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**THE PROGRESS OF WOMEN IN
FACULTIES OF AGRICULTURAL
ECONOMICS: DATA FROM THE NATIONAL
RESEARCH COUNCIL**

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How many women are entering the profession? How rapidly are they advancing up the academic job ladder? In order to answer these questions, CWAE requested data from the National Research Council, which maintains a census of all PhDs and conducts a biannual sample survey. These data allow us to track the progress of women in the Agricultural Economics field over the last 15 to 20 years.

Four themes emerge from these data:

Theme 1: Women are a growing proportion of new entrants to the profession. Women are an increasing proportion of new PhDs (Table 1 reports census data), although this proportion leveled off after 1988. Women represent over one-fifth of U.S. citizen PhDs, and this proportion has been maintained as the total number of PhDs declined. Women account for nearly 6% of all employed PhDs in Agricultural Economics, as indicated by survey data (Figure 1). These same survey data also show that total employment in the profession has declined since 1985. Thus these gains have been made in a shrinking market for agricultural economists.

Theme 2: Women are not progressing into senior faculty positions in agricultural economics in proportion to their numbers. Women as a proportion of non-tenured faculty (in tenure track) reached 21% in 1989 (Figure 2).¹ Women have remained a tiny proportion of tenured faculty, and this proportion declined after the mid-1980s (Figure 2). In 1989, women appeared to be entering academe at a rate roughly equal to their proportion among new PhDs; however, in recent years they appear to be leaving academe before reaching the associate or full professor level.

Data from two CWAE surveys in 1985 and 1990 (Table 2) confirm the National Research Council

survey data. Within 5 years one would expect a large proportion of assistant professors to be promoted to associate, and associates to full. Yet the modest increases observed between 1985 and 1990 suggest that some women are leaving academe.

Figure 1--Women as a percentage of All Employed Agricultural Economists

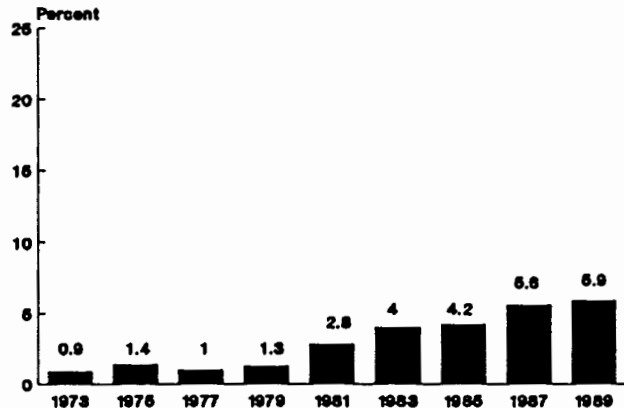
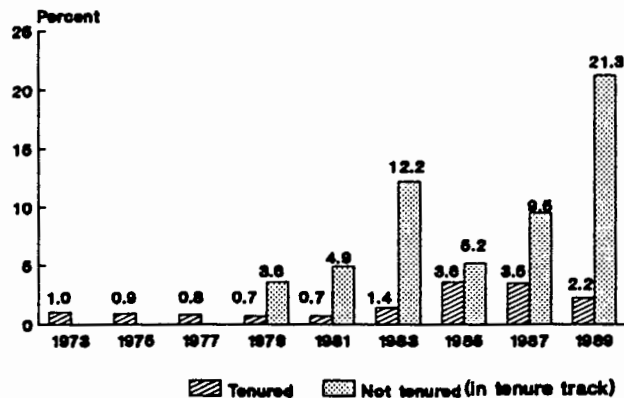


Figure 2--Women as a percentage of tenured and untenured faculty



Source: Survey of earned doctorates, Nat'l Research Council

¹ The survey uses a sample to extrapolate figures for the profession as a whole. Women and minorities are sampled in greater numbers relative to their populations in order to provide a more representative picture for these groups, but the small numbers of women can lead to errors in the extrapolation process. The proportion of women assistant professors reported for 1983 seems to be overestimated. Women may be making more gradual progress at the assistant professor level than is indicated in Figure 2.

