

Towards the Next Generation of Scholarship: Challenges and Opportunities for Full Participation in PhD Training in Economics

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Fifty years ago, the AEA established the Committee on the Status of Minority Groups in the Economics Profession to increase the representation of minorities in economics. Not long after, the Committee on the Status of Women in the Economics Profession was founded to promote the careers of women. Despite their efforts, change is stymied by doctoral training in economics encompassing relatively few minority and women students. In 2016, only a third of earned PhDs in the US went to women, and of the over 500 earned PhDs among US citizens and permanent residents only 31 were awarded to Hispanic and Latino/Latina scholars, only 18 were awarded to Black and African American scholars, and only one was awarded to an American Indian (NSF, 2018). In comparison, participation is broader in doctoral education in other social sciences and STEM disciplines

(Bayer and Rouse, 2016), suggesting that low participation is neither attributable to lack of interest in social science or lack of quantitative inclinations or abilities among women and underrepresented minorities (URMs).

Some in our profession view this as the result of efficient market outcomes. However—even when setting aside concerns about the professional climate in economics, particularly affecting women, URM and LGBTQ colleagues and students—graduate education is fraught with information asymmetries. Few undergraduate students have an understanding of what obtaining a PhD in economics entails and what doors it opens. When students bridge this gap, it is often by seeking advice from people whom they readily identify with. Even with unbiased advising, this creates a disparate impact on women, URMs and first-generation students, who have fewer natural mentors when it comes to pursuing economics graduate work.

Beyond concerns of fairness and equal access to opportunities, insufficient participation by women and URMs brings with it very real costs to our profession: First, selection biases result in us excluding high-talent women and URMs to the detriment of the quality of scholars in our

discipline.¹ Second, as only those who participate in the profession formulate the questions that are asked and shape the research agendas that are pursued, not having full participation by many lived experiences, backgrounds and viewpoints limits the nature of our inquiry,² which is especially troubling for a social science that seeks to understand and explain the scope of human experiences. Third, academic research has become increasingly collaborative and the benefit to collaborating is strongest when individuals bring different experiences and viewpoints to the scholarly enterprise (e.g., Hoogendoorn, et al., 2013, Phillips et al., 2006). Therefore, without progress toward full participation, we become a stagnant discipline and risk losing the influence we have in society and academia as our inquiries fail to span the universe of critical economic and social issues that economic research would otherwise address. Given the demographic changes taking place in the US, this concern is all the more urgent.

I. A Survey of Graduate Programs

To shed light on institutional factors affecting participation of women and URMs, we used the AEA database of graduate

programs in the US to search websites to obtain contact information for 142 PhD programs and 167 MA programs. We received useable responses to a Qualtrix survey from 59 PhD programs and 40 MA programs (see Bollman and Jeitschko, 2019). Of the PhD program responses, we received 15 from schools that were ranked in the top 30 in the 2017 US News and World Report rankings of economics programs, 19 responses from those ranked between 31 and 75, and 25 responses from other schools.

A. Admissions to Economics PhD Programs

Among respondents from PhD programs, there was a strong consensus that graduate faculty agree or even strongly agree that there are too few women in economics, with 45 of 59 expressing this sentiment; and an even stronger feeling in this regard concerning URMs, with 49 such responses.

The hope to see an increase in women and URMs in the profession translates into a desire to increase the number of women and URMs in their programs. However, fewer than half actually report having an initiative in place to increase diversity of graduate students. The frequency of such programs is skewed toward

¹ Some selection bias may be self-selection (see, e.g., Niederle and Vewsterlund, 2007), but the implications are the same.

² Janet Yellen has alluded to this in reference to the financial crisis and subsequent Great Recession (see, Yellen, 2014).

higher-ranked programs: over two-thirds of top-ranked programs and over half of the middle group have some programs to recruit URM students or women. One reason for this skewing may be that most of these programs come in the form of increased stipends and fellowships, which are associated with larger, wealthier schools that have higher-ranked programs.

