The 2018 Report of the Committee on the Status of Women in the Economics Profession

December 13, 2018

By Shelly Lundberg, Chair

I. Introduction

A standing committee of the American Economic Association since 1971, the Committee on the Status of Women in the Economics Profession (CSWEP) serves professional women economists by promoting their careers and monitoring their progress. In 1972, CSWEP fielded the first survey of economics departments regarding the gender composition of faculty and, since 1993, has surveyed some 250 departments annually with findings reported in the *American Economic Association: Papers & Proceedings* and reprinted in the CSWEP Annual Report. The CSWEP Board, staff, non-Board committee members and CSWEP's network of liaisons to more than 200 departments and institutions provide substantial public goods to the profession as a whole. CSWEP organizes mentoring programs that serve several hundred economists annually. These include the internationally renowned CeMENT Mentoring Workshops for junior women and the Mentoring Breakfasts at the Annual AEA/ASSA Meetings as well as career development roundtables and panels at the Annual AEA/ASSA Meetings and at the meetings of the four regional economics associations. CSWEP provides professional opportunities to junior women through competitive-entry paper sessions at both the Annual AEA/ASSA Meetings and at regional economic association meetings. CSWEP also endeavors to raise awareness among men and women of the challenges that are unique to women's careers in economics and of best practices for increasing diversity in the economics profession. To recognize and celebrate the accomplishments of women, CSWEP awards the Carolyn Shaw Bell Award annually (for furthering the status of women in the economics profession) and the Elaine Bennett Prize biennially (for fundamental contributions to economics by a woman within seven years of the PhD). On the web at CSWEP.org and via the thrice-yearly *CSWEP News*, CSWEP disseminates information on women in economics, professional opportunities, and career development.

The centerpiece of this report is the summary of the 2018 Annual Survey in Section IV. Briefly, we find that there has been little progress in increasing the representation of women in economics during the past decade, with stagnation or decline in the number of women entering economics at both the undergraduate and graduate level and increasing attrition of women as assistant professors. With the support of the AEA, we have completed a project to document and harmonize our 45 years of data and have made it available to individual researchers via ICPSR.

Section II reports on the administration of CSWEP activities and changes taking place as Shelly Lundberg's term as chair ends and Judith Chevalier's begins. Section III describes CSWEP activities addressing the challenges women continue to face in the economics profession. Associate Chair Sebnem Kalemli-Ozcan oversees CSWEP mentoring programs. Associate Chair Margaret Levenstein directed the 2018 CSWEP Annual Survey, analyzed the results and wrote the report on the status of women in the economics profession in Section IV. Section V concludes with well-deserved acknowledgements of many who have contributed to CSWEP's mission. Appendix A lists the 2018 Board members.

II. CSWEP Administration

A. CSWEP Office and Upcoming Transition

Judy Chevalier at Yale University will take over as CSWEP Chair in January 2019 from Shelly Lundberg at the University of California at Santa Barbara (UCSB). CSWEP has a new full-time Administrative Assistant, Lauren Lewis, who began in September 2018 and will be working from the AEA's office at Vanderbilt University in Nashville, TN. This new base for the CSWEP administrative full-time assistant will facilitate improved communication between CSWEP and the AEA administration, allow for direct control over the CSWEP website, and will ease future leadership transitions.

Following the sudden resignation of the previous CSWEP assistant, two part-time assistants, Christine Weidner and Tina Giurguis (UCSB PhD students), kept CSWEP operations going through the spring and summer and made further improvements to the portability of the CSWEP office. Databases for CSWEP affiliates, liaisons, and department chairs have been consolidated in MailChimp (a flexible customer relationship management tool). All files have been migrated to Dropbox. The Wordpress site that makes CSWEP policies and procedures available to all Board and Committee members—and provides CSWEP with an institutional memory as the Board, Chair, and staff change—has been updated and expanded.

B. CSWEP Communications

The success of CSWEP programs in advancing the status of women in economics depends upon our ability to communicate broadly and effectively to our community, junior and senior, within and outside the academy, and also to the profession as a whole. Our

traditional communications tools, the CSWEP website, our subscriber email list, and *News*, have been augmented in recent years by email networks and social media.

The CSWEP Liaison Network (created in 2014) has continued to expand the distribution of the CSWEP newsletter and announcements and to streamline the yearly collection of departmental gender data for the CSWEP Annual Survey. The goal has been to recruit a tenured faculty liaison in every department of economics including, where appropriate, economics groups in business, public policy and environmental schools as well as government and private research units. [1] This year, we surveyed liaisons to learn how they distribute CSWEP materials to their networks. The majority of respondents distributed the emails to a select audience depending on the content of the message (51%). This contact also helped us update and expand the liaison network.

Our Twitter account, @AEACSWEP, was launched in 2017 and we have been tweeting prize announcements, calls for papers, and other notices as a supplement to our email list and liaison network. With more than 2K followers, our Twitter presence seems to have improved our communications with younger economists, as suggested by the increased rate at which our mentoring programs fill up.

C. Historical Data Harmonization Project

In 2016, the AEA provided funds to CSWEP to create a research-ready, documented, database integrating the CSWEP and UAQ data and to generate reports to be provided annually to interested PhD-granting departments on the current and historical status of women in their department relative to their peers. We have completed the integration, harmonization, and documentation of data for the years 1993-2017 for doctoral departments. These data have been deposited at ICPSR for researcher use, and have already been used for a couple of papers forthcoming in a symposium on women in economics in the *Journal of Economic Perspectives*. We are continuing this work for the non-PhD departments and for the years before 1993 (using UAQ data only).

This year, CSWEP generated a longitudinal report for each PhD-granting economics department based on its previous twenty years of individual submissions to CSWEP. Distribution of this year's reports was hampered by staff turnover, but we plan to update and send these individual reports to departments each year.

[1] For a list of current members of the CSWEP Liaison Network, visit https://www.aeaweb.org/committees/cswep/Liaison_Network.php.

III. CSWEP Activities in 2018

A. CSWEP and AEA Initiatives on Equity, Diversity and Professional Climate

The CSWEP Board applauds the adoption of a Code of Professional Conduct by the AEA Executive Committee in 2017. CSWEP Chair Lundberg served on an AEA Ad Hoc Committee on the Professional Climate in Economics that made a series of recommendations to the Executive Committee, including the establishment of a new Standing Committee on Equity Diversity, and Professional Climate to consider, implement, and oversee the other recommendations of the ad hoc committee. Such a committee has been established, and CSWEP Board Member Sandra Black is currently serving on it. Other recommendations included the conduct of a professional climate survey, consideration of methods to monitor and reduce harassment and discrimination, and the development and dissemination of best practices for reducing bias in economics. CSWEP looks forward to productive cooperation with this new committee in our work to advance the careers of women and other underrepresented groups in economics.

B. Mentoring Programs

The effective mentoring of women economists is central to CSWEP's mission. While mentoring and creating professional networks is an ongoing aspect of most CSWEP activities, the internationally recognized CeMENT Mentoring Workshops hold center stage, and the CSWEP Mentoring Breakfasts have expanded our reach to more junior and mid-career economists. At the 2018 AEA/ASSA meetings, CSWEP also partnered with CSMGEP for a panel discussion on mentoring underrepresented minority women economists. Responding to several suggestions for additional mentoring programs, we have established an ad hoc committee to consider future directions for CSWEP mentoring.

1. CeMENT Mentoring Workshop for Faculty in Doctoral Programs

The CSWEP CeMENT workshop for faculty in doctoral programs is aimed at mentoring female faculty in tenure-track positions at PhD granting economics departments in the U.S. or at institutions with similar research expectations. The 2018 CeMENT mentoring workshop for PhD-Granting Institutions was on Sunday January 7th – Tuesday January 9th, 2018, at the Sheraton Philadelphia Downtown Hotel, Philadelphia, PA. CeMENT Director Martha Bailey served as the main coordinator for this workshop and was joined by 42 participants and 20 senior mentors. [2] The workshop consisted of large group discussions on career development

[2] We are grateful to the mentors who volunteered their time for the January 2018 workshop: Amy Ando (University of Illinois at Urbana-Champaign), Manuela Angelucci (University of Texas – Austin), Kelly Bedard (University of California, Santa Barbara), Linda Bui (Brandeis University), Monica Capra (Claremont Graduate University), Anusha Chari (University of North Carolina – Chapel Hill), Shin-Yi Chou (Lehigh University), Karen Clay (Carnegie Mellon University), Pascaline Dupas, Stanford University, Ying Fan (University of Michigan), Shoshana Grossbard (San Diego State University), Ginger Jin (University of Maryland), Amanda Kowalski (Yale University), Kathleen McGarry (University of California, LA), Terra

topics and small group sessions pairing two mentors with four (or five) junior economists with similar research interests. The five large group panel sessions focused on the topics of: getting published, efficient and effective teaching, networking, managing service, getting tenure, and work-life balance. Each large group session began with advice from a panel of four of the senior mentors, but a lot of time was reserved for Q&A. Based on informal and formal feedback we received, the workshop was a great success. Based on the exit survey, the average junior participant rating of the workshop was 6.79 (on a scale of 1-7 where 1 is "not at all helpful" and 7 is "extremely helpful").

In response to significant excess demand, in January 2014 the Executive Committee of the AEA approved moving the workshop from a biennial to an annual frequency, effectively doubling the capacity. Funding is currently allocated through 2021. For the 2018 workshop, 106 applications were received, 80 of which were judged to meet the workshop criteria. Of these 80 applications, 15 were given priority admission as applicants who were randomized out in 2017. The remaining participants were chosen by random selection from the remaining 66 applications, stratified into 3 broad research areas. Excess demand for the workshop remains very high. Given the intensity and duration of the workshop, recruiting senior mentors at the top of their field is challenging.

2. CeMENT Mentoring Workshop for Faculty in Non-Doctoral Programs

At the recommendation of Director Ann Owen, the CSWEP Board agreed to move the next non-doctoral CeMENT workshop from the Southern Economic Association meetings in late 2019 to after the main AEA Meeting in 2020. The main reasons for this change are to make it easier to find mentors in conjunction with the main national meeting, and to elevate the profile of the workshop. AEA staff report that there will also be logistical efficiencies if the two CeMENT workshops are held at the same time.

