 93 (1980).

145. Arrow, *supra* note 68, at 211 (“The complete filter [i.e., a filter that perfectly allocates graduates and nongraduates to their suitable jobs] remains the competitive allocation for higher cost [of education] levels, even up to levels such that everyone is worse off than they would be under no filtering. For still higher cost levels . . . it remains true that under the same informational assumptions made as earlier, everyone is worse off under the equilibrium allocation than they would be under no filtering.”).

146. CAPLAN, *supra* note 3, at 165.

individuals have an incentive to earn a higher degree because it grants them a leg up in the competition for high-paying jobs (and because refraining from obtaining extra credentials is costly). The marginal benefit for the individual from an extra year of schooling is equal to or higher than the marginal costs of obtaining it. Society, on the other hand, earns little from the extra degrees. Excessive education does not influence job performance and does not promote growth.

C. *Educational Arms Races Create Inequality*

In addition to being inefficient, using education credentials as a signal for productivity (and the educational arms race that ensues) aggravates social inequality. Even in an age of significant expansion of higher education, access to higher education remains unequal.¹⁴⁷ While the level of attendance is rising for all Americans,¹⁴⁸ black and Latino individuals are still less likely to obtain higher education than white individuals.¹⁴⁹ Moreover, there are significant disparities in the average quality and market value of the college education available to individuals from different racial and class categories. Black and Latino students are less likely to be represented in top-tier universities¹⁵⁰ and more likely to attend two-year colleges and for-profit colleges that are tied to poor educational outcomes, low

147. ANTHONY P. CARNEVALE & JEFF STROHL, *SEPARATE AND UNEQUAL: HOW HIGHER EDUCATION REINFORCES THE INTERGENERATIONAL REPRODUCTION OF WHITE RACIAL PRIVILEGE* 7 (2013). Since 1995, black enrollment has grown by 73%, Hispanic enrollment has grown by 107%, and white enrollment has grown by 15%. *Id.* at 16.

148. *See id.* at 10. According to some estimates, the rate of college attendance for white students “directly out of high school” is sixty-eight percent, compared to sixty-three percent for black and sixty-two percent for Hispanic students. Mitchell Wellman, *The Race Gap in Higher Education Is Very Real*, USA TODAY (Mar. 7, 2017, 4:15 PM), <https://www.usatoday.com/story/college/2017/03/07/report-the-race-gap-in-higher-education-is-very-real/37428635/>.

149. Wellman, *supra* note 148.

150. As of 2009, black and Latino students comprised only seven percent and eight percent of freshmen at top-tier institutions, respectively. CARNEVALE & STROHL, *supra* note 147, at 19. The growth since 1995 in enrollment of black students has been focused on the less selective institutions, whereas the growth in enrollment of white students has been in the selective sector and enrollment has decreased twelve percent in the open-access institutions. *Id.* at 18–19. A New York Times study in 2015 found that African American students comprise less than six percent of freshmen in elite universities. Jeremy Ashkenas et al., *Even with Affirmative Action, Blacks and Hispanics Are More Underrepresented at Top Colleges Than 35 Years Ago*, N.Y. TIMES (Aug. 24, 2017), www.nytimes.com/interactive/2017/08/24/us/affirmative-action.html. The socioeconomic divide is even more stark: high-income students were overrepresented by forty-five percent “in the most selective institutions.” CARNEVALE & STROHL, *supra* note 147, at 12.

graduation rates,¹⁵¹ and high levels of student debt.¹⁵² Members of racial minorities are also overrepresented in majors that lead to low-paying jobs¹⁵³ and are significantly less likely to complete their studies.¹⁵⁴ Racial disparity persists even among individuals with equal qualifications.¹⁵⁵ And since members of disadvantaged groups are often compelled to work while enrolled in college, they are less likely to be able to engage in nonpaying extracurricular activities such as sports, volunteer work, or internships that enhance the positive signal that attending college sends.¹⁵⁶ Due to these inequalities, higher education's dominant role in hiring decisions exacerbates workplace inequality and reinforces racial and socioeconomic disparity.¹⁵⁷

In addition to the inequalities in the access to quality higher education, the educational arms race entails lengthening the period of expensive and unpaid training that precedes entry into the labor market. The key to accessing desirable positions is endurance—being able to continue education further into adulthood and incur the resulting costs.¹⁵⁸ Tuition is only a small part of the cost of higher

151. General graduation rates from two-year colleges were 39.2%. DOUG SHAPIRO ET AL., COMPLETING COLLEGE: A NATIONAL VIEW OF STUDENT ATTAINMENT RATES BY RACE AND ETHNICITY - FALL 2010 COHORT 2 (2017). For white students the completion rates were higher (45.1%) than for black and Hispanic students (25.8% and 33% respectively). *Id.*

152. Wellman, *supra* note 148.

153. ANTHONY P. CARNEVALE ET AL., AFRICAN AMERICAN COLLEGE MAJORS AND EARNINGS 2 (2016).

154. One study tested graduation rates six years after enrollment in college and found that sixty-two–sixty-three percent of white and Asian students had completed their studies after six years, while only thirty-eight percent of black students and 45.8% of Hispanic students had done so. SHAPIRO ET AL., *supra* note 151. At four-year public colleges and universities, the group with the lowest rate of completion was black men at forty percent; Asian women were the most likely to complete their studies, with a rate of 75.7%. *Id.* According to another study, a staggering fifty-four percent of students drop out of community colleges, which enroll large shares of minority groups. Isabel V. Sawhili, *Higher Education and the Opportunity Gap*, BROOKINGS INST. (Oct. 8, 2013), www.brookings.edu/research/higher-education-and-the-opportunity-gap/.

Reasons for dropping out include inability to pay tuition, demands of family and work, and perhaps most important: lack of college preparation in K–12. *Id.*

155. “More than 30 percent of African Americans and Hispanics with a . . . grade point average (GPA) higher than 3.5 go to community colleges compared with 22 percent of whites with the same GPA.” See CARNEVALE & STROHL, *supra* note 147, at 8.

156. See *id.* at 39.

157. For the possibility that using credentials could constitute workplace discrimination under the disparate-impact clause, see *infra* Subpart V.B.

