# Has Women's Participation in the AEA Meeting Risen over Time? A Study of the 1985 and 2006 Programs 


#### Abstract

The proportion female in the economics profession in the U.S. has been low historically compared with other disciplines. Although the percentage of Ph.D. degrees awarded to women and the representation of women on faculties have increased over time, economics still lags many other fields. Previous research has documented gender gaps in tenure, promotion and publication, some of which may have narrowed over time. This study examines another aspect of women's representation within the economics profession: their participation in a session at the American Economic Association annual meeting. We examine the characteristics of Ph.D. economists on the program at the 1985 and 2006 meetings to determine how women's participation at this important venue has changed over the past 20 years. We find that, despite sizable increases in women's representation within the profession during this time, most of our measures do not indicate a significant increase in the proportion of female participants.


Keywords: Women in economics, economics profession, academic labor market

## JEL code: A1

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Any process of professional selection that is informal, and whose details are only known or understood by a relatively small in-group, [is] disadvantageous to women, who benefit less frequently than men from sponsorship by more established members of the profession. The process by which sessions at the AEA annual meetings are organized and papers invited has been one of these little-understood processes. (CSWEP annual report, 1985: 452-453)

Every winter, economists gather for the annual meetings of the Allied Social Science Association (ASSA). The annual meetings include sessions organized by about 50 organizations, including the American Economic Association (AEA). The AEA-sponsored sessions are organized by the President-Elect of the AEA from invited and submitted papers. Being on the AEA program gives economists high-profile exposure within the profession and the possibility of publishing their papers in the American Economic Review Papers \& Proceedings May issue. Participating in an AEA session is becoming more important as the AEA decreases the number of sessions sponsored by other organizations at the annual meetings (Glenn, 2007).

Concern about underrepresentation of women and of research related to women on the AEA program motivated the Committee on the Status of Women in the Economics Profession (CSWEP) to begin organizing sessions at the annual meetings in 1974. This practice continues to this day, with CSWEP currently organizing six sessions for the meetings, three of which usually concern topics related to gender. Papers in CSWEP sessions typically have at least one
female author, although junior men can present sole-authored papers in gender-related CSWEP sessions at the AEA meeting.

Previous research suggests that women's participation in AEA sessions has increased since the 1970s but has not systematically studied the issue (Bartlett, 1998). Indeed, only one previous study, by Hinshaw and Siegfried (1995), has examined who is on the AEA program, but it did not include participants' gender. This study therefore examines the gender composition of participants in the AEA sessions, including the sessions organized by CSWEP.

There are several reasons why women might be underrepresented on the AEA program relative to their numbers within the profession. First, women economists tend to publish less than men (Fish and Gibbons, 1989; Ginther and Kahn, 2004; Hilmer and Hilmer, 2007). Differences in rank of Ph.D. institutions, affiliation and other characteristics may account for this gender gap in publications (Barbezat, 2006; Davis, Huston and Patterson, 2001; Kahn, 1995). Relatedly, female economists are less likely than men to be at top publishing-intensive departments (McDowell, Singell and Stater, 2006; Barbezat, 1992). In addition, female academics spend more time teaching and less doing research than their male counterparts (Barbezat, 2006; Singell, Lillydahl and Singell, 1996).

Gender differences in rank and years since Ph.D. could also skew women's representation on the program if more senior members of the profession are more likely to be on the program. Although the number of female economists at all ranks has increased over time, there is still a substantial decline in the representation of women as one moves up the academic ladder (Ginther and Kahn, 2004; Kahn 1995). In 2006, for example, women accounted for about $8 \%$ of full professors, $24 \%$ of tenured associate professors and $29 \%$ of assistant professors in economics Ph.D.-granting departments (Lynch, 2007).

Differences in networks also might lead to gender differences in program participation. Economists are more likely to coauthor with and cite individuals of the same sex (McDowell and Smith, 1992; Ferber, 1988). This might lead to women having smaller networks and reduce their likelihood of participating in the program. However, McDowell, Singell and Stater (2006) generally find that women are not less likely than men to have a coauthored publication, although men do appear to benefit more than women from coauthorship in terms of publication probabilities. In a similar vein, Laband and Tollison (2000) find that women are more likely to coauthor than men within economics, but women are less likely than men to engage in longdistance collaboration.

