



## Occupational salary levels for white-collar workers, 1982

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The Bureau of Labor Statistics recently released the results of its March 1982 survey of professional, administrative, technical, and clerical pay in medium and large firms. The survey, 23rd in an annual series, provides nationwide salary averages and distributions for some 100 work level categories covering two dozen occupations.<sup>1</sup> The number of work levels per occupation varied from one for messengers to eight for engineers. Each level describes duties and responsibilities in private industry that are comparable with those of specific groups of Federal white-collar employees. In keeping with the Federal Pay Comparability Act of 1970, the narrowly defined occupational classifications of the survey provide the link between private and Federal Government sectors, thereby permitting compliance with the congressional directive that "Federal pay rates be comparable with private enterprise pay rates for the same levels of work."<sup>2</sup>

Among the various skill levels of white-collar work, salary increases continued to be largest for journeyman and senior levels of professional and administrative occupations. Table 1 shows that Group C jobs—equivalent to grades 11–15 of the Federal Government's General Salary (GS) Schedule—experienced a record 10.4-percent salary rise in 1981–82. Group C pay increases also led those of the two lower groups in 4 of the preceding 5 years. (See table 2 for identification of the survey classifications that equate to each GS grade.<sup>3</sup>)

A closer look finds that the pay gap between entry-level professionals and their experienced coworkers widened in the 1970's, as the latter group generally chalked up substantially larger salary increases. The following

**Table 1. Percent increases in average salaries by work level category, 1970–82**

Period	Group A (GS grades 1–4)	Group B (GS grades 5–9)	Group C (GS grades 11–15)
1970–82 .....	130.4	123.0	135.0
1970–71 .....	6.2	6.3	6.2
1971–72 <sup>1</sup> .....	6.3	5.2	5.6
1972–73 .....	5.5	4.4	5.7
1973–74 .....	6.2	5.7	6.2
1974–75 .....	9.1	8.6	8.8
1975–76 .....	7.6	6.4	6.5
1976–77 .....	6.9	6.3	7.7
1977–78 .....	7.5	8.0	8.8
1978–79 .....	7.2	7.5	8.0
1979–80 .....	9.1	10.1	9.3
1980–81 .....	9.8	9.6	10.2
1981–82 .....	9.5	9.4	10.4

<sup>1</sup> Actual survey-to-survey increases have been prorated to a 12-month period.

tabulation illustrates this point by showing pay levels of four journeyman classifications (GS 11 equivalents) as a percent of the corresponding entry levels (GS 5).<sup>4</sup> Note that the journeyman advantage has slipped slightly since 1979:

	1970	1979	1982
Accountant .....	150	174	173
Auditor .....	158	183	179
Chemist .....	155	176	173
Engineer .....	144	150	146

In recent years, however, the strong demand for engineers has bolstered their starting salaries, thus keeping the pay gap between their entry and journeyman levels relatively small. This practice is evident when engineer salaries are compared to those of another technical profession—chemist. In 1982, average salaries for entry-level engineers were 20 percent higher than starting chemist salaries; at the journeyman level, in contrast, the difference was only 1 percent (table 2).

The effects of such changes are reflected in the overall salary structure for professional jobs since 1970. Based on a matrix analysis of five professional occupations spanning 30 work levels, the average difference for 435 paired comparisons was 65 percent in 1982 and 58 percent in 1970.<sup>5</sup> How these individual jobs and their work

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**Table 2. Average salaries of employees in selected white-collar occupations in private establishments, March 1982**