158. See HIRSCH, *supra* note 16, at 49. Unpaid internships are becoming popular, as are extracurricular activities that intensify inequality because they are possible only for those with financial support from their families. See Richard Breen & Jan O. Jonsson, *Inequality of Opportunity in Comparative Perspective:*

education, which also involves a wide array of indirect costs that are associated with delaying entry into the paid workforce. These costs make the positional arms race an unlevel playing field, especially for those who do not come from privileged families.¹⁵⁹ Indeed, people from underprivileged families not only lack financial support and must fend for themselves, but they are often relied upon to financially support family members.¹⁶⁰

As having a college degree is becoming a prerequisite for a growing number of occupations, the price of being left behind in the educational arms race is rising.¹⁶¹ Individuals who cannot access higher education are barred not only from high-end jobs but from the job market more generally and are facing a shrinking choice of low-paying, menial jobs.¹⁶² The dire outcome of not acquiring a college education is a powerful incentive, inducing people to acquire a higher education even if funding it is almost impossible for them and they have to incur debt to do so.

Since higher education generates financial benefits, people should expect sufficient returns from their investment in education. This should ease our worries about student loans. However, several concerns arise. The first, which we will not discuss in much detail here, involves the fact that people from disadvantaged backgrounds are especially susceptible to predatory loans that pose significant financial risks for debtors.¹⁶³ The second concern is closely linked to the arguments in this Article and involves dropping out of college. People who drop out of college are in an especially vulnerable financial position. Obtaining a diploma has significant financial value, above and beyond education itself (the sheepskin effect).¹⁶⁴ As a result, people who do not complete their studies cannot hope to reap the financial benefits of their education and may face significant

Recent Research on Educational Attainment and Social Mobility, 31 ANN. REV. SOC. 223, 223 (2005).

159. See GARY S. BECKER, HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS, WITH SPECIAL REFERENCE TO EDUCATION 52 (2nd ed. 1975) (noting that an indirect cost of higher education includes the difference between what a person could have earned while in higher education and what was earned); JOSEPH FISHKIN, BOTTLENECKS: A NEW THEORY OF EQUAL OPPORTUNITY 207 (2014).

160. See *supra* note 159.

161. See *supra* Parts II—III.

162. FULLER & RAMAN, *supra* note 109, at 2–3 (stating that degree inflation hurts populations with lower shares of college graduation such as racial minorities).

163. See, e.g., Brandon A. Jackson & John R. Reynolds, *The Price of Opportunity: Race, Student Loan Debt, and College Achievement*, 83 SOC. INQUIRY 335, 335 (2013); Tom Lindsay, *New Report: The U.S Student-Loan Debt Crisis Is Even Worse Than We Thought*, FORBES (May 24, 2018, 11:07 AM), <https://www.forbes.com/sites/tomlindsay/2018/05/24/new-report-the-u-s-student-loan-debt-crisis-is-even-worse-than-we-thought/#56c5dbf3e438>.

164. Tom Wood, *The Sheepskin Effect*, NAT'L ASS'N SCHOLARS (July 30, 2009), https://www.nas.org/blogs/dicta/the_sheepskin_effect.

difficulties in repaying their loans.¹⁶⁵ Further, dropping out of college may negate any positive signal that attending college creates, making the person *less* attractive to employers than if she had not attended college to begin with. Dropping out may signal that the candidate lacks the intelligence, perseverance, or social conformity required to complete college. If so, higher-education dropouts may not receive *any* return on their investment and are unlikely to be able to repay their student loans.¹⁶⁶

People from disadvantaged backgrounds are statistically more likely to drop out of higher education.¹⁶⁷ Financial, educational, and personal difficulties make completing higher education more challenging for them, and the institutions they tend to enroll in allocate fewer resources to offer academic support for struggling students.¹⁶⁸ As a result, the educational arms race places these individuals in an especially risky situation in which they are forced to incur debt and then denied the means of returning it.

V. POSSIBLE SOLUTIONS

From all that has been said thus far, it should be clear that although increasing access to higher education may seem an admirable goal, the expansion is driven by an unjust and inefficient arms race. The rest of this Article examines some potential solutions aimed at reducing the educational arms race: divesting from higher education; banning the use of credentials in hiring decisions; levying a fee on employers who employ overeducated employees; and encouraging lifelong learning and on-the-job-training. As will be explained in detail, we argue against divesting from higher education and in favor of the other three solutions.

A. *Divesting from Higher Education, Taxing Higher Education*

An important element of the problems we identify in the educational arms race is inefficient overinvestment in higher education. Public and private resources alike are invested in education, and both are wasteful, but public investment seems especially irrational. While individuals engaging in the educational arms race benefit from maintaining their relative position, society

165. FEDERAL RESERVE, REPORT ON THE ECONOMIC WELL-BEING OF U.S. HOUSEHOLDS IN 2017: STUDENT LOANS (2018), <https://www.federalreserve.gov/publications/2018-economic-well-being-of-us-households-in-2017-student-loans.htm>.

166. *See id.* Federal loan laws state explicitly that dropping out of college does not excuse debtors. *See Forgiveness, Cancellation, and Discharge*, FED. STUDENT AID -- U.S. DEP'T EDUC., <https://studentaid.ed.gov/sa/node/87> (last visited Sept. 17, 2019).

167. *See* SHAPIRO ET AL., *supra* note 151.

168. *See id.* at 23.

gains nothing.¹⁶⁹ A straightforward solution to the problem would therefore be to divest from higher education; the consequent increase in price will discourage people from obtaining it. If, as Vedder argues, the money spent on education merely fuels the educational arms race,¹⁷⁰ then a reduction in public spending may help create a better-balanced labor market. In order to intensify the disincentive, an education tax could be imposed on students enrolling in college. As a result, fewer college graduates will enter the job market, and fewer individuals will end up working in jobs that do not utilize their education.

Despite the initial economic appeal of reducing public investment in a socially undesirable activity, we do not advocate (further) cutting back the public expenditure on higher education or imposing an education tax. When discussing the perils of the signaling phenomenon, we assumed a pure signaling model. We hypothesized that education gives graduates no skills whatsoever and no noninstrumental benefits. Under this hypothesis, we argued, investing in education is Pareto inferior—harmful to society. However, as we already clarified, a pure signaling model of education is incorrect. Even according to the keenest supporters of the signaling model, education is not completely useless in promoting productivity, and some students do enhance abilities and skills relevant to their future occupations.¹⁷¹ Additionally, even if higher education's instrumental value in terms of work-related skills is for the most part quite negligible, higher education may have noninstrumental benefit for individuals. A college education is often a stimulating and enjoyable experience for students, who acquire knowledge and appreciation of literature, art, and philosophy that can be of ongoing value in their lives unrelated to their work. A cutback in public spending on higher education is not sensitive enough to distinguish between value-enhancing educational activities and wasteful education and will therefore curtail the positive effects alongside the negative ones.