Women's participation in the program is likely to have risen over time as the number of women at various stages of the pipeline has increased. Lynch (2007) documents a clear increase in the female percentage of new Ph.D.s and assistant and associate professors from 1985 to 2006, although there was little change in the female proportion of full professors. The likelihood that a female Ph.D. economist's first position is in a top 50 program has increased over time as well (McMillen and Singell, 1994). In addition, gender differences in publications appear to have narrowed over time, which might contribute to increased participation of women in the AEA program. McDowell, Singell and Stater (2004) find that women in Ph.D.-granting departments were less likely than men to publish during the 1970s and 1980s but not during the 1990s.

The increase over time in the number of CWEP-organized sessions should have led to an increase in the number of women on the program as well. At the December 1985 meetings, CSWEP sponsored two sessions on gender-related topics. The number of CSWEP-organized sessions increased to three in 1987, to five in 1988 and again to the current number of six in 1989.

More generally, recent research suggests that women face difficulty within the economics profession. Based on an analysis of data from the Survey of Doctoral Recipients and their own sample of economists who were assistant professors in Ph.D.-granting departments in the late 1980s, Ginther and Kahn (2004) conclude that women are less likely than men to get tenure and take longer to do so, even controlling for factors such as number of publications and citations. ${ }^{1}$ McDowell, Singell and Ziliak $(1999,2001)$ also find evidence of gender differences in tenure and promotion in a sample of AEA members, although these differences appear to have narrowed over time.

## Stylized facts on women in the economics profession

Table 1 provides an overview of women's representation in the economics profession for the years 1985 and 2005. The table reports the percentage of new Ph.D.s and "recent" (within the last 5 years) Ph.D.s awarded to women by all Ph.D.-granting institutions and by a fixed list of "top 10" and "top 20" departments based on data from the National Science Foundation’s Survey of Earned Doctorates. ${ }^{2}$ It also reports the percentage female at various ranks within all Ph.D.granting departments.

[^0]As noted by the studies discussed above, there has been an increase in women's representation in economics over time. For example, the proportion of economics Ph.D. recipients over the last 5 years who are female rose from $14 \%$ in 1985 to $29 \%$ in 2006. The proportion of assistant professors at Ph.D.-granting departments almost doubled during that period. These stylized facts suggest that women's representation on the program should have increased over time.

## Data and Methods

We examine AEA programs for 1985 and 2006 using the preliminary program published in the fall prior to the meeting. ${ }^{3}$ The AEA switched its meetings from December to January in 1992, so the programs we examine are 20 years apart. Our analysis does not include any joint sessions except those organized by CSWEP (which are not marked as such in the preliminary program). Most of our analysis focuses on regular sessions, which typically include a chair, three papers and three discussants. We classify any non-CSWEP-organized session labeled in the program as an invited lecture, roundtable, panel, symposium, celebration or as a special session as a "special" session and do not include those sessions in the main analysis. With the exception of CSWEP-organized sessions, we also classify any session without any discussants as

[^1]a special session. ${ }^{4}$ We do not include sessions with a single speaker, poster sessions or luncheons in any of the analysis.

In 1985 and 2006, a total of 1613 participants were listed on the AEA preliminary program (not including special sessions). There were only 1239 unique individuals listed on the programs, indicating that many individuals were on the program multiple times within a year or across years. ${ }^{5}$ As the first 2 rows in Table 2 report, the number of participants (sessions) increased from 391 (49) in 1985 to 1222 (110) in 2006. ${ }^{6}$ This dramatic increase in the number of participants-212\% compared with a $124 \%$ increase in sessions-reflects the growing prevalence of coauthored papers in the economics profession and an increase in the average number of discussants per session.