Occupational level and Federal GS grade equivalent	Number of employees <sup>1</sup>	Average annual salary <sup>2</sup>	Occupational level and Federal GS grade equivalent	Number of employees <sup>1</sup>	Average annual salary <sup>2</sup>
<b>Accountants and auditors</b>			<b>Chemists and engineers—Continued</b>		
Accountants I (GS-5)	14,281	\$18,260	Engineers I (GS-5)	31,293	\$23,622
Accountants II (GS-7)	23,570	22,068	Engineers II (GS-7)	60,083	26,060
Accountants III (GS-9)	35,575	25,673	Engineers III (GS-9)	116,212	29,331
Accountants IV (GS-11)	21,187	31,658	Engineers IV (GS-11)	138,972	34,443
Accountants V (GS-12)	7,614	38,680	Engineers V (GS-12)	101,701	40,677
Accountants VI (GS-13)	1,344	48,549	Engineers VI (GS-13)	45,853	47,442
Chief accountants I (GS-11)	654	34,506	Engineers VII (GS-14)	14,102	54,338
Chief accountants II (GS-12)	953	39,708	Engineers VIII (GS-15)	2,874	62,494
Chief accountants III (GS-13)	672	50,414			
Chief accountants IV (GS-14)	180	61,255	<b>Technical support</b>		
Auditors I (GS-5)	2,456	17,901	Engineering technicians I (GS-3)	7,178	14,688
Auditors II (GS-7)	3,760	22,065	Engineering technicians II (GS-4)	20,271	17,246
Auditors III (GS-9)	4,797	26,502	Engineering technicians III (GS-5)	31,340	20,219
Auditors IV (GS-11)	2,559	32,004	Engineering technicians IV (GS-7)	36,630	23,620
Public accountants I (GS-7)	9,035	17,266	Engineering technicians V (GS-9)	21,651	26,761
Public accountants II (GS-9)	9,570	19,177	Drafters I (GS-2)	3,161	11,739
Public accountants III (GS-11)	8,485	22,830	Drafters II (GS-3)	11,929	14,257
Public accountants IV (GS-12)	4,439	27,286	Drafters III (GS-4)	23,277	17,046
			Drafters IV (GS-5)	26,149	20,964
<b>Attorneys</b>			Drafters V (GS-7)	20,762	25,909
Attorneys I (GS-9)	1,628	25,162	Computer operators I (GS-4)	6,141	11,896
Attorneys II (GS-11)	3,008	31,696	Computer operators II (GS-5)	14,928	13,895
Attorneys III (GS-12)	3,622	39,649	Computer operators III (GS-6)	29,523	15,804
Attorneys IV (GS-13)	2,919	49,818	Computer operators IV (GS-7)	16,252	19,325
Attorneys V (GS-14)	1,896	61,579	Computer operators V (GS-8)	3,212	22,889
Attorneys VI (GS-15)	707	76,202	Computer operators VI (GS-9)	360	23,267
			Photographers II (GS-5)	570	18,773
<b>Buyers</b>			Photographers III (GS-7)	725	22,425
Buyers I (GS-5)	6,422	18,074	Photographers IV (GS-9)	434	25,392
Buyers II (GS-7)	18,901	22,174			
Buyers III (GS-9)	17,561	27,424	<b>Clerical</b>		
Buyers IV (GS-11)	5,449	33,409	Accounting clerks I (GS-2)	27,738	10,478
			Accounting clerks II (GS-3)	85,417	12,488
<b>Programmers</b>			Accounting clerks III (GS-4)	58,670	14,713
Programmers/programmer-analysts I (GS-5)	13,043	17,535	Accounting clerks IV (GS-5)	23,519	18,063
Programmers/programmer-analysts II (GS-7)	30,366	20,629	File clerks I (GS-1)	22,496	9,018
Programmers/programmer-analysts III (GS-9)	45,970	25,192	File clerks II (GS-2)	12,109	10,474
Programmers/programmer-analysts IV (GS-11)	26,360	29,365	File clerks III (GS-3)	4,037	12,794
Programmers/programmer-analysts V (GS-12)	7,950	35,430	Key entry operators I (GS-2)	59,672	11,771
			Key entry operators II (GS-3)	40,048	13,956
<b>Personnel management</b>			Messengers (GS-1)	13,931	9,999
Job analysts I (GS-5)	216	18,573	Personnel clerks/assistants I (GS-3)	2,353	11,706
Job analysts II (GS-7)	444	19,900	Personnel clerks/assistants II (GS-4)	4,683	14,122
Job analysts III (GS-9)	822	25,028	Personnel clerks/assistants III (GS-5)	3,576	15,718
Job analysts IV (GS-11)	524	31,221	Personnel clerks/assistants IV (GS-6)	1,787	18,432
Directors of personnel I (GS-11)	1,061	31,136	Purchasing assistants I (GS-4)	4,791	13,589
Directors of personnel II (GS-12)	2,120	38,168	Purchasing assistants II (GS-5)	4,605	17,117
Directors of personnel III (GS-13)	958	47,553	Purchasing assistants III (GS-6)	1,577	22,276
Directors of personnel IV (GS-14)	287	57,859	Secretaries I (GS-4)	63,768	14,000
			Secretaries II (GS-5)	63,060	14,939
<b>Chemists and engineers</b>			Secretaries III (GS-6)	106,688	17,051
Chemists I (GS-5)	3,617	19,640	Secretaries IV (GS-7)	45,616	18,603
Chemists II (GS-7)	6,677	23,474	Secretaries V (GS-8)	22,679	21,546
Chemists III (GS-9)	10,900	28,016	Stenographers I (GS-3)	15,562	14,867
Chemists IV (GS-11)	11,028	34,047	Stenographers II (GS-4)	11,534	18,094
Chemists V (GS-12)	8,912	40,207	Typists I (GS-2)	31,703	10,893
Chemists VI (GS-13)	3,828	46,971	Typists II (GS-3)	17,822	13,723
Chemists VII (GS-14)	1,438	53,658			