Moreover, one of the main problems with signaling is that it widens social gaps. Signaling advantages those who are able to pay for higher education, giving them access to lucrative jobs while those who cannot afford it are tracked to low-paying, menial jobs. Cutting public funds and imposing a tax will render education even more expensive for students, thus aggravating inequality in access to higher education. The rise in tuition and cut in subsidized loans will create insurmountable barriers for persons with modest means, allowing only the affluent access to higher education and the advantages that follow. Admittedly, the tax could be progressive so

169. See *supra* Part IV.

170. See VEDDER ET AL., *supra* note 99, at 3.

171. See CAPLAN, *supra* note 3, at 218.

that it would not apply to people from low social class; however, this would likely decrease its effectiveness—the rich would simply pay whatever the price, and the poor would not be required to pay at all.¹⁷²

Importantly, divesting from higher education and imposing a tax will not decrease the driving force of the educational arms race—namely, employers' use of education as a signal. As long as employers continue using credentials as their main signal in hiring decisions, acquiring a college diploma will remain exceedingly important. Divesting will merely impair the ability of people from disadvantaged backgrounds to fairly compete in the arms race.

Slowing the educational arms race requires addressing employers' use of education as a screening device. We now offer three possible strategies to do so. The first involves antidiscrimination doctrine, the second imposes a levy on employers, and the third encourages on-the-job-training. Although none of these solutions is perfect, they point in the right direction by reducing the incentives that motivate the educational arms race.

B. *Ban the Educational Credentials Box?*

The driving force that invigorates the educational arms race is the overwhelming weight educational credentials have in hiring decisions. Employers' reliance on educational credentials makes foregoing college (and increasingly, graduate degrees) a very risky choice for individuals in terms of future employment opportunities. Preventing employers from considering credentials in hiring decisions could therefore be an effective solution to the problem. Should the educational credentials "box" be banned?¹⁷³

The educational arms race results in racial and class inequality. Higher education is unequally accessible to people from disadvantaged backgrounds, including people of low socioeconomic status and members of racial and ethnic minorities.¹⁷⁴ When employers use higher education as the primary hiring criterion, racial and class inequality can be expected. This indirect form of inequality could be legally banned using disparate-impact doctrine.

Title VII bars employers from discriminating on the basis of "race, color, religion, sex, and national origin," both directly, by disparate treatment, and indirectly, by using facially neutral actions

172. A tax could also be designed to encourage graduates into certain socially desirable occupations and away from those that are not. For example, graduates working as high school teachers could receive a waiver from the tax, whereas graduates seeking a job in finance would not. This solution, while socially beneficial, would probably be effective only for individuals from disadvantaged backgrounds. The authors thank Dan Halliday for suggesting this point.

173. "Ban the box" is the name commonly used for provisions that prohibit employers from requiring candidates to disclose a criminal record on job application forms. This will be further explained below.

174. See *supra* Subpart IV.C.

that have a disparate impact.¹⁷⁵ The disparate-impact provision, first stated by the Supreme Court in *Griggs v. Duke Power*¹⁷⁶ and later codified in the Civil Rights Act of 1991,¹⁷⁷ consists of a three-part burden-shifting framework.¹⁷⁸ First, the plaintiff must demonstrate that a facially neutral practice has a significant disparate impact on a protected class.¹⁷⁹ Second, the employer can defend the practice by showing that it is consistent with “business necessity.”¹⁸⁰ Finally, the plaintiff may show that a less-discriminatory alternative exists that fulfills the identified business necessity.¹⁸¹

In *Griggs*, the employer used high school graduation and a general IQ test as criteria for hiring workers, which resulted in hiring significantly fewer black workers than would be expected based on their relative numbers in the population.¹⁸² Despite finding that Duke Power did not intend to discriminate (and in fact instituted these criteria to replace a racially discriminatory hiring policy), the Court struck down both practices, stating that they created a disparate impact and were not justified by any defensible business necessity.¹⁸³ Following *Griggs* and subsequent decisions, the use of general IQ tests in hiring decisions has been effectively prohibited.¹⁸⁴ Interestingly, the second hiring practice struck down in *Griggs*, educational credentials, was not discussed in further case law, and

175. Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e-2(a) (2012).

176. 401 U.S. 424, 431 (1971).

177. 42 U.S.C. § 2000e-2(k).

178. 42 U.S.C. § 2000e-2(k)(1)(A).

179. 42 U.S.C. § 2000e-2(k)(1)(A)(i).

180. *Id.*

181. *Id.*; 42 U.S.C. § 2000e-2(k)(1)(C).

182. *See Griggs v. Duke Power Co.*, 401 U.S. 424, 431 (1971).

183. *Id.* at 431–32.

184. *See* Christina O’Connell, Note, *Ban the Box: A Call to the Federal Government to Recognize a New Form of Employment Discrimination*, 83 *FORDHAM L. REV.* 2801, 2808 (2015). Some commentators point to the upsurge in college attendance in the years following *Griggs* and argue that the case explains it—since employers were prohibited from screening for IQ in the workplace, they resorted to checking college completion as a criterion for intelligence because institutions of higher education are allowed to measure intellectual ability. *See* BRIAN O’KEEFE & RICHARD VEDDER, *GRIGGS V. DUKE POWER: IMPLICATIONS FOR COLLEGE CREDENTIALING* 15–16 (2008). They also point to the fact that using higher education as a criterion is worse for minorities than using intelligence tests, so *Griggs* has had the opposite effect than the one intended. *Id.* at 20. Others criticize this stance, stating that the cost of college-educated workers is much higher than the cost of liability for discrimination, so it would be rational for employers to continue using IQ testing instead of moving to college completion. CAPLAN, *supra* note 3, at 89–90. For a general critique of *Griggs* and disparate impact, see Amy L. Wax, *Disparate Impact Realism*, 53 *WM. & MARY L. REV.* 621 (2011) (arguing that IQ tests and educational credentials are fair and valid means of hiring because they are good at predicting success in the workplace, and the reason they cause disparate impact is that there is social inequality that should be dealt with through alternative means).

employers continue to use credentials as a hiring criterion. This omission, we argue, is unfortunate. Using educational credentials for hiring decisions also has unequal racial impact and more often than not cannot be justified in terms of job necessity.¹⁸⁵ And while *Griggs* involved high school graduation, we argue that the same rationale applies to higher-education diplomas.

