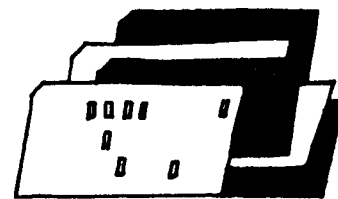


Research Summaries



White-collar salaries vary widely in the service industries

C. JOSEPH COOPER, JR.

Workers employed by firms providing engineering and research services typically earned more on average than their counterparts in other service industries in March 1987. This finding is based on the Bureau of Labor Statistics' first nationwide white-collar pay survey of all private service industries. (See table 1 for examples of pay relationships in selected occupations and service industries.) Because previous BLS white-collar pay surveys covered other sectors of the economy, this year's results cannot be directly compared with earlier survey data.¹ The March 1987 study yielded average salary information for workers in 26 occupations and 93 work levels, spanning a broad range of duties and responsibilities.

The March 1987 survey reflects changes to broaden coverage of the white-collar pay survey to more industries, including health care services, and to smaller establishments.² The service sector findings will be combined with updated information from establishments studied in 1986; the results will be used to make annual pay comparisons between Federal white-collar workers and their counterparts in private industry. Rotating industry coverage in different years allows BLS to obtain a broader scope of pay data within current budgetary limits.

In addition to the type of service that a firm performs, skill and experience also affect white-collar pay. (See table 2.) Among the professional jobs studied, salaries averaged \$19,588 a year for beginning accountants and \$26,355 for beginning engineers, while the averages for senior levels of both jobs (level V) were approximately \$50,000. For top level engineers (VIII) surveyed, salaries averaged \$78,049.³

In the clerical and technical areas, differing skill levels also contributed to the wide variations in pay. Salaries for four levels of general clerks ranged from \$10,338 a year for clerks who follow detailed procedures in performing simple and repetitive tasks (level I) to \$19,151 for those who use

some knowledge and judgment to complete various nonroutine assignments (level IV). Pay for five levels of secretaries ranged from \$15,285 to \$29,014.

Computer operators are classified on the basis of responsibility for problem solving, variability of assignments, and scope of authority for corrective actions required by their equipment. Level I operators, whose work assignments consist of on-the-job training, averaged \$14,067 a year. The largest group surveyed, level II, averaged \$16,812; the highest publishable level (IV) averaged \$24,673.

Drafters averaged between \$12,450 at level I (trace or copy finished drawings) and \$31,634 at level V (work closely with designers preparing unusual, complex, or original designs).

Statistically reliable data on pay were obtained for three jobs in the nursing field. One of these, registered nurse, was the most numerous of the professional and administrative jobs studied. Over 80 percent of the nurses were at level II, which designates those who exercise considerable independence in difficult nursing situations. They averaged \$24,127 a year.

The other two jobs, nursing assistant and licensed practical nurse, are included among the survey's technical support occupations, which include computer operator, drafter, engineering technician, and photographer. Nursing assistants numbering 441,000 had average salaries from \$8,558 for level I to \$14,369 for level III, the highest level for which pay data met Bureau publication standards. Of the three levels of licensed practical nurses, level II incumbents accounted for most of the licensed practical nurses covered, and their salaries averaged \$16,487 a year.

Table 1. Average pay relatives by type of service and selected occupations, March 1987

[All services = 100]

Selected occupations	Engineering and research	Business	Health	Education
Accountants III	107	105	98	96
Accounting clerks II	110	102	99	94
General clerks III	109	102	98	95
Secretaries II	105	103	99	88
Key entry operators I	115	95	103	99
Computer operators II	107	102	97	93
Computer programmers II	100	101	96	89
Systems analysts II	103	101	95	91

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Table 2. Average salaries of professional, administrative, technical, and clerical workers in the service industries, by occupation and level, March 1987