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

<sup>2</sup> Salaries reported relate to the standard salaries that were paid for standard work schedules; i.e., the straight-time salary corresponding to employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living bonuses and incentive earnings were included.

NOTE: The following occupational levels were surveyed but insufficient data were obtained to warrant publication: Chief accountant V; director of personnel V; chemist VIII; personnel clerk/assistant V; engineering technician VI; and photographer I and V.

levels fared in salary increases over the 1970–82 period is shown below:

	Percent increase		Average for remaining levels
	Level I	Level II	
Accountant . . . . .	115	130	146
Attorney . . . . .	112	133	139
Auditor . . . . .	101	122	131
Chemist . . . . .	114	129	137
Engineer . . . . .	131	135	141

Although the salary structure widened, it left the relative ranking of professional work levels by pay virtually unchanged. Only 2 (Attorneys I and II) of 30 moved more than one position between 1970 and 1982.

In 1982, the survey's highest professional salary average was for top-level (VI) corporate attorney at \$76,202 a year; the lowest-paid professional classification—entry-level (I) auditor—averaged \$17,901 (table 2). These extremes reflect the wide range of duties and responsibilities represented by all professional categories covered by the survey. In contrast, the typical salary spread among job categories with equivalent levels of work is relatively narrow. Thus, annual average salaries for the six work levels surveyed that equate to Federal GS grade 13 ranged from \$46,971 for chemist VI to \$50,414 for chief accountant III<sup>6</sup>—a difference of only 7 percent. Salary relationships produced by the survey are evidence that companies recognize equivalent duties and responsibilities among a wide range of occupations within broad categories.

Another characteristic of white-collar workers reported in the survey is the pronounced variation in their earnings within occupational work levels. Salaries of the highest paid employees in a single work level were commonly twice those of the lowest paid employees. Consequently, some professional workers in the first journeyman level earned as much as, or more than, their counterparts in more senior levels; for example, 10 percent of accountants III and 7 percent of accountants V earned between \$30,000 and \$32,500 annually in March 1982. Factors contributing to dispersed salaries include such traditional wage determinants as firm size, industry, and geographic location in addition to range-of-rate plans used by many employers to recognize merit or seniority.

A MORE DETAILED ANALYSIS of white-collar salaries and complete results of this year's survey are contained in the *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1982*, BLS Bulletin 2145, September 1982. It includes salary distributions by occupational work level, and relative employment and salary levels by industry division for the two dozen occupations studied. □

— FOOTNOTES —

<sup>1</sup> The survey is conducted annually with a March reference period in metropolitan areas and nonmetropolitan counties in the United States, except Alaska and Hawaii. Metropolitan areas accounted for nine-tenths of the employees in occupations for which salary data were developed.

<sup>2</sup> 5 U.S.C. Sec. 5301(a)(3)(1970). The pay-setting role of the Professional, Administrative, Technical, and Clerical Survey is described in George L. Stelluto, "Federal pay comparability: facts to temper the debate," *Monthly Labor Review*, June 1979, pp. 18–28.