3. Mentoring Breakfasts for Junior Economists

CSWEP hosted two mentoring breakfasts for junior economists, organized by Amalia Miller, at the 2018 AEA/ASSA meetings. Over 180 junior economists and 46 senior mentors signed up to participate across the two breakfasts. Bad weather and travel difficulties lowered actual turnout, but both events were well-attended by junior economists and mentors. The junior mentoring breakfasts are open to both male and female participants, and roughly 5% of the junior participants at the 2018 breakfasts were male. Senior mentors staffed topical tables (Research/Publishing, Teaching, Tenure/Promotion, Non-Academic Careers/Grant-Writing, Work/Life Balance, Job Market and Job Market Special Topics—Dual Career Couples, Job Search 4+ Years post PhD) and junior participants rotated between tables at 20-minute

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McKinnish (University of Colorado, Boulder), Linda Tesar (University of Michigan), Lise Vesterlund (University of Pittsburgh), Maisy Wong, University of Pennsylvania.

intervals based on their own interests. In a post-event survey of participants, the average rating was 86 out of 100.

4. Peer Mentoring Breakfast for Mid-Career Economists

CSWEP hosted a mid-career mentoring breakfast, organized by Ragan Petrie, at the 2018 AEA/ASSA meetings. 30 mid-career women and 12 mentors registered to attend the event. The breakfast kicked off with series of short talks. Julia Lane (New York University), talked about "The pros and cons of academic, government and private sector work" and Catherine Wolfram (University of California-Berkeley), talked about "Some good advice I have received". The remainder of the breakfast was devoted to informal discussion at the breakfast tables. Each table consisted of 4-6 mid-career participants and 2 senior mentors who moderated the discussions about promotion to full professor, whether to accept administrative roles, managing research time, work/life balance, career transitions, and negotiating with department and university administrators. The average rating for the event was 88 out of 100.

5. Best Practices for Mentoring Underrepresented Minority Women Economists

Marie Mora organized and moderated a lunch-time panel discussion on Best Practices for Mentoring Underrepresented Minority Women Economists at the 2018 AEA Meetings in Chicago (jointly sponsored by CSWEP, CSMGEP, and the NSF-funded AEA Mentoring Program). Panelists included Cecilia Conrad (Managing Director, MacArthur Foundation), India Johnson (Professor of Psychology, Elon University), and Beronda Montgomery (MSU Foundation Professor of Biochemistry & Molecular Biology and Microbiology & Molecular Genetics at Michigan State University). Dr. Johnson's research on developing and testing interventions to attract and support underrepresented groups in STEM fields, and Dr. Montgomery's on understanding how individuals perceive, respond to, and are impacted by environments, enabled them to provide unusual (and often moving) insights to the economists in the audience. A video of this event and the ensuing discussion is available on CSWEP's website here. A total of 99 participants registered for this event. In a participant survey after the event, the average approval rating was 95 on a 1-100 scale.

6. AEA Summer Economics Fellows Program

Begun in 2006 with funding from the National Science Foundation (NSF) and designed and administered by a joint AEA-CSMGEP-CSWEP committee, the AEA Summer Economics Fellows Program aims to enhance the careers of underrepresented minorities and women during their years as senior graduate students or junior faculty members. Fellowships vary from one institution to the next, but generally senior economists mentor the fellows for a two-month period, and fellows, in turn, work on their own research and have a valuable opportunity to present it. Many fellows have reported this experience as a career-changing event.

Under the direction of Daniel Newlon, the AEA Summer Fellows Program rebounded dramatically in 2018 from last year's slump. The number of applicants placed by the AEA Summer Fellows Program jumped from 15 in 2017 to 25 in 2017, a record number of placements. The number of minority placements also increased from three in 2017 to five in 2018, another record. The number of applications increased from 105 in 2017 to 123 in 2018, and the percentage of applicants placed increased from 14% to 20%. The percentage of female applicants placed was 25%; minority applicants, 21%; and U.S. citizen/permanent residents/HIB visas, 25%.[3]

Of the 25 fellows placed, 17 were female non-minority graduate students, one was a female non-minority post-doc and two were female non-minority faculty members. The five minority hires included three female graduate students and one male and one female faculty member. Twelve of the fellows were U.S. citizens/permanent residents or had HIB Visas. The AEA Summer Fellows Program has twenty sponsors in 2018: the U.S. Census Bureau, U.S. Bureau of Economic Analysis, Mathematica, the Federal Reserve Board and Federal Reserve Banks in Atlanta, Boston, Chicago, Cleveland, Dallas, Kansas City, Minnesota, New York, Richmond and St. Louis.

C. Carolyn Shaw Bell Award and Elaine Bennett Research Prize

1. Carolyn Shaw Bell Award

Awarded annually since 1998, the Carolyn Shaw Bell Award recognizes an individual for outstanding work that has furthered the status of women in the economics profession. Dr. Rohini Pande, Rafik Hariri Professor of International Political Economy, Harvard Kennedy School, Harvard University, is the recipient of the 2018 Carolyn Shaw Bell Award. Professor Pande is an accomplished development scholar and gifted academic leader. She mentors all along the economics pipeline, from undergraduates to graduate students, postdocs to junior colleagues at her own and other universities, to support their future success. In scholarship, Professor Pande is one of the most influential development economists of her generation. The full prize announcement is available online.

2. Elaine Bennett Research Prize

Melissa Dell, Professor of Economics at Harvard University, is the recipient of the 2018 Elaine Bennett Research Prize. Established in 1998, the Elaine Bennett Research Prize recognizes and honors outstanding research in any field of economics by a woman not more than seven

[3] Many thanks to the 2018 committee for screening and matching fellows to sponsors: Daniel Newlon from the AEA (chair), CSWEP Board member Amalia Miller, Gustavo Suarez of the Board of Governors of the Federal Reserve System and Lucia Foster of the Center for Economic Studies at the U.S. Bureau of the Census. More information on the AEA Fellows Program is available at https://www.aeaweb.org/about-aea/committees/summer-fellows-program

years beyond her Ph.D. Professor Dell is recognized for her impressive contributions to economic development, economic history, and political economy. Her research focuses on understanding the importance of state institutions for economic development. She finds novel sources of variation in state institutions and undertakes extensive data collection to provide compelling evidence that has changed the way we think about economic development. The full prize announcement can be found on CSWEP's website.

We owe an enormous debt to the prize selection committees and also thank those who did the hard work of nominating the candidates and those who wrote the thoughtful, detailed letters in support of each candidacy.

D. CSWEP's Presence at the Annual Association Meetings

1. The 2018 American Economic Association Meeting

In addition to mentoring activities, presentation of the Annual Report, and the presentation of awards, CSWEP sponsored seven competitive-entry paper sessions at the AEA/ASSA Meetings in Philadelphia. In 2018, Ragan Petrie and Claudia Olivetti organized three sessions in the economics of gender, including one on gender in the economics profession. Olivia Mitchell and Gopi Shah Goda organized two sessions on Aging and Retirement and Petra Todd and Manuela Angelucci organized two sessions on Development Economics. These committees selected nine papers for publication in three pseudo-sessions in the *AEA: P&P.* To be considered for these sessions, papers must have at least one junior author and, in non-gender-related sessions, at least one author must be a junior female.

The submissions process for these sessions is highly competitive—there were 137 abstract submissions for the 2018 sessions. Women consistently report that these sessions, which put their research before a wide audience, are professionally valuable. Even though many included papers have male co-authors, CSWEP sessions still account for a substantial share of women on the AEA Program.

2. Four 2018 Regional Economic Association Meetings

CSWEP maintains a strong presence at all four of the Regional Economic Association Meetings. At most regional meetings, CSWEP now hosts a networking breakfast or lunch, as well as paper sessions and career development panels. The events are well attended by men as well as women and provide an informal opportunity for CSWEP representatives and senior women to network and mentor one-on-one. We are grateful to the four Board Regional Representatives who organize and host CSWEP's presence at the Regionals.

The first regional meeting of 2018 was the Eastern Economic Association Meeting in Boston in March, where Karen Conway (CSWEP Board Eastern Representative) organized eight paper sessions and a networking breakfast. The paper sessions spanned a wide range of topics, including econometric methods, fertility, marriage, the criminal justice system, child outcomes and the effects of ridesharing apps. Despite a freak winter storm that stranded or

delayed many travelers, attendance at CSWEP events was good, and the networking breakfast had 45 attendees. A career panel, organized by Natalia Smirnova, featured five economists diverse job experiences including private firms, nonprofits and government agencies as well as in academics.

The Midwest Economic Association Meeting was held in Evanston, Illinois on March 23, 2018, and two career panels were organized by Midwest Representative Shahina Amin—"Advice for Job Seekers" and "Academic Career Challenges and Opportunities". These panels were well-attended and 47 people registered for and attended the networking luncheon held between the two events. There were senior economists, junior economists, and graduate students at each table and many lively conversations.

The Western Economics Association Meeting was held on June 26-30 in Vancouver, Canada. Western Representative Catalina Amuedo-Dorantes organized three paper sessions and several other events. A well-attended hospitality/networking breakfast co-sponsored with CSMGEP provided participants with a casual setting to greet and meet. A panel of journal editors from the *American Economic Review*, *Contemporary Economic Policy*, *Economic Inquiry*, and the *Journal of Public Economics* attracted about 60 people, and a round table on "Jobs for Economists: A Panel Discussion on Work/Family Management in Government, Academic, Research and Private Sector Jobs", organized by Heather Antecol, had approximately 30 attendees.

Finally, Southern Representative Ragan Petrie organized four paper sessions at the Southern Economic Association Annual Meeting in Washington, DC, on November 18-20, 2018. A professional development panel, "Advice for Job Seekers and Early Career," was chaired by Sarah Jacobson and a joint CSWEP/CSMGEP professional development session, "Meet the Editors: Advice from the Gatekeepers," was organized and chaired by Jose Manuel Fernandez. CSWEP also held a professional networking lunch, hosted by Laura Argys, with 50 attendees. All events were well-attended and well received by participants.

E. CSWEP News: 2018 Focus and Features

Under the able direction of *CSWEP News* Oversight Editor Kate Silz-Carson and with the graphic design expertise of Leda Black, CSWEP published three newsletter issues in 2018.[4] Each issue features a *Focus* section of articles with a theme chosen and introduced by a guest editor who solicits the featured articles. The quality of these *Focus* articles is consistently high, with many proving to be enduring career resources for junior economists.[5] The CSWEP Board extends our thanks to the authors and other contributors.

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[4] Current and past issues of the *CSWEP News* are archived at http://www.aeaweb.org/committees/cswep/newsletters.php.