We attempted to ascertain the gender of every participant in an AEA-sponsored session as listed in the preliminary program. Most individuals' gender is obvious from their first name. ${ }^{7}$ In cases where there was any doubt, we first searched for a website that included a photograph of the participant. We were unable to find a photograph for a small number of participants with

[^2]gender-ambiguous names, particularly graduate students and people who were on the 1985 program but are no longer active in the profession. We then searched for a mention of them on the Internet that included a pronoun (he or she). For a few individuals, we contacted a former colleague, another session participant or a dissertation supervisor to ask about gender. We used the website www.behindthename.com, which provides etymologies of names, to assign gender for some foreign names.

We also attempted to determine the Ph.D.-granting institution, year of Ph.D. receipt and type of Ph.D. (economics or another field) for every program participant. To do this, we used the UMI dissertation abstracts database, individuals' web pages, AEA and CSWEP directories. This information was readily available for most 2006 program participants but somewhat more difficult to obtain for the 1985 program participants, especially those who have since retired. As Table 2 reports, we were able to obtain complete information about gender, whether or not an individual has a Ph.D. in economics and, if so, the degree-granting institution and year for 1553 participants, or $95 \%$ of all participants.

We focus our analysis on participants who have a Ph.D. in economics from a U.S. institution. As Table 2 shows, we were able to identify 1247 participants as such, or $77 \%$ of all participants (and 81\% of participants with complete degree information and known gender). We focus on this group because it is most comparable to U.S. economics professors and Ph.D. recipients. All else equal, one would expect the representation of women among Ph.D. economists on the AEA program to be similar to their representation among the profession, as indicated by Ph.D. recipients and professors at Ph.D.-granting economics departments.

Part of our analysis examines program participants who received their Ph.D. within the previous five years. Given the increase in women in the profession over time and gender
differences in attrition, we expect women to be more highly represented among recent Ph.D.s on the program than among program participants as a whole. Underrepresentation of women among recent Ph.D.s may be of particular concern if appearing on the program early in one's career is important in promotion and tenure decisions. Recent Ph.D.s comprise slightly more than $25 \%$ of Ph.D. economists on the program in 1985 and 2006.

A substantial proportion of participants hold Ph.D.s from top programs. In the years we examine, over $82 \%$ of Ph.D. economists on the program have their degree from a top 20 department, and 68\% from top 10 departments. By way of comparison, the Survey of Earned Doctorates indicates that the top 20 institutions awarded about 37\% of all economics Ph.D.s in the U.S. during 1966-2005, and the top 10 programs about 23\%. Not only are Ph.D. recipients from top programs disproportionately represented on the program, but the concentration of Ph.D.s from top programs has increased over time. The fraction of Ph.D. economists on the AEA program with their Ph.D. from a top 20 or a top 10 program was significantly higher in 2006 than in 1985.

## Representation of Women

Across the years we examine, about $21 \%$ of all program participants and of Ph.D. economists on the program are female. This suggests substantial representation of women on the program. In addition, the fractions of all program participants and of $\mathrm{Ph} . \mathrm{D}$. economists on the program who are female are higher in 2006 than in 1985. However, as we discuss below, most of the increases are not statistically significant, and the representation of women on the program has failed to keep pace with gains among the profession as a whole.

Table 3 reports the proportion of program participants who are female for various categories of participants. The proportion of all participants (with known gender and degree information) who are female rose from $17.6 \%$ in 1985 to $21.7 \%$ in 2006 (row 1), and the increase is significant at the $10 \%$ level. The percentage of Ph.D. economists on the program who are female rose by an insignificant 3.3 percentage points (row 2). Similarly, the percentage of recent Ph.D. economists on the program who are female rose by an insignificant 2.8 percentage points (row 3). In contrast, between 1985 and 2006, the proportion of economics Ph.D.s granted to women and the proportion of assistant professors who are female both rose by almost 15 percentage points (Table 1).

