

**THE UNEQUAL DISTRIBUTION OF ECONOMIC EDUCATION:  
A REPORT ON THE RACE, ETHNICITY, AND GENDER OF ECONOMICS MAJORS  
AT U.S. COLLEGES AND UNIVERSITIES**

*Short title for running header:* Unequal Distribution of Economic Education

Amanda Bayer<sup>a</sup> and David W. Wilcox<sup>b</sup>

<sup>a</sup>Department of Economics, Swarthmore College, Swarthmore, PA, USA; <sup>b</sup>Federal Reserve Board, Washington, DC, USA

*Abstract:* Economic education is distributed unequally. Among U.S. undergraduates, women and underrepresented minority students collectively major in economics at 0.36 the rate that white, non-Hispanic men do. The authors establish a definition of full inclusion in economic education and use that definition to evaluate the status quo and to compare institutions. A companion resource, hosted by the Federal Reserve Bank of New York, provides interactive access to the data to attract and inform the attention of economists, university administrators, and others. The authors explain why the need to improve the distribution of economic education is urgent, including the imperative to support economic policymaking. Lastly, they point the way forward, identifying currently available resources and reasonable next steps for all involved parties to take.

*Keywords:* ethnicity, gender, inclusion, race, undergraduate economic education

*JEL codes:* A2, I2, J15, J16

---

Contact: Amanda Bayer; [abayer1@swarthmore.edu](mailto:abayer1@swarthmore.edu); Professor, Department of Economics, Swarthmore College, 500 College Avenue, Swarthmore, PA 19081, USA

The authors thank, without implicating, Steve O'Connell, Lucie Schmidt, Robin Shores, Melynda Wilcox, the students in Economics 73 at Swarthmore College, and two anonymous referees for helpful comments on earlier drafts; and Morgan Smith and Bo Yeon Jang for expert research assistance. No funding for this article has been received by either author.

*Note:* The views expressed here are those of the authors, and may not be shared by the members of the Board of Governors of the Federal Reserve System or the other members of its staff.

In 2015, 38,949 students graduated with a major in economics from a bachelor's degree program at a U.S. college or university. Fewer than one-third of those students were women or members of racial or ethnic groups historically underrepresented in the U.S. economy, despite those groups collectively representing nearly two-thirds of graduates that year.<sup>1</sup> Put differently, collectively, women and underrepresented minority students majored in economics at 0.36 the rate that white, non-Hispanic men did.

Through this article, we aim to advance a national conversation about who is being trained in economics at the undergraduate level in the United States. The field of economics involves disproportionately few women, African Americans, Hispanics/Latinos, and Native Americans, relative both to the overall population and to other academic disciplines, even STEM (science, technology, engineering, and math) fields (Bayer and Rouse 2016). We document the stark and pervasive underrepresentation of women and racial/ethnic minority groups among undergraduates majoring in economics. We develop an inclusion metric to compare institutions and track progress, and we offer motivation and direction for change in undergraduate economics. We also introduce a new online resource, created in 2018, “Who is Being Trained in Economics? The Race, Ethnicity, and Gender of Economics Majors at U.S. Colleges and Universities” (New York Fed n.d.) available at the Federal Reserve Bank of New York's Web site, which provides interactive access to the dataset underlying the empirical portion of this article and allows users to generate scorecards for specified individual institutions.

The imbalances that we document in the field of economics are troubling for a variety of reasons. Certainly, colleges and universities should provide all enrolled students with a complete education and a fully inclusive academic experience. The evidence this article presents on the current imbalances in undergraduate economics education, and on how those imbalances can be

reduced by altering environments and practices, indicates that institutions are not yet meeting that standard. Moreover, as the evidence reviewed in the third section of this article suggests, broad representation in economics is important because it contributes to individual and collective successes beyond college and university campuses. At the individual level, students in their professional, personal, and civic lives benefit from having a solid background in economics. At the societal level, the determination of government policy is routinely and unavoidably affected by the identities and experiences of those who study economics; when those identities and experiences are broadly representative, all of society stands to benefit.

The first section of the article provides an overview of the distribution of economic education, examining the gender and race/ethnicity of recipients of the economics bachelor's degrees awarded by colleges and universities in the United States. In the following section, we establish a definition of full academic inclusion and use a corresponding index to summarize the distribution at each institution. In the subsequent section, we make the case for why the unequal distribution of economic education is an urgent problem that warrants energetic and organized remediation. In the fourth and final section, we make recommendations to undergraduate instructors and mentors, textbook authors, department chairs, university and college administrators, employers, foundations, the American Economic Association, and students for reasonable next steps toward a more equitable and efficient allocation of economic education.

### **THE DISTRIBUTION OF ECONOMIC EDUCATION: THE STATUS QUO**

This section summarizes the representation of women and minorities in undergraduate economics nationwide. We focus on demographic groups that have been historically underrepresented in the economy and in the economics profession: women, African Americans, Hispanics/Latinos, and Native Americans. We assess whether economics departments draw

representative slices of their campus-wide populations, but important questions of college access and degree completion lie beyond the scope of our enquiry.

Table 1 presents an overview of the characteristics of undergraduate students earning bachelor's degrees at four-year, not-for-profit private and public colleges and universities in the United States during the five-year period from 2011 to 2015.<sup>2</sup> As seen in the first column, 57.3 percent of all graduates during this period were women and, as seen in the second column, 19.9 percent were “underrepresented minority,” or URM, students, an aggregate that includes black or African American, Hispanic or Latino, and Native American students.<sup>3</sup> In contrast, 31.3 percent of students with first or second majors in economics were women and 11.8 percent were URM students. The remaining entries in table 1 provide a more detailed breakdown of the gender and race/ethnicity of all graduates and of those in economics.

[Insert table 1 about here]

When departments evaluate the demographic makeup of their majors, a common approach is to look at the proportions of economics majors from various groups and compare those proportions to a parallel categorization of the overall student body, similar to the analysis in table 1. However, when tracking multiple groups, share data can be misleading because one group's representation in economics, such as that of Hispanic men, may appear relatively strong due not to that group's high participation in economics but to the extremely low participation of members of another group, such as Hispanic women.<sup>4</sup> Thus, to learn about the effectiveness of economics departments in attracting a diverse representation of the campus-wide population, we focus on the rates at which different groups of students graduate with a major in economics.

Table 2 presents the rates at which different groups of students graduate with a major in economics, with each entry in the table representing economics majors as a percentage of all

graduates in a particular demographic category during the five-year period. Women and students from historically underrepresented race/ethnicity groups graduate with a major in economics at distinctly lower rates than do their counterparts. The pattern is observed both in aggregate and within gender and race/ethnicity categories. For example, among whites, 3.0 percent of men graduate with a major in economics, whereas only 0.8 percent of women do. Among underrepresented minorities, 2.2 percent of men graduate with a major in economics, compared with 0.6 percent of women. Similarly, among both men and women, whites major in economics at higher rates than do URM students.

[Insert table 2 about here]

The gender differences are particularly striking, with men majoring in economics at roughly three times the rate of women, and appear consistently within all race/ethnicity and citizenship categories. Among U.S. citizens and permanent residents, students categorized as "Asian" appear to have relatively strong participation in economics. The distribution of students across institutions accounts for some of this pattern; for example, about one-third of white graduates attended schools that do not produce majors in economics, while only one-sixth of Asian graduates did. Even though the focus of the current article is on historically underrepresented minority groups as commonly defined (black, Hispanic, and Native American), it is important to acknowledge the inability of our data to capture the vast disparities within the Asian-American population and to remind ourselves to avoid racialized notions of culture (Lee and Zhou 2015). Likewise, data limitations prevent meaningful analysis of multiracial undergraduates' propensity to major in economics.<sup>5</sup>

The three panels in figure 1 depict patterns across individual institutions by plotting, respectively, the rates at which white women, URM women, and URM men graduate with a

major in economics against the rate at which white men graduate with a major in economics. If students from each group attained majors in economics at equal rates, campus by campus, all data points would lie on the 45-degree line in each figure. In fact, however, the underrepresentation of women and URM students in economics is stunningly pervasive: on most college campuses, economics majors are disproportionately men (546 of 550 institutions) and white (402 of 563 institutions). Simple trend lines drawn through the points have slopes distinctly less than 1: 0.33 for white women, 0.25 for URM women, and 0.72 for URM men. At every institution in the nation where more than about 3 percent of white men graduate with a major in economics, white women graduate with a major in economics at a lower rate. URM women are similarly underrepresented at almost every institution. The underrepresentation of URM men is less stark than it is for either white women or URM women, but still notable. These institution-level plots demonstrate that some schools are more successful than others at drawing women and URM students into the economics major—although none can claim to be fully successful—and we document and describe that variation more extensively in the next section of this article.

[Insert figure 1 about here]

Sometimes, economics faculty who teach at schools that do not have business programs respond to data like those shown in figure 1 with the hypothesis that the underrepresentation of women and URM students in their departments is due to the presence of would-be business majors—assumed to be mostly white men—leading to disproportionately many white men majoring in economics.<sup>6</sup> Interestingly, we also hear claims in the opposite direction from colleagues at institutions that do offer undergraduate business majors; these colleagues argue that the business major disproportionately draws capable women and URM students away from the

economics department, again leaving an economics major with disproportionately many white men. We repeated the exercise shown in figure 1, stratifying by whether the institutions do or do not offer an undergraduate business major. The pattern of underrepresentation in economics for women and URM students exists in both sets of schools.<sup>7</sup>

The next section presents institution-specific statistics to characterize the distribution of economic education at each institution.