[5] The feature articles have provided the bulk of professional development materials for the binder for CeMENT workshop participants, now online at http://www.aeaweb.org/committees/CSWEP/mentoring/reading.php.

1. Dealing with Sexual Harassment

The 2018 *CSWEP News*, Issue I contains the CSWEP 2017 Annual Report, including results and analysis by Maggie Levenstein from the 2017 survey of economics departments on the progress of women in academic economics.

The issue's Focus is *"Dealing with Sexual Harassment"* and it includes articles from experts on effective institutional responses to sexual harassment in the academy and one on using technology to fight harassment, as well as first-hand accounts by members of our community. The guest co-editor of this timely issue is Jennifer Bennett Shinall, Associate Professor of Law at Vanderbilt University, and she brings her economic and legal expertise, as well as personal experience, to her introductory essay. As the AEA considers concrete actions as a follow-up to the adoption of a new Code of Professional Conduct, we hope that these articles can inform a forceful response to a pervasive source of gender bias in economics.

2. Working With the Media

The 2018 *CSWEP News*, Issue II features a Focus section with a series of sage and entertaining essays, commissioned by co-editor Catalina Amuedo-Dorantes, on working with the media, both as a researcher explaining your own work and as an expert providing commentary on current events of policy interest. It includes advice on preparing for interviews, tips for effective communication, and thoughts on the benefits and potential downsides of talking to journalists. Another article shares the secrets of a successful op-ed writer and the final entry addresses a crucial modern element of media skills—what to do when your research goes viral. Overall, the material in this issue should increase economists' confidence and willingness to engage with the media.

3. Proactive Efforts to Increase Diversity and Inclusion

Issue III of *CSWEP News* reflects on a set of active institutional efforts to reduce gender bias and increase diversity, including adoption of inclusion criteria for conference programs and establishing clear metrics for promotion. In her introduction, co-editor Elizabeth Klee notes that information structures are a key element of these reforms, many of which include "conscious steps to make opaque processes transparent." This issue also includes an interview with Rachel Croson, the recipient of the 2017 Carolyn Shaw Bell Award, by Tanya Rosenblat.

CSWEP wishes to extend our thanks to all those who took the time to write contributions to newsletters during 2018. Professional development features of these and past issues of *CSWEP News* are now more easily accessible at CSWEP.org, where you can find them

archived by year as well as by target audience and topic.[6]

IV. Status of Women in the Economics Profession[7]

A. Women's Status in the Economics Profession: Summary

In 1971 the AEA established CSWEP as a standing committee to monitor the status and promote the advancement of women in the economics profession. In 1972 CSWEP undertook a broad survey of economics departments and found that women represented 7.6% of new PhDs, and 8.8% of assistant, 3.7% of associate, and 2.4% of full professors. In the next two decades, there was significant change. By 1994, the CSWEP survey of economics departments with doctoral programs found that women made up 30.4% of new PhD students, and 24.9% of assistant, 13.9% of associate, and 6.9% of full professors (Table 1). Over the next 15 years those increases gradually affected the academic pipeline, so that women now make up 14.3% of full professors and 25.9% of associates (in PhD granting departments). Despite this progress, there are still more women in non-tenure track positions in PhD-granting economics departments than there are either full or associate professors (Table 1). Moreover, progress at increasing the flow of women *into* the pipeline has been limited. The female share of assistant professors, at 28.3%, and of the entering cohort of PhD students, at 33.2%, are just slightly above their 1994 levels (Table 1). The share of women among undergraduate economics majors at these same schools has increased (from 28.5% in 1998 to 34.1% in 2018), but is still well below parity, let alone the 55% share of women in the undergraduate population.[8] This report presents the results of the 2018 CSWEP survey. It compares the top ranked economics departments – which produce the vast majority of faculty in PhD granting departments – to all PhD and non-PhD granting departments. It also examines gender differences in outcomes in the PhD job market and progress (and attrition) of women through the academic ranks.

B. The CSWEP Annual Surveys, 1972-2018

In fall 2018 CSWEP surveyed 126 doctoral departments and 128 non-doctoral departments. This preliminary report analyzes the responses provided by 123 doctoral and 105 non-doctoral departments.[9] The non-doctoral sample is based on the listing of "Baccalaureate

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[6] https://www.aeaweb.org/committees/cswep/newsletters.php, https://www.aeaweb.org/committees/cswep/newsletters-audience.php and https://www.aeaweb.org/committees/cswep/newsletters-topics.php.

[7] This survey report is written by Margaret Levenstein, CSWEP Associate Chair and Survey Director. We gratefully acknowledge the assistance of Aneesa Buageila and Dawn Zinsser in the administration and analysis of the survey.

[8] According to the National Center for Science and Engineering Statistics report on *Women, Minorities, and Persons with Disabilities in Science and Engineering*, 55% of full-time undergraduates are female.

[9] We handle missing data as follows. We impute responses for missing items or non-responding departments. In years when non-responders to the CSWEP survey did respond to the AEA's Universal Academic Questionnaire (UAQ), we use UAQ data to impute missing responses. When the department

Colleges – Liberal Arts" from the *Carnegie Classification of Institutions of Higher Learning* (2000 Edition). Starting in 2006 the survey was augmented to include departments in research universities that offer a Master's degree but not a PhD degree program in economics. We continue to harmonize and document the departmental-level data from the 1970s to the current period to improve our analysis of long-run trends in the profession. As a result of this work, we have produced department-level longitudinal reports for all responding PhD departments; these reports will be shared with department chairs and CSWEP liaisons on an annual basis. All years of the survey are now accessible as ICPSR study 37118 at https://doi.org/10.3886/ICPSR37118.v2.[10]

C. 2018 Survey Results

In 2018 the share of full professors in PhD-granting economics departments who are women reached at an all-time high at 14.3% (Table 1, Figure 1). In most other categories, the share of women in PhD granting departments is essentially flat or even declining. The share of new PhDs granted (31.8%) is below the average for the previous decade (33.6%). The share of the incoming cohort of PhD students increased very slightly from 32.3% in 2017 to 33.2% in 2018, but is below the levels maintained from 2001 to 2011. The total number of women entering PhD programs in 2018 was the lowest level in the 21st century (Table 1). The proportion of assistant professors who are women (28.3% in 2018) fell slightly from 2017 (28.6%) and is below the level reached a decade ago (29.4%). Women make up less than a quarter of all faculty in PhD-granting departments, and over a quarter of all female faculty in PhD-granting departments are in non-tenure track positions.

The situation is similar if one examines the 21 economics departments that make up the "top twenty." These departments produce the vast majority of faculty who teach in PhD-granting departments, so their trends determine the characteristics of the supply of economists to the profession. In 2018, the top 20 departments increased the representation of women very slightly in most dimensions. The share of full professors, associate professors, assistant professors, and entering PhD students increased slightly (Table 2). The share of women among PhDs granted, and, interestingly, non-tenure track instructors fell slightly. There was more progress in the schools ranked 10-20 than in the top ten, where the share of assistant professors and incoming PhD students actually fell in 2018. Women still make up less than 30% of incoming students (Table 2). The share of economics PhDs granted to women fell to the lowest level this century.

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responded to neither CSWEP nor UAQ, we use linear interpolation from survey responses in other years. Appendix tables and figures provide more detail on response rates and the impact of imputation on reported results. We are very grateful to Charles C. Scott and the American Economic Association for sharing the UAQ data with us.

[10] Aggregate time series data are publicly available. Department-level panel data are available with a restricted data use agreement.

Turning to an examination of non-doctoral departments, Figure 2 and Table 3 show a similar pattern to that observed in PhD-granting departments.[11] The share of faculty who are women is higher than in PhD-granting departments, at every level of the professoriate, but there has been remarkably little change in this century. In general, the share female falls as the research intensity of the department increases (e.g., from top 20 to top ten). The one exception is among undergraduates. In the top ten departments, women made up 40.3% of senior majors in 2018; 38.8% of majors in the top 20; 35.8% in all PhD granting departments; and 36.1% in non-doctoral departments (Tables 1, 2, and 3). Both doctoral and non-doctoral programs rely on women to teach, with women making up 36.2% of full-time non-tenure track faculty in the former and 34.4% in non-doctoral departments.

At every level of the academic hierarchy, from entering PhD student to full professor, women have been and remain a minority. Moreover, within the tenure track from new PhD to full professor, the higher the rank, the lower the representation of women (Figure 1). In 2018 new doctorates were 31.8% female, falling to 28.3% for assistant professors, to 25.9% for tenured associate professors, and 14.3% for full professors. This pattern has been characterized as a "leaky pipeline." Our reliance on this leaky pipeline for incremental progress in women's representation in the profession depends on continued growth in entry, which no longer appears to be forthcoming.

To provide a visual representation and estimates of this leaky pipeline, this report presents a simple lock-step model of typical academic career advancement (Figures 3 and 4). We track the gender composition of younger cohorts from when they enter graduate school and older cohorts from receipt of their degree. We compare the share female as the cohort progresses through academic ranks. Figure 3 shows that the proportion of women receiving their PhDs has been almost exactly the same as the proportion of women entering PhD programs six years prior. There does not appear to be excess attrition of women in graduate school. However, there is evidence of attrition from graduate school into academia and during the academic probationary period: women's share of assistant professors is considerably smaller than would be predicted from the number receiving PhDs seven years earlier (Figure 3). This same pattern is reproduced in Figure 4, as the share female receiving the PhD diverges from the share of assistant professors for the cohorts of women who finished their degrees in 2004 and later. The pipeline has gotten leakier for younger women in the last decade. Figure 4 demonstrates as well the continuing excess attrition as women move (or don't) through the ranks. The female share of associate professors is consistently about 5% lower than the share who were assistant professors seven years earlier.

