

**National Survey of  
Professional, Administrative,  
Technical, and Clerical Pay  
Winter 1961-62**

**Bulletin No. 1346**

**UNITED STATES DEPARTMENT OF LABOR  
W. Willard Wirtz, Secretary**

**BUREAU OF LABOR STATISTICS  
Ewan Clague, Commissioner**



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Professional, Administrative,  
Technical, and Clerical Pay  
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**Accountants and Auditors  
Attorneys  
Personnel Management  
Engineers and Chemists  
Engineering Technicians  
Draftsmen  
Office Clerical**

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## Preface

The Bureau of Labor Statistics provides in this bulletin the results of the third in a series of annual nationwide surveys of compensation for selected professional, administrative, technical, and clerical occupations in private industry. The data, which relate to representative establishments in a broad spectrum of American industry in urban areas, were obtained by personal visits of Bureau field economists. For the most part, the data reflect salaries in effect during the period January-June 1962.

The design for this annual series of surveys was developed by the Bureau of Labor Statistics in conjunction with the Bureau of the Budget and the Civil Service Commission. The surveys provide a fund of broadly based information on salary levels and distributions in private employment—that is, on the rates of compensation in the dominant sector of the labor market. As such, the results are useful for wide, general economic analysis. In addition, they provide more information than has hitherto been available on pay in private industry in a form suitable for use in appraising the compensation of salaried employees in the Federal civil service. (See appendix D.) It should be emphasized that these surveys, like any other salary surveys, are in no sense calculated to supply mechanical answers to questions of pay policy.

The list of occupations studied represents a wide range of pay levels. Individually, the occupations selected were judged to be (a) surveyable in industry within the framework of a broad survey design, and (b) representative of occupational groups which are numerically important in industry as well as in the Federal service.

Occupational definitions prepared for use in the collection of the salary data reflect duties and responsibilities in industry; however, they are designed to be translatable to specific pay grades in the general schedule applying to Federal Classification Act employees. This necessitated limiting some occupations and work levels to employees with specific job functions that could be classified uniformly among establishments. For office clerical and drafting occupations, selected from among those included in the Bureau's program of locality occupational wage surveys, Bureau of Labor Statistics job definitions were used. Definitions for all other occupations studied were prepared by the Civil Service Commission staff in collaboration with the Bureau of Labor Statistics. (See appendix C.)

The second survey, conducted in the winter of 1960-61, incorporated a number of changes in the professional and administrative occupations defined for survey, as well as changes in other aspects of the survey design. Additional changes in the present survey have been confined to a few revisions in work level definitions, involving two levels of chief accountants and three of the office clerical occupations (appendix B); and the addition of engineering technicians to the list of occupations. It has been possible, therefore, for the first time to present in this report an analysis of changes in salary levels during the year for the full range of occupations represented in this survey that also were covered a year earlier.

In addition to the collection of salary data for all occupations studied, limited information was obtained in this survey on the extent to which formal salary structures with a series of established pay grades applied to white-collar occupations. Information on supplementary benefits such as cash bonuses; paid vacations and holidays; and health, insurance, and pension plans is not included in this report. Data on supplementary cash bonus payments to employees in professional and administrative occupations were presented in the 1959-60 report (BLS Bulletin 1286) and the extent to which such payments were similar in the following year was shown in the 1960-61 report (BLS Bulletin 1310). Information on supplementary benefits such as paid vacations and holidays and health, insurance, and pension plans relating to office workers has been incorporated in separate reports. (See order form at the back of this bulletin.) Data are provided in summary reports for all metropolitan areas combined and by region, and in separate area reports for each area in which occupational wage surveys are conducted.

The survey could not have been accomplished without the wholehearted cooperation of the many firms whose salary scales provide the basis for the statistical data presented in this bulletin. The Bureau, on its own behalf and on behalf of the other Federal agencies that collaborated in planning the survey, wishes to express sincere appreciation for the splendid cooperation it has received in this difficult undertaking.

This bulletin was prepared in the Bureau's Division of Wages and Industrial Relations under the general supervision of Toivo P. Kanninen. Samuel E. Cohen devised the sampling procedures and supervised the selection of the sample, assisted by Theodore J. Golonka, who was responsible for the preparation of the estimates. The analysis was prepared by Louis E. Badenhop, assisted by Harry F. Zeman. Field work for the survey was directed by the Bureau's Assistant Regional Directors for Wages and Industrial Relations.