### **ESTABLISHING A STANDARD OF FULL ACADEMIC INCLUSION**

In this section, we develop and use a metric to gauge the inclusiveness of economics departments and to facilitate comparisons across schools, time, and disciplines. The metric we develop is consistent with a widely shared understanding of inclusive excellence in higher education. As stated by the Board of Directors of the Association of American Colleges and Universities (AACU 2013):

To make excellence inclusive, our society must break free of earlier views that an excellent liberal education should be reserved for the few...Increasing college access and degree completion for all is necessary but insufficient to foster the growth of an educated citizenry for our globally engaged democracy. We need to define student success not exclusively as degree attainment, but also as the achievement of the primary goals of liberal education...Making excellence inclusive means attending both to the demographic diversity of the student body and also to the need for nurturing climates and cultures so that all students have a chance to succeed...Seeking inclusive excellence requires reversing the current stratification of higher education and ensuring that all students develop capacities to prosper economically, contribute civically, and flourish personally...Without inclusion, there is no true excellence.

According to this standard, excellence requires identifying barriers to the full inclusion of all students and reversing stratifications that exist in higher education. Note that even longstanding gendered or racial patterns of participation in academic study and occupation are reversible (e.g., Klawe 2017; Hsieh et al. 2013).

To develop a measure of academic inclusion, we must establish a benchmark that represents the ideal described above. We define full academic inclusion as being achieved when members of all demographic groups major in a field such as economics at equal rates,<sup>8</sup> and we construct an index that compares the rates at which students in various groups graduate with a major in economics. In particular, our Economic Education Inclusion Index (EEII) is calculated as the unweighted average of underrepresented groups' rates of majoring in economics relative to the rate at which white men major in economics:

$$EEII = 100 * \text{average} (WFrate, BFrate, BMrate, HFrate, HMrate) / WMrate,$$

where WFrate, BFrate, BMrate, HFrate, HMrate, and WMrate are the rates at which white women, black women, black men, Hispanic women, Hispanic men, and white men, respectively, major in economics. We choose (non-Hispanic) white men as the reference group because they make up the largest number of PhD economists in the United States and because their rate offers a consistent measure of the scale of the economics major at each school.<sup>9</sup> Possible values range from zero, for no inclusion, to our target value of 100, for full inclusion. Index values in excess of 100 are possible and, in a few rare cases, observed.<sup>10</sup>

This formulation, while certainly not the only way to construct a measure of inclusion, has several desirable attributes. It is scale- and composition-invariant and thus allows us to compare colleges and universities of different sizes and with different mixes of student populations. By isolating in the denominator the rate at which white men major in economics,



the index does not impose symmetry, as familiar measures of inequality such as the Gini coefficient do, but rather clearly indicates whether an institution replicates or resists the national pattern on average. In the numerator, it tracks each major race/ethnicity by gender subgroup separately, recognizing the different experiences of members of groups with intersecting race/ethnicity and gender identities, and with equal weight, so that progress towards the inclusion of all groups is rewarded.

The EEII measure does, however, get noisy when a demographic group has only a small number of members across all BAs/BSs. For this reason, the overall index does not include Native American student rates. The noisiness caused by small groups also clouds comparisons across institutions. Thus, we offer the EEII not as a final pronouncement on a department's inclusiveness but as a summary measure designed to provoke closer inspection. That inspection should start with an examination of the rates at which students in each demographic subgroup major in economics, which we also present in the tables online and in this article.

Of course, the EEII formulation also raises some philosophical and practical questions, which we address briefly here and more closely later in the article. First, achieving the goal of full academic inclusion in economics would affect the mix of students elsewhere on campus; students who are underrepresented in economics must indeed be overrepresented in other departments. Extrapolating from the evidence we cite in the next section, we speculate that most, if not all, disciplines would benefit from additional diversity. Second, increasing academic inclusion would not necessarily increase the size of economics departments, many of which are already relatively large on their campuses, because proportionate representation as portrayed by the EEII can be achieved through a decrease in the denominator as well as through an increase in the numerator. With better outreach and inclusion, other departments could attract more white

men even as economics departments attract more students of other descriptions. And, third, increasing academic inclusion is indeed possible—current patterns in the choice of major are not merely the result of student "preferences"—but requires changing faculty and institutional habits. The variation in the rate at which members of underrepresented groups major in economics across colleges and universities is just one indication that curricular experiences and the departmental environment influence students' decisions.<sup>11</sup> We present additional evidence in the recommendations section.

Table 3 presents average inclusion index values for all institutions offering majors in economics and for various subsets of institutions, along with the corresponding rates at which various groups of students graduate with a major in economics.<sup>12</sup> It is striking how unsuccessful economics departments are, in the aggregate, in attracting a representative slice of the campus population to the major. The average institution has an EEII value slightly greater than 50, indicating that the typical institution's economics department is operating halfway between full inclusion and the complete exclusion of women and historically underrepresented racial and ethnic groups.<sup>13</sup> Universities with top-40 economics PhD programs and top-50 liberal arts colleges are both below average in inclusiveness. Together, these two groups of otherwise elite institutions account for almost half (43 percent) of all graduating economics majors. In contrast, universities with economics PhD programs outside the top 40, have higher EEII values on average.

[Insert table 3 about here]

An interactive Web site, "Who is Being Trained in Economics? The Race, Ethnicity, and Gender of Economics Majors at U.S. Colleges and Universities," (New York Fed n.d.) presents detailed data and EEII values for each college and university in the United States. The Web site

allows users to compare the performance of institutions and generate printable scorecards. It is hosted by the Federal Reserve Bank of New York and available at

<https://www.newyorkfed.org/data-and-statistics/data-visualization/diversity-in-economics>.

Some economics departments are substantially more successful than others in graduating economics majors from all groups, while other institutions, even those with diverse student bodies and otherwise excellent economics departments, exhibit dramatic underrepresentation of women and minority students among the ranks of their economics majors. Comparisons across institutions do need to be approached carefully because index values can be affected by factors outside a department's control and by the noise that can occur when there are small numbers of students in subgroups. Nevertheless, the EEII can be a starting point for closer inspection of the statistics that go into the summary index and of the myriad factors that are well within the control of departments and administrations.

As table 4 documents, members of a given underrepresented group major in economics at widely different rates across institutions. The within-group variation supports the idea that local environment influences outcomes. Readers can explore this idea further using the interactive Web site to compare rates and EEII values within groups of similar schools, such as those with top-40 PhD programs or that are top-50 liberal arts colleges; the students at these schools are fairly similar at the time of admission, but end up with fairly different experiences in economic education.

[Insert table 4 about here]

To put some perspective on the disparities in undergraduate economics, figure 2 shows the rates at which students in various groups graduate with majors in economics in comparison to those in mathematics and statistics, across the United States over the last 15 years. There is no

evidence of meaningful progress toward improved representation of either women or URM students in economics. In fact, the rate of majoring in economics among men edged up, on net, from about 2.5 percent in 2001 to about 3.1 percent in 2015 while the rate of majoring in economics among women drifted further below 1 percent, leading to a slightly worse imbalance in the gender composition of economics majors. The rate of majoring in economics among URM men is closer to, but consistently below, that of white men.

[Insert figure 2 about here]

A common speculation is that the underrepresentation of women and URM students among economics majors might reflect differential rates of math literacy or comfort. The data summarized in figure 2 do not support that conjecture. Throughout the period, differences in the rate of majoring in math or statistics across demographic groups are distinctly smaller than in economics. Indeed, white women major in mathematics at higher rates than they do in economics, despite math being a less common major overall, and URM women major in the two fields at about the same rates in recent years. As a result, gender representation is considerably better among math and statistics majors than it is in economics. Indeed, most recently, in 2015, women earned only about 28 percent of undergraduate majors in economics, while earning 43 percent of undergraduate majors in math.

Table 5 provides estimates of the aggregate impact of the disparities. The first row of the table presents the average number of economics majors, by gender and race/ethnicity, graduating each year in the United States. The second row presents the number of additional students in each group who would have graduated with a major in economics if all groups had majored in economics at the same rate as white men do. Taking as given the existing composition and distribution of undergraduates at U.S. colleges and universities, if women and URM students

were majoring in economics at the same rate as white men are, there would be 18,000 additional women and, with double-counting, 6,000 additional URM students graduating with bachelor's degrees in economics every year.<sup>14</sup>

[Insert table 5 about here]

The dearth of women, black, Hispanic, and Native American PhD economists is a direct result of the missing undergraduate economics majors from these groups. Improving the representation of women and racial and ethnic minorities at the undergraduate level would very likely improve demographic balance at the PhD level (Mora 2012).

### **THE DISTRIBUTION OF ECONOMIC EDUCATION: A CALL TO ACTION**

Broad distribution of economic education is critical to individual and collective success on and beyond college and university campuses. The large disparities in undergraduate economic education affect the employment outcomes of individual students. Careful research shows that the study of economics is good preparation for a variety of careers and that large monetary premiums exist for graduates with business and economics majors even after controlling for selection (Black, Sanders, and Taylor 2003; Arcidiacono 2004). Research also suggests that differences in college major are an important cause of the gender pay gap (Black et al. 2008) and may help explain why, in 2016, black women with a bachelor's degree earned just 59.6 percent of what white men with the same level of education made (Matthews and Wilson 2018).

Education also brings significant nonpecuniary returns, in the form of improved health, happiness, civic participation, and intergenerational benefits (Oreopoulos and Salvanes 2011), and economics education in particular can facilitate better decision making, build understanding of policy issues, enhance intellectual exploration of the world, and prepare students for further study in economics.

At the societal level, the identities and experiences of those who study and practice economics affect the creation of economic knowledge and the determination of government policy; when those identities and experiences are broadly representative, all of society stands to benefit.<sup>15</sup> Economics itself is endogenous to whoever is practicing it: the problems that are deemed to be most important, the papers that are published in the most prominent journals, the individuals who are tenured at the most prestigious institutions, and the policy options that are developed and implemented all plausibly depend on the identity and characteristics of those who are driving each of these actions. In short, the identities of the incumbents matter. If white men are disproportionately left in charge of the field, then the profession is likely to see one particular set of problems as demanding most attention and is similarly likely to see one particular set of solutions as providing the most compelling remedies to those problems. Changing the identity of who is participating in the policy process is likely to change both the problems that are seen as important and the solutions that are seen as most promising.