Women appear to actually be overrepresented on the 1985 program. The female proportion of recent Ph.D. economists on the program that year (26\%) exceeds the fraction female among both new and recent Ph .D. recipients (shown in Table 1) by about 11 percentage points. The proportion of Ph.D. economists on the program that year who are female (18.8\%) also is greater than the fraction female among assistant, associate and full professors at Ph.D.granting departments. Thus, although a higher (albeit often insignificantly so) proportion of program participants are female in 2006 than in 1985, women appear to have been more likely to participate on the program relative to their numbers within the profession in 1985 than in 2006.

The increase in the proportion of program participants who are female was concentrated among women holding economics Ph.D.s from top programs. As shown in row 4 of Table 3, the proportion female increased significantly among program participants with economics Ph.D.s from top 20 institutions. The increase also was concentrated among discussants; no significant increase occurred among either authors or session chairs.

As expected, a greater proportion of program participants are female among recent Ph.D.s than among Ph.D. economists as a whole. For example, almost $29 \%$ of recent Ph.D.s on the 2006 program are female, versus $22 \%$ of all Ph.D. economists on that program. A similar pattern holds for recent Ph.D.s from top programs compared with all Ph.D. recipients from top programs. This is consistent with increases in the number of women in the pipeline, more hiring of women by higher-ranked Ph.D.-granting programs and rising publication rates among women. Also consistent with this, the average number of years since Ph.D. receipt is significantly lower among women on the programs (at 11.2 years) than among men (14.9 years).

The results and patterns in Table 3 are robust to including special sessions, with the exception that the decrease in the percentage female among chairs is significant when special sessions are included. Interestingly, the proportion of participants who are female is considerably lower in special sessions than in regular sessions. Among Ph.D. economists, for example, only $12.7 \%$ of participants in special sessions were female across the two years. The lower representation of women in special sessions could reflect the fact that special sessions tend to be composed of preeminent economists, and few full professors at top Ph.D.-granting departments—or indeed all Ph.D.-granting departments—are female.

## The Role of CSWEP

CSWEP plays an important role in ensuring that women are included in the AEA program. Almost 16\% of female Ph.D. economists who participated in the 1985 program did so via a CSWEP session compared with 22\% in 2006. If we drop CSWEP-organized sessions from the data, the only significant increase in proportion female between 1985 and 2006 is among recent Ph.D.s from top 20 departments.

CSWEP appears to offer an important way for female economists who do not hold a degree from a top department to participate in the AEA program. A lower proportion of economists participating in CSWEP sessions hold Ph.D.s from the top programs than do participants in non-CSWEP sessions. In the 2 years we examine, 78\% (57\%) of Ph.D. economists in CSWEP sessions have their degree from a top 20 (top 10) department compared with $82 \%$ (69\%) of Ph.D. economists in non-CSWEP sessions.

## Papers \& Proceedings

Perhaps the highest profile exposure for participants on the AEA program is having their paper published in the May Papers \& Proceedings issue of the American Economic Review. Papers published in the issue are typically from invited sessions, not contributed sessions. Papers from two CSWEP sessions were published in the 2006 issues, up from one session in 1985. We examine the proportion female among authors whose papers are published in the Papers \& Proceedings issue as another measure of how women's representation has changed over time. We restrict the sample here to individuals listed as authors (not discussants or chairs) on the preliminary program and listed as authors in the Papers \& Proceedings issue for whom complete information is available. ${ }^{8}$ Results are shown in Table 4. We do not present separate results for recent Ph.D.s because very few appear as authors in the published issue.

There was little improvement in the representation of women in terms of papers published in the Papers \& Proceedings issue over time. When examining all participants, not just economics Ph.D.s, the percentage female rose from $16 \%$ in 1985 to almost $26 \%$ in 2006, a significant increase (row 1 of Table 5). But the percentage female among Ph.D. economists did

[^3]not increase significantly either overall or among those with degrees from top 10 or top 20 programs.

As with the program as a whole, CSWEP plays a large role in ensuring that women are represented in the Papers \& Proceedings. When CSWEP sessions are excluded from the sample of published authors, most of the increases in the percentage female are smaller and none are statistically significant, as shown in the bottom panel of Table 4.