## Contents

	Page
Summary .....	1
Characteristics of the survey .....	1
Changes in salary levels since 1960-61 survey .....	3
Average salaries, Winter 1961-62 .....	4
Salary distributions .....	7
Pay differences by industry .....	9
Average weekly hours .....	9
Salary rate systems .....	10

### Tables:

1. Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, winter 1961-62, and percent increase in average salaries from winter 1960-61 .....	11
2. Percent distribution of employees in selected professional and administrative occupations by average monthly salaries, winter 1961-62 .....	13
3. Percent distribution of engineering technicians by average monthly salaries, winter 1961-62 .....	18
4. Percent distribution of employees in selected drafting and clerical occupations by average weekly salaries, winter 1961-62 .....	19
5. Percent distribution of employees in selected professional, administrative, technical, and clerical occupations by industry division, winter 1961-62 .....	21
6. Relative salary levels for selected professional, administrative, technical, and clerical occupations by industry division, winter 1961-62 .....	22
7. Distribution of 75 selected job categories studied by employees average weekly hours, winter 1961-62 .....	23
8. Percent distribution of establishments by formal salary rate systems covering white-collar occupations, by major industry divisions, and employment size of establishment, winter 1961-62 .....	24

### Appendixes:

A. Scope and method of survey .....	25
B. Survey changes in 1961-62 .....	29
C. Occupational definitions .....	31
D. Comparison of average annual salaries in private industry, winter 1961-62, with Federal Classification Act salary rate ranges .....	55

The number of work levels defined for survey in each occupation ranges from one for office boys or girls to eight for chemists and engineers. More than one level of work was defined for survey in most of the occupations; however, some occupations were purposely defined to cover a specific band of work levels, which were not intended to represent all levels or all workers that may be found in those occupations.

Except for the addition of a new series of engineering technicians, the definitions used in this survey were the same as those used in the previous survey for most of the occupations.<sup>3</sup> The industrial and geographic coverage was identical for both periods. It was possible, therefore, to measure changes in average salaries during the year for the full range of occupations also included in the previous survey. Numerous revisions were made in the definitions for the professional and administrative occupations after the first survey, which limited comparisons possible between results of the first and second survey.

The selected occupations as defined for the study accounted for nearly 950,000 employees or about 8 percent of the estimated total employment in establishments within scope of the survey. Employment in the selected occupations varied widely, reflecting actual differences in employment in the various occupations, as well as differences in the range of duties and responsibilities covered by each occupational definition. Among the professional and administrative occupations, the eight levels of engineers accounted for a total of nearly 250,000 employees, whereas, fewer than 5,000 were employed in each of four of the occupational categories as defined for the study (chief accountants, managers of office services, job analysts, and directors of personnel). In the clerical field, three occupations (accounting clerks, stenographers, and typists) accounted for almost three-fifths of the 493,000 employees in those occupations studied. The selected drafting-room occupations had aggregate employment of 57,000, and the five engineering technician levels together accounted for only a few thousand less.

Although women accounted for nearly half the total employment in the occupations studied, they were largely employed in clerical positions. The clerical occupations, in which the proportion of women amounted to more than 90 percent of the employment in all levels studied, included bookkeeping-machine operators, file clerks, keypunch operators, stenographers, switchboard operators, and typists. Among tabulating-machine operators, however, women accounted for only a third of the work force, and office girls were outnumbered by office boys in a ratio of 3 to 2. In the drafting occupations, women accounted for a third of the tracers but less than 5 percent of the draftsmen. The relatively few women employees in the professional and administrative occupations (slightly above 1 percent) were reported in the first few levels; those in which women accounted for as many as 10 but less than 20 percent of the employment were: Accountants I, chemists I, managers of office services I, and job analysts II.

The time unit in which salary rates were expressed varied among and within establishments. Although monthly rates were widely reported in the professional and administrative occupations, annual rates were not uncommon, particularly among the high-salaried positions. Clerical pay rates were commonly expressed in weekly terms, but other time units were in use in many establishments.

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<sup>3</sup> For a summary of changes made in the definitions, see appendix B.

The general level of salaries for each occupation or work level is presented in this study as the arithmetic mean of all the individual salary rates. Median salaries, the amount below and above which the salaries for 50 percent of the employees are found, are also presented in table 1.