The view that economics depends on whoever is practicing it has empirical grounding. For example, a 2012 survey of members of the American Economic Association (AEA) found that women PhD economists were markedly more likely than their male counterparts to favor requiring employers to provide health insurance to their full-time employees; making the tax system more progressive; and linking import openness to the labor standards of trading partners (May, McGarvey, and Whaples 2014). Women were much more likely than men to disagree with the statement that “job opportunities for men and women in the United States are currently approximately equal” and were also vastly more likely to disagree with the statement that “the gender wage gap is largely explained by differences in human capital and voluntary occupational choices.” And women were more likely than men to see “graduate education in economics in the

United States currently” as favoring men more than women. None of this is to say that women’s views are better than men’s, or the other way around. The point is that they are different and that it is important that all perspectives be represented. Similar concerns derive from the underrepresentation in economics of blacks, Hispanics, and other racial groups. An examination of published work by economists documents the collective inattention of the field to the critical social phenomenon of racism; just 1 percent of economics articles mention the phenomenon, while other social science disciplines discuss it at two to five times that rate (Bayer 2018).

Diversity is also important in policymaking environments. Like many other policymaking organizations, the Federal Reserve strives to create a team-oriented, collaborative environment, often combining professionals with different specialties such as economists, attorneys, and persons with backgrounds in the examination and regulation of financial institutions. However, it is important that the professional environment exhibit diversity and inclusiveness not just in terms of professional training but also in terms of race, ethnicity, gender identity and expression, socioeconomic status, and all the other characteristics that define individuals as who they are.

Ample research documents that diverse teams generate more robust decisions and higher quality outcomes (Bayer and Rouse 2016; Rock and Grant 2016). Diverse teams include members who offer different facts and perspectives, who challenge one another’s evidence, and who challenge their own assumptions, and so together they are capable of thinking of possibilities that might escape the imagination of homogenous teams. Interestingly, members of diverse teams may not particularly appreciate being part of such a team, but they do a better job advancing the mission of the overall organization.<sup>16</sup>

These research findings underscore the importance of cultivating diversity and inclusion in economic policymaking environments. For an agency like the Federal Reserve, where the

practical consequences of decisions can be profound, it is imperative that the agency has access to the full energy, talents, and perspectives of all segments of the population.

Thus, full academic inclusion on college campuses, and in economic education in particular, is important both to the quality of the immediate environment and to the construction of economic knowledge and policy. The research documenting the productivity dividend generated by diverse teams supports the view that a proportionate allocation of students across majors should be taken as the default starting point for discussion at each institution; just as in portfolio theory in the field of finance, optimal diversification would seem to prevail when each academic department holds a representative slice of “the market” in its corps of majors. While we do not deny that more diversity and inclusion might benefit any discipline or occupation, economics is especially in need of urgent attention and action. In the next and final section, we point the way forward.

## **RECOMMENDATIONS**

We are far back in the queue of people who have recognized that representation in the field of economics urgently needs to be improved. Many of those ahead of us in line have responded to that recognition by investing enormous time and creativity in devising remedies. Our catalog of recommendations is based on our reading of the research coming out of economics and other academic disciplines identifying effective means to increase academic inclusion. The good news is that there is compelling evidence that changes in faculty practices and institutional arrangements can alter departmental environments in ways that successfully and significantly broaden participation across race/ethnicity and gender lines. As a ready example of a success story, through a focused array of interventions, Harvey Mudd College quadrupled its number of women computer science graduates in five years and now has near gender parity in computer



science, the STEM field that awards the lowest percentage (17 percent) of undergraduate degrees to women nationwide (Klawe 2017).

Nevertheless, our list of recommendations is imperfect. We doubtless inadvertently omit some worthy initiatives. And while not all of the creative and well-intentioned steps described here have been subjected to rigorous evaluation, even fewer of our profession's status quo procedures are based on evidence. STEM faculty have been more intentional about implementing and evaluating innovative approaches to broadening participation in their fields, and many of them have made meaningful progress toward diversifying their ranks. We encourage all stakeholders in the economics profession to adopt, and then improve upon, the recommendations listed below.

### **Steps for Undergraduate Instructors and Mentors to Consider**

A convincing body of evidence, summarized in Bayer and Rouse (2016), suggests that classroom environment and faculty choices contribute heavily to determining whether women and URM students see economics as a field that is relevant to them and whether they see the economics department as a place where they want to devote a substantial portion of their time and energies. Even in the friendliest classrooms, implicit associations can bias instructor behavior without awareness or intent, and seemingly neutral practices and decision rules can systematically disadvantage students who are members of traditionally underrepresented groups. Therefore, our foremost request of classroom instructors is that they recognize their sway over the situation. They have the ability and the responsibility to create an encouraging environment, to examine the unintended consequences of their own behavior, to overcome misperceptions about the field that students bring to campus with them, and to reconsider every aspect of their interactions with students, from textbook selection to class time usage to office hours scheduling and advising.<sup>17</sup>

To help faculty members to understand their influence and to take concrete steps to draw a more diverse group of students to economics, one of us in 2011 founded the Web site Diversifying Economic Quality, abbreviated Div.E.Q (Bayer 2011). Now sponsored by the American Economic Association's Committee on the Status of Minority Groups in the Economics Profession, Div.E.Q. is a wiki offering evidence-based approaches to making economics classrooms and departments more welcoming to all.<sup>18</sup> The site, which can be accessed at [DiversifyingEcon.org](http://DiversifyingEcon.org), outlines the steps, and the research behind those steps, which economists can take to improve practices inside and outside the classroom and in departments overall.<sup>19</sup> Better teaching helps all students but is particularly effective in attracting and retaining students who do not have the benefit of prior training or encouragement in economics.

Bayer and Rouse (2016) highlight several key evidence-based practices for instructors to adopt. They emphasize the importance of instructors and students holding a growth mentality that values hard work, making mistakes, and perseverance, and that reorients effort from weeding and sorting to teaching and learning; they provide specific strategies for reducing stereotype threat, a factor that may otherwise debilitate the performance of both women and minorities in economics classrooms; and, they note that “active learning increases exam scores and decreases failure rates relative to traditional lecturing, with particular benefit for students from disadvantaged backgrounds and for women in male-dominated fields” (p. 234). To counter unconscious biases, Bayer and Rouse recommend crowding out inequities, such as those documented by Milkman, Akinola, and Chugh (2015), with affirmations, listening, and opening doors to opportunity.

Mentorship is one essential part of the educational process. Unfortunately, privileged students almost by definition have easier access to mentorship and role models than do other

students. One remedial step is for instructors to think intentionally about the implications for diversity and inclusion of the mentorship that they provide. Mentorship most often happens in the course of ordinary academic life, and connecting with students who may otherwise perceive themselves as being on the margins can be powerful. Even in resource-constrained departments, economics faculty can provide students with information about the external programs described in this article and can be intentional about how they distribute existing research and teaching opportunities. The selection of teaching assistants is particularly important because it affects both the students who are chosen and those who see them at the front of the classroom. Peer mentoring is another mechanism successfully deployed in other disciplines; in economics, Swarthmore College is piloting its “Visible Hands in Economics” program, in which more experienced students support student learning and engagement in introductory economics. As described here and later in the article, foundations can be willing to fund targeted initiatives on individual campuses.

At New York University’s Stern School of Business, Dean Emeritus and W. R. Berkley Professor of Economics and Finance Peter Henry implements a particularly far-reaching form of intentional mentorship through his “PhD Excellence Initiative” (Henry n.d.). Established as a post-baccalaureate research fellowship program with support from the Alfred P. Sloan Foundation, the Initiative brings one to two high-achieving underrepresented minority students to New York City annually, where they work closely with Professor Henry for two years to prepare for the rigors of doctoral studies in the field. During their participation in the Initiative, fellows engage in collaborative research, receive intensive one-on-one mentoring including guidance on applications to graduate programs, take courses for credit at NYU (up to two per semester), and network with peers. They also participate in the annual Summer Workshop, which brings

together current and past fellows as well as visiting scholars, for a daylong program of research presentations, feedback, and professional development.<sup>20</sup>

Another promising form of mentorship with the objective of promoting inclusivity was recently initiated by Williams College (n.d.), which launched an annual Women in Economic Research Conference in April 2017. The conference provided a venue for undergraduate women to present their research and receive professional-level feedback, hear from a keynote speaker, network with peers, and establish mentoring relationships. Eligibility for participation at the conference was intended to be limited to students attending institutions within 2.5 hours' driving time from Williamstown. In its first year, 31 students from 17 distinct institutions responded to the call for bids to present, and from those bids, 19 students from 9 institutions were invited to participate. Participants remarked on how meaningful they found their experience at the conference; at least one participant said that she had never thought of herself as an economist until this event.<sup>21</sup>

Harvard University's Research Scholar Initiative (RSI) is similar in some respects to Peter Henry's PhD Excellence Initiative. Scholars must have completed an undergraduate degree before starting the one- to two-year program. The RSI "strongly encourages applications from underrepresented minorities," (Harvard University n.d., online) and admits three to four scholars per year for the program in economics. (A similar program admits an additional three to four scholars in life sciences.) Throughout their engagement with the RSI, scholars work as part-time research assistants to members of the Harvard faculty and may take courses at either the undergraduate or graduate level at Harvard. Scholars receive a stipend, tuition for up to two courses per semester, as well as health insurance, GRE preparation, and a one-time relocation

allowance. Like the PhD Excellence Initiative, the RSI in economics is funded by the Alfred P. Sloan Foundation.<sup>22</sup>

### **Steps for Textbook Authors, Publishers, and Other Curriculum Writers to Consider**

Given the pervasiveness of the demographic imbalances in economics at the undergraduate level, it is natural to look for factors that could exert their influences across many different campuses simultaneously. One such factor is the set of instructional materials that instructors use—particularly at the introductory level. Surely, these materials play a role in shaping perceptions in the minds of students of what economics is, and whether it might be relevant to their lives.