Occupation and level	Number of employees ¹	Average annual salaries ²	Occupation and level	Number of employees ¹	Average annual salaries ²
Accountants and auditors			Registered nurses IV	392	\$34,383
Accountants I	2,644	\$19,588	Technical support		
Accountants II	7,056	23,426	Licensed practical nurses I	31,195	14,636
Accountants III	7,129	29,791	Licensed practical nurses II	165,049	16,487
Accountants IV	3,227	38,707	Licensed practical nurses III	2,061	18,837
Accountants V	808	49,291	Nursing assistants I	148,366	8,558
Auditors II	212	25,683	Nursing assistants II	269,803	10,872
Auditors III	275	33,187	Nursing assistants III	22,075	14,369
Auditors IV	112	40,817	Engineering technicians II	2,253	20,149
Public accountants I	14,233	21,006	Engineering technicians III	3,034	24,425
Public accountants II	14,443	23,044	Engineering technicians IV	3,428	30,009
Public accountants III	15,563	27,537	Engineering technicians V	2,535	34,275
Public accountants IV	6,849	33,989	Drafters I	1,848	12,450
Attorneys			Drafters II	4,223	15,898
Attorneys II	186	41,370	Drafters III	6,582	20,742
Attorneys III	458	53,100	Drafters IV	7,128	25,281
Attorneys IV	586	63,711	Drafters V	2,023	31,634
Buyers			Computer operators I	2,616	14,067
Buyers I	1,634	20,492	Computer operators II	12,000	16,812
Buyers II	2,739	25,373	Computer operators III	6,790	21,020
Buyers III	845	33,309	Computer operators IV	2,191	24,673
Buyers IV	451	41,828	Photographers II	2,017	18,046
Programmers and systems analysts			Photographers III	435	26,782
Computer programmers I	5,385	20,980	Clerical		
Computer programmers II	13,587	23,883	Accounting clerks I	7,692	11,569
Computer programmers III	15,102	29,435	Accounting clerks II	33,476	14,424
Computer programmers IV	6,594	36,204	Accounting clerks III	20,392	16,739
Computer programmers V	1,849	43,292	Accounting clerks IV	5,276	20,097
Systems analysts I	5,047	28,607	File clerks I	10,114	11,430
Systems analysts II	15,081	35,386	File clerks II	6,470	13,166
Systems analysts III	9,494	42,687	Key entry operators I	24,832	12,431
Systems analysts IV	4,066	50,658	Key entry operators II	11,067	15,199
Systems analysts V	749	59,841	Messengers	5,916	11,354
Personnel management			Personnel clerks/assistants I	1,297	13,409
Job analysts II	114	23,315	Personnel clerks/assistants II	1,333	16,717
Job analysts III	182	27,433	Personnel clerks/assistants III	1,071	19,359
Directors of personnel I	416	35,167	Personnel clerks/assistants IV	320	23,130
Directors of personnel II	853	43,927	Purchasing clerks/assistants I	1,216	13,425
Engineers			Purchasing clerks/assistants II	1,279	16,502
Engineers I	7,321	26,355	Purchasing clerks/assistants III	346	20,940
Engineers II	14,392	30,151	Secretaries I	24,316	15,285
Engineers III	21,903	35,779	Secretaries II	31,190	18,309
Engineers IV	27,115	42,964	Secretaries III	26,195	20,644
Engineers V	21,285	50,597	Secretaries IV	10,904	24,109
Engineers VI	10,573	59,422	Secretaries V	2,021	29,014
Engineers VII	3,251	67,183	Typists I	6,108	13,016
Engineers VIII	933	78,049	Typists II	2,503	15,106
Registered nurses			General clerks I	5,385	10,338
Registered nurses I	38,257	21,012	General clerks II	26,145	12,178
Registered nurses II	366,888	24,127	General clerks III	27,105	14,767
Registered nurses III	20,402	31,216	General clerks IV	5,595	19,151

¹ Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts, but overtime pay for registered and licensed practical nurses working three 12-hour shifts is included. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—

under cost-of-living allowance clauses and incentive payments, however, are included.

NOTE: The following occupational levels were surveyed but insufficient data were obtained to warrant publication: Accountant VI; auditor I; chief accountant I-V; attorney I, V, and VI; systems analyst VI; job analyst I and IV; director of personnel III-V; chemist I-VIII; nursing assistant IV; civil engineering technician I-V; engineering technician I; computer operator V and VI; photographer I, IV, and V; file clerk III; personnel clerk/assistant IV; and stenographer I and II.