Tables 4, 5, and 6 provide snapshots of the job market experiences of women from different types of PhD programs. Table 4 reports that women made up about a quarter of job candidates from the top 20 schools last year. They made up smaller fractions of academic placements in both PhD and non-PhD granting departments. Women constituted

[11] Unlike in previous years, here we report data on non-PhD departments only beginning in 2006. The sample changed considerably in that year, expanding to include departments in universities that give masters. Figure 2 and Table 3 use a consistent panel of departments over time.

disproportionately larger fractions of new economists who took jobs in the public and private sector. Women's representation in foreign job placements was, if anything, higher than their placements in U.S. academic jobs, suggesting that the continued underrepresentation of women in US economics departments is not driven by changes in US and international composition of students. Table 5 presents the share female and outcomes for job market candidates in PhD-granting departments outside the top 20. Fully 40% of job market candidates overall from these departments were female. This suggests a potential supply of female economists if schools are willing to look more broadly outside the elite departments. Table 6 presents placement data slightly differently, showing where last year's job market candidates placed, by the rank of the originating department. Gender differences in placement are consistent across rank of the originating department, despite differences in placement outcomes. For example, men are more likely to place in a PhD-granting department whether their PhD is from a top ten department (43.8% of women and 55.2% of men), a top 11-20 department (29.6% versus 35.3%) or PhD program outside the top 20 (14.7% versus 16.2%).

The female share of the entering class of students in PhD programs overall has been flat over the last twenty years (Figure 1 and Table 7). For the top 20 programs, the share has been flat or even slightly downward over the last twenty years. 2018 shows a slight increase, and we can hope this is the beginning of a trend. Within the top 20, there is considerable variation in the share of females in the first PhD class across the 21 schools (Table 8). Over half of top 20 departments have student bodies that are over 70 percent male and over a quarter of top 20 departments are over 80% male. Note that while we are not breaking out the top ten, to protect the confidentiality of individual school data, this pattern is not different between the top ten and the schools ranked 11-20.

D. Conclusions

This report is depressingly similar to those of previous years. *There has been no progress in the representation of women either entering the economics profession or advancing from untenured assistant to tenured associate professor.* If anything, we see stagnation or decline in women entering economics at both the undergraduate and graduate level and increasing attrition of women as assistant professors. The most recent job market data shows that women are disproportionately likely to leave academia altogether. Women make up a larger share of undergraduate majors, though those numbers do not approach parity and are not increasing over time. Moreover, even though economics majors are more likely to be female in top ten PhD-producing economics departments, that experience does not appear to be creating a pipeline of young women entering economics. This lack of progress is particularly striking given the increasing representation of women in other STEM fields and in the college-going population overall. Finally, it is worth recognizing the high representation of women in non-tenure-track teaching jobs. Over a quarter of the female faculty in top 20 economics departments are in non-tenure track teaching positions. This may play a role in shaping how undergraduate women view the economics profession.

CSWEP's many years of data on the evolution of faculty composition at the department level are unique in the social sciences and beyond. CSWEP is now making department-level longitudinal data available to individual departments so that they have this information to determine appropriate steps to achieve gender equity. Annual aggregate data and departmental-level data are available for research purposes in a manner that protects the confidentiality of the responding departments through the Inter-university Consortium for Political and Social Research and will be updated annually.

V. Board Rotations and Acknowledgements

At the end of 2018, Shelly Lundberg's term as CSWEP Chair will come to an end and Judy Chevalier will be stepping up as Chair in the new year. The terms of at-large CSWEP board members Elizabeth Klee and Justin Wolfers and the second term of Amalia Miller will also be ending, and they will be replaced by Jonathan Guryan, Petra Moser, and Karen Pence. CSWEP is very grateful to the outgoing Board members for their generous contributions to CSWEP's mission, and welcome our new members.

Staff turnover caused considerable disruption in CSWEP's operation this year, and Lundberg wishes to thank Christine Weidner and Tina Guirguis, who kept things moving, remained unfailingly cheerful, and repaired the damage. Lauren Lewis, who has taken charge in Nashville since September, has proven to be a quick study and an organizer *par excellence*, and we are happy to be in her capable hands going forward.

CSWEP is fully funded by the American Economic Association. Funding increases in recent years have made the expansion of CSWEP's services possible, and for this we are grateful. Very special thanks are due to the AEA Secretary-Treasurer, Peter Rousseau, for his support and counsel and to his excellent staff: Barbara H. Fiser, and Susan B. Houston as well as Michael P. Albert, Jenna Kensey, Gwyn Loftis, Linda Hardin, Allison Bridges, Kristine Etter, Melissa Smith, Jonnda Burner and Julia Merry.

Finally, the Committee is indebted to the Economics Department of the University of California, Santa Barbara for their administrative support of CSWEP's activities through fall of 2018, including the provision of office space, IT support, computer equipment, office supplies and substantial additional resources.

Figure 1. Pipeline for Departments with Doctoral Programs:
Percent of Doctoral Students and Faculty who are Women, 1994-2018

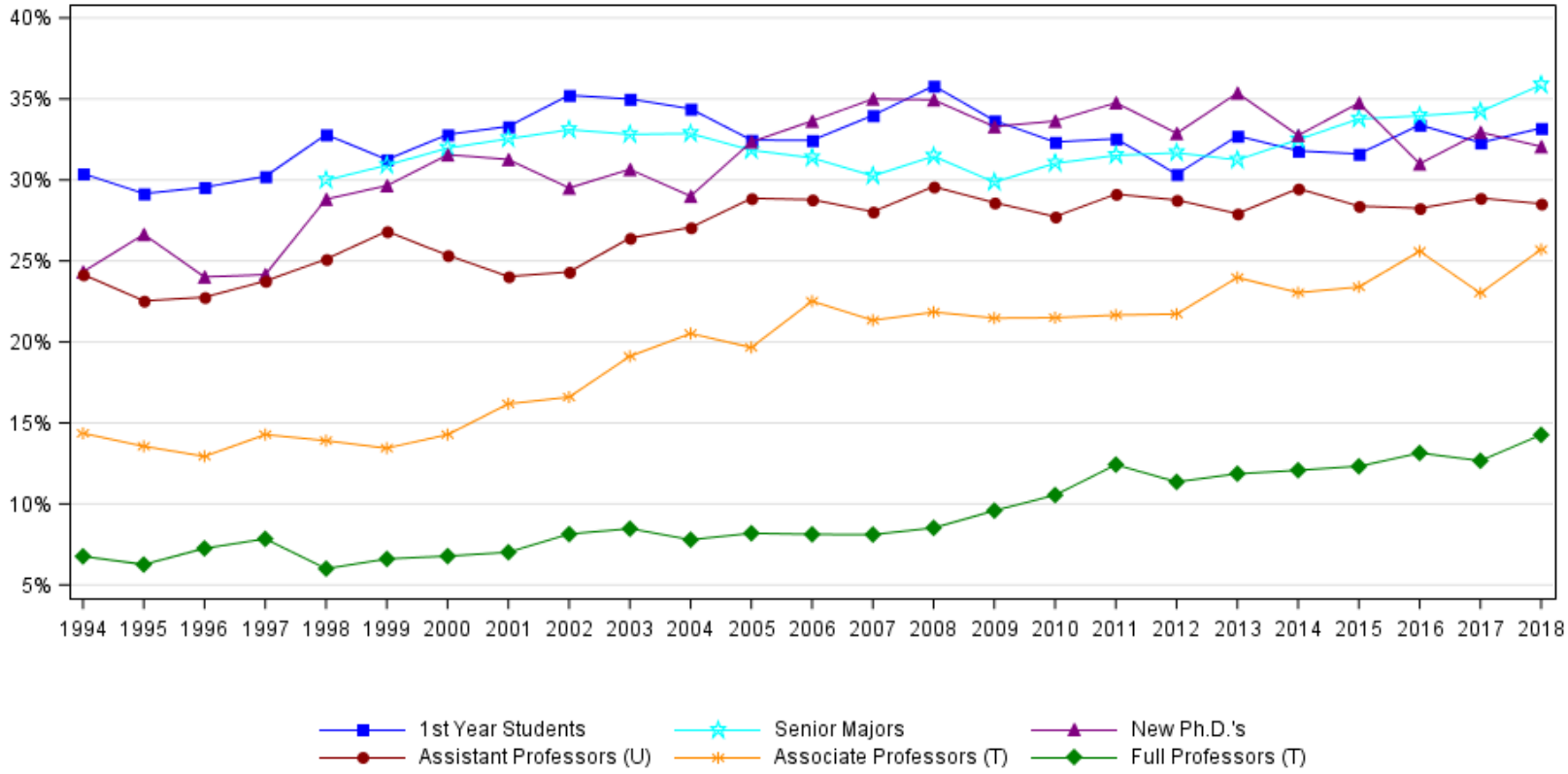


Figure 2. Pipeline for Departments without Doctoral Programs:
Percent of Students and Faculty who are Women, 2006-2018

