Earnings of Women with Computer Science or Engineering College Majors

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INTRODUCTION

This short article documents that women with college majors in computer science or engineering earn far more than other female college graduates. This relationship is rarely discussed, as far more emphasis is usually placed on the difference in earnings between women and similarly educated men. While the existence of within-field gender pay gaps is important to monitor, these gaps do not necessarily deter women from entering a field. In fact, previous research finds that gender pay gaps tend to be relatively small among young college graduates with computer science or engineering majors, compared to the gender pay gaps in other fields (Weinberger, 1999, 2005; Weinberger & Joy, 2006). The combination of high average pay and low gender gaps in technical fields translates to particularly strong financial incentives for young women to enter these fields.

The statistics presented here are computed from nationally representative studies of United States (U.S.) college graduates. The first study is based on a sub-sample of 1990 U.S. Census respondents who also completed a detailed survey about their educational attainment in 1993, and were surveyed again in 1999. The second study is based on a representative group of 1992 U.S. high school seniors who were resurveyed in 1999, after most had completed their education. This study includes detailed information about each student, including 12th-grade standardized math test scores. Overall, the estimates presented here suggest that women with computer science or engineering college majors earn 30%-50% more than otherwise similar female college graduates.

BACKGROUND

High pay has been a consistent feature of the labor market for college graduates with majors in computer science or engineering. One government report describes the median salary of new college graduates in different fields for the years 1977, 1980, 1984, 1986, 1990 and 1993. In each of these years, computer science and engineering majors (combined) earned at least 35% more than the typical college graduate (NCES, 1998).

Most studies of gender, pay and college major focus on the fact that few women choose these remunerative college majors. The small proportion of women in mathematical college majors “explains” part of the gender differential in pay among college graduates (Brown & Corcoran, 1997; Weinberger 1998, 1999, 2001, 2005; Weinberger & Joy, 2006). However, a thorough analysis finds that, at age 32, only 20% of the overall gender pay gap is related to gender differences in either pre-college mathematics preparation or college major choices (Weinberger, 2001). Among college graduates, gender differences in college major explain a larger proportion—about one-fourth to one-half of the gender pay gap—with the proportion largest among young, recent labor market entrants (Weinberger 1998, 2005). The proportion of the gender pay gap attributable to differences in college major is larger in 1999 than it was for women the same age in 1989, probably because other factors contributing to the gender pay gap have diminished much more quickly (Weinberger, 2005).

WOMEN WITH COMPUTER SCIENCE OR ENGINEERING MAJORS

Statistics provided in Table 1 show that, at mid-life, women with computer science or engineering majors earn 30%-50% more than the average female college graduate. This is true for representative samples of female college graduates aged 33-52 in either 1989 (Columns 1 and 2) or 1999 (Column 3).