#### Changes in Salary Levels Since 1960-61 Survey

Average salaries increased 2.7 percent for all employees in professional and administrative occupations surveyed and 2.9 percent for clerical employees as a group since the previous survey (winter 1960-61). In a majority of the professional and administrative work levels and in nearly all the clerical levels surveyed on a comparable basis in both periods, increases in salary levels were within a 2- to 4-percent range (table 1). Among 11 occupations or groups, increases ranged from 1.4 to 3.9 percent, as shown in the following tabulation. In these comparisons, the effect of changes in the proportion of employees in various work levels within each occupational category was eliminated by using the 1961-62 employment as a constant employment weight in both periods.

Occupation or group	Percent increase in average salaries
Professional and administrative employees -----	2.7
Accountants -----	2.8
Auditors -----	2.9
Chief accountants -----	2.6
Attorneys -----	3.2
Managers, office services -----	3.3
Job analysts -----	1.4
Directors of personnel -----	3.7
Chemists -----	3.9
Engineers -----	2.6
Drafting employees -----	3.8
Clerical employees -----	2.9

The increases in salary levels since the 1960-61 survey were generally similar to those occurring between winter 1959-60 and winter 1960-61, for those occupations in which comparison could be made. For all clerical occupations, which represented the largest group of employees for whom comparable data were available for both periods, average salaries increased 2.9 percent during the year compared with 3 percent during the previous period.

Although the percent change in average salaries during the recent year differed among the various work levels studied within professional and administrative occupations, there was no clear pattern suggesting that the relative rise in salaries tended to be greater at some levels than at others within these occupations.

Changes in average salaries not only reflect general salary increases and merit or other increases given to individuals while in the same work level category, but they also may reflect other factors such as employee turnover, expansions or reductions in the work force, and changes in staffing patterns within establishments with different salary levels. For example, an expansion in force may increase the proportion of employees at the minimum of the salary range established for a work level, which would tend to lower the average, whereas, a reduction or a low turnover in the work force may have the opposite effect.

Among personnel directors with job functions as specified for the four levels of responsibility, average monthly salaries ranged from \$737 for level I to \$1,258 for level IV. Manufacturing industries accounted for 80 percent of the job analysts and 71 percent of the directors of personnel included in the study; the finance, insurance, and real estate industries ranked next, with 11 percent of the employment in each of these occupations.

Chemists and engineers each were surveyed in eight levels. Each series started with a professional trainee level, typically requiring a B.S. degree or the equivalent in education and experience combined. The highest level surveyed involved either full responsibility over a very broad and highly complex and diversified engineering or chemical program, with several subordinates each directing large and important segments of the program; or individual research and consultation in difficult problem areas where the engineer or chemist was a recognized authority and where solutions would represent a major scientific or technological advance.<sup>10</sup> Average monthly salaries ranged from \$559 for engineers I to \$1,631 for engineers VIII, and from \$510 for chemists I to \$1,582 for chemists VIII. Although starting salaries of chemists were about 9 percent below those of engineers, the difference narrowed to 3 percent at level IV and did not exceed that amount in the higher levels. Level IV, the largest group in each series, included professional employees who were fully competent in all technical aspects of their assignments, worked with considerable independence, and, in some cases, supervised a few professional and technical workers. Manufacturing industries accounted for 81 percent of all engineers and 92 percent of all chemists; public utilities, 11 and 2 percent, respectively; and the surveyed engineering and scientific services employed most of the others.

The five-level engineering technician series introduced in this survey was limited, by definition, to employees providing technical support to professional engineers engaged in such areas as research, design, development, testing or manufacturing process improvement, and whose work pertained to electrical, electronic, or mechanical components or equipment. Technicians engaged primarily in production or maintenance work were excluded. Engineering technicians I, who performed simple routine tasks under close supervision, or from detailed procedures, were paid monthly salaries averaging \$392. Engineering technicians V, the highest level surveyed, averaged \$661 a month. That level included fully experienced technicians performing more complex assignments involving responsibility for planning and conducting a complete project of relatively limited scope, or a portion of a more diverse project, in accordance with objectives, requirements, and design approaches as outlined by the supervisor or a professional engineer. Averages for intermediate levels III and IV, at which a majority of the technicians surveyed were classified, were \$521 and \$589, respectively. As might be expected, nearly all of the technicians as defined were employed in manufacturing (84 percent) or in the scientific services industries studied (12 percent). Although the ratio of such technicians to engineers studied was about 1 to 5, respectively, in all industries, higher ratios of approximately 1 to 4 were found in establishments manufacturing mechanical and electrical equipment, and 2 to 5 in research, development, and testing laboratories.