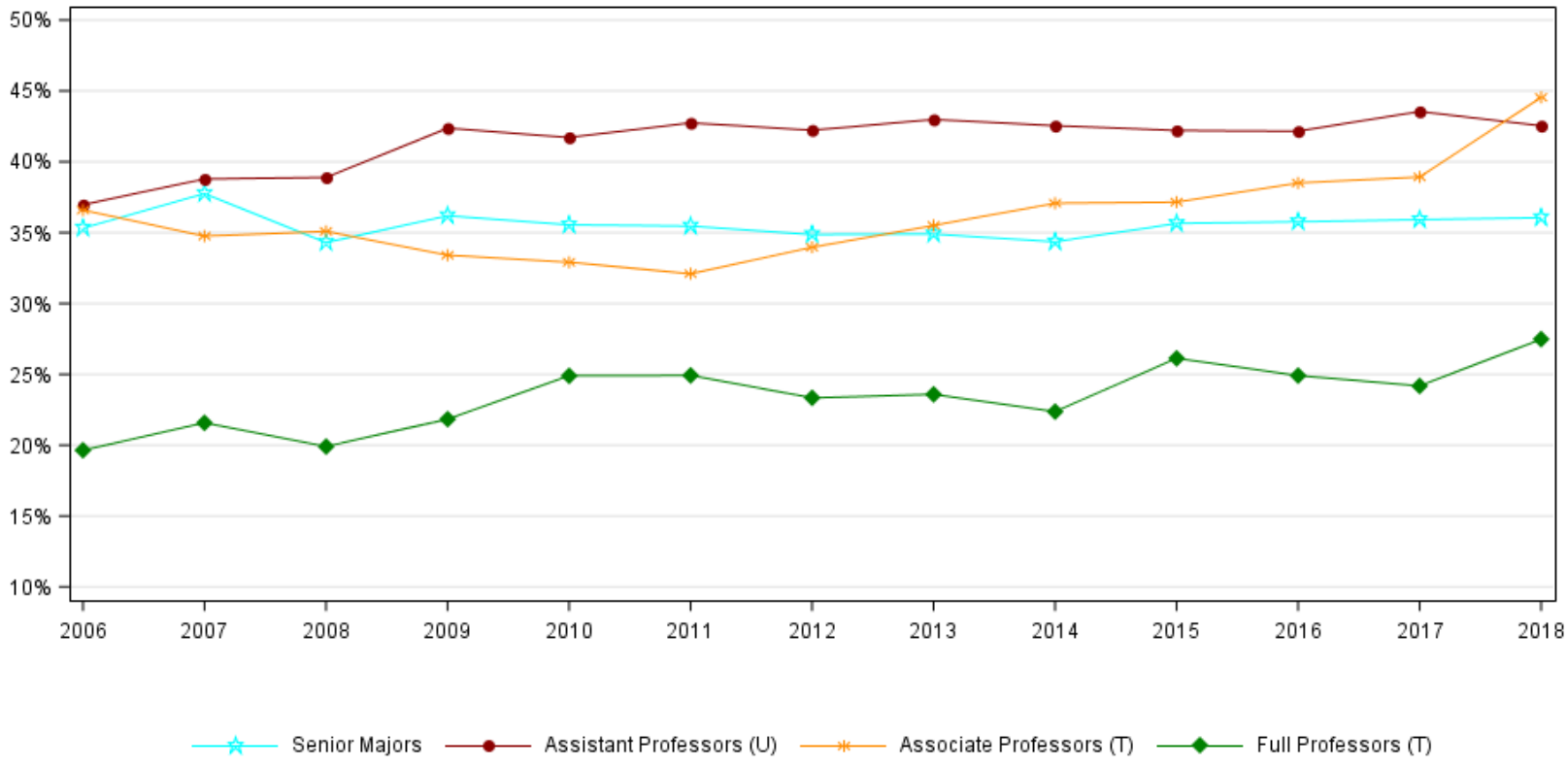


Figure 3. Lock-Step Model: Percentage of women, by entering PhD cohorts:
Matriculation, graduation and entry into first-year assistant professorship

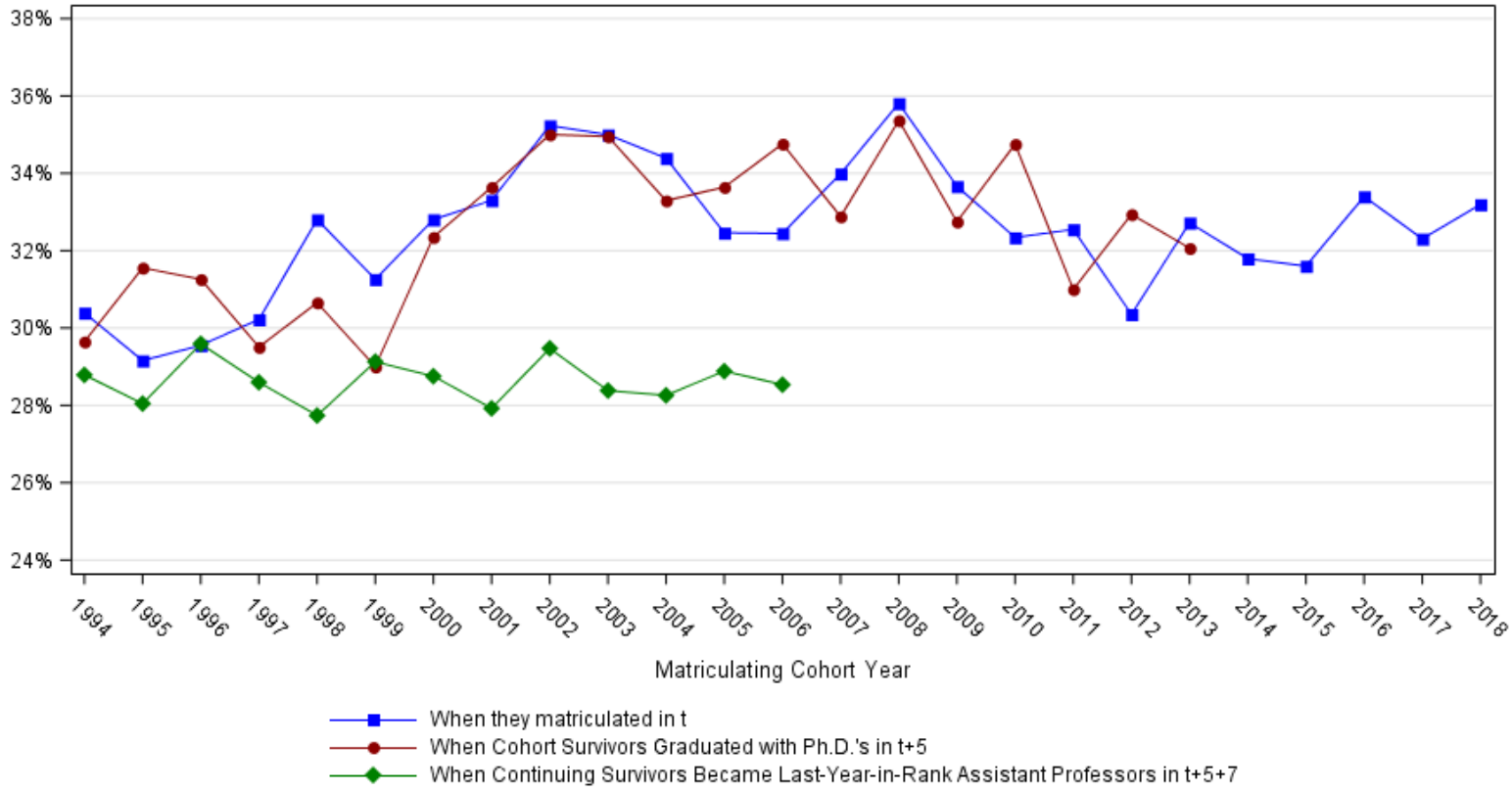


Figure 4. Lock-Step Model: Percentage of women, by receiving-PhD cohort:
Graduation, last year-in-rank assistant professorship, and last year-in-rank associate professors

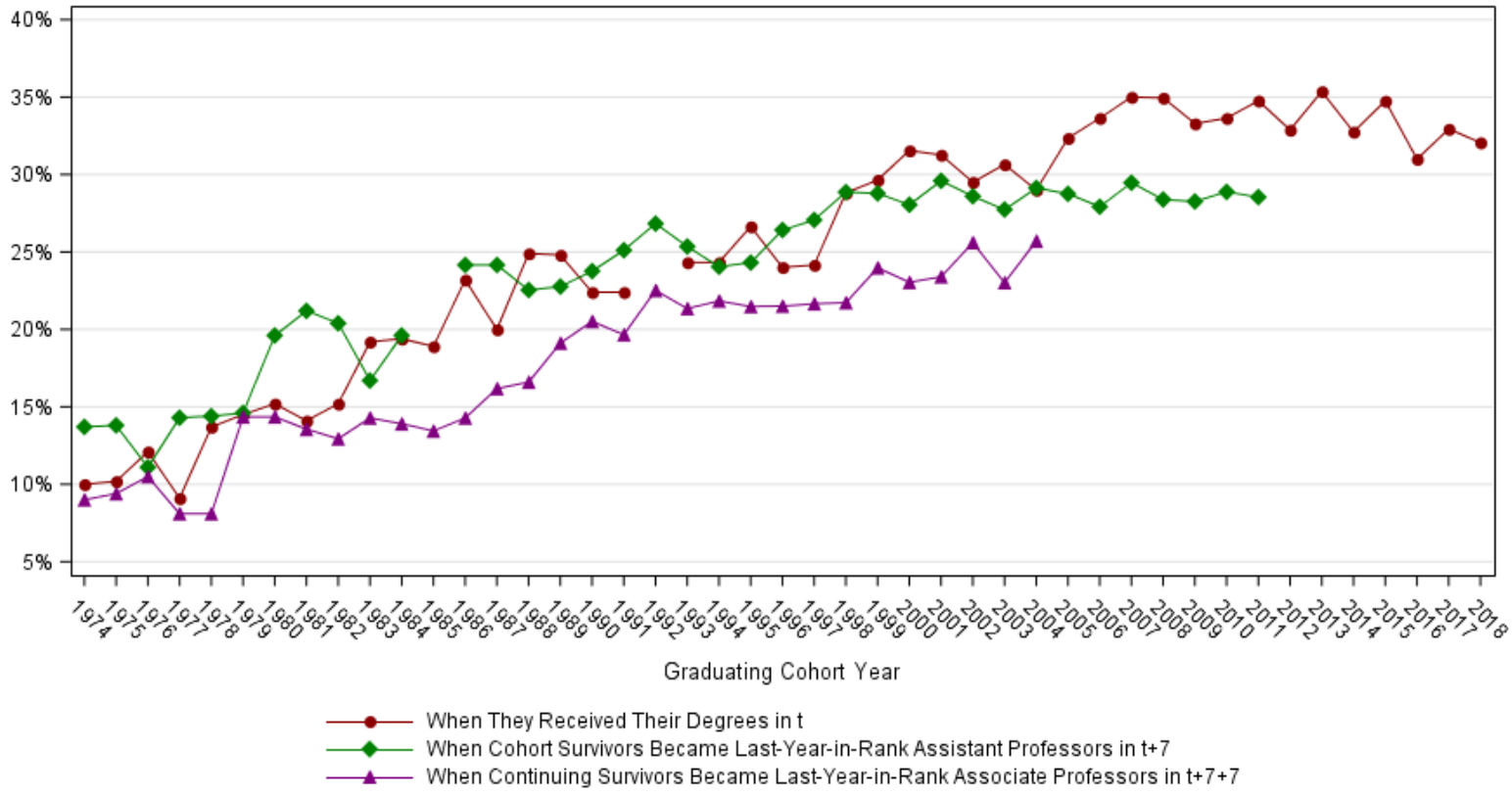


Table 1. The Pipeline for Departments with Doctoral Programs: Percent and Number of Doctoral Students and Faculty who are Women