Theme 3: Women tend to have different employers or jobs than men. A larger proportion of women than men are employed by U.S. government (Table 3), and a smaller proportion are employed outside of academe and federal government ("other" in Table 3). Although the proportion of men and women employed by academe is similar, a larger proportion of women are employed in non-tenure track jobs (Table 3). The proportion of women in non-tenure track jobs has been declining, however, so that this difference between men and women is diminishing.

Theme 4: Women and men with less than 10 years of professional experience have different marriage and parenting characteristics. At the beginning of their careers, women are more likely to be never married or separated and less likely to have small children than men (Table 4).

Conclusions and Implications

These data confirm the qualitative impression that there are more women in the profession than in earlier years, but very few in the upper levels of academe. The data do not tell us why women have left universities, although it may not necessarily be due to denial of tenure and promotion. Women may be choosing to leave because they find the professional climate to be unfriendly and they have found better opportunities elsewhere. Based on a 1987 survey of the profession, Joyce Allen reported that women were far more likely than men to report isolation on the job, lack of support from senior professionals, and lack of equal access to opportunities (CWAE Newsletter, Fall 1988).

Even if the individual women who have left academe are better off, these data are disturbing for several reasons. The profession will have less diversity among senior faculty and thus less diversity in research design and direction. Less diverse faculty will not be as attractive to students from "non-traditional" backgrounds at either the undergraduate or graduate level. This lack of diversity will hinder the profession's adaptation to the rapidly changing public agenda and declining funding base.

Retention and promotion of women within academe is therefore an important issue for the profession. The ability of academic departments to implement policies to encourage the retention of women may be limited, however, as such policies are largely determined at the campus level. Nevertheless, we hope these data will invite further discussion of the reasons for lack of retention of women at senior levels and possible remedies.

Table 1. Agricultural Economics Ph.D.'s Awarded (U.S. Citizens)

Year	Total	Men	Women	% Women
75	91	90	1	1.1
76	93	91	2	2.2
77	81	76	5	6.2
78	90	87	3	3.3
79	72	65	7	9.7
80	96	88	8	8.3
81	91	83	8	8.8
82	94	81	13	13.8
83	79	67	12	15.2
84	73	57	16	21.9
85	83	70	13	15.7
86	78	66	12	15.4
87	69	53	16	23.2
88	80	59	21	26.3
89	80	60	20	25.0
90	67	52	15	22.4

Source: Affirmative Action Table #2: "U.S. Citizen Ph.D.'s by Fine Field of Doctorate, Race, and Sex, 1975-90," National Research Council. The data are from a census of all new Ph.D.'s.

Table 2. Women Faculty in Agricultural Economics Departments of the 40 U.S. Ph.D. Granting Institutions

	1985	1990
Assistant Professor	27	33
Associate Professor	15	21
Professor	4	9
Total	46	63

Sources: 1985 from Lee and Offutt; 1990 from Marchant, Zepeda and Chang.

Table 3. Agricultural Economics Ph.D.'s by Type of Employer, 1989

	Women	Men
% Employed By:		
Academe	65.5	64.7
U.S. Government	18.4	11.3
Other	16.1	24.0
% Employed by Academe but Not in Tenure Track		
	13.2	4.9

Source: Survey of Earned Doctorates, National Research Council.

Table 4: Agricultural Economics Ph.D.'s With Less than 10 Years Experience by Family Status, 1989

	Women	Men
Marital Status (%)		
Never Married	18.6	5.2
Married	62.7	89.8
Separated	18.6	5.0
Children (%)		
Children age < 6	29.2	51.3
Children age 6 to 18	21.7	14.8
No children	45.3	31.3
Unknown	3.7	2.7

Source: Survey of Earned Doctorates, National Research Council.

**ADVANCEMENT OF ECONOMISTS IN ERS:
IS THERE A GLASS CEILING?**

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The ERS economist series includes individuals trained as general economists and all types of applied economists; agricultural economists dominate this occupational classification in ERS. Economists are 93 percent of all ERS researchers, analysts, and administrators.

At the end of 1991, ERS employed 94 women in the Economist series. As of January, 1992, 28 of the 94 women in the series had Ph.D.s. That is double the number of ERS economists who were women in 1980. The total number of ERS

economists has declined since 1980, so there was an even greater increase in the proportion of ERS economists who were women during the 1980-91 period, 9 compared to 22 percent.