Across the board, more than half of programs have either a minimum undergraduate GPA, or a minimum GRE score, or both. However, all deem grades and GRE scores important. All of the top-30 and almost all of the top-75 ranked programs report GPAs above 3.5; among the other schools, only six report occasional GPAs of less than 3.5.

Universally, the quantitative GRE score is regarded as the most important part of the GRE, with 52 programs considering it either “important” (13) or “very important” (39). GRE quantitative scores below 155 are rarely encountered among viable applicants; and among the top-30 this boundary is pushed closer to 165. The (unweighted) average score for enrolled students is 167 in the top group, 164 in the middle and 160 in the third group.

When asked to identify the “most important” criteria in the admissions decision, prior coursework in math was cited 43 times, followed by the quantitative GRE score with 38 mentions, and prior coursework in econ 29

times (up to three criteria could be listed). A close fourth in the listing are letters of recommendation (LORs), mentioned 28 times. Interestingly, LORs are mentioned more frequently in higher ranked programs: over two-thirds of the respondents in the top tier list LORs as one of the “most important” criteria; whereas less than a third in the lowest tier list LORs. In contrast, only one of the top-30 schools lists GPA as one of the “most important criteria;” whereas it is almost half of the schools ranked outside the top 75.

Personal statements are markedly less important, with only about half of the programs viewing them as important or very important. Interestingly, personal interviews receive very little weight, with less than a third of programs even considering them somewhat important. Of the criteria that were included in the survey, only prior work experience was viewed as less important than personal interviews.

B. Program Characteristics

Incoming cohorts range from less than a handful to around two dozen students, with higher ranked programs having an average incoming class size of almost 20 and the programs in the third tier averaging fewer than ten students. Virtually all programs in the first and second tiers offer a math boot camp, which is often mandatory for all or some students;

whereas in the third tier only about half offer a math boot camp. An up-or-out qualifier is common practice after the first year or (occasionally) after the second year. Only two respondents do not have such a culling threshold—and both are in the top tier.

Failing to pass a qualifying exam greatly reduces the chances of gaining acceptance into another PhD program as most programs only consider applications from students who left another program in good standing.

Unweighted average completion rates are 67% for the third tier programs, slightly higher for the middle tier, and as high as 80% for the top-tiered programs—although the top tier drops closer to 75% when one excludes the two programs without up-or-out qualifying exams, who report completions of 96% and 99% (see also Stock et al., 2006). Conditional on completion, the mode of time to degree is six years at top programs, while five in the middle and third tiers.

II. Assessment

While caring about increased participation of under-represented groups, our admissions practices do not create broad access.

A. Challenges for Full Participation

The top three criteria for admissions (quant GREs and prior coursework in math and econ),

are indicative of performance, especially in coursework, but to what degree do they shed light on a student's curiosity, creativity, and persistence—all of which are crucial for becoming a successful PhD economist?

Concerning prior coursework, a heavy emphasis on math and economics may preclude students who only later in their undergraduate careers discover economics as a passion, and I would not be surprised to find that many fewer prior math courses are needed to make for a successful PhD student.

Over-reliance on the quantitative GRE score may also skew admissions processes to our disadvantage. There is an ongoing debate about the predictive power of GRE scores, but even setting that aside, it is remarkable that many programs will discount very high GRE scores from applicants whose educational backgrounds are associated with strong performance in standardized tests—especially students from Asia (Posselt, 2016); while at the same time overlooking the corollary that allowances should be made for students who had fewer means and opportunities to develop test-specific skills.