Bartlett (2012) discusses the absence of women from introductory textbooks, noting earlier work that found that women were virtually absent from introductory textbooks and that white male behavior was held up as the norm (Feiner and Morgan 1987; Feiner 1993; Robson 2001). As Bartlett concludes, “If economics pedagogies are not more inclusive, we stand a chance of losing those students with the voices and experiences who have the most to contribute to making economics more universally applicable” (p. 221). In other words, making the content of economics courses—especially introductory classes—more inclusive is likely to make the clientele of such courses more inclusive as well.

More recently, Stevenson and Zlotnick (2018) find stunning gender disparities in the content of eight current, prominent principles of economics textbooks. Men account for more than 90 percent of business leaders, policymakers, and economists mentioned in these textbooks, and even a plurality of the fictionalized examples. When fictionalized women do appear, they take fewer actions and are more likely to be involved in food, fashion, or household tasks; fictionalized men analyze, make decisions, and work in business, policy, and leadership positions.

Thus, our foremost request of textbook authors, publishers, and other curriculum writers such as the College Board is that they design and revise their materials with a central question in mind: Are issues of race, gender, and class integrated into the material in a way that will allow a broader swath of students to see economics as relevant to people like them? We suggest that textbook authors commission critical reviews of their own materials, with the goal of identifying how those materials can be made more inclusive along gender, race/ethnicity, and socioeconomic lines. We also suggest that authors and instructors construct curricula around teaching core competencies in economics (e.g., Allgood and Bayer 2017); emphasizing skills over laundry lists of concepts and content is integral to learning economics and allows more nuanced investigation of substantive economic issues. Taking these steps could improve even otherwise innovative new courses and help them generate and sustain broader appeal.

### **Steps for Department Chairs to Consider**

By dint of their leadership positions, department chairs play an influential role in setting the climate in their departments. They can signal by their actions and statements that they value diversity and inclusion, and in doing so they provide critical support to other members of the department who care deeply about these issues. Chairs also control resources that can be used to mount diversity and inclusion initiatives within their departments and to sponsor faculty and students who wish to participate in external opportunities. Our foremost request of department chairs is that they be proactive in implementing an array of interventions to be more welcoming of diverse students and colleagues. We are not on a neutral course, and doing nothing is as much a choice as taking action.

Department chairs should give careful consideration to maximizing demographic balance among instructors, especially at the introductory level. The characteristics of the individual at the

front of the classroom matter as to whether students see a pathway to success for themselves. For example, Carrell, Page, and West (2010) exploit the random assignment of students to professors at the U.S. Air Force Academy and find that "although professor gender has only a limited impact on male students, it has a powerful effect on female students' performance in math and science classes, their likelihood of taking future math and science courses, and their likelihood of graduating with a STEM degree" (p. 1104). Fairlie, Hoffmann, and Oreopoulos (2014) find analogous effects with respect to the race and ethnicity of instructors. Carrell, Page, and West (2010) hypothesize a variety of different reasons for why the gender of the instructor might matter to student outcomes, including the possible importance of role models, as well as differences in teaching styles, in expectations, and in the extent to which teachers offer advice and encouragement.<sup>23</sup>

Most economics departments, of course, are currently severely gender- and race/ethnicity-imbalanced in the composition of their faculty. Department chairs can begin to address this imbalance by adopting recruiting and management practices informed by the ideas introduced in part E below.

Chairs can complement changes in the composition and practices of faculty with an array of low-cost department-level interventions. They can help recruit and train a diverse set of student teaching assistants. Lusher, Campbell and Carrell (2018) find that academic outcomes of undergraduates are improved when matched with same-race graduate student teaching assistants in economics courses. They can invite diverse speakers to present in classes and research seminars. Porter and Serra (2018) report on a field experiment that exposed treatment students in principles of economics classes to brief visits by two carefully selected women graduates who spoke on the importance of economics to their careers. The intervention had no effect on men but

significantly increased women's likelihood of enrolling in intermediate economics classes and of planning to major in economics. They can conduct intentional outreach to students in underrepresented groups. Bayer, Bhanot, and Lozano (2019) find that sending two emails with information showcasing a diversity of research and researchers within economics during the summer before a student's first year of college substantially increases the likelihood that the student completes an economics course in their first semester.

Department chairs also should work actively to improve the culture of their departments, expressed both in formal policies and in the everyday practices of faculty and students. Often, specialists elsewhere in the academic institution, such as in teaching and learning centers, have valuable expertise and training opportunities to offer.<sup>24</sup> Chairs can use these resources, as well as the evidence this article points to, to support discussions and change in the department.

A group of economics faculty from liberal arts colleges is working together to develop additional insight and evidence on how to enhance the diversity and inclusivity of their departments. The group shares curricula and strategies and conducts coordinated, randomized evaluations. Founded in 2015 with a grant from the Alliance to Advance Liberal Arts Colleges, the collaboration now involves economists from eighteen liberal arts colleges.<sup>25</sup> Ultimately, the results of their experimentation and evaluation can guide improvement at all institutions.

Effective interventions are also being identified through the challenge grant program known as "Undergraduate Women in Economics" (Avilova and Goldin 2018). UWE is designed as a randomized controlled trial that aims to identify interventions that are effective in increasing the representation of women in the economics major. The project is led by Claudia Goldin, Henry Lee Professor of Economics at Harvard University, managed by Tatyana Avilova at the NBER, and advised by a group of experts from across the country; funding was provided by the



Sloan Foundation.<sup>26</sup> Twenty undergraduate institutions from around the country were selected to serve as "treatment" schools, while 35 institutions agreed to provide control data. Treatment schools received \$12,500 each to implement interventions of their choosing and consistent with the goals of the project. Treatment began with the class of students entering in the fall of 2015; thus, results are not yet available. The program has been instrumental in generating research identifying straightforward and effective interventions.

### **Steps for University and College Administrators to Consider**

Our foremost request of university and college presidents, deans, provosts, and other university personnel outside the economics department is that they change the starting point of conversations about representation in classrooms on their respective campuses. We sense that most such conversations are based on the premise that today's distribution of students across departments optimally reflects the fundamental characteristics of students and disciplines. Instead, we think it overwhelmingly likely that stereotypes, information gaps, and an array of social, psychological, and other influences are distorting the choices of both faculty and students. Current departmental and university practices that seek to limit enrollments in economics, such as prescribing a narrow path into the major or understaffing economics departments, may exploit, rather than correct, those distortions, as they hit students new to the field particularly hard.

A better benchmark for conversations about representation would be the premise that *every* classroom should attract a proportionate slice of the campus-wide population. We are open to the possibility that, even in the best of all possible worlds, women or URM students might tend toward different academic pursuits than white men, but we think that campus administrators and instructors need to satisfy themselves that the conditions that could justify deviations from

proportionate representation actually prevail. Have you satisfied yourself that the atmosphere in economics classrooms is not unwelcoming to women or URM students? Symmetrically, are you confident that subtle cues in sociology or education classrooms are not diverting men to other fields? Are you comfortable with the presumption that math literacy somehow explains the imbalances in economics, computer science, and physics lecture halls, even though the mathematics major is more gender-balanced than the economics major? Are you sure students understand what various disciplines have to offer before they select their courses and majors?

Full academic inclusion might best be achieved not by generating economics departments that are even larger than they are now, but by helping other departments to broaden their appeal and making changes in culture and content to draw more white men into majors such as literature, education, and psychology. Given the shrinking share of college students majoring in humanities, colleges and universities must tackle enrollment issues head-on. Addressing diversity and inclusion issues in all departments across campus may allow us to make progress on multiple different problems at once.

Many educational institutions have done an admirable job of granting admission in recent years to larger numbers of students of color, first-generation students, and students from lower socioeconomic backgrounds. For all of these students, the transition to a highly rigorous academic environment possibly dominated by more privileged students can be extremely challenging. Thus, a critical next step is to ensure that all students are fully supported across every opportunity, once they have reached the campus. Consistent with that objective, some institutions have begun to offer a “bridge program” to selected students during the summer before freshman year. Williams College (n.d., SHSS) is one such institution. Their Summer Humanities and Social Sciences (SHSS) bridge program is targeted to URM and first-generation

students who will be beginning their first year at the college in the subsequent fall. The five-week program offers participants a first taste of what the academic experience will be like at Williams, in the company of other students like themselves and before the pressure of grades enters the equation. Participants take a set of classes intended to simulate the workload during a regular academic semester at Williams. Early results suggest that participation in SHSS during years when an economics class is included in the curriculum, in place of a mathematics course, increases the probability that participants take economics classes, improves their performance in principles of microeconomics, and boosts enrollment in regular mathematics classes.<sup>27</sup> As an apparent result of this and other recent initiatives in the department, the class of 2020 marks a new all-time high for Williams, with 41 percent of declared economics majors being women and 23 percent being underrepresented minority.

### **Steps for Employers—Academic and Non-Academic—to Consider**

Hiring and developing a more diverse faculty can bring exponential rewards through the impact on students. Extensive research shows the pervasive role that discrimination can play in hiring and evaluation processes (e.g., Bertrand and Mullainathan 2004). Even where overt racism or sexism is not present, much research demonstrates that individual and institutional biases can influence outcomes materially. The evidence shows that implicit bias is a pervasive phenomenon, with evaluations frequently influenced by social stereotypes. Similarly, institutional habits formed in previous eras can disadvantage women and underrepresented minorities and require critical examination (Bayer and Rouse 2016).

In the economics divisions at the Federal Reserve Board, decision-making procedures have been instituted to limit the opportunity for bias to influence evaluations, and every individual who participates in the economist recruiting process is now required to understand the

new procedures and the evidence behind them before the recruiting process begins. Participants are exposed to research on diversity, disparities, and bias applied to the economics profession in particular, such as that in Bayer and Rouse (2016), and are provided multiple venues to discuss its relevance to their work at the Board.