<sup>3</sup> In 1982, a total of 101 work levels produced publishable data out of the 108 levels within scope of the survey. Of these 101 work levels, 92 were sufficiently unchanged in definition between the 1981 and 1982 surveys to be used in computing the 1981–82 increases shown in table 1. Widely varying duties and responsibilities may be embodied in work levels within each of the broad categories of table 1; for example, Group B includes journeyman, clerical, and technical levels, such as accounting clerk IV and engineer technicians III through IV, as well as the entry and developmental levels of professional occupations.

<sup>4</sup> A similar pattern was found for the 1970's in the salary relationship of recent law graduates with bar membership (survey job attorney I) and attorneys with experience handling legal work with few precedents (attorney III)—GS grade equivalents 9 and 12, respectively. The salary relatives were 142 in 1970 and 158 in 1979 and 1982.

<sup>5</sup> The pay matrix helps to analyze the comparative salary position of each job classification with each of its counterparts. The matrix expands upon the traditional approach which limits comparisons of occupational averages to the highest and lowest levels or to setting a single job as the base for all others to be measured against. The difference between the resulting means of the paired comparisons in 1970 and 1982 was statistically significant at a 5-percent level. For a description of the matrix and its use, see Mark S. Sieling, "Interpreting pay structures through matrix applications," *Monthly Labor Review*, November 1979, pp. 41–45.

<sup>6</sup> In the survey coding structure, the level designations among various occupations are not synonymous: For example, the first level of attorneys equates to the third levels of accountants, chemists, and most other professional and administrative occupations. See table 2 for more details on job level equivalents. Classification of employees in the occupations and work levels surveyed is based on factors detailed in definitions which are available upon request.

## Employment Cost Index continues to decelerate in second quarter

The Employment Cost Index (ECI), measuring changes in employer compensation costs, increased 1.1 percent in the 3 months ended in June. Wages and salaries alone rose 0.9 percent. The index stood at 107.5 for compensation costs (wages, salaries, and employer costs for employee benefits) based on June 1981=100. The ECI does not cover farm, private household, and Federal government workers and is not seasonally adjusted.

The deceleration in rates of increase for both compensation costs and for wages and salaries alone that began in 1981 continued to be widespread among occupational and industrial groups measured by the ECI. Compensation costs for all private nonfarm workers slowed to a 1.3-percent rise in the second quarter, down from 1.9

percent a year earlier. The corresponding wage and salary increase, 1.1 percent, was down from 2.0 percent a year earlier.

Workers in occupations and industries that typically receive the bulk of their wage adjustments in the second quarter showed relatively small gains. Transport equipment operatives, for example, posted a 0.9-percent wage increase. The advance was dampened by the recent trucking industry bargaining settlements that provided no specified wage increases and diverted part of the cost-of-living adjustment to maintain existing employee benefits. Over the past 5 years, second-quarter wage increases for transport equipment operatives ranged between 3 and 5 percent.

Wages for workers in the construction industry rose 1.3 percent in the second quarter—an unusually low increase for an industry with a heavy bargaining schedule in the spring and summer months. Second-quarter wage increases in construction ranged between 2 and 3 percent over the past 5 years.

A substantial deceleration in rates of increase in compensation costs and wages and salaries for the year ended in June 1982 compared with the preceding year also occurred. A particularly dramatic slowdown occurred in compensation cost increases for blue-collar workers in private industry. These costs slowed to a 7.0-percent increase in the year ended in June 1982, from a 10.5-percent rise in the year ended in June 1981. Wage increases alone for these workers slowed to 6.6 percent, down from 9.2 percent a year earlier.

Among white-collar workers, compensation costs rose 7.2 percent for the 12 months ended in June 1982 compared with 10.2 percent during the year ended in June 1981; their wages and salaries increased 7.3 percent, down from 9.4 percent in June 1981. Rates of change within the white-collar group varied substantially, however. Salesworkers' wages, which include volatile commission earnings, rose only slightly, 1.8 percent, for the June 1981–82 period in contrast to 10.2 percent for June 1980–81. However, wage increases for clerical workers, 8.3 percent for the 12 months ended in June 1982, were only slightly below the June 1981 advance of 8.8 percent.

Compensation costs for union workers rose 8.4 percent in the June 1981–82 period, contrasted to 11.5 percent a year earlier; union wage and salary increases dropped to 8.1 percent from 10.1 percent.