Before going into the details of this argument, it is worthwhile to take a look at another common hiring criterion that has come under attack through a disparate-impact framework—criminal records. With incarceration rates in the United States soaring and recidivism rates closely linked to unemployment, reintegration of ex-offenders into the workforce has become a crucial social goal.¹⁸⁶ At the same time, a large share of employers ask about criminal offenses in job applications,¹⁸⁷ using it as a screening criterion. The chances of getting a job (or even being invited to an interview) after “checking the box” decrease significantly, even when the offense is not severe, when the ex-offender is rehabilitated, and when the position is not a sensitive one.¹⁸⁸ The disadvantage caused by requiring information about candidates’ criminal record is not race neutral: black and Latino males are disproportionately likely to have been arrested and convicted and to have served prison sentences at some point in their lives, and therefore, the “box” causes racial disparity in hiring decisions.¹⁸⁹

185. See *supra* Subpart V.B.

186. Devah Pager, *The Mark of a Criminal Record*, 108 AM. J. SOC. 937, 938–39 (2003).

187. According to some estimates, as many as two in three employers ask about criminal records. See O’Connell, *supra* note 184, at 2803.

188. See Jessica S. Henry & James B. Jacobs, *Ban the Box to Promote Ex-Offender Employment*, 6 CRIMINOLOGY & PUB. POL’Y 755, 756 (2007). A criminal record reduces the chance of being invited for an interview by fifty percent. See Pager, *supra* note 186, at 955–56. Ex-offenders are also less likely to apply to jobs when they are required to disclose information about their offenses in the application form. Adriel Garcia, *The Kobayashi Maru of Ex-Offender Employment: Rewriting the Rules and Thinking Outside Current “Ban the Box” Legislation*, 85 TEMP. L. REV. 921, 930–31 (2013); Johnathan J. Smith, *Banning the Box but Keeping the Discrimination?: Disparate Impact and Employers’ Overreliance on Criminal Background Checks*, 49 HARV. CIV. RTS. – CIV. LIBERTIES L. REV. 197, 211 (2014).

189. Garcia, *supra* note 188, at 926; Michael Pinard, *President Obama’s Criminal Record Legacy*, 32 CRIM. JUST. 27, 28 (2017). Rates of black and Latino persons having a criminal record stem not only from their higher involvement in crime (social inequality, poverty, lack of opportunity, inferior education and social services, etc. can be responsible for this) but also from police racialized enforcement practices, which include stop and frisk policies, higher enforcement in minority neighborhoods, etc. See, e.g., Jamie Fellner, *Race, Drugs, and Law Enforcement in the United States*, 20 STAN. L. & POL’Y REV. 257, 257, 269–70 (2009); David Rudovsky, *Law Enforcement by Stereotypes and Serendipity: Racial Profiling and Stops and Searches Without Cause*, 3 U. PA. J. CONST. L. 296, 300–01, 307–08 (2001).

Despite seeming suitable for Title VII claims, criminal-record cases have been hard to win, especially in recent years.¹⁹⁰ On the other hand, a nationwide campaign concerning the importance of rehabilitation through employment of ex-offenders has led many cities and states to pass laws that make it illegal to require disclosure of a criminal record.¹⁹¹ “Ban-the-box” provisions differ from one another in various ways, including the types of employers they apply to,¹⁹² the types of criminal records that employers may and may not consider,¹⁹³ and which positions are exempt from the ban.¹⁹⁴ Importantly, ban-the-box laws do not necessarily ban employers from considering candidates’ criminal records at all stages of the hiring process. In fact, most provisions allow it at some stage, but not at the very beginning, in order to ensure that ex-offenders are at least given a chance to make a good impression.¹⁹⁵ Some “ban the box” only in the initial application, others allow considering criminal records after the first interview, and still others allow criminal checks only when a conditional offer has been made.¹⁹⁶

190. See Smith, *supra* note 188, at 202–03. Plaintiffs found success in early cases. See, e.g., *Green v. Mo. Pac. R.R.*, 381 F. Supp. 992, 995 (E.D. Mo. 1974), *aff’d in part, rev’d in part*, 523 F.2d 1290, 1298–99 (8th Cir. 1975); *Gregory v. Litton Sys., Inc.*, 316 F. Supp. 401, 403 (C.D. Cal. 1970), *modified*, 472 F.2d 631, 634 (9th Cir. 1972). However, since the 1980s, most courts have ruled against plaintiffs. Courts have required high levels of evidence to meet the initial burden of showing disparate impact, and have decided that general statistics showing members of minorities have higher rates of criminality are insufficient—specific evidence is needed regarding the place and job involved in the case. *EEOC v. Freeman*, 961 F. Supp. 2d 783, 786 (D. Md. 2013); *EEOC v. Carolina Freight Carriers Corp.*, 723 F. Supp. 734, 750–51 (S.D. Fla. 1989); *Hill v. U.S. Postal Serv.*, 522 F. Supp. 1283, 1302 (S.D.N.Y. 1981). Courts have also accepted the business-necessity defense, especially when the rejection was restricted to certain kinds of criminal offenses. *Carolina Freight*, 723 F. Supp. at 752–53; *Craig v. Dep’t of Health, Educ. & Welfare*, 508 F. Supp. 1055, 1058 (W.D. Mo. 1981); *Richardson v. Hotel Corp. of Am.*, 332 F. Supp. 519, 521 (E.D. La. 1971). Courts have affirmed even in cases involving records of arrests that never ended in convictions. See, e.g., *Clinkscale v. City of Philadelphia*, No. Civ.A. 97–2165, 1998 WL 372138, at *2 (E.D. Pa. June 16, 1998).

191. See Smith, *supra* note 188, at 211–13. In 2015, “thirteen states and fifty-two cities” had such laws, and the numbers are continuing to increase. O’Connell, *supra* note 184, at 2804.

192. See Smith, *supra* note 188, at 213 (explaining that the potential types of employers are public employers, private employers that contract with the city/state, and all private employers).

193. See *id.* at 215 (describing how employers may consider arrests, how recent the offense is, and whether the candidate is a repeat offender).

194. See *id.* at 217.

195. See *id.* at 214.

196. Assuming that at this stage if an employer decides to withdraw the offer, the criminal record is indeed relevant to the job. See *id.* at 214–15; see also O’Connell, *supra* note 184, at 2818–35 (examining the differences in legislation along six axes: which employers are covered; when the check is allowed; what information is allowed to be considered (only incarceration? criminal records

IQ test scores, criminal records, and education credentials are all criteria that when used in hiring decisions result in racial disparity. In many cases, these criteria are not reasonably related to success on the job, and there may be alternative hiring practices that would achieve the same goals and be less discriminatory. As a result, the law (through court decisions and legislation) has declared the first two discriminatory and prevented employers from using them.¹⁹⁷

The same rationale, we argue, applies to higher-education credentials. Higher education, as was demonstrated above, is unequally distributed between white and nonwhite individuals and, therefore, although it is facially neutral, will result in racially disparate hiring decisions. In some cases, credentials conform to a business necessity, redeeming the practice. For example, physicians must attend medical school, and therefore, requiring that credential when hiring physicians should be allowed. For a growing number of jobs, however, this is not the case, and the content and skills taught in college are not directly useful for performance.¹⁹⁸ Requiring college diplomas to access those jobs therefore fails to satisfy the business necessity requirement.