Our foremost request of everyone involved in hiring and managing economists is that they recognize the likely impacts of explicit, implicit, and institutional biases and take action to combat them. Surfacing the issues and discussing them openly are important first steps to reducing their impact. Price and Sharpe (2017) note that racist hiring practices “systematically exclude black economists from the benefits of full participation in the nation’s economics research enterprise” and recommend departments implement an equivalent of the National Football League’s “Rooney Rule” by interviewing a black economist whenever they have an open position.

### **Steps for Foundations to Consider**

Incentives matter, and paying for post-secondary education can be a daunting prospect, especially for students who do not come from privileged backgrounds. The Andrew W. Mellon Foundation (n.d.), through its Mellon Mays Undergraduate Fellowships, provides funding to 48 institutions, which in turn select fellows, taking into account “race and ethnicity, in relation to their underrepresentation in designated fields of study.”<sup>28</sup> Fellows are typically selected in their sophomore year and receive holistic support—faculty mentoring, special programming, stipends for term-time and summer research, and repayment of undergraduate loans up to \$10,000—“provided that fellows pursue doctoral study in eligible fields.”<sup>29</sup> Unfortunately, economics is not an eligible field of study.

The Sloan Foundation recently awarded a \$1.3 million grant to the University of Maryland, Baltimore County, economics department to fund a five-year program to increase the number of URM students completing highly competitive PhD programs in economics. The program is designed to “support students through scholarships, mentoring, research experiences, and, finally, entry into post-graduation programs specializing in doctoral preparation” (UMBC 2017, online).

Beyond continuing and expanding pre-doctoral programs like those funded by the Sloan Foundation, our foremost request of foundations is that they focus resources at the undergraduate level, including creating an economics version of the Mellon Mays program.<sup>30</sup> Foundation funds also could be productively used to create incentives for economists, inducing them to attend teaching workshops or to conduct research on diversity and inclusion, and to support collaborations like the liberal arts college initiative described above. Underrepresented minority groups are so underrepresented in economics (with only 40 to 50 PhDs in economics awarded annually to black and Hispanic recipients) that even a relatively modest investment could move the needle meaningfully.

### **Steps for the AEA to Consider**

Nearly 50 years ago, the AEA (n.d.) established two committees to address disparities in the profession. The AEA’s Committee on the Status of Minority Groups in the Economics Profession (CSMGEP) “was established by the American Economic Association in 1968 to increase the representation of minorities in the economics profession.”<sup>31</sup> Similarly, the Committee on the Status of Women in the Economics Profession (CSWEP) “was founded in 1971 to eliminate discrimination against women, and to redress the low representation of women, in the economics profession.”<sup>32,33</sup>

These groups oversee critically important initiatives. Most relevant to the focus of this article, the AEA Summer Program, currently hosted by Michigan State University in collaboration with Western Michigan University, trains undergraduate representatives of groups that have historically been underrepresented in economics, giving them two months of intensive instruction in the technical skills needed to succeed at the PhD level in economics. The program is provided free of charge to participants, and participants “receive a \$3,250 stipend upon successful program completion.”<sup>34</sup> Becker, Rouse, and Chen (2016) estimate that the program may directly account for 17 to 21 percent of the PhDs awarded to minorities in economics over the past 20 years.

In April 2018, the AEA took two major steps toward creating a more inclusive economics profession, adopting a Code of Professional Conduct<sup>35</sup> and establishing a new standing Committee on Equity, Diversity, and Professional Conduct (CEDPC).<sup>36</sup> The code states the AEA’s goal to “create a professional environment with equal opportunity and fair treatment for all economists.” It also avers economists’ individual and collective responsibility to support the “participation and advancement in the economics profession by individuals from all backgrounds, including particularly those that have been historically underrepresented.” CEDPC’s charge is to implement initiatives to address the professional climate in economics, including those recommended in a report presented to the AEA Executive Committee earlier that month.<sup>37</sup> These steps alone are welcomed and necessary, but not sufficient.

Our foremost request of AEA leadership is that they continue to communicate through statements and actions that the underrepresentation of women and minority economists is a problem that belongs to every member of the association, in both its causes and its consequences. The new standing committee is an important signal; a professional association with CSWEP and

CSMGEP alone sends an implicit message that women and URM economists have the responsibility and the power to fix the problems they identify. We ask the AEA to devote considerable resources to enforcing the code and to implementing the many worthy initiatives coordinated by CEDPC. Infusions of social, human, and financial capital, supporting new collaborations between CSMGEP, CSWEP, CEDPC, and the AEA's Committee on Economic Education, are necessary to correct the large disparities in undergraduate economic education and to achieve diversity and inclusion in the economics profession more broadly.

We also wish to echo recommendations made by other economists. Sharpe and Swinton (2018) suggest an AEA-sponsored lecture series to provide opportunities for faculty from HBCUs (Historically Black Colleges and Universities) and HSIs (Hispanic-Serving Institutions) to present at predominantly white institutions and vice versa. The series would allow students and faculty to diversify their interactions. Sharpe and Swinton also suggest focused efforts to increase black and Hispanic students' involvement with the AEA, ASHE, CSWEP, and NEA. Steps like these could increase the sense of engagement of underrepresented students with the field and thus increase their inclination to pursue the economics major.

Noting that only three-fifths of new economics faculty "strongly agree or agree that their graduate school training adequately prepared them to teach," Allgood, Hoyt, and McGoldrick (2018) recommend altering economists' incentives and attitudes so that they take advantage of resources that would help them become better teachers. The AEA is in a position to alter incentives and attitudes through its influence on norms, programs, and policies. Poor teaching does little to draw new students into economics and instead simply leaves us with undergraduates from backgrounds that include earlier training and encouragement in the field.

## **CONCLUSION**

We all need to learn more about how to improve the culture and curriculum of economics. The current environment imposes a high tax on women and URM students and impedes the progress of individuals, academia, policymaking, and society more generally. Correcting the unequal distribution of economic education requires all involved parties to adopt a new mindset in which full academic inclusion is the benchmark and to take action to achieve that standard. It is counterproductive to hold an unexamined assumption that the choice of major in college or university is just an example of consumer sovereignty. The evidence continues to mount that even small changes in faculty attitudes and behaviors, such as the email outreach reported above, change student decisions. Educators, and others who care about the future of economic knowledge and policymaking, have an obligation to construct an academic environment that distributes economic education more equally.



## NOTES

<sup>1</sup> The statistics reported in this article are authors' calculations using completions data from the Integrated Postsecondary Education Data System (IPEDS) at the U.S. Department of Education's National Center for Education Statistics (NCES). Here and in the rest of the article, we report on the race and gender of U.S. citizens and permanent residents who graduated with bachelor's degrees from four-year, not-for-profit private or public, Title-IV participating colleges and universities. Additional details on the data are in the appendix.

<sup>2</sup> Unless otherwise noted, all calculations reported in this paper use this 2011–15 period. We use five-year averages to smooth through some of the natural variations in the data and to partially address the fact that representation in some of the groups we examine is very sparse.

<sup>3</sup> A word about the vocabulary is in order. With respect to gender, the IPEDS survey reports a variable “gender” with possible values “male” and “female,” thus conflating gender and sex. In this article, we often use “men” and “women” on the hypothesis that respondents tend to rely on self-identified gender. With respect to race and ethnicity, we use the categories and terminology of the survey. To allow consistent comparisons across time, we use the IPEDS (NCES n.d.) historical race and ethnicity categories, which do not separately identify Native Hawaiian and other Pacific Islanders or individuals identifying two or more races.

<sup>4</sup> To gain further insight into the problem with share data, consider an extreme and simplified situation in which non-Hispanic men at a particular school major in economics at an ideal rate, while there are no women economics majors of any race/ethnicity. A third group, Hispanic men, comprises the remaining student population and majors in economics at a rate in between the two others, say 70 percent of the ideal rate. If the share of Hispanic men on campus were 10 percent, while non-Hispanic men and all women represented 30 percent and 60 percent, respectively, 19

percent of all economics majors would be Hispanic men, creating the impression that they were disproportionately attracted to the major. Ultimately, of course, if a department were to attract majors from each demographic group at equal rates, the composition of students graduating with bachelor's degrees in economics would perfectly reflect the composition of all graduates.

<sup>5</sup> While this article focuses on the economic education of U.S. citizens and permanent residents, we note the heavy participation of temporary residents in economics nationally. The institution-level measures reported later in this article allow consistent comparison across colleges and universities with different proportions of temporary visa holders.

<sup>6</sup> Note that the undergraduate business major is considerably closer to demographic balance than is the undergraduate economics major. Nationwide, 48 percent of majors in business are earned by women and 22 percent by URM students; by contrast, as was noted in table 1, 31 percent of economics majors are women and 12 percent are URM.

<sup>7</sup> The supporting figures are available upon request.

<sup>8</sup> As noted earlier, if this standard were achieved, economics majors would be a representative draw from the population of all students, but looking at share data alone is often misleading. In their study of economics majors by gender, Avilova and Goldin (2018) similarly scale by the number of degree recipients because women earn more bachelor's degrees than do men.

<sup>9</sup> We calculate, and can provide upon request, modified indices for institutions that enroll few white men, including women's colleges and historically black colleges and universities.

<sup>10</sup> Values in excess of 100 would correspond to situations in which groups other than white males are, on average, majoring in economics at higher rates than are white males, and thus would point to a form of imbalance not frequently observed in economics departments.

<sup>11</sup> For a more general exposition, see Hamilton and Darity (2017), who note that administrators, teachers, and students shape the educational environment and emphasize that the source of racial inequality is structural, not behavioral.

<sup>12</sup> See the appendix for notes on the construction of the data and the composition of the institution subsets. Online versions of the tables in this article include rates for Native American and Asian American students.