A DETAILED ANALYSIS of white-collar salaries and complete results of this year's survey are forthcoming in the bulletin, *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1987*. It will include salary distri-

butions by occupational work level, and relative employment and salary levels by major service industries for 26 occupations. □

¹ The white-collar survey (National Survey of Professional, Administrative, Technical, and Clerical Pay—PATC) is conducted by the Bureau of Labor Statistics, but survey occupations and coverage such as establishment size and the private industries to be included are determined by the President's Pay Agent—the Secretary of Labor and the Directors of the Office of Management and Budget and the Office of Personnel Management. This reflects the use of PATC findings in the pay setting process for Federal employees. The role of the PATC survey is described in George L. Stelluto's "Federal pay comparability: facts to temper the debate," *Monthly Labor Review*, June 1979, pp. 18–28.

² See John D. Morton's "BLS prepares to broaden scope of its white-collar pay survey," *Monthly Labor Review*, March 1987, pp. 3–7.

³ In the survey coding structure, the level designations among various occupations are not synonymous: for example, the first level of attorneys is comparable to the third level of engineers, accountants, and most other professional and administrative occupations. Classification of employees in the occupations and work levels surveyed is based on factors detailed in definitions which are available upon request.

How do demographic changes affect labor force participation of women?

DANIEL T. LICHTER AND JANICE A. COSTANZO

Since World War II, U.S. labor force participation rates among women have almost doubled, reaching about 55 percent in 1985.¹ Increases in labor force activity have been pervasive for all groups, especially married women and women with young children.

Changes in the demographic composition of the female population, particularly during the past decade or so, have had great potential for altering overall participation rates.² For example, William Johnson and Jonathan Skinner have reported that the rise in divorce rates between 1960 and 1980 may explain up to 17 percent of the rise in labor force participation rates of women during that period.³ Similarly, Ralph Smith has concluded that between 1971 and 1975, the changing demographic composition (for example, marital and family status changes) of women in the labor force accounted for 28 percent of the increase in their rates.⁴ Compositional changes are likely to be small over a short time period, however, and therefore should not be expected to greatly affect overall female labor force participation rates.

By examining data covering the 15-year period between 1970 and 1985, we provide evidence on the link between changes in demographic composition and labor force participation rates among women.

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Specifically, we ask: To what extent have changes in fertility rates, marital status, educational levels, and age structure accounted for growth in labor force participation rates of women since 1970?

Demographic composition

Fertility. The labor force participation rates among married women with children, particularly young children, have been steadily increasing since 1970. In 1985, nearly half of all women with children under age 18 were in the labor force, compared with less than 40 percent in 1970.⁵ Moreover, the declines in fertility rates, as well as declines in family size, increasing childlessness, and delayed childbearing have freed many women to pursue employment opportunities outside the home. Completed family size, for example, decreased from 2.4 children in 1970 to 1.7 in 1984 among white women, and from 3.1 to 2.2 children among blacks.⁶ Recent fertility declines are thus a potentially important demographic source of post-1970 increases in overall female labor force participation rates.

Marital status. Substantial variation exists by marital status, with married women exhibiting labor force participation rates much lower than those of the overall female population.⁷ Changes since 1970 in the marital status composition of the female population have provided a potentially significant demographic source of growth in female labor force participation. The incidence of divorce, for example, increased from about 14 per 1,000 married women in 1970 to nearly 22 per 1,000 in 1984.⁸ In addition, the proportion of never-married women has risen rapidly, especially among young adults, reflecting delayed marriage. For example, the median age at first marriage among women in the United States rose from 20.6 in 1970 to 22.8 in 1984.⁹

Education. The educational upgrading of the female population has been a major facet of social change in the United States. For women age 25 or over, median years of schooling increased from 12.1 to 12.6 years between 1970 and 1980, and the percent graduating from high school grew from 52.8 to 65.8.¹⁰ Changes in the educational composition of the female population must be included in any demographic or structural explanation of rising participation rates among the female population. Indeed, increasing educational attainment alters the relative importance of home work versus the labor market for many women. This is clearly revealed in female labor force participation rates that tend to accelerate with increasing educational attainment.

Age. Age composition is a major structural aspect of the labor force.¹¹ Market-related activities are clearly associated with age. The age profile of women in the labor force is curvilinear, reaching its nadir during the child-bearing years and after age 40 or so, when labor force exits begin to rise. One significant facet of labor force age structure can be