The existence of barriers to advancement of women to mid- and high-level management in the U.S. workplace has recently been addressed and dubbed a "glass ceiling." More specifically, the glass ceiling phenomenon describes a situation where, despite comparable human capital—e.g., skills, education, and experience levels—women are still unable to advance into management positions. Although the number of ERS economists who are women has increased, does a glass ceiling exist at ERS? We have addressed the question by focussing on the grade structure of economists in ERS by gender. The grade structure in Federal Government indicates an employee's rank and salary. The salary of an ERS economist is based on his or her grade: 5, 7, 9, 11-15, and Senior Executive Service (SES) levels.

● **How are women represented in the higher grades?** The higher grade levels among ERS economists continue to be dominated by men (fig. 1). In 1991, only 13 percent of ERS economists grade 14 and above were women. Forty-two percent of all men were in the grades 14 and above, compared to 22 percent of all women.

● **How has the share of women at each grade level changed over time?** The proportion of women in the economist series increased at all grade levels between 1980 and 1991 (fig. 2). The higher the grade level, the greater the rate of increase.

● **Are women being promoted from within ERS?** The women at the 14 and above levels are more likely than the men to have less than 5 years of experience with ERS. For example, in 1991, 40 percent of the 14 and 15 level economists who were women had less than 5 years of experience with ERS, compared to only 6 percent of the men (fig. 3). One explanation for this situation is that ERS is the beneficiary of the increased incidence of two-career households which draws highly-qualified women to the diverse job market of the Washington,

D.C. area. Many other issues are at play here, including the differences in the age distribution and relative mobility of men and women. However, with respect to a possible glass ceiling for women in ERS, the question arises as to whether women are being promoted from within. To answer this question, we looked at the percent of grade 14 and 15 level economists (as of January 1992) who were promoted during the previous 5 years, excluding the new hires during this period. Half (50 percent) of all women in these higher grades were promoted during the 1987-91 period, this was higher than for men (40 percent) (fig. 4).

- **Do women face higher standards for promotion within ERS?** Women who are at the higher grade levels (14 and 15) in the economists series are much more likely to have a Ph.D. than are men. On the other hand, men have more experience at ERS than do women at these levels. To more definitively address the role played by gender in ERS' grade structure, a regression model for grade level was estimated for all economists with the following independent variables: having a Ph.D., years in ERS, last performance rating, race, and gender. Gender was found to be insignificant in explaining the grade level of economists in ERS (based on data for January 1992).

- **What is the record of advancement of women into the Senior Executive Service?** The highest levels of advancement for career civil servants is to the Senior Executive Service (SES). ERS currently has 7 SES positions. In 1991, for the first time, one of those positions was filled by an economist who is a woman. The SES positions in all of USDA are lacking in diversity. Out of the 338 SES positions in USDA, 89 percent are held by men. Furthermore, the groups defined as "feeder groups" to the SES positions, the 14 and 15 level positions, are just as lacking in diversity. USDA is currently addressing this problem through a SES Candidate Development Program. If accepted into this highly competitive program, candidates will be prepared for, although not guaranteed, SES positions that open in the future.

- **Bottom-line:** Clearly, women are being hired at the higher grades more frequently. And

evidence suggests that women are being promoted from within, as well as being hired from outside ERS at the high-grade levels. Based on this evidence we conclude that a glass ceiling does not currently exist in ERS. We fully expect women will continue to follow the trail up the career ladder in ERS. This is not to say that the situation captured by these statistics is as positive for each individual employee. We do not know about the career opportunities ERS afforded the employees who left. First-line supervisors are critical in determining the quality of the professional experience for economists, especially for entry-level economists, such as new Ph.D.s. If retention is a problem for women at the entry levels for new Ph.D.s, is it because they are not meeting their career expectations at ERS? Are their expectations reasonable? If so, how much of the problem is due to the lack of awareness or the traditional views of the first-line supervisor? No simple answers exist to these questions. However, ERS has recently taken steps to address the retention issue by establishing a position for a Coordinator of Recruitment and Retention Issues. In addition, the USDA has required that an Equal Opportunity criterion be included with the other criteria used to evaluate all employees on an annual basis. Although accomplishments in this area will always be difficult to quantify, the addition of the element has likely caused many individuals to evaluate their habits and attitudes towards nontraditional employees in ERS.