<sup>13</sup> The statistic that opens this article—that, collectively, women and underrepresented minorities majored in economics at 0.36 the rate that white, non-Hispanic men did in 2015—is indeed consistent with the reported mean EEII value of 54.1. Note that, by construction, the EEII overweights URM men, who have higher rates of participation in economics than do women, relative to their representation on campuses. Note, too, that the 2015 figure is lower due to a slight downward trend in the relative rate at which women and underrepresented minorities major in economics.

<sup>14</sup> Of course, these figures result from one extreme approach to the objective of full academic inclusion, in which the majoring rates of every other group is brought up to that of white men; alternative approaches involve drawing more white men into majors dominated by undergraduate women and would not necessarily lead economics departments to be larger than they are now.

<sup>15</sup> This section borrows language from “The Sorry State of Diversity in Economics and What You Can Do about It” by David Wilcox, speech given at the Seventh Annual Conference on Teaching and Research in Economic Education, May 31, 2017.

<sup>16</sup> Rock, Grant, and Grey (2016) point out that participants routinely overestimate the amount of conflict that will actually be created on a diverse team. See also Lount et al. (2015).

<sup>17</sup> Regarding misperceptions about the field that many students harbor, Bansak and Starr (2010, 33) find that students “widely view economics as a business-oriented field that prioritizes math skills and making money—a combination that is a turnoff for women, but not so much for men. Thus, emphasizing uses of economics for social welfare analysis, while de-emphasizing its business applications, may help to rebalance predispositions at the outset of the principles class.”

<sup>18</sup> Another source full of diagnoses of what is wrong with economics pedagogy and replete with practical suggestions for what to do about it is [Bartlett \(1995\)](#). Although dated, the diagnoses and suggestions in Bartlett still ring true to us more than 20 years later.

<sup>19</sup> Complementary to this article, the site also provides suggestions for course content and evidence on the extent of the underrepresentation of women and URMs in the field of economics and discusses why that underrepresentation matters. Comments on or suggestions for the site can be sent to [div\\_econ@swarthmore.edu](mailto:div_econ@swarthmore.edu).

<sup>20</sup> Participants in the PhD Excellence Initiative must be U.S. citizens. More information about the Initiative is available at <http://www.peterblairhenry.com/phd-excellence-initiative/>.

<sup>21</sup> The daylong experience was organized by Williams College faculty members Matthew Gibson, Sarah Jacobson, Sara LaLumia, and Lucie Schmidt. This team intends to summarize their model and make it available to other institutions that might be interested in replicating the event.

<sup>22</sup> Participants in the RSI must be either U.S. citizens or permanent residents. More information about the RSI is available at <https://gsas.harvard.edu/diversity/research-scholar-initiative>.

<sup>23</sup> Enforcing demographic balance at the front of the classroom could come at the expense of overburdening members of the faculty who are women or underrepresented minorities, if compensating adjustments in other dimensions of departmental burden are not implemented at

the same time. In return for taking on critical teaching responsibilities, women and underrepresented minority instructors could be provided with more generous allotments of teaching assistants, research support, or service releases. Other approaches may be available as well. For example, introductory classes could be team-taught as a means for broadening the exposure of students to women or underrepresented minority faculty members; of course, in implementing this approach, it would be important to avoid any appearance of power or rank imbalance between participating faculty.

<sup>24</sup> For example, the Center for Faculty Excellence at the University of North Carolina offers a wide variety of resources and events to “support a mutually respectful intellectual environment in which diversity and inclusion are valued.” <https://cfe.unc.edu/initiatives/diversity-and-inclusion/>

<sup>25</sup> See <https://sites.google.com/swarthmore.edu/enhancing-inclusivity-in-econ/home>. Fernando Lozano of Pomona College and Amanda Bayer of Swarthmore College won the initial grant to organize the collaboration.

<sup>26</sup> <https://scholar.harvard.edu/goldin/UWE>

<sup>27</sup> Lucie Schmidt, “Teaching Economics in a Summer Bridge Program,” Williams College, presentation for the AALAC Workshop on Diversifying Economics, February 2016.

<sup>28</sup> <http://www.mmuf.org/eligibility>

<sup>29</sup> <http://www.mmuf.org/program-glance-0>

<sup>30</sup> Alternative approaches are possible. For example, Williams College, under the auspices of the Allison Davis Research Fellowship, partners with Mellon Mays to provide support to students in economics and other fields that are not eligible for funding under Mellon Mays alone. See <https://osap.williams.edu/fellowships/>.

<sup>31</sup> <https://www.aeaweb.org/about-aea/committees/csmgep>

<sup>32</sup> <https://www.aeaweb.org/about-aea/committees/cswep/about/mission>

<sup>33</sup> Other professional organizations also represent long-standing institutional efforts to broaden representation and research in the field of economics, including the National Economic Association (<http://www.neaen.org/about>), the American Society of Hispanic Economists (<http://asheweb.net/>), and the International Association for Feminist Economics (<http://www.iaffe.org/>).

<sup>34</sup> <https://www.aeaweb.org/about-aea/committees/aeasp/finances-scholarship>

<sup>35</sup> <https://www.aeaweb.org/about-aea/code-of-conduct>

<sup>36</sup> <https://www.aeaweb.org/about-aea/committees/equity-diversity-professional-conduct>

<sup>37</sup> <https://www.aeaweb.org/resources/member-docs/report-on-professional-climate>

## REFERENCES

- Allgood, S., and A. Bayer. 2017. Learning outcomes for economists. *American Economic Review* 107 (5): 660–64.
- Allgood, S., G. Hoyt, and K. McGoldrick. 2018. Teacher training for PhD students and new faculty in economics. *Journal of Economic Education* 49 (2): 209–19.
- American Economics Association (AEA). n.d. About the AEA (Web page).  
<https://www.aeaweb.org/about-aea>.
- Andrew F. Mellon Foundation. n.d. Mellon Mays Undergraduate Fellowship Program (Web page). <https://www.mmuf.org/>
- Arcidiacono, P. 2004. Ability sorting and the returns to college major. *Journal of Econometrics* 121 (1): 343–75.
- Association of American Colleges and Universities (AACU). 2013. Board statement on diversity, equity, and inclusive excellence.  
<https://www.aacu.org/about/statements/2013/diversity> (accessed February 22, 2019).
- Avilova, T., and C. Goldin. 2018. What can UWE do for economics? *AEA Papers and Proceedings* 108 (May): 186–90.
- Bansak, C. A., and M. Starr. 2010. Gender differences in predispositions towards economics. *Eastern Economic Journal* 36 (1): 33–57.
- Bartlett, R. L. 1995. Attracting “otherwise bright students” to Economics 101. *American Economic Review* 85 May: 362–66.
- Bartlett, R. 2012. Integrating race, gender and class. In *International handbook on teaching and learning economics*, ed. G. M. Hoyt and K. McGoldrick, 213–22. Cheltenham, UK and Northampton, MA: Edward Elgar.

- Bayer, A., ed. 2011. Diversifying Economic Quality: A Wiki for Instructors and Departments. Sponsored by the American Economic Association Committee on the Status of Minority Groups in the Economics Profession (CSMGEP). <http://www.diversifyingecon.org> (accessed June 1, 2017).
- . 2018. The economics profession's unique problem with diversity. *The Minority Report* 10 (Winter): 17–19. American Economic Association, Committee on the Status of Minority Groups in the Economics Profession (CSMGEP). <https://assets.aeaweb.org/assets/production/files/6291.pdf> (accessed February 21, 2019).
- Bayer, A., S. P. Bhanot, and F. Lozano. 2019. Does simple information provision lead to more diverse classrooms? Evidence from a field experiment on undergraduate economics. *AEA Papers & Proceedings*, forthcoming (May).
- Bayer, A., and C. E. Rouse. 2016. Diversity in the economics profession: A new attack on an old problem. *Journal of Economic Perspectives* 30 (4): 221–42.
- Becker, C. M., C. E. Rouse, and M. Chen. 2016. Can a summer make a difference? The impact of the American Economic Association summer program on minority student outcomes. *Economics of Education Review* 53 (August): 46–71.
- Bertrand, M., and S. Mullainathan. 2004. Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American Economic Review* 94 (4): 991–1013.
- Black, D. A., A. M. Haviland, S. G. Sanders, and L. J. Taylor. 2008. Gender wage disparities among the highly educated. *Journal of Human Resources* 43 (3): 630–59.
- Black, D. A., S. Sanders, and L. Taylor. 2003. The economic reward for studying economics. *Economic Inquiry* 41 (3): 365–77.



- Carrell, S. E., M. E. Page, and J. E. West. 2010. Sex and science: How professor gender perpetuates the gender gap. *Quarterly Journal of Economics* 125 (3): 1101–44.
- Fairlie, R. W., F. Hoffmann, and P. Oreopoulos. 2014. A community college instructor like me: Race and ethnicity interactions in the classroom. *American Economic Review* 104 (8): 2567–91.
- Federal Reserve Bank of New York (New York Fed). n.d. Who is Being Trained in Economics? The Race, Ethnicity, and Gender of Economics Majors at U.S. Colleges and Universities (Web site). <https://www.newyorkfed.org/data-and-statistics/data-visualization/diversity-in-economics> (accessed February 21, 2019).
- Feiner, S. F. 1993. Introductory economics textbooks and the treatment of issues relating to women and minorities, 1984 and 1991. *Journal of Economic Education* 24 (2): 145–62.
- Feiner, S. F. and B. A. Morgan. 1987. Women and minorities in introductory economics textbooks: 1974 to 1984. *Journal of Economic Education* 18 (4): 376–92.
- Hamilton, D., and W. A. Darity, Jr. 2017. The political economy of education, financial literacy, and the racial wealth gap. Federal Reserve Bank of St. Louis *Review* 99 (1): 59–76.
- Harvard University. n.d. Research Scholar Initiative (Web page). Cambridge, MA: Harvard University, Graduate School of Arts & Sciences. <https://gsas.harvard.edu/diversity/research-scholar-initiative>
- Henry, P. B. n.d. PhD excellence initiative. Peter Blair Henry (Web site). <http://www.peterblairhenry.com/phd-excellence-initiative/>.
- Hsieh, C.-T., E. Hurst, C. I. Jones, and P. J. Klenow. 2013. The allocation of talent and U.S. economic growth. NBER Working Paper No. 18693. Cambridge, MA: National Bureau of Economic Research.