The conclusion is that despite being standard practice, in most cases using higher-education credentials in hiring decisions should be viewed as discriminatory—it disadvantages individuals from minority groups and typically cannot be justified by job necessity. Courts should apply Title VII and disallow using credentials, and states and cities should be encouraged to legislate “ban-the-education-box” provisions to preclude questions about (unnecessary) higher education in job applications.¹⁹⁹ The ban does not necessarily have to be absolute; the provision could merely ban making credentials a prerequisite for certain jobs or allow employers to consider the information only in later stages of the hiring process. Studies show that discrimination is most dominant at the initial stage of the hiring process.²⁰⁰ Being invited to an interview enables a candidate to be seen by the employer as a whole and reduces the

before age 17? etc.); factors considered in the check (relation to the job, rehab, time elapsed, number of offenses); duties after the check; enforcement (who enforces, are employers subject to a civil penalty), and arguing for federal legislation that will unify ban-the-box provisions).

197. See O’Connell, *supra* note 184, at 2804–05, 2808–11.

198. See *supra* Parts II–III.

199. Glenn Harlan Reynolds, *Glenn Reynolds: For True Equality, Ban the College Box*, USA TODAY (June 6, 2016, 12:04 PM), <https://www.usatoday.com/story/opinion/2016/06/06/ban-box-job-applications-college-credentialism-ivy-league-elitism-column/85447420/>. Reynolds argues that without higher education, employers would devise methods of screening that would probably be more closely connected with job performance and more readily obtainable (and therefore more equitable) and less likely to replicate preexisting advantage. *Id.*

200. A 1999 study found that seventy-six percent of discrimination occurs at the initial stage of the process. See O’Connell, *supra* note 184, at 2806.

dominance of any one criterion.²⁰¹ It is possible, of course, that credentials will remain the dominant criterion despite these measures. However, the experience with ban-the-box policies suggests that they can have an effect.²⁰²

It should also be noted that banning criminal-record boxes creates a problem for employers that is absent in the case of educational credentials. Employers are legally liable for harm inflicted by their employees when they were negligent in hiring them.²⁰³ The negligent-hiring cause of action makes hiring people with criminal records risky for employers, and therefore, banning the criminal-record box is especially challenging for employers.²⁰⁴ On the other hand, while employers have an interest in obtaining candidates' educational credentials so they can find the most effective workers, concealing this information does not pose the same risk for employers.

Despite the fact that the disparate-impact rationale applies to the use of higher education credentials as a hiring criterion, it will likely be insufficient on its own to fully contend with the signaling challenge. Several factors account for this. First, courts have been quite reluctant to recognize and widen disparate-impact doctrine.²⁰⁵ This tendency is especially seen in criminal-record cases but is also true generally.²⁰⁶ It is therefore unlikely that courts will prohibit the consideration of higher-education credentials in hiring; it is standard market practice and deemed objective and fair.²⁰⁷ Since society in general thinks of higher-education credentials similarly, it is also highly unlikely that a campaign to legislate "ban-the-higher-education-box" provisions will be as successful as its criminal-record predecessor.

201. The initial pre-interview stage is the stage of the employment process most likely to be negatively impacted by a criminal record. Pager, *supra* note 186, at 948–49. On the other hand, interviews are, in and of themselves, biased against members of minority groups and people from poor backgrounds. *See, e.g.*, Sharon L. Segrest Purkiss et al., *Implicit Sources of Bias in Employment Interview Judgements and Decisions*, 101 *ORG. BEHAV. & HUM. DECISION PROCESSES* 152, 152 (2006) (finding that candidates with ethnic names and accents were "viewed less positively by interviewers").

202. *See* Smith, *supra* note 188, at 211.

203. And employers lose over seventy percent of negligent hiring cases. *See* Garcia, *supra* note 188, at 933, 939.

204. *See id.* at 923 (noting that the tension between negligent hiring liability and the prohibition against considering criminal records is a "legal minefield" for employers).

205. *See* Smith, *supra* note 188, at 203–05, 207.

206. *See id.* at 203.

207. It could be argued more generally that social inequality is to blame for the fact that using educational credentials in hiring decisions has a disparate impact on minority children. *See* Wax, *supra* note 184, at 664–65. If so, efforts should focus on rectifying the cause of inequality rather than employment decisions.

Another challenge concerns the application of the ban. In contrast to a criminal record, which is relatively easy to conceal from a prospective employer, college attendance is extremely conspicuous in a young adult's CV. The telltale signs include a gap between high school graduation and applying for a job, a move across the country, and high school scores that indicate that a candidate has a chance of being accepted to selective colleges. Still, these indirect indications give partial information, at best—they do not impart the identity of the institution and exact length of studies. Banning the educational box could therefore enhance opportunities for individuals who did not attend college, who attended less selective institutions, or who dropped out before completing their degrees.

A more troubling concern involves the unexpected effects of ban-the-box policies on the employment opportunities of black and Latino men. Studies show that contrary to the aim of ban-the-criminal-record-box provisions, they can actually aggravate discrimination against young black and Latino men in employment.²⁰⁸ Lacking information about criminal involvement, employers perform statistical discrimination by using race as a proxy for it.²⁰⁹ In other words, when employers could not ensure that candidates did *not* have a criminal record, they assumed all males belonging to racial minorities were risky hires, and rates of hiring of black and Latino men decreased.²¹⁰ Similar effects have been documented when drug testing was disallowed—employers assumed that black workers were more likely to be involved in substance abuse.²¹¹ Likewise, prohibiting the use of information about higher education may cause employers to look for equally discriminatory back up signals²¹² or even assume that candidates who are members of lower socioeconomic classes and racial minorities are less educated than white candidates, decreasing their chances of being hired. And although using race or ethnicity as a hiring criterion is clearly discriminatory and prohibited, it is extremely difficult to prove intentional discrimination—especially when these attitudes are

208. Jennifer L. Doleac & Benjamin Hansen, *Does "Ban the Box" Help or Hurt Low-skilled Workers? Statistical Discrimination and Employment Outcomes When Criminal Histories Are Hidden* 24–25 (Nat'l Bureau of Econ. Research, Working Paper No. 22,469, 2016).

209. *See id.*

210. With ban-the-criminal-box policies in place, black men were 5.1% less likely to be hired and Hispanic men were 2.9% less likely to be hired. *Id.* at 24; *see also* Amanda Agan & Sonja Starr, *Ban the Box, Criminal Records, and Statistical Discrimination: A Field Experiment* 33 (Univ. of Mich. Law & Econ. Research Paper Series, Paper No. 16–012, 2016) (finding the chances of being called for an interview were reduced sixfold after a ban-the-criminal-box policy was put in place).