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Faculty																									
Full Professor																									
Percent	6.9%	6.1%	7.1%	8.1%	5.9%	6.6%	6.8%	7.1%	8.1%	8.5%	7.8%	8.3%	8.1%	8.1%	8.5%	9.6%	10.5%	12.6%	12.5%	11.8%	12.1%	12.3%	13.2%	12.7%	14.3%
Number	80.0	92.5	101.7	125.3	87.0	98.9	102.1	111.5	130.2	135.5	125.0	127.9	125.4	127.5	136.5	152.0	171.3	193.0	195.7	183.0	190.3	195.7	210.0	194.0	223.0
Associate Professor																									
Percent	13.9%	13.1%	13.1%	14.1%	14.0%	14.0%	14.4%	15.9%	16.3%	19.3%	20.0%	20.5%	22.8%	21.8%	22.4%	21.6%	22.6%	22.5%	22.6%	24.1%	23.1%	23.8%	26.1%	23.2%	25.8%
Number	61.0	82.5	76.6	84.6	84.5	83.4	83.6	93.1	93.0	108.4	114.8	111.7	126.1	123.3	131.5	129.5	137.8	135.1	134.9	145.5	151.0	156.0	179.0	154.0	170.0
Assistant Professor																									
Percent	24.9%	22.7%	22.5%	24.0%	24.5%	25.6%	24.3%	23.1%	24.4%	27.2%	27.2%	29.6%	28.8%	27.7%	29.4%	28.0%	27.6%	29.3%	28.9%	27.4%	29.0%	28.2%	28.3%	28.6%	28.4%
Number	126.3	146.0	133.8	142.8	140.9	152.7	148.2	149.8	152.9	187.2	188.9	208.4	205.2	212.9	231.2	213.3	212.6	215.4	227.2	208.5	228.7	233.8	236.0	241.0	233.0
All Tenure Track (Subtotal)																									
Percent	12.7%	11.5%	11.9%	12.9%	11.8%	12.4%	12.4%	12.6%	13.4%	15.2%	15.0%	16.1%	16.2%	15.9%	16.8%	16.8%	17.4%	18.9%	18.9%	18.4%	18.9%	19.0%	20.1%	19.4%	20.6%
Number	267.3	321.0	312.1	352.7	312.4	335.0	333.9	354.4	376.2	431.1	428.6	448.0	456.7	463.7	499.2	494.8	521.8	543.5	557.8	537.0	570.0	585.5	625.0	589.0	626.0
All Non-Tenure Track																									
Percent	29.6%	24.3%	35.5%	43.4%	30.5%	29.4%	31.3%	29.7%	33.0%	32.5%	31.4%	35.6%	33.2%	33.3%	32.4%	34.8%	33.0%	33.0%	38.5%	35.2%	37.8%	34.8%	35.2%	35.0%	37.0%
Number	29.0	37.0	37.0	53.9	62.0	79.3	120.8	97.1	95.9	132.1	151.5	138.1	155.1	181.5	183.6	197.7	230.3	224.3	214.7	181.5	223.3	296.7	312.0	320.0	233.0
All Faculty																									
Percent	13.5%	12.1%	12.8%	14.2%	13.1%	14.0%	14.8%	14.4%	15.2%	17.3%	17.3%	18.5%	18.6%	18.6%	19.3%	19.7%	20.3%	21.6%	22.0%	20.9%	22.0%	22.4%	23.5%	23.1%	23.4%
Number	296.3	358.0	349.0	406.6	374.4	414.3	454.7	451.5	472.1	563.1	580.1	586.1	611.8	645.1	682.8	692.5	752.1	767.8	772.4	718.5	793.3	882.2	937.0	909.0	859.0
Ph.D. Students																									
Ph.D. Granted																									
Percent	24.3%	26.6%	24.0%	24.2%	28.8%	29.6%	31.6%	31.3%	29.5%	30.7%	29.0%	32.4%	33.6%	35.0%	34.9%	33.3%	33.6%	34.8%	32.9%	35.4%	32.7%	34.8%	31.0%	32.9%	32.1%
Number	180.0	233.5	221.2	227.2	259.5	264.0	278.8	287.4	247.9	291.0	313.4	321.9	326.3	366.6	434.2	364.3	340.6	349.8	354.5	394.3	361.2	406.6	372.0	361.0	370.0
ABD																									
Percent	27.3%	26.4%	27.9%	28.1%	28.2%	30.6%	31.2%	31.7%	31.8%	34.5%	33.3%	34.2%	34.0%	33.7%	34.1%	33.9%	34.2%	34.5%	32.7%	32.1%	32.2%	31.7%	31.7%	33.0%	32.8%
Number	689.0	312.5	767.0	830.4	796.2	837.9	839.8	841.8	947.2	1117.4	1221.6	1231.3	1226.5	1306.5	1281.9	1300.9	1369.2	1332.2	1315.7	1227.5	1346.0	1324.5	1430.0	1469.0	1469.0
First Year																									
Percent	30.4%	29.2%	29.6%	30.2%	32.8%	31.3%	32.8%	33.3%	35.2%	35.0%	34.4%	32.5%	32.4%	34.0%	35.8%	33.7%	32.3%	32.5%	30.4%	32.7%	31.8%	31.6%	33.4%	32.3%	33.2%
Number	404.5	470.0	455.2	455.0	473.0	480.9	503.7	553.3	584.1	620.0	587.8	543.4	539.3	566.0	603.7	604.9	570.8	548.6	477.9	479.5	504.7	499.8	517.0	492.0	474.0
Undergraduate Economics Majors Graduated																									
Percent	missing	missing	missing	missing	28.5%	30.2%	30.9%	31.7%	32.7%	32.9%	31.8%	31.9%	31.1%	31.6%	30.9%	30.9%	30.7%	30.3%	30.6%	32.0%	33.3%	33.2%	32.9%	34.1%	34.1%
Number	missing	missing	missing	missing	6270.0	7267.5	7793.0	8310.2	9251.3	11675.9	13066.3	14703.7	15831.6	15383.8	14425.1	17221.9	18180.3	18938.2	20085.4	17820.6	20699.3	23324.5	22380.0	22790.0	23902.0
Undergraduate Senior Majors*																									
Percent	missing	missing	missing	missing	30.0%	30.9%	32.0%	32.5%	33.1%	32.8%	32.9%	31.8%	31.4%	30.2%	31.5%	28.8%	30.7%	31.0%	31.1%	31.2%	32.5%	33.8%	34.0%	34.2%	35.9%
Number	missing	missing	missing	missing	6340.0	7521.4	8309.4	8915.1	11200.9	13420.5	13917.1	15093.6	15398.7	15238.3	16065.2	20215.0	23289.5	25703.0	27880.0	15032.2	19987.8	19128.0	19918.0	20799.0	21872.0

*Notes: Entry and exit change the population universe. Any known Ph.D. programs are considered members of the population. Any non-respondents are imputed first with UAQ survey responses and, if those are unavailable, with linear interpolation.

Table 2. The Pipeline for Top Departments: Percent and Numbers of Faculty and Students who are Women

	All Top 10 Schools						All Top 20 Schools					
	1994-1997	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*	*1994-1997*	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*
Faculty												
Full Professor												
Percent	4.7%	7.4%	8.4%	9.1%	9.4%	11.3%	4.3%	7.3%	7.8%	9.5%	10.2%	11.9%
Number	10.8	18.5	21.4	25.8	27.0	33.0	17.3	33.4	36.3	45.6	51.8	62.0
Associate Professor												
Percent	12.5%	19.8%	16.4%	22.0%	26.0%	26.3%	11.9%	15.9%	16.2%	22.4%	20.0%	20.6%
Number	4.5	5.7	4.8	7.6	9.4	10.0	9.8	10.8	10.0	19.8	19.4	20.0
Assistant Professor												
Percent	20.4%	18.0%	22.7%	23.1%	19.4%	17.9%	18.0%	18.4%	24.3%	22.9%	20.7%	21.5%
Number	20.8	19.4	23.7	21.6	18.8	17.0	31.8	35.2	49.8	48.0	42.2	45.0
All Tenure Track (Subtotal)												
Percent	9.9%	11.3%	12.8%	13.3%	13.2%	14.1%	9.0%	11.1%	13.1%	14.5%	14.0%	15.4%
Number	36.0	43.6	49.9	55.0	55.2	60.0	58.8	79.4	96.1	113.4	113.4	127.0
All Non-Tenure Track												
Percent	34.7%	31.4%	40.0%	35.9%	37.2%	34.4%	37.3%	32.3%	41.5%	34.3%	39.8%	33.1%
Number	5.3	7.6	15.2	20.0	29.2	22.0	11.5	16.7	30.2	46.5	65.2	48.0
All Faculty												
Percent	10.8%	12.4%	15.2%	15.8%	16.9%	16.8%	10.2%	12.6%	15.6%	17.4%	18.3%	18.0%
Number	41.3	51.2	65.1	75.0	84.4	82.0	70.3	96.1	126.3	159.9	178.6	175.0
Ph.D. Students												
Ph.D. Granted												
Percent	24.6%	25.1%	28.6%	26.7%	27.6%	23.6%	25.0%	25.2%	29.5%	28.2%	28.8%	25.3%
Number	51.3	51.1	57.0	54.0	57.0	49.0	84.3	84.3	102.1	100.6	109.2	98.0
ABD												
Percent	22.9%	24.4%	28.0%	26.1%	26.2%	26.9%	23.4%	26.2%	29.9%	28.2%	27.2%	27.3%
Number	134.8	184.0	240.2	218.8	233.0	264.0	218.9	297.4	407.1	401.5	431.2	447.0
First Year												
Percent	24.5%	28.0%	26.3%	24.4%	26.3%	26.1%	25.8%	29.2%	28.4%	27.6%	27.3%	29.9%
Number	69.3	72.6	66.8	61.0	62.6	59.0	124.1	141.2	135.4	129.2	120.4	126.0
Undergraduate Economics Majors Graduated												
Percent	missing	35.6%	37.2%	36.5%	38.2%	36.3%	missing	33.8%	35.6%	35.4%	38.1%	37.0%
Number	missing	460.8	660.5	644.4	873.2	866.0	missing	929.5	1634.9	1778.4	2377.5	2431.0
Undergraduate Senior Majors*												
Percent	missing	37.3%	38.2%	38.2%	36.2%	40.3%	missing	34.9%	36.6%	35.6%	37.8%	38.8%
Number	missing	466.8	669.4	860.9	710.8	787.0	missing	992.1	1576.3	2066.1	1908.6	2202.0

*Notes: For each category, the table gives women as a percentage of women plus men. For the five-year intervals, simple averages of annual percentages are reported.