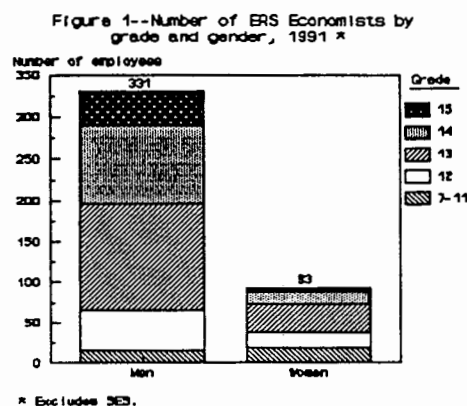


Figure 2--ERS Economists who are women by grade level, 1980-91

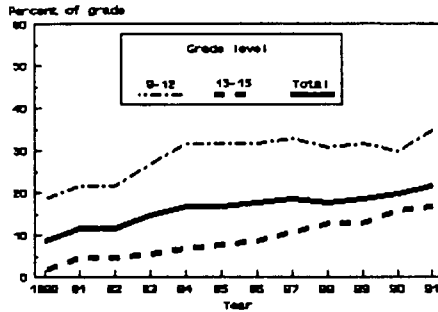


Figure 3--Years of experience with ERS of 14 and 15 level Economists (as of January 1992)

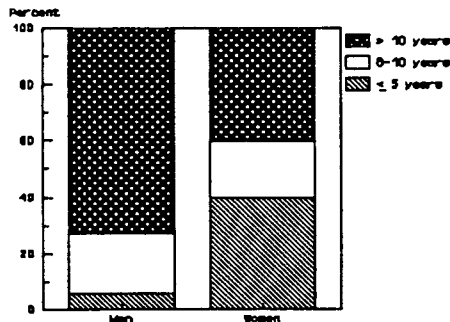
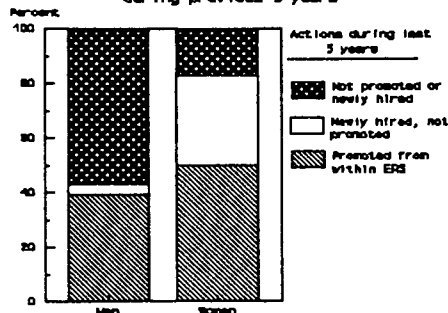


Figure 4--Promotion and hiring actions of 14 and 15 level Economists (as of January 1992) during previous 5 years



These two reports were prepared for the CWAE Research Subcommittee project on the Glass Ceiling in Agricultural Economics. Sue Bentley provided valuable assistance with data analysis. If you have comments on these reports or would like a copy of the tables from NRC, please contact Laurian Unnevehr (Dept. of Agricultural Economics, University of Illinois) or Mary Ahearn (USDA/ERS/ARED).

REPORT FROM THE ALLIED SOCIAL SCIENCES ANNUAL MEETINGS

(Maureen Kilkenny reports from the CSWEP (Committee on the Status of Women in the Economics Profession) Board meeting, Allied Social Sciences Annual Meetings, January 5-7, 1993 Anaheim, CA.)

The CSWEP meeting of the Board (an open meeting, like CWAE's) was attended by about a half dozen board members, National Science Foundation's Dan Newlon, and about twenty more women, including Sylvia Lane.

There were two items on the agenda that were most interesting. One was the celebration of the 20th anniversary of CSWEP, and the award of a commemorative plaque to Professor Carolyn Shaw Bell of Wellesley--the first chair and a long-standing activist. President Elizabeth Hoffman noted that 20 years ago, two mandates of CSWEP were to establish day care at the annual meetings and to promote the mentoring of young women in the profession. The second item of interest was the report on the status of women professors.

CSWEP regularly updates their study of the status of women in the profession using data collected by the American Economic Association's "Universal Academic Questionnaire" (initiated by CSWEP 18 years ago), which is mailed to all universities. A fuller report of the study is presented in the Winter issue of the CSWEP Newsletter.

One important feature of the findings is that although women have gained representation at the assistant professor level, there have been no gains at the full professor rank over the past