211. Abigail Wozniak, *Discrimination and the Effects of Drug Testing on Black Employment*, 97 REV. ECON. & STAT. 548, 548 (2015).

212. *See supra* notes 69–76 and accompanying text.

subconscious. So, while banning the educational-credentials box may decrease incentives for obtaining higher education, it may be counterproductive in terms of educational justice and overcoming race and class barriers.

The shortcomings described lead us to argue that an antidiscrimination framework cannot alone satisfactorily contend with the educational arms race and its negative consequences, and therefore, we offer two additional solutions that will be detailed next. There may, however, be cases in which a Title VII claim would be the appropriate legal means to challenge a hiring policy: when educational credentials are examined early in the process (especially when they are a prerequisite and not merely a consideration); when higher education is especially irrelevant and unnecessary for performing the job; and when the ensuing disparity is severe.

C. *Signaling Fee*

Another possible mechanism to address the educational arms race is a fee levied on employers who hire educated employees when the education is not professionally required.²¹³ We suggest that when an employer hires an employee with a higher level of education than the one required for a certain job, per the Bureau²¹⁴ (we refer to these employees as “overeducated”), the employer should pay a “signaling fee” to the public. The signaling fee is intended to discourage employers from using education as a proxy for productivity. It does not discourage employers from requiring education when education imparts skills needed for the job because it is imposed only upon the hiring of an overeducated worker.

We refer to this payment as a fee, rather than a tax, because a fee (unlike a tax) is tied to the cost of maintaining a certain service (here, education) and its proceeds are typically designated for uses connected to the service rather than added to the general governmental budget.²¹⁵

Imposing the proposed fee can be characterized as a way to contend with “positional externalities,” a concept developed by economist Robert Frank.²¹⁶ According to Frank, a positional externality is created when an individual purchases a positional good,

213. See Michael Spence, *Signaling in Retrospect and the Informational Structure of Markets*, 92 AM. ECON. REV. 434, 439–41 (2002) (explaining how a tax and subsidy system can be used to produce equilibrium when education is used as a signal in the labor market).

214. See *supra* notes 90–99 and accompanying text.

215. Michael Wolfe, *The Differences Between Taxes & Fees*, HOUS. CHRON., <https://smallbusiness.chron.com/differences-between-taxes-fees-17959.html> (last visited May 25, 2019).

216. Robert H. Frank, *Positional Externalities Cause Large and Preventable Welfare Losses*, 95 AM. ECON. REV. 137, 137–38, 140 (2005); *Public Policy*, *supra* note 124, at 1782–83.

thereby altering the value of goods possessed by others.²¹⁷ The negative externality, Frank explains, can be psychological in nature—third parties are less satisfied with the good they possess once someone else has a better good.²¹⁸ However, negative externalities can also have tangible economic effects, as is the case in the educational arms race.²¹⁹ The purchase of higher education by one forces others to purchase it to compete in the job market. It creates social waste without contribution to productivity. To decrease positional externalities, Frank suggests a consumption tax on the purchase of positional goods that will render the goods more expensive, thus forcing buyers to internalize the negative externalities of their consumption and reducing the social “arms race.”²²⁰ Our suggestion concerning the educational arms race is supported by the same logic, but instead of a tax on the consumers of education (the students), we propose imposing a fee on employers.

The signaling fee can be thought of as a “Pigouvian Tax”; that is, a tax designed to address economic activities that generate negative externalities.²²¹ The tax matches the private marginal cost to the social marginal cost, thus forcing the harm-inflicting agent to internalize the social costs of his behavior.²²² As we explained, using education as a signal for productivity misaligns social and private benefits—while it is privately beneficial, it is socially costly.²²³ The signaling fee merges the private and social costs by compelling employers to pay the social costs of the redundant education they demand. It will raise employers’ marginal costs of hiring overeducated individuals and force them to consider the social consequences of using education as a screening tool.

Generally, employers hire employees up to the point where the marginal productivity of the last employee hired reaches its marginal cost.²²⁴ As long as the expected productivity of an additional employee is higher than her salary, the employer will profit from hiring. Levying the suggested fee, however, raises the marginal costs of hiring overeducated employees and therefore prompts employers to

217. *Public Policy*, *supra* note 124, at 1777.

218. *Id.* at 1779.

219. *See id.* at 1781.

220. *Id.* at 1783. This suggestion, however, can be criticized: when a positional good signals status because of its price (a luxury car, a yacht, diamonds), raising its price through a tax may simply make things worse. Being able to consume the product, which is now even more expensive, will send an even stronger signal of wealth.

221. William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307, 307 (1972).

222. *Id.*

223. *See supra* Subpart IV.B.

224. *See* Eric Novinson, *Explain the Relationship Between the Marginal Product of Labor & Marginal Cost*, BIZFLUENT (Sept. 26, 2017), <https://bizfluent.com/info-7888762-explain-product-labor-marginal-cost.html>.

hire fewer such individuals (the reduction in hiring depends on the elasticity of the demand curve).²²⁵ Assuming educated and noneducated employees are substitutable with respect to productivity, the fee will incentivize employers to hire employees whose level of education corresponds to the job's actual requirements instead of overeducated ones, thereby reintroducing a variety of desirable occupations into the range of opportunities available to people who were unable to obtain higher education. Imposing the signaling fee will decrease the demand for unnecessary degrees, so less money will be spent on nonproductive education. Individuals will be able to choose the level of education that reflects their actual preferences when they are not induced to engage in defensive consumption.

Imposing the fee on employers, as opposed to students who are the consumers of education, has several important advantages. First, currently, employers who hire overeducated employees receive a benefit from education—the information it signals—without participating in the cost. The signaling fee forces employers to pay for the good they consume and to internalize the costs the system bears while providing them with this benefit. Second, a signaling fee on employers does not make education more expensive (as a fee imposed on students would); therefore, it does not aggravate inequality between students from different social classes. Finally, this form of tax enables an easy and workable distinction between jobs and occupations for which the employer-mandated level of education is necessary and those for which it is not. Only for the latter will the employer be required to pay a fee. As a result, the fee does not discourage education when it increases job productivity. It also does not discourage persons who are interested in education for reasons unrelated to the workplace—for example, their personal development or intellectual pleasure. Taxing students (the consumers of education) makes little sense because it fails to distinguish between productivity-enhancing and nonproductivity-enhancing education and will inefficiently restrict both. Moreover, as was detailed above, making education more expensive will do nothing to decrease the educational arms race; its sole effect will be to severely increase social inequality, barring access to higher education for people from disadvantaged backgrounds.