## Conclusion

In a symposium on reflections on 25 years of CSWEP published in the Journal of Economics Perspectives, Milton Friedman wrote, "The pendulum has probably swung so far that men are the ones currently being discriminated against" (1998: 199). This study provides evidence that this is not yet the case as far as the AEA program is concerned. Although the proportion female in most of the categories we examine is higher in 2006 than in 1985, few of the increases are statistically significant. In addition, the increases are considerably smaller than those in the profession as a whole. Given that participating in the AEA meetings can provide exposure helpful in advancing an economist's career, it is troubling to find that, with the exception of women with Ph.D.s from the 20 top ranked U.S. economics departments, there is little evidence that women's participation in the AEA program has increased over time. In addition, absent CSWEP, even fewer women would participate in the program and there would be less improvement over time in women's participation in the program and in their publication in the Papers \& Proceedings issue.

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Table 1
Women's Position in the Economics Profession: Percentage of New and Recent Ph.D.s and Professors who are Female

|  | 1985 | 2005 | Percentage <br> point change |
| :--- | :---: | :---: | :---: |
| Ph.D.-granting economics departments |  |  |  |
| New Ph.D. recipients | 15.1 | 30.0 | 14.9 |
| Recent Ph.D. recipients | 14.2 | 28.9 | 14.7 |
| Assistant professors | 14.6 | 29.4 | 14.8 |
| Associate professors | 7.5 | 19.2 | 11.7 |
| Full professors | 4.2 | 7.7 | 3.5 |
|  |  |  |  |
| Top 20 Ph.D.-granting departments |  |  |  |
| New Ph.D. recipients | 16.4 | 27.8 | 11.4 |
| Recent Ph.D. recipients | 14.9 | 27.0 | 12.1 |
| Top 10 Ph.D.-granting departments |  |  |  |
| New Ph.D. recipients | 15.6 | 26.6 | 11.0 |
| Recent Ph.D. recipients | 15.0 | 25.6 | 10.6 |

Note: All figures are percentages. Figures for new and recent Ph.D.s are based on data from the Survey of Earned Doctorates and use the same set of top 20 and top 10 institutions (those listed in the 2006 CSWEP report) for both years. Recent Ph.D.s received their degree within the last 5 years. Data for associate and full professors are for tenured professors, and data for assistant professors is for untenured professors. Faculty data for 1985 are from Ginther and Kahn (2004); 2005 faculty data are from the 2006 CSWEP report.

Table 2
Number of AEA Program Participants

|  | 1985 | 2006 |
| :--- | :---: | :---: |
| Number of regular sessions | 49 | 110 |
| Total number of participants | 391 | 1222 |
| Participants with complete information | 364 | 1169 |
| Participants with complete information and economics Ph.D. from U.S. institution: |  |  |
| All | 329 | 918 |
| Recent Ph.D.s | 77 | 243 |
| Ph.D.s from top 20 departments | 245 | 780 |
| Recent Ph.D.s from top 20 departments | 52 | 210 |
| Ph.D.s from top 10 departments | 200 | 654 |
| Recent Ph.D.s from top 10 departments | 38 | 174 |
| Authors | 179 | 520 |
| Discussants | 102 | 306 |
| Chairs | 48 | 92 |

Note: The set of top 20 and top 10 departments is the same for both years. Recent Ph.D.s includes individuals who received their degree within the previous 5 years.

Table 3
Percentage Female among AEA Program Participants

|  | 1985 | 2006 | Percentage <br> point change |
| :--- | :---: | :---: | :---: |
| All participants with complete info | 17.6 | 21.7 | $4.1^{*}$ |
| Ph.D. economists | 18.8 | 22.1 | 3.3 |
| Recent Ph.D.s | 26.0 | 28.8 | 2.8 |
| Ph.D.s from top 20 departments | 15.5 | 20.5 | $5.0^{*}$ |
| Recent Ph.D.s from top 20 departments | 19.2 | 29.5 | 10.3 |
| Ph.D.s from top 10 departments | 15.5 | 18.0 | 2.5 |
| Recent Ph.D.s from top 10 departments | 21.1 | 25.3 | 4.2 |
| Authors | 19.6 | 22.3 | 2.8 |
| Discussants <br> Chairs | 13.7 | 23.2 | $9.5 * *$ |
| * p $<0.1 ; * *$ p<0.05 |  |  |  |
| Note: All rows except the first only include individuals with an economics Ph.D. from a U.S. institution. See Table |  |  |  |
| 2 for sample sizes. |  |  |  |