- Klawe, M. 2017. 3 ways to get more women into tech. *The Chronicle of Higher Education*.  
<https://www.chronicle.com/article/3-Ways-to-Get-More-Women-Into/241664> (accessed February 21, 2019).
- Lee, J., and M. Zhou. 2015. *The Asian American achievement paradox*. New York: Russell Sage Foundation.
- Lount, R. B., Jr., O. J. Sheldon, F. Rink, and K. W. Phillips. 2015. Biased perceptions of racially diverse teams and their consequences for resource support. *Organization Science*  
<http://pubsonline.informs.org/doi/full/10.1287/orsc.2015.0994> (accessed June 11, 2017).
- Lusher, L., D. Campbell, and S. Carrell. 2018. TAs like me: Racial interactions between graduate teaching assistants and undergraduates. *Journal of Public Economics* 159 (March): 203–24.
- Matthews, M., and V. Wilson. 2018. Separate is still unequal: How patterns of occupational segregation impact pay for black women. Working Economics Blog. Washington, DC: Economic Policy Institute. <https://epi.org/152896> (accessed August 9, 2018).
- May, A. M., M. G. McGarvey, and R. Whaples. 2014. Are disagreements among male and female economists marginal at best?: A survey of AEA members and their views on economics and economic policy. *Contemporary Economic Policy* 32 (1): 111–32.
- McPherson, M. A. 2012. Ranking US economics programs by faculty and graduate publications: An update using 1994-2009 data. *Southern Economic Journal* 79 (1): 71-89.
- Milkman, K. L., M. Akinola, and D. Chugh. 2015. What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology* 100 (6): 1678–1712.
- Mora, M. T. 2012. Racial and ethnic differences among economics Baccalaureates. *The Minority Report* 4 (Winter): 1–13. American Economic Association, Committee on the Status of

- Minority Groups in the Economics Profession. <https://www.aeaweb.org/content/file?id=7558> (accessed February 21, 2019).
- National Center for Education Statistics (NCES). n.d. Integrated Postsecondary Education Data System (IPEDS) (Web site). Washington, DC: U.S. Department of Education, Institute of Education Sciences, NCES. <http://nces.ed.gov/ipeds/>.
- Oreopoulos, P., and K. G. Salvanes. 2011. Priceless: The nonpecuniary benefits of schooling. *Journal of Economic Perspectives* 25 (1): 159–84.
- Porter, C., and D. Serra. 2018. Gender differences in the choice of major: The importance of female role models. <https://ideas.repec.org/p/smu/ecowpa/1705.html> (accessed February 22, 2019).
- Price, G., and R. Sharpe. 2017. Black economist hiring report card for Ph.D granting economics departments: 2014-2015. [https://www.researchgate.net/publication/313377635\\_Black\\_Economist\\_Hiring\\_Report\\_Card\\_For\\_PhD\\_Granting\\_Economics\\_Departments\\_2014\\_-\\_2015/download](https://www.researchgate.net/publication/313377635_Black_Economist_Hiring_Report_Card_For_PhD_Granting_Economics_Departments_2014_-_2015/download) (accessed February 22, 2019).
- Robson, D. 2001. Women and minorities in economics textbooks: Are they being adequately represented? *Journal of Economic Education* 32 (2): 186–91.
- Rock, D., and H. Grant. 2016. Why diverse teams are smarter. *Harvard Business Review*, November 4. <https://hbr.org/2016/11/why-diverse-teams-are-smarter> (accessed June 11, 2017).
- Rock, D., H. Grant, and J. Grey. 2016. Diverse teams feel less comfortable—and that’s why they perform better. *Harvard Business Review*, September 22. <https://hbr.org/2016/09/diverse-teams-feel-less-comfortable-and-thats-why-they-perform-better> (accessed June 11, 2017).

- Sharpe, R., and O. Swinton. 2018. Historically black colleges and universities and Hispanic-serving institutions are a rich source for the economics pipeline. *The Minority Report* 10 (Winter): 1–5. American Economic Association, Committee on the Status of Minority Groups in the Economics Profession. <https://assets.aeaweb.org/assets/production/files/6291.pdf> (accessed February 21, 2019).
- Stevenson, B., and H. Zlotnik. 2018. Representations of men and women in introductory economics textbooks. *AEA Papers and Proceedings* 108 (May):180–85.
- University of Maryland, Baltimore County (UMBC). 2017. UMBC receives \$1.3 million grant from the Alfred P. Sloan Foundation to diversify economics Ph.D.s. *UMBC News*, November 27. <https://news.umbc.edu/umbc-receives-1-3-million-grant-from-the-alfred-p-sloan-foundation-to-diversify-economics-ph-d-s/> (accessed March 13, 2019).
- U.S. News & World Report*. n.d. <https://www.usnews.com/> (accessed February 21, 2019).
- Williams College. n.d. Women in Economic Research Conference (Web page). <https://events.williams.edu/event/women-in-economic-research-conference/>.
- . n.d., SHSS. Summer Humanities and Social Sciences Program (Web page). <https://osap.williams.edu/shss/>.

## APPENDIX

### Notes on the Data

- i. The tables report authors' calculations from the Integrated Postsecondary Education Data System (IPEDS) at the National Center for Education Statistics, using data on bachelor's degrees from four-year, public or private not-for-profit, Title-IV participating colleges and universities that awarded at least 25 majors in economics to U.S. citizens or permanent residents (i.e., excluding nonresident aliens) in the five-year period from 2011 through 2015. The resulting dataset includes 566 institutions and accounts for over 98 percent of all economics degrees granted to U.S. citizens or permanent residents. Economics degrees are defined as first or second majors with IPEDS Classification of Instructional Program codes for "Economics, General," "Agricultural Economics," "Applied Economics," "Econometrics and Quantitative Economics," "Development Economics and International Development," "International Economics" and "Economics, Other." Student counts sum across first majors only to avoid double counting.
- ii. The tables use IPEDS (NCES n.d.) historical race and ethnicity, and citizenship, classifications. "White" indicates non-Hispanic white individuals. URM denotes underrepresented minority groups—Hispanic or Latino, (non-Hispanic) American Indian or Alaska Native, and (non-Hispanic) Black or African American. Individuals whose ethnicity is unknown and non-Hispanic individuals whose race is unknown or with more than one racial designation are reported in a separate catch-all group and are not included in these counts. Temporary residents are defined as individuals who are not citizens or nationals of the United States and who are in the country on a visa or temporary basis only. Temporary residents are not included in any of the racial/ethnic categories.

- iii. The top-40 economics PhD programs as ranked by *U.S. News & World Report* (n.d.) in 2017—but closely aligned with other rankings including McPherson (2012)—account for 58.9 percent of PhDs in economics produced since 2000. There was a three-way tie in the *U.S. News* ranking that year for position number 39; accordingly, 41 institutions are included in this group. The institutions included in this group are listed at <https://www.usnews.com/best-graduate-schools/top-humanities-schools/economics-rankings> (accessed February 21, 2019).
- iv. The other economics PhD programs account for 36.8 percent of PhDs in economics produced since 2000. To be included in this group, an institution must have produced, on average, at least one graduate at the PhD level per year since 2000. The 82 institutions included in this group are listed in Appendix note iv, page 29, at <https://www.federalreserve.gov/econres/feds/files/2017105pap.pdf>.
- v. The top liberal arts group includes institutions ranked in *U.S. News & World Report's* (n.d.) National Liberal Arts Colleges in 2017, excluding military academies, plus five other highly selective institutions classified as top national or regional universities in the rankings, but which have few graduate programs. The institutions included in this group are listed in Appendix note v, page 30, at <https://www.federalreserve.gov/econres/feds/files/2017105pap.pdf>.

TABLE 1: Composition of Students Graduating with Bachelor's Degrees in any Discipline and in Economics in the U.S. (percentages)

	All Races and Ethnicities	Under- represented Minority	White	Black	Hispanic	Native American	Asian	Other/ Unknown Race	Temporary Resident
Major in any discipline									
Women	57.0	12.4	35.4	5.7	6.4	0.3	3.7	3.7	1.8
Men	43.0	7.4	27.8	3.1	4.1	0.2	3.1	2.8	1.8
<i>Total</i>	<i>100.0</i>	<i>19.9</i>	<i>63.2</i>	<i>8.8</i>	<i>10.5</i>	<i>0.6</i>	<i>6.8</i>	<i>6.5</i>	<i>3.6</i>
Major in economics									
Women	31.3	3.9	13.1	1.5	2.3	0.1	5.5	2.1	6.6
Men	68.7	7.9	39.6	2.8	4.8	0.2	8.2	4.7	8.3
<i>Total</i>	<i>100.0</i>	<i>11.8</i>	<i>52.8</i>	<i>4.4</i>	<i>7.1</i>	<i>0.3</i>	<i>13.7</i>	<i>6.8</i>	<i>14.9</i>

*Source:* Authors' calculations based on IPEDS (NCES n.d.) data, 2011–15.  
See notes in the appendix.

TABLE 2: Rates at which Students in Various Groups Graduate with a Major in Economics in the U.S.  
(percentages)

	Overall	Under- represented Minority	White	Black	Hispanic	Native American	Asian	Other/ Unknown Race	Temporary Resident
Women	1.1	0.6	0.8	0.6	0.7	0.5	3.1	1.2	7.7
Men	3.3	2.2	3.0	1.9	2.5	1.9	5.5	3.5	9.3
<i>Total</i>	<i>2.1</i>	<i>1.2</i>	<i>1.7</i>	<i>1.0</i>	<i>1.4</i>	<i>1.1</i>	<i>4.2</i>	<i>2.2</i>	<i>8.5</i>

*Source:* Authors' calculations based on IPEDS (NCES n.d.) data, 2011–15.  
See notes in the appendix.