The proceeds from fees are typically used in relation to the service for which the fees were charged. In the context of higher education,

225. The elasticity of the demand curve measures the sensitivity of the employer's demand for employees in relation to the cost of employing them (their salary). See generally Carol Wiley, *What is an Elastic or Inelastic Demand Curve?*, HOUS. CHRON., <https://smallbusiness.chron.com/elastic-inelastic-demand-curve-13890.html> (last visited Sept. 17, 2019) (explaining the basic definition of elastic and inelastic demand curves).

the fee can be put toward making higher education cheaper and, therefore, more accessible to individuals from disadvantaged backgrounds. Specifically, we suggest using the funds to aid people who have been disadvantaged and harmed by the educational arms race—people who were forced to incur debt in order to obtain a degree. Additionally, at least in the transition stage, the fee could go toward compensating those harmed by the new rule—people who invested in higher education based on the assumption that it is indispensable for gaining access to a certain class of occupations. For them, the investment was wasteful because the jobs they aimed for can now be accessed without diplomas; therefore, they should be compensated, for example, through subsidies directed at returning student loans.

In this Article, we do not offer an exact calculation of a desirable signaling fee to impose on employers. The fee should, however, reimburse the public for the costs created by signaling.²²⁶ We do not argue that the tax should be equal to the entire public cost of obtaining the degree, because we concede that education does have some value to the public (we do not believe in a pure signaling model). The portion employers should pay is the relative part that signaling represents as opposed to the productivity-enhancing value of an academic degree.²²⁷ It might also be advisable when setting the fee to consider the size of the employer to prevent the fee creating significant disadvantage to small employers.

A possible objection to imposing a signaling fee is the disadvantage that (over)educated individuals may face, at least in the initial time period after the imposition of the fee. If the measure is effective, college graduates will become much less attractive hires in many occupations and may even be at a disadvantage in the competition for jobs. Assuming they have invested time and money in their education, this seems unfair. This is especially problematic when students have accrued debt to fund their studies because loans were taken under the (then accurate) assumption that higher education increases one's income. The signaling fee may change the profitability of higher education and undermine graduates' ability to repay their loans. This concern is most marked in the period of transition, when new circumstances render rational decisions unbeneficial. The plight of these individuals, however, can be addressed using the collected fees. Repaying student loans for

226. The public cost of obtaining a degree is the expense of obtaining a degree financed by federal, state, or local governments budgets, as opposed to tuition. *See supra* Subpart V.A.

227. One possible way of expressing this portion is by using the sheepskin effect, described in Part II. The sheepskin effect represents the premium employers are willing to pay their employees solely for the education signal the employees send (as opposed to their skills), and so it can serve as a proxy (or a minimum boundary) for the portion of the public cost of obtaining a degree that employers should pay. *See supra* Part II.

persons whose education has made them harder to find employment is one possible remedy, and additional remedies must be found. In any case, it seems unadvisable to perpetuate an inefficient and unjust system just because the transition has temporary disadvantages.

D. Encouraging Lifelong Learning

Finally, we propose considering a category of solutions that involve widening our traditional conceptions of education by viewing education as something that occurs throughout one's life, both on the job and outside it. By introducing diversity and flexibility into education, the weight of higher education will decrease in hiring decisions, and consequently, the signaling motivation will recede.

In the past three decades, there has been growing intellectual and practical interest in the idea that learning is not something that occurs exclusively in a designated time and place early in one's life and is later applied in the workplace but rather is an ongoing process that can take place in different contexts and situations.²²⁸ Some view lifelong learning as a necessity rather than a luxury—crucial for workers in the technological era at all career levels.²²⁹ They stress that pre-work formal education (elementary, secondary, or higher education) cannot equip learners with all they need to know in order to prosper throughout their career, and therefore, it is imperative to reconceptualize learning as a process that continues into adulthood.²³⁰

The concept of lifelong learning is used in many different contexts to describe exceedingly diverse practices and does not have one agreed-upon definition.²³¹ The more narrow definitions involve formal courses that include evaluations and grant credentials—a mere “extension of the deliberate and planned educational interventions characteristic of ‘education proper.’”²³² Other definitions include a wider range of informal educational activities, including private tutoring, independent learning, and others.²³³

228. See David N. Aspin & Judith D. Chapman, *Lifelong Learning: Concepts and Conceptions*, in PHILOSOPHICAL PERSPECTIVES ON LIFELONG LEARNING 19, 34 (David N. Aspin ed., 2007).

229. See Manuel London, *Lifelong Learning: Introduction*, in THE OXFORD HANDBOOK OF LIFELONG LEARNING 3, 3 (Manuel London ed., 2011).

230. *Id.* at 3–4.

231. See Aspin & Chapman, *supra* note 228 at 19.

232. *Id.* at 20.

233. *Id.* at 25–26. Some approaches even view lived experiences as having an educative function, and therefore include experience-based personal development within the scope of lifelong learning. Others criticize this “maximalistic” view of lifelong education, arguing that it allows and gives equal worth to practices that have educational value and to those that have none. See *id.* at 27–28 (citing Charles Bailey, who insists that education is “a series of deliberate undertakings to choose some activities rather than others and to make them available as programmes in educational settings, on grounds that they will introduce

Whatever the definition may be, lifelong learning can be closely linked to the workplace. It can be initiated and managed by employers, mandated for promotion or for all workers in a certain position, and delivered either in the workplace (on-the-job-training) or in formal educational institutions chosen by the employer.²³⁴

Used as a tool in the hands of employers, lifelong learning seems far better equipped to realize the aims that human capital theorists attach to higher education, namely increasing productivity. First, lifelong learning is likely to be better tailored to specific jobs, imparting relevant skills and knowledge that workers need to successfully perform their jobs. The continued education improves workers' well-being, thus maintaining motivation and satisfaction.²³⁵ Second, lifelong learning has the potential to help employees keep up with rapid technological changes. Whereas college education is a once-in-a-lifetime experience that might quickly become outdated, lifelong learning ensures that workers keep abreast with developing technology and knowledge.

And indeed, empirical research consistently shows that on-the-job-training increases the productivity of workers.²³⁶ Interestingly, the increase in productivity is not accompanied by an equivalent increase in wages.²³⁷ According to one study, while the productivity premium of on-the-job-training was two to three percent, the wage premium was only one to two percent.²³⁸ This finding is the inverse of what occurs with formal (traditional) higher education, which creates high returns for individuals with a questionable increase in productivity.²³⁹ Clearly, then, on-the-job-training should be incentivized, and reliance on higher education should be discouraged.

individuals to a range of activities and experiences that will enable them to make informed judgements”).