In the drafting field, monthly salaries among three levels of work averaged \$550 for senior (fully experienced) draftsmen, \$425 for junior draftsmen, and \$332 for the relatively small group of tracers. These employees

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<sup>10</sup> It was recognized in the definition that top positions of some companies with very extensive and complex engineering or chemical programs were above that level.



were distributed by industry in about the same proportion as engineers, with 84 percent in manufacturing, 8 percent in public utilities, and virtually all of the others in the selected engineering and scientific service industries studied.

Among the 19 clerical jobs represented in the study, monthly salaries ranged from \$245 for file clerks I to \$469 for tabulating-machine operators III, who were required to perform, without close supervision, complete reporting assignments by machine, including difficult wiring. Averages within a range from \$300 to \$400 a month were recorded for 12 of these work levels; general stenographers, the largest group of clerical employees studied, averaged \$338. Office boys or girls, two-fifths of whom were employed in manufacturing industries, averaged \$21 a month more than file clerks I, who were more heavily represented in the finance industries. Women accounted for more than nine-tenths of the employees in 13 of the clerical work levels and the men accounted for half or more in 3 (tabulating-machine operators II and III, and office boys or girls). Although employment in manufacturing exceeded that in each of the five non-manufacturing industry divisions within scope of the survey in 15 of the 19 work levels, in only seven instances did manufacturing account for more than half the employees.

Among all occupations in which two or more work levels were studied, the relative spread between average salaries for successive work levels ranged from 9.8 percent (between salaries of accountants I and II) to 36.2 percent (between salaries of attorneys VI and VII). In a majority of comparisons, however, the average for the higher level was within a range of 14 to 24 percent above the average for the next preceding lower level studied.

Median monthly salaries (the amount below and above which 50 percent of the employees were found) for most of the work levels were slightly lower than the weighted averages (means) cited above. The relative difference between the median and the mean was less than 2 percent for 45 of the 75 work levels and as much as 2 but less than 3 percent in 20 additional levels. The weighted average salaries exceeded the medians by more than 4 percent for directors of personnel II and III (4.3 and 6.1 percent, respectively); and for attorneys IV and managers, office services IV (4.8 percent each).

### Salary Distributions

Percent distributions of employees by monthly salaries are presented for the professional and administrative occupations in table 2, and for engineering technicians in table 3; distributions by weekly salaries are shown for employees in the drafting and clerical occupations in table 4.<sup>11</sup> Within nearly all of the 75 occupation work levels, salary rates for some of the highest paid employees were twice those of the lowest paid employees. All occupations in which two or more levels of work were surveyed showed a substantial degree of overlapping of individual salaries between work levels in the same occupation. Ranges in salary rates of employees in established pay grades or work levels within salary structures of individual firms also exhibited substantial overlapping.

The absolute spread between highest and lowest paid workers within given work levels tended to widen with each successive higher work level for most occupations in which two or more levels were surveyed. To a lesser extent, the relative spread in salary ranges also tended to widen at the higher work levels but there was considerable variation among occupations and in many

<sup>11</sup> Technical considerations dictated the summarization of employee distributions by weekly salaries in the case of the drafting and clerical jobs.

cases the relative spread was not greater for professional and administrative work levels than for clerical levels studied. Expressing the salary range of the middle 50 percent of employees as a percent of the median salary permitted comparisons of salary ranges for the various work levels on the same basis, and also eliminated the extreme low and high salaries from each comparison.

Distribution of work levels (salary range of middle 50 percent of employees expressed as a percent of median salary)

Occupational group	Number of work levels	Under 15 percent	15 and under 20 percent	20 and under 25 percent	25 and under 30 percent	30 percent and over
All levels -----	75	4	15	34	18	4
Accountants -----	5		3	2		
Auditors -----	4		1	3		
Chief accountants -----	4			3	1	
Attorneys -----	7			1	3	3
Managers, office services -----	4		2	2		
Job analysts -----	4		1	3		
Directors of personnel -----	4			1	3	
Chemists -----	8		3	4	1	
Engineers -----	8	2	2	4		
Engineering technicians -----	5	2	3			
Drafting -----	3			1	2	
Clerical -----	19			10	8	1

Thus, in this comparison, the middle range for attorney levels amounted to 25 percent or more of the corresponding median in six of seven levels, whereas the range was less than 25 percent of the corresponding median for seven of the eight levels of chemists and all eight levels of engineers. With one exception, the range was between 20 and 30 percent of the corresponding medians for the clerical levels studied.