TABLE 3: Economic Education Inclusion Index (EEII) Values and Corresponding Rates at which Students in Various Groups Graduate with a Major in Economics (percentages)

	EEII (0=no inclusion; 100=full inclusion)	Rates at which Students Major in Economics (percent)						Percentage of U.S. Economics Majors Produced
		White		African American		Hispanic		
		M	W	M	W	M	W	
All four-year, not-for-profit institutions offering majors in economics*	54.1	5.6	1.7	4.7	1.5	4.8	1.5	100
Top-50 liberal arts colleges	47.9	16.5	5.4	12.7	4.1	12.2	4.0	10.2
Universities with top-40 economics PhD programs	51.7	9.6	3.4	6.7	2.2	8.5	3.2	32.5
All other universities with economics PhD programs	58.9	4.5	1.3	4.1	1.5	4.4	1.5	29.1
All other colleges and universities	54.1	3.9	1.1	3.6	1.0	3.5	1.0	28.2

*Source:* Authors' calculations based on IPEDS (NCES n.d.) data, 2011–15.

*Notes:* Entries are simple means of the institution-level values. M denotes men; W denotes women. See other notes in the appendix.

TABLE 4: Variation in Rates of Majoring in  
Economics across Schools Offering  
Majors in Economics (percent)

Demographic Group	10th	Median	90th
	percentile		percentile
White men	1.0	3.4	14.7
White women	0.2	0.9	4.6
Black men	0.0	2.8	12.2
Black women	0.0	0.7	4.3
Hispanic men	0.0	3.0	12.1
Hispanic women	0.0	0.7	4.3

*Source:* Authors' calculations based on IPEDS (NCES n.d.) data, 2011–15.

TABLE 5: The Average Number of Economics Majors Graduating per year at U.S. Colleges and Universities, by Race/Ethnicity and Gender, and the Number of Additional Economics Majors per year that Would Have Resulted if Each Group Had Majored in Economics at the Same Rate as White Men Do

	White		African American		Hispanic		Native American	
	M	W	M	W	M	W	M	W
Actual economics majors	14,028	4,644	1,006	545	1,713	801	72	30
Missing economics majors	N.A.	13,236	573	2,345	350	2,416	40	142

*Source:* Authors' calculations based on IPEDS (NCES n.d.) data, 2011–15.

*Notes:* M denotes men; W denotes women. See other notes in the appendix.

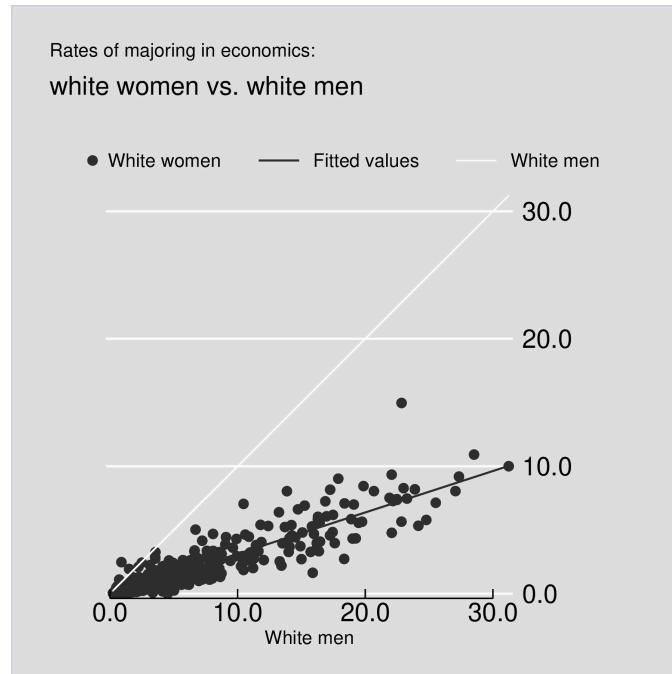


FIGURE 1 Panel a: Rates at which white women and white men major in economics, by institution

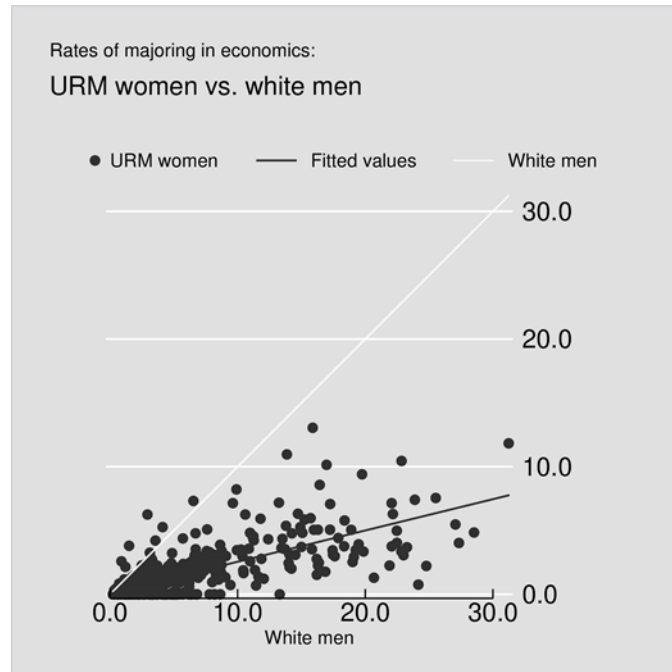


FIGURE 1 Panel b: Rates at which URM women and white men major in economics, by institution

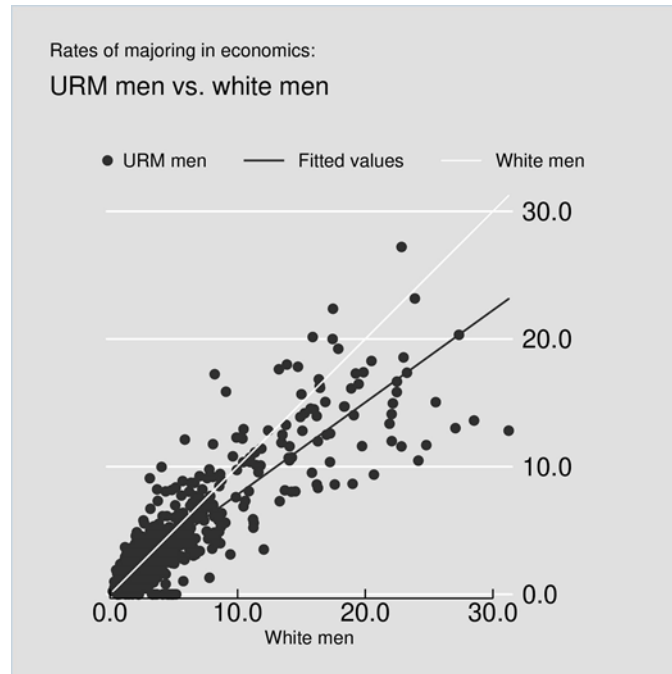


FIGURE 1 Panel c: Rates at which URM men and white men major in economics, by institution

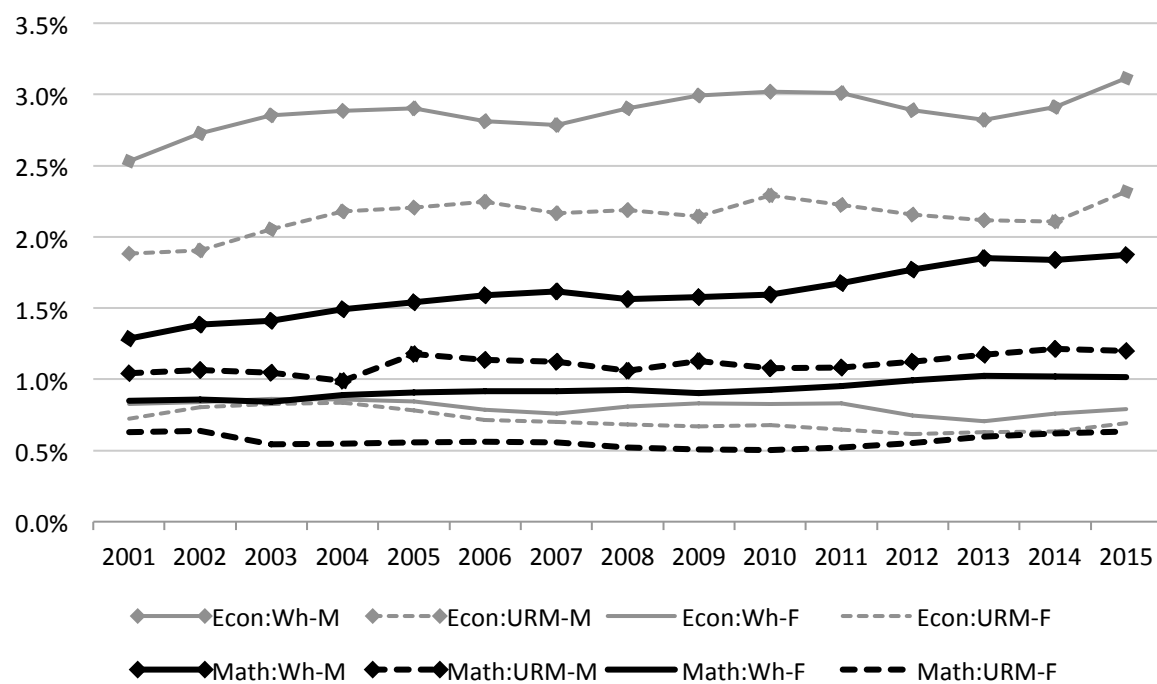


FIGURE 2: Rates at which students in various groups graduate with majors in economics or in mathematics or statistics in the U.S., 2001–2015