234. The development and proliferation of online learning, and especially massive open online courses (“MOOCs”), in recent years have the potential to transform lifelong learning because they offer unprecedented access to quality higher education to anyone with an internet connection. The possibilities that MOOCs offer for lifelong learning are vast; individuals can independently study in their free time without having to be enrolled in a college or university. See Laura Pappano, *The Year of the MOOC*, N.Y. TIMES (Nov. 2, 2012), <https://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html>.

235. See Chun-Fang Chiang et al., *The Impact of Employee Training on Job Satisfaction and Intention to Stay in the Hotel Industry*, 4 J. HUM. RESOURCES HOSPITALITY & TOURISM 99, 99 (2005); Steven W. Schmidt, *The Relationship Between Satisfaction with Workplace Training and Overall Job Satisfaction*, 18 HUM. RESOURCE DEV. Q. 481, 493 (2007).

236. See JOHN M. BARRON ET AL., ON-THE-JOB TRAINING 115 (1997).

237. See Jozef Konings & Stijn Vanormelingen, *The Impact of Training on Productivity and Wages: Firm-Level Evidence*, 97 REV. ECON. & STAT. 485, 485 (2015).

238. *Id.* at 496.

239. See *supra* Part II.

But despite the productivity advantages, employers currently do not attach the same value to lifelong learning as they do to higher education. Twenty years of studies accentuating the benefits of lifelong learning and on-the-job-training have had little effect on employers' hiring practices, and employers continue to rely heavily on formal educational credentials. Policy reform is, therefore, required to incentivize employers to acknowledge the advantages of lifelong learning in general and of on-the-job-training in particular. Because of the complexity and diversity of the category "lifelong learning," developing a detailed policy within the confines of this Article is impractical. We do, however, point to two broadly defined directions for policy change.

One involves incentivizing employers to implement on-the-job-training. As opposed to formal higher education, the cost of on-the-job-training currently falls entirely on employers; neither employees nor the public participate in the financing. This cost may be great, and employers are often unable or reluctant to spend the required sums, especially when employees can move on to another company that will benefit from the skills they acquired. As a result, on-the-job-training is likely underprovided, to the detriment of employers, employees, and society as a whole. This, we believe, should change. Since the enhanced productivity that results from on-the-job-training affects not only the employer but also the public as a whole, the public should participate in financing it. Given that the public participates in the financing of formal higher education (which has a questionable contribution to productivity), it should also participate in the financing of productivity-enhancing on-the-job-training programs. Such participation can take the form of subsidies, tax abatements, organizational support, or other forms. Trade unions or professional associations can also be recruited to develop training programs or foster cooperation between smaller employers that will make on-the-job-training cheaper for employers.

This solution, like others offered in this Article, is not problem-free. Although some on-the-job-training programs are productivity-enhancing and provide skills that promote social growth, other programs may be of poor quality and provide few public benefits. It may be difficult to discern the difference between good and bad on-the-job-training programs and to decide which programs deserve the public's support. Another problem is that when employers invest more in training their workers, they also tend to be more selective in their hiring policies.²⁴⁰ This makes sense because higher investment in training imposes a higher price on bad recruitment decisions. Selective hiring practices usually increase the reliance on educational credentials, especially because (employers think that) higher-

240. They see more applicants for each position and spend more time with each candidate. See BARRON ET AL., *supra* note 236, at 144–45.

education credentials indicate trainability.²⁴¹ This is also supported by findings that employers invest higher sums in training educated workers.²⁴²

A second direction for reform is to encourage public employers to diversify the kinds of credentials they recognize for promotion and hiring decisions so that they include more lifelong learning credentials (such as massive open online courses, partial degrees, and perhaps even certain kinds of informal education). Practices of lifelong learning offer an attractive solution to the signaling problem highlighted in this Article. By introducing flexibility to the educational landscape, employers may come to value a wider range of educational practices instead of viewing college as the sole valuable option. Like the signal of formal higher education, lifelong learning is a robust signal as it indicates not only the candidate's cognitive abilities but also some character traits that are highly appreciated in the labor market. Learning on one's own is even more demanding in some ways than is meeting the fairly structured and guided requirements of college. In order to engage in lifelong learning, individuals must take initiative and be self-directed, independent, and highly motivated. Once public employers enjoy positive experiences from incorporating lifelong learning in their hiring practices, private employers are likely to follow suit.

But, while encouraging on-the-job-training may be feasible through tax incentives or subsidies, it is less clear how employers can be encouraged to recognize the value of informal education that employees acquire outside the workplace, even when it is indeed valuable. As alluded to above, the diversity of courses and suppliers make this signal ineffective for employers, at least unless there is some kind of professional accreditation agency that evaluates and regulates these educational options or until a positive reputation has been achieved by specific institutions.

VI. CONCLUSION

This Article brings to the fore the disastrous effects of the educational arms race. Although it is widely celebrated, the expansion of higher education is distorting the labor market and is socially wasteful. And although for certain disadvantaged individuals going to college is immensely beneficial, overall the educational arms race increases inequality and makes people from marginalized communities worse off than they would be if the educational arms race were slowed. Unfortunately, the educational arms race is surprisingly durable, and years of empirical studies showing its inefficiency have done little to counteract it. Using the

241. See *supra* Subpart III.A.

242. See BARRON ET AL., *supra* note 236, at 142–43.

knowledge and insights of social scientists, this Article harnesses legal strategies and doctrines to alleviate the educational arms race.

The challenge of slowing the educational arms race is a complicated one. While we argue that the suggestions detailed above can be effective, each has its limitations. Therefore, only a combination of several different measures can begin to reverse the processes created by using educational credentials as signals of productivity. In order to weaken the motivation for gaining higher education, we suggest imposing a fee on employers when they hire overeducated workers. This will make hiring overeducated workers more expensive and revive access to occupations for persons without a college degree. Discouraging employers from hiring overeducated workers should be coupled with measures meant to diversify the types of education that are valued by the job market. Viewing education as a lifelong project that involves a variety of experiences including on-the-job-training may decrease the reliance on higher education as the sole signal for employers. This will enhance educational practices of the kind we *should* value—namely, those that enhance productivity or otherwise enrich people’s lives—and will reduce the frantic rush for degrees that is counter to many people’s authentic preferences and employment needs. In severe cases, when unjustified requirements for credentials create significant racially disparate hiring decisions, such practices should be challenged under Title VII’s disparate-impact clause. In addition to serving justice in specific cases and deterring employers from requiring unnecessary educational credentials, this measure may raise awareness of the unfairness of using educational credentials as a proxy for productivity.