The slowdown was also evident for nonunion workers. Compensation costs increased 6.5 percent for the 12 months ended in June, down from 9.8 percent a year earlier; wage increases were 6.5 percent and 9.0 percent.

Compensation costs for State and local government employees, coverage introduced in June 1981, increased 9.3 percent over the year. Wages for these workers advanced 8.7 percent.

Additional data on second-quarter ECI results appear in the Current Labor Statistics section of the *Review*. □

## GAO study focuses on problems of teenagers in labor market

Teenage unemployment, especially that of blacks, has been a concern among policymakers in recent years. According to the General Accounting Office (GAO), unemployment among black teenagers had increased sharply since 1970—along with a coincident rise in crime among all teens.

During 1949–80, the unemployment rate of white male teenagers stayed about three times higher than that of adult males. However, a substantial amount of the difference in these rates can be traced to teens voluntarily leaving jobs and the labor force.

Of all teenagers, those who are unemployed represent only a fraction; but this relatively small group is largely composed of poor and black persons. Therefore, high unemployment indicates a serious labor market problem for black teenagers.

GAO found that using labor force and employment status as the major criteria for ascertaining the need for teenage employment services was insufficient. Many teenagers lack the basic reading, writing, and computation skills required to compete and succeed in the job market, the congressional agency reported. Therefore, using a detailed analysis of the educational achievement, labor force status, and demographic characteristics of teens, GAO estimated that in 1977 “approximately 962,000 economically disadvantaged teenagers (16 to 21 years old) with a high school degree or lower attainment [were] most in need of Federal assistance.” In subsequent years, the number in need depends on how long the average person needs assistance.

Since 1940, there have been extensive racial differences in teenage unemployment outside the South. From 1940 to 1950, nonwhite unemployment was lower in the South than white unemployment during the same period. However, since 1970, the difference has widened significantly in all U.S. regions.

GAO cites two major unresolved questions—why did the black teenage unemployment rate rise so sharply since 1970 and what are the underlying factors of the large and persistent (40 plus years outside the South) teenage unemployment difference? The study finds the most important reasons to be lower scholastic achievement, which, in turn, is a function of many family background variables, and inaccessibility to job vacancy information.

Factors which caused the racial dissimilarities in teenage labor participation were difficult to find. A partial

explanation appears to be discouragement. Teenagers, who lack the personal qualifications necessary for a job, may have had a few bad employment experiences and then decided to withdraw from the labor force, discouraged over their predicament.

Some additional evidence on this issue is provided by an analysis of other possible causes. It shows that nearly three-fourths of the racial difference in labor force participation of out-of-school teens is explained by family background. The analysis also suggests that black teenagers living in households receiving Aid for Families with Dependent Children since 1960 may have been a cause of the relative worsening of labor force participation and unemployment rates among young blacks in recent years.

The claim that a teenager's inability to find a job can have an effect on his or her inclination to commit a crime seems plausible, the GAO study states. However, evidence on the causes of crime does not show how important the effect of unemployment is. Some studies suggest that it may be important, but they are flawed statistically and those that do not have these flaws deal with problems other than unemployment.

Inability to find a job is not the only factor potentially contributing to crime. Being unable to qualify for a job would logically seem much more conducive to criminal behavior, but, because of insufficient data, GAO has

not been able to analyze this group. Regardless of a link to crime, teenagers unqualified for jobs are a serious social problem, GAO noted.

Considering the effect of low wage jobs versus unemployment may also be important. A "job-qualified" teenager might not be driven to crime by a moderately difficult period of unemployment, but, depending on aspirations, the prospect of a lifetime of very modest paying jobs might make crime attractive, according to the study.

On the bright side, GAO could find no evidence that being out of work occasionally as a teenager has any adverse effect on future labor market opportunities or successes. This held true even for out-of-school teenagers.

The GAO report concludes that studies should be conducted to find new ways of identifying and delivering education and training services to disadvantaged teens. Also, the agency believes that extended research is necessary on the link between teenage unemployment and crime. However, the study notes that the Department of Labor disagrees with both suggestions.

The full report, *Labor Market Problems of Teenagers Result Largely from Doing Poorly in School*, Washington, D.C., March 1982, (PAD-82-06), is available from the U.S. General Accounting Office, Document Handling and Information Services Facility, Gaithersburg, Md. 20760. □