Table 4
Percentage Female of Authors with Papers Published in Papers \& Proceedings

|  | 1985 | 2006 | Percentage <br> point change |
| :--- | :---: | :---: | :---: |
| All Published Non-Special Sessions |  |  |  |
| All participants with complete info | 16.3 <br> $(86)$ | 25.8 <br> $(128)$ | $9.5^{*}$ |
| Ph.D. economists | 20.0 | 27.0 | 7.0 |
|  | $(70)$ | $(100)$ |  |
| Ph.D.s from top 20 departments | 15.5 | 18.8 | 3.3 |
|  | $(58)$ | $(85)$ |  |
| Ph.D.s from top 10 departments | 14.9 | 18.8 | 3.9 |
|  | $(47)$ | $(69)$ |  |
| Excluding CSWEP Sessions |  |  |  |
| All participants with complete info | 12.3 | 18.2 | 5.8 |
|  | $(81)$ | $(110)$ |  |
| Ph.D. economists | 15.2 | 19.3 | 4.2 |
| Ph.D.s from top 20 departments | $(66)$ | $(88)$ |  |
|  | 10.9 | 14.1 | 3.2 |
| Ph.D.s from top 10 departments | $(55)$ | $(78)$ |  |
|  | 9.1 | 14.1 | 5.0 |

[^4]
[^0]:    ${ }^{1}$ Blackaby, Booth and Frank (2005) find evidence of a gender gap in promotion and earnings among academic economists in the U.K.
    ${ }^{2}$ The list of top 10 and top 20 institutions is based on the 2005 U.S. News graduate school rankings, as used in the 2006 CSWEP report. For simplicity, we use a fixed list over time even though there have been minor changes in which schools are included in the U.S. News list. The top 10 departments are MIT, Harvard University, Princeton University, Stanford University, University of Chicago, University of California-Berkeley, Yale University, Northwestern University, University of Pennsylvania and University of California, San Diego. The other departments in the top 20 are University of California, Los Angeles, University of Michigan-Ann Arbor, University

[^1]:    of Wisconsin-Madison, University of Minnesota-Twin Cities, California Institute of Technology, Columbia University, University of Rochester, Cornell University, Carnegie Mellon University and New York University.
    ${ }^{3}$ We used the 1985 preliminary program published in the American Economic Review and the 2006 preliminary program posted on the AEA's website.

[^2]:    ${ }^{4}$ One CSWEP-organized session in 1985 did not have discussants listed in the preliminary program. We include that session as a regular session here, which slightly increases the number of women on the program in that year and reduces the magnitude of the changes over time in the proportion of participants who are women.
    ${ }^{5}$ The calculation of the number of unique individuals assumes that last names did not change for reasons such as marriage (or major typographical errors).
    ${ }^{6}$ Here, and for the remainder of the paper, we use the term "participants" to refer to the number of (non-unique) names listed on the program. An individual who appears twice on a program would be counted as two participants. We think this metric is more relevant than the unique number of participants because it better reflects the number of slots available.
    ${ }^{7}$ Davis, Huston and Patterson (2001), Ferber (1988), McMillen and Singell (1994) and many other studies use similar methods to classify economists' gender.

[^3]:    ${ }^{8}$ As with other results here, we focus on regular sessions. The results are similar if special sessions are included.

[^4]:    * $\mathrm{p}<0.1$; ** $\mathrm{p}<0.05$

    Note: Shown is the female percentage of authors (in various categories) of papers on the preliminary AEA program that were published in the Papers \& Proceedings. Numbers in parentheses are the total number of authors in that category.