LORs—which have the potential to speak to innate abilities, intangible skills and personal characteristics—only make the top three most important criteria for admissions for fewer than half of the programs. What might this suggest

about us as gatekeepers into the profession? I think the answer depends on how we interpret LORs when we evaluate applications to our programs. One caution in this regard is that the biases uncovered in the seminal work by Bertrand and Mullainathan (2004) are also found in the academic setting, and that letter-writers also evaluate and describe women and URMs differently (see, e.g., Milkman, et al., 2015, or Moss-Racusin, et al., 2012 and Dutt, et al., 2016). Finally, little to no heed is given to personal statements or interviews, although these speak more readily to students' desires, ideas, curiosity and drive.³

Higher-ranked schools appear to have fewer institutional barriers—two programs without up-or-up qualifiers, greater attention paid to LORs and less attention paid to GPAs. However, these programs also place a heavy weight on GRE scores and have a higher effective cut-off for this—thus limiting access in a *de facto* manner as women and URMs exhibit a lower distribution of scores.⁴

Higher-ranked programs are more likely to have initiatives to increase their numbers of women and URMs. However, since these programs are largely limited to funded offers—rather than other forms of support, recruitment

or outreach efforts—the effect of these programs likely influences where URMs and women enroll, without increasing the overall participation of URMs and women in economics programs.

B. Opportunities for Full Participation

As a profession, I believe we are called upon to give some thought and consideration to how our structures and customs affect full participation. It would be good for us to resolve to actively seek out and purposefully mentor undergraduate students from all different backgrounds and lived experiences, to share with them the opportunities that advanced training in economics brings to enriching the lives of individuals and societies.⁵

Bridge programs—such as the AEA Summer Program, the PhD Excellence Initiative (PhDEI), or the Harvard Research Scholar Initiative—should be actively supported through sending students and by giving opportunities to graduates of these initiatives.

At the individual program level, one way to facilitate broader participation is to assure that rather than trying to have the best program and then wait to see who applies, we instead seek out students who may have the most potential

³ Interestingly, the few programs that value interviews highly appear to be associated with a higher percentage of URM faculty.

⁴ See Niederle and Vesterlund (2010) concerning test scores and abilities with respect to gender differences.

⁵ A superb resource is the Div.E.Q. wiki at diversifyingecon.org.

to make important contributions to our profession, and then ask what our programs need to provide them with in order for these students to thrive and succeed. Seeking out such students involves active outreach and recruitment efforts—among our own students and students in related STEM and social science fields, and at HBCUs and minority-serving institutions.

Holistic admissions practices would lead to a shift away from a strong reliance on GRE scores⁶ and towards valuing—and carefully evaluating—personal statements, interviews, and LORs, with an eye towards eliciting information concerning a student’s creativity, originality, determination, grit and other critical characteristics.

These processes contribute to uncovering what we need to incorporate in our programs to have these students succeed. Perhaps some bridging efforts with a few more math classes in the summer before their first semester or after their first year, maybe some latitude in whether, how, or when an up-or-out exam is administered, and a willingness to support and also accept students who hold continued promise and a persistent desire to pursue PhD

training, even after having exited a program when they were not in good standing.

Finally, we need to appreciate that our students will best thrive and contribute to advancing our science when we are both demanding *and* supportive of them, so engaged mentoring should be a common experience of all of our students from the start.

III. Closing Remarks

There’s an old adage in antitrust economics that exposes a barrier to entry: “No one has ever been fired for hiring IBM.” In using “tried and true” practices of relying primarily on prior course work and GRE scores while eschewing personal statements, interviews and life experiences, we perpetuate an entry barrier that excludes some of the best talent. As a result, we risk becoming a stagnant discipline whose inquiries do not address the critical economic and social questions that need our attention.

A great advantage of our rigorous doctoral training is that as PhD economists we speak a common language that allows for efficient vetting and quick dissemination of ideas and insights. But what good is sophisticated grammar and a powerful vocabulary if the contents of our narratives are lacking?

⁶ Assuming that GRE score are informative, the question is what the GRE adds in the assessment of an applicant. If the additional explanatory value of the GRE is near nil when accounting for prior

coursework, letters, statement of purpose, and perhaps some psychometric indicators, then looking at the GRE in a comprehensive review is actually quite valueless--despite the GRE score on its own (in isolation) being predictive.

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