Table 3. Percent Women Faculty and Students: Economics Departments without Doctoral Programs

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Faculty													
Full Professor													
Percent	19.4%	21.4%	19.7%	21.8%	24.7%	24.8%	23.2%	23.4%	22.9%	25.2%	24.9%	24.2%	27.8%
Number	90.5	102.3	106.5	110.3	126.6	125.4	115.1	115.3	112.5	125.0	121.0	118.0	131.4
Associate Professor													
Percent	35.8%	34.6%	34.5%	33.0%	32.7%	31.8%	33.3%	35.8%	36.0%	37.2%	38.8%	39.9%	44.7%
Number	101.3	97.9	110.5	105.3	107.5	101.3	99.5	105.0	111.0	110.5	114.0	118.0	122.9
Assistant Professor													
Percent	35.3%	37.7%	37.7%	40.7%	40.1%	42.1%	41.7%	40.2%	41.8%	42.4%	41.0%	42.5%	42.2%
Number	101.3	115.5	126.4	125.5	129.0	132.7	128.8	123.2	130.4	139.3	138.9	139.5	144.0
All Tenure Track (Subtotal)													
Percent	28.3%	29.6%	28.7%	30.1%	31.2%	31.6%	31.1%	31.5%	31.8%	33.4%	33.5%	33.8%	36.6%
Number	293.1	315.7	343.4	341.2	363.1	359.3	343.4	343.4	353.9	374.8	373.9	375.5	398.4
All Non-Tenure Track													
Percent	34.6%	34.9%	37.0%	29.6%	37.0%	35.7%	32.6%	36.2%	35.7%	36.0%	33.4%	32.4%	33.4%
Number	89.6	94.4	107.8	88.9	99.3	98.2	107.4	65.3	86.0	143.5	125.5	98.5	62.6
All Faculty													
Percent	29.6%	30.7%	30.4%	30.0%	32.3%	32.4%	31.4%	32.1%	32.5%	34.1%	33.4%	33.5%	36.1%
Number	382.7	410.1	451.2	430.1	462.3	457.5	450.9	408.7	439.9	518.3	499.4	474.0	461.0
Students													
Undergraduate Economics Majors Graduated													
Percent	35.3%	33.5%	32.4%	33.4%	34.8%	35.4%	34.6%	34.5%	34.9%	34.2%	35.7%	35.9%	35.4%
Number	1546.5	1634.6	1660.8	1786.7	1767.5	1709.6	1686.7	1567.9	1988.4	2115.0	2343.2	2252.3	2379.9
Undergraduate Senior Majors*													
Percent	35.3%	34.2%	34.3%	36.2%	35.5%	34.4%	34.2%	34.9%	34.4%	35.6%	35.8%	35.9%	36.1%
Number	1536.3	1663.3	1863.1	1958.8	1771.7	1760.9	1685.6	1809.5	2074.8	2381.2	2474.6	2435.5	2301.7
M.A. Students Graduated													
Percent	34.9%	42.6%	33.4%	39.4%	35.0%	37.8%	38.7%	36.6%	39.6%	40.1%	40.9%	41.7%	47.2%
Number	15.0	25.1	50.5	65.2	64.5	52.1	72.1	58.0	71.0	63.0	54.0	48.0	44.4
M.A. Students Expected to Graduate													
Percent	missing	missing	missing	missing	missing	missing	missing	45.9%	40.3%	34.0%	44.6%	36.2%	36.5%
Number	missing	missing	missing	missing	missing	missing	missing	62.0	75.8	45.3	60.3	68.0	52.0
N respondents													
Number	112.0	112.0	113.0	113.0	116.0	116.0	116.0	117.0	117.0	117.0	118.0	118.0	118.0

**Notes: For each category, the table gives women as a percentage of women plus men. For the five-year intervals, simple averages of annual percentages are reported.*

Table 4. Percent Women in Job Placements of New Ph.D.s from the Top Economics Departments

	All Top 10 Schools						*All Top 20 Schools*					
	1994-1997	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*	*1994-1997*	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*
U.S.-based, All Types												
Percent	24.9%	29.7%	30.1%	26.2%	27.7%	21.4%	26.7%	29.1%	31.6%	29.3%	28.3%	24.8%
Number	35.8	39.1	45.3	35.6	38.2	29.7	58.9	59.9	80.0	66.1	71.0	60.1
Faculty, PhD Granting Department												
Percent	22.1%	25.9%	29.8%	24.5%	28.0%	17.6%	24.0%	26.3%	30.9%	27.8%	27.3%	20.2%
Number	16.0	18.9	26.8	17.8	19.4	13.0	27.0	29.5	44.4	33.2	29.4	22.0
Faculty, Non-PhD Granting Department												
Percent	42.1%	50.1%	26.5%	35.1%	34.4%	14.3%	41.8%	50.2%	30.8%	41.2%	33.0%	14.3%
Number	6.8	5.3	2.4	2.5	2.0	1.0	8.8	7.3	6.6	6.9	6.0	1.0
Non-Faculty, Any Academic Department												
Percent	missing	missing	missing	missing	35.4%	50.0%	missing	missing	missing	missing	28.9%	50.0%
Number	missing	missing	missing	missing	3.4	1.0	missing	missing	missing	missing	6.0	2.0
Public Sector												
Percent	24.1%	30.3%	31.4%	29.9%	27.2%	30.3%	28.3%	28.8%	33.6%	28.9%	26.4%	28.0%
Number	6.5	8.5	7.3	6.9	4.6	3.9	12.3	12.9	14.2	11.5	9.8	8.0
Private Sector												
Percent	22.4%	30.8%	28.6%	24.1%	25.7%	25.1%	25.2%	28.9%	31.7%	28.5%	29.7%	28.8%
Number	6.5	6.4	8.8	8.4	8.8	10.9	10.9	10.2	14.8	14.5	19.8	27.1
Foreign-based, All Types												
Percent	17.8%	14.5%	23.1%	22.9%	20.2%	15.3%	17.8%	19.6%	22.7%	24.4%	24.8%	23.9%
Number	5.8	4.3	9.1	12.3	8.4	6.0	10.8	11.2	18.4	26.8	22.0	18.1
Academic												
Percent	24.5%	13.4%	25.3%	23.0%	23.1%	17.7%	19.8%	19.9%	25.2%	22.3%	26.5%	23.7%
Number	5.3	3.0	7.1	9.3	6.8	5.0	8.5	8.2	13.6	17.7	16.8	13.3
Non-Academic												
Percent	6.1%	17.7%	18.1%	22.6%	11.6%	9.2%	13.2%	17.7%	17.6%	29.6%	20.6%	24.6%
Number	0.5	1.3	2.0	3.1	1.6	1.0	2.3	3.0	4.8	9.1	5.2	4.9
No Placement												
Percent	19.6%	31.7%	6.7%	0.0%	6.7%	33.3%	18.5%	34.7%	23.4%	18.1%	25.7%	34.6%
Number	6.5	2.5	0.6	0.0	0.2	0.4	9.0	4.0	3.5	1.2	0.8	1.3
Total on the Market												
Percent	23.3%	27.1%	28.0%	24.8%	25.9%	20.1%	24.1%	27.2%	29.4%	27.5%	27.4%	24.7%
Number	48.0	45.9	55.0	47.9	46.8	36.1	78.6	75.1	101.9	94.1	93.8	79.6

*Notes: For five year intervals, simple averages are reported.

Table 5. Percent Women in Job Placements of New Ph.D.s from All Other Economics Departments

	All Other Schools					
	1994-1997	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*
U.S.-based, All Types						
Percent	29.1%	33.3%	35.6%	38.8%	37.6%	41.2%
Number	91.2	121.1	170.1	210.8	171.1	206.3
Faculty, PhD Granting Department						
Percent	31.1%	30.1%	31.7%	36.8%	33.3%	39.0%
Number	28.2	32.7	50.9	65.7	36.5	30.0
Faculty, Non-PhD Granting Department						
Percent	28.5%	35.7%	41.1%	38.9%	38.6%	35.7%
Number	29.4	34.0	58.0	62.7	49.0	50.0
Non-Faculty, Any Academic Department						
Percent	missing	missing	missing	missing	30.8%	53.7%
Number	missing	missing	missing	missing	15.4	51.0
Public Sector						
Percent	30.6%	35.5%	36.5%	36.9%	35.5%	37.9%
Number	18.9	27.0	28.8	37.1	22.5	25.2
Private Sector						
Percent	24.9%	33.0%	33.2%	44.4%	45.1%	40.8%
Number	14.6	27.4	32.4	45.3	47.7	50.1
Foreign-based, All Types						
Percent	17.7%	27.3%	26.5%	30.2%	32.0%	36.3%
Number	23.8	30.5	42.9	69.2	58.2	64.7
Academic						
Percent	21.1%	30.7%	29.9%	32.4%	34.6%	39.6%
Number	17.6	19.1	27.0	44.1	42.8	46.7
Non-Academic						
Percent	12.1%	22.9%	22.3%	26.9%	26.3%	29.9%
Number	6.2	11.4	16.0	25.0	15.4	18.0
No Placement						
Percent	21.7%	26.0%	35.3%	37.1%	42.7%	52.2%
Number	21.1	13.8	19.7	35.6	15.3	15.6
Total on the Market						
Percent	24.9%	31.2%	33.4%	36.4%	36.3%	40.4%
Number	136.0	165.4	232.8	315.5	244.6	286.7

*Notes: For five year intervals, simple averages are reported.

