

Salaries Lose Ground Against Inflation

Survey data just released by the American Institute of Physics (AIP) indicate that salaries for U.S. physicists in industry are not keeping up with inflation. For example, the median annual salary for AIP members with Ph.D.'s employed by industry in 1996 was \$77,000, compared to \$75,000 in 1994, an increase of only 2.7%. But the change in the consumer price index (all urban consumers, U.S. city average, all items) for 1994-1996 was 5.8%. Moreover, the median 1996 salary of members working in industry 15 years or less since their Ph.D.'s was only 1% higher than salaries reported by members with similar experience in 1994.

For Ph.D. physicists overall, reported median salaries in government and federally funded research and development centers (FFR&DC) stayed slightly ahead of inflation, while reported median salaries for those with 11- or 12-month university contracts fell behind. Members with Ph.D.'s working in FFR&DCs earned the highest median salary, \$78,500. It is ironic that, during a period when research in FFR&DCs seemed seriously threatened and research in industry

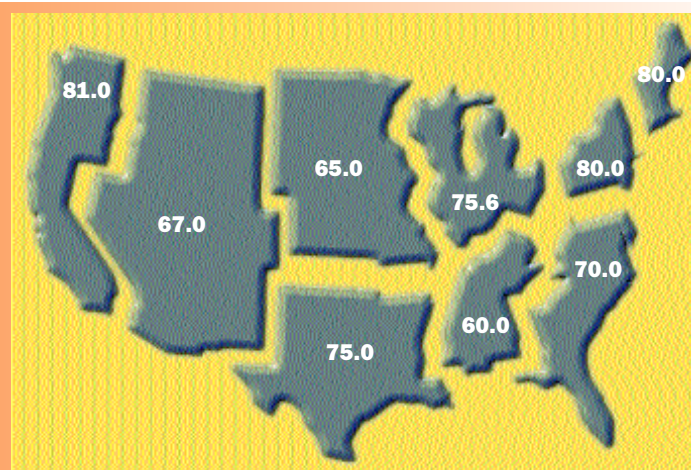


Figure 1. Variation in median \$000 salary for Ph.D. physicists in industry by geographic division, 1996.

looked more secure, salaries in FFR&DCs showed the more positive trends.

Degree levels, years of experience, and the sectors of the economy in which respondents work determine individual salaries to a large extent. Geographic region, work activity, and cost of living are other influences.

Figure 1 shows the median salary for a Ph.D. physicist in industry in each of the nine U.S. geographic zones. The highest salaries were in the Pacific (\$81,000), New England (\$80,000), and Mid-Atlantic (\$80,000) regions, while the lowest were in the East

South Central (\$60,000) and West North Central (\$65,000) regions. Some of these salary figures show dramatic changes from the equivalent figures two years ago, specifically the East North Central region, which was up 11.2%, and the West North Central, which was down 9.7%.

Median salaries varied according to qualifications, as shown in Figure 2a. Ph.D.'s were paid the highest, ranging from about \$60,000 to more than \$90,000 over a 25-year period. Master's holders ranged from about \$43,000 to \$84,000, and bachelor's holders from about \$32,000

to \$73,000. Figure 2b shows salary variation with years since Ph.D., along with percentile ranges. Increases were steady in the first 20 years, but flattened out after that. Figure 2c shows the equivalent salaries for master's degrees, with the range between the 25th and 75th percentiles shaded.

Figure 3 compares salaries in industry, government, FFR&DC, and universities by year since Ph.D. Industrial salaries were ahead in the middle years, but dropped after 30 years in a way that was not evident two years ago. FFR&DC salaries start off high

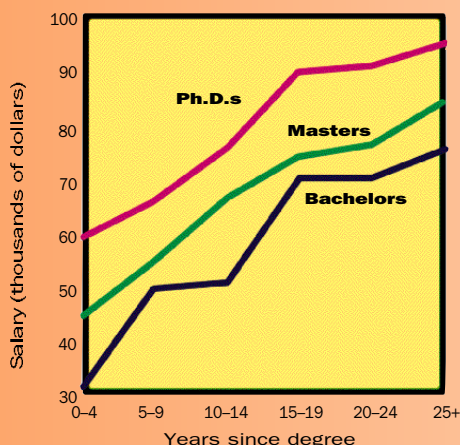


Figure 2a. Median salaries in industry by degree level and years since degree, 1996.