Table 6. New Ph.D. Job Placement by Gender and Department Rank, Current Year

2017-2018	*Top 10*		*Top 11-20*		*All Others*	
	Women	*Men*	*Women*	*Men*	*Women*	*Men*
U.S.-based, All Types						
(Share of all individuals by gender)	**82.2%**	**75.9%**	**70.1%**	**71.9%**	**72.0%**	**68.1%**
Faculty, PhD Granting Department	43.8%	55.2%	29.6%	35.3%	14.5%	15.4%
Faculty, Non-PhD Granting Department	3.4%	5.4%	0.0%	0.0%	24.2%	29.5%
Non-Faculty, Any Academic Department	3.4%	0.9%	3.3%	1.4%	24.7%	14.4%
Public Sector	13.0%	8.7%	13.6%	16.3%	12.2%	15.0%
Private Sector	36.5%	29.8%	53.5%	47.1%	24.3%	25.8%
Foreign-based, All Types						
(Share of all individuals by gender)	**16.6%**	**23.4%**	**28.0%**	**26.2%**	**22.6%**	**27.4%**
Academic	83.3%	68.2%	68.2%	74.5%	72.1%	62.7%
Non-Academic	16.7%	31.8%	31.8%	25.5%	27.9%	37.3%
No Placement						
(Share of all individuals by gender)	**1.2%**	**0.7%**	**2.0%**	**1.9%**	**5.5%**	**4.5%**
Total on the Market	**36**	**146**	**43**	**103**	**287**	**449**

Table 7. Share of Women in First Year Class in PhD programs - Five-year Averages

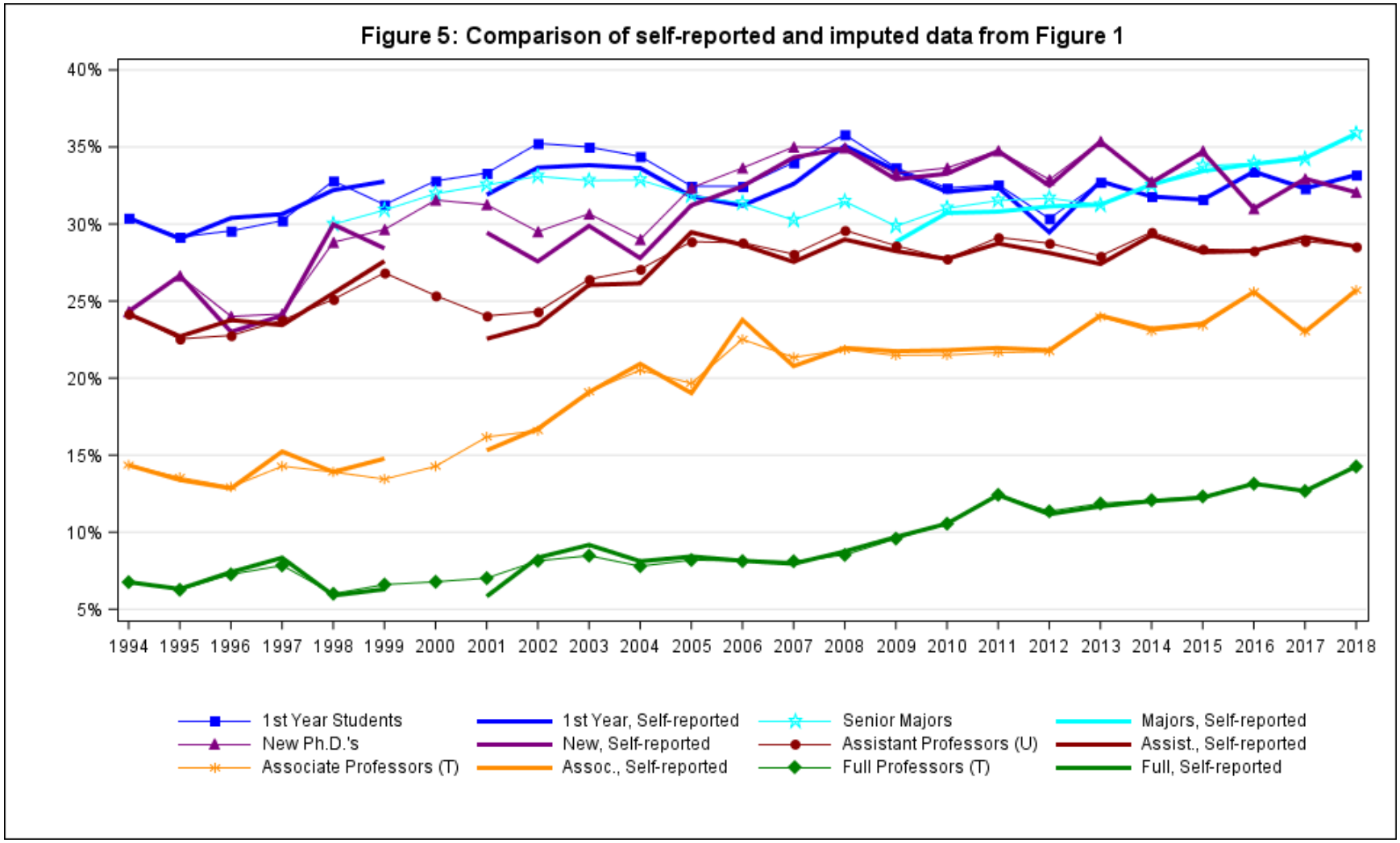
	1994-1997	*1998-2002*	*2003-2007*	*2008-2012*	*2013-2017*	*2018*
All Ph.D. Programs	30.3%	34.1%	35.1%	34.9%	34.5%	33.5%
Top 20 programs	26.2%	28.8%	28.8%	27.9%	27.8%	30.7%

Table 8. Distribution of Top 20 Departments by Female Share of First Year PhD class, 2014-2018

	Number of Programs				
	2014	*2015*	*2016*	*2017*	*2018*
Share of women in 1st year PhD class					
40% or above	2	3	6	2	7
35-39%	1	0	1	1	0
30-34%	5	2	2	8	2
25-29%	6	6	5	1	3
20-24%	2	6	3	3	3
Below 20%	5	4	4	6	6

**Note to Table 8: This table classifies departments by the unweighted average share of women in their entering class over the period 2014-2018. This differs from the average share of women entering PhD programs, each year, because of differences in the size of different programs.*

Appendix Figures and Tables on Data Quality and Reporting



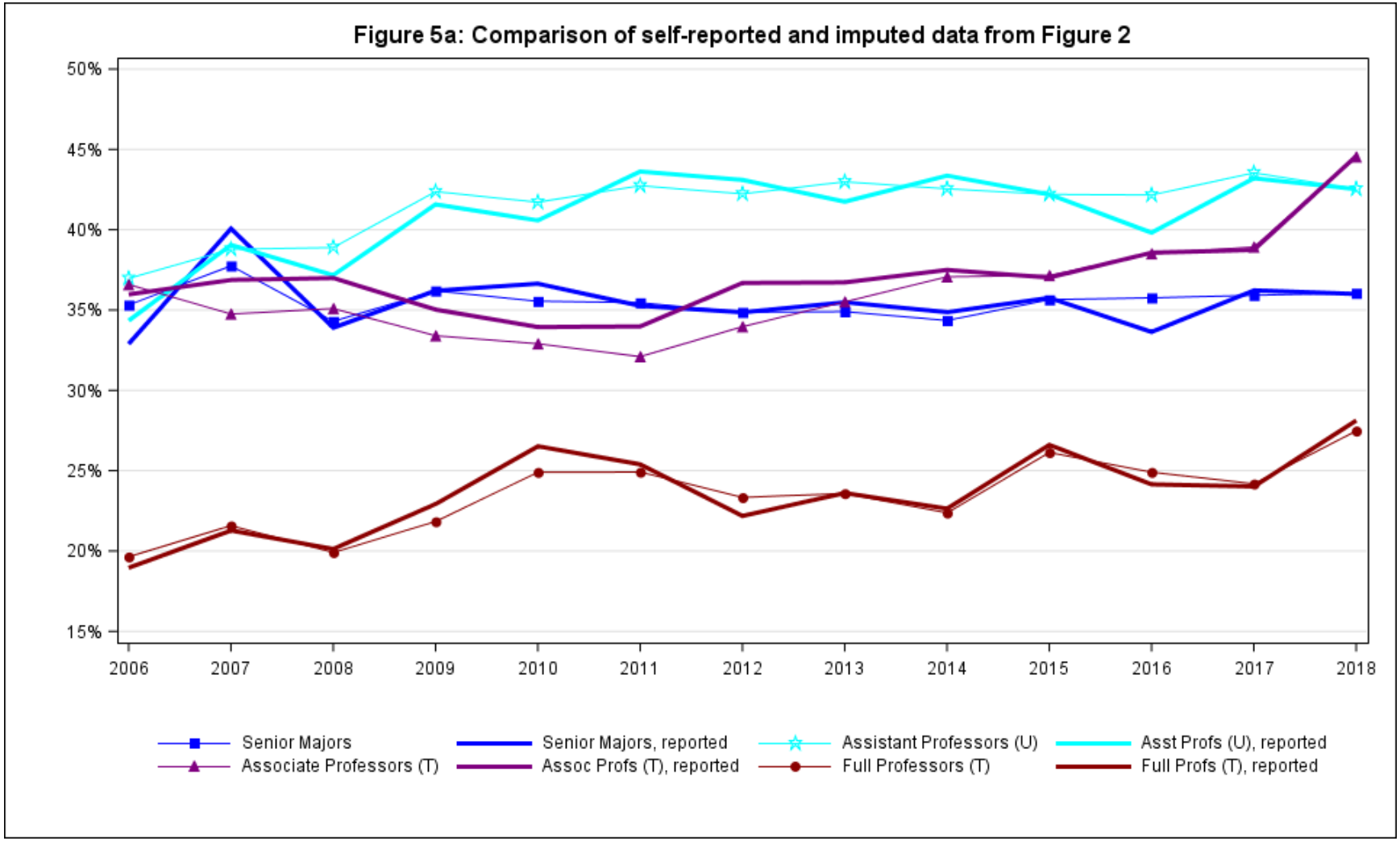


Figure 5a: Comparison of self-reported and imputed data from Figure 2
50%
45%
40%
35%
30%
25%
20%
15%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Senior Majors
Senior Majors, reported
Assistant Professors (U)
Asst Profs (U), reported
Associate Professors (T)
Assoc Profs (T), reported
Full Professors (T)
Full Profs (T), reported

Table 9. Number of Economics Departments, by Year and Type of Program

	Year of survey																	
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
With Doctoral Programs																		
Number responded CSWEP	69	78	93	98	92	93	100	109	120	123	123	117	122	124	124	126	126	126
Number of programs (UAQ or CSWEP)	96	105	107	107	101	110	108	120	124	125	124	122	125	126	127	126	126	126
Number of programs (analysis)	122	123	123	124	124	125	125	125	125	127	127	127	127	127	127	126	126	126
Without Doctoral Programs																		
Number responded CSWEP	52	35	51	64	66	70	65	69	65	79	85	65	107	110	111	90	114	110
Number of programs (UAQ or CSWEP)	74	66	77	80	81	81	82	96	95	94	97	90	111	114	114	105	117	110
Number of programs (analysis)	94	98	102	108	112	112	112	113	113	116	116	116	117	117	117	118	118	118

**Notes: To minimize entry and exit changes to the population universe, all Ph.D. programs surveyed are considered members of that population. Non-Ph.D. programs with two or more responses since 2006 and at least one in the last two years are included. Any non-respondents in a given year are imputed first with UAQ and then with linear interpolation.*