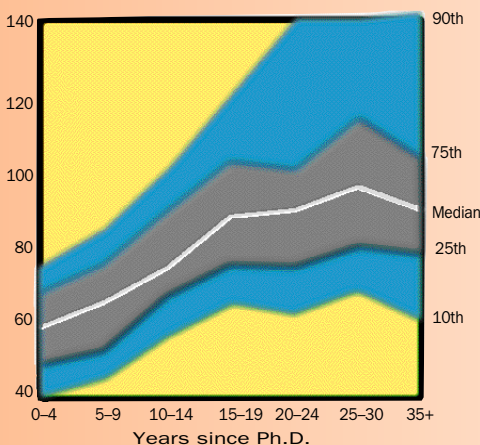


Figure 2b. Salary structure in industry by years since Ph.D., 1996, with percentiles.

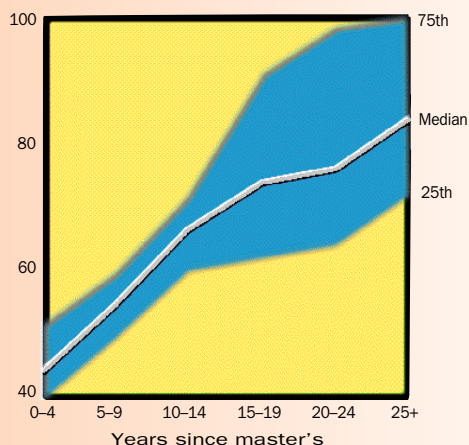


Figure 2c. Salary structure in industry by years since master's degree, 1996, with percentiles.

and finish up near government and university salaries for an 11- or 12-month year, ahead of industry salaries. University salaries for a 9- or 10-month year were lower because they were not adjusted to a full-year basis.

One of the questions the survey asked was whether respondents worked primarily in short-term research, long-term research, or administration. More industrial Ph.D. respondents (47%) report holding jobs in short-term research than in the other two activities, the same percentage as in 1994. This includes product development, design, and engineering. These people were more likely to report additional nonresearch responsibilities, that they find their positions unchallenging and unrelated to their field of highest degree, and that someone with less formal education could perform their jobs well. The median salaries reported by industrial Ph.D. respondents during the first 10 years of their careers were almost identical regardless of whether they worked in short-term or long-term research. In later stages of

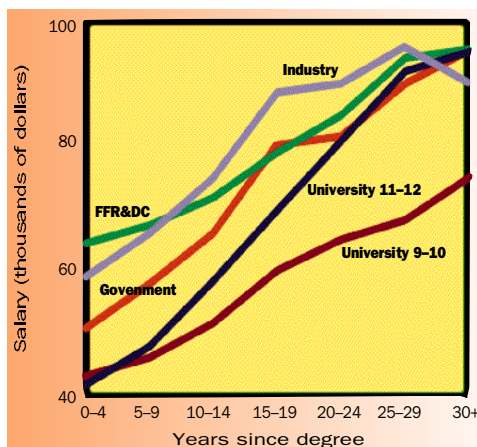


Figure 3. Median salaries by type of employer and years since Ph.D., 1996.

their careers, however, respondents who did long-term research reported higher median salaries than did their counterparts who do short-term research.

Among Ph.D. society members with up to 10 years' experience, women working in industry reported a mean salary slightly higher than that of men—\$64,100 as opposed to \$62,700—when adjusted for differences in

years of experience. However, among those working in industry with 11 to 20 years experience, men outearned women substantially, \$83,700 to \$73,700.

Among master's degree holders, the highest median salaries were earned by those in FFR&DCs at \$75,000, with those in hospitals second at \$71,000, and those in industry and self-employed third at \$65,000.

Full report available

Requests for copies of the full report should be sent to Raymond Y. Chu, American Institute of Physics, Education and Employment Statistics Division, One Physics Ellipse, College Park, MD 20740-3843; e-mail (rchu@aip.acp.org). A two-page summary of the report is available free of charge. The full report costs \$15 for a single copy; for multiple copies, the cost is \$10 each. Please make checks payable to the American Institute of Physics. The U.S. Department of Labor (202-606-7000) will supply local consumer price index information. 