Differences in the range of salaries paid individuals within work levels surveyed undoubtedly reflect a variety of factors other than differences in the range of duties and responsibilities encompassed by the various work level definitions. Salaries of individual employees in the same occupation and grade level may vary considerably within establishments. In the professional and administrative occupations, in particular, salaries are generally determined on an individual basis or under formalized pay plans which characteristically provide for a wide range in salary rates for each occupation and grade level. As pointed out earlier (and indicated in table 5), employment in the various industries within the scope of the survey varies considerably from occupation to occupation. These variations in employment also are reflected in salary levels and distributions to the extent that salaries differ by industry, as explained on the following page.

### Pay Differences by Industry

The survey was planned to permit publication of national salary estimates by level of work for the professional and administrative occupations in all industries within scope of the survey. By combining the data for all levels of work studied in each occupation, it was possible, further to present comparisons between relative salary levels in major industry divisions and all industries combined (table 6). To obtain relative salary levels, aggregates for the work levels in each occupation combined were computed for all industries and for each major industry division. The all-industry employment in each work level was used as a constant employment weight in computing aggregates for the various occupations by industry, to eliminate the influence of differences among industry divisions in the proportion of employment in various work levels. The aggregates for each occupation and industry division were then expressed as percentages of like groups in all industries combined.

For all of the clerical occupations studied, and for most of the professional and administrative occupations, in which comparisons could be made, relative salary levels were lower in retail trade and in finance, insurance, and real estate than in other industry divisions (table 6). It is apparent, therefore, that in those occupations in which retail trade and the finance industries account for a substantial proportion of the total employment, as shown in table 5, the average salaries for all industries combined are lowered and the relative levels in industries such as manufacturing and public utilities tend to be well above 100 percent of the all-industry level (table 6). For example, relative levels for bookkeeping-machine operators of 114 and 121 percent, respectively, in manufacturing and public utilities reflect the influence of lower salaries for the high proportion (61 percent) of all-industry employment accounted for by the finance industries. The relative salary levels for professional, administrative, and technical occupations tended to be nearest to 100 percent of the all-industry levels in manufacturing industries, which accounted for a high proportion of the total employment in most of these occupations.

Relative salary levels for a majority of both the clerical and the professional and administrative occupations, were slightly higher in public utilities than in manufacturing industries. For engineers, however, relative salary levels in utilities were 98 percent of the all-industry level, compared with 100 for manufacturing, and 101 for the selected services. The relative salary position of chemists was above that for engineers in the selected services; this reflected the relatively few chemists compared with engineers within this grouping employed in engineering and architectural services firms where salary levels were lower than in the research, development, and testing laboratories.

### Average Weekly Hours

The length of the workweek, upon which the regular straight-time salary was based, was obtained for individual employees in the occupations studied. The distribution of the average weekly hours (rounded to the nearest half hour) is shown for the 75 job categories in table 7. Workweeks averaged 40 hours in 12 of these job categories, 39½ hours in 30 additional categories, and from 38 to 39 hours in all others. Differences in average weekly hours among occupations, and among work levels within occupations, largely reflect variation in the distribution of employment in the various job categories among industries. Workweeks of 40 hours were predominant in all except the finance industries, in which

a majority of the employees were on schedules of less than 40 hours.<sup>12</sup> Average workweeks of 39 hours or less for all levels of auditors and attorneys and several of the clerical categories, reflect the extent to which they are employed in finance industries. Similarly, the average weekly hours of 39 $\frac{1}{2}$  or 40 hours recorded for all levels of chemists and engineers reflect the high incidence of the 40-hour workweek in manufacturing, public utilities, scientific research, and engineering services industries.

### Salary Rate Systems

In addition to salary data, information was obtained on the prevalence of formal salary rate systems providing a series of pay grades (minimums and maximums specified) into which jobs in the white-collar field were classified. Establishments with such pay systems were separated according to the extent of job coverage of the established pay grades as either (1) covering all or almost all office clerical, professional, and administrative occupations, or (2) covering some of these types of occupations only; for example, limited to office clerical jobs.

Slightly more than half of the establishments had formal salary rate systems with established pay grades for at least some of their white-collar occupations and almost three-fourths of these had such plans covering all or almost all of their white-collar jobs (table 8). Formal plans were more prevalent, and comprehensive job coverage was more commonly found in the larger establishments. About 9 out of 10 establishments with 2,500 or more employees had a formal salary rate system meeting the survey criteria for at least some group of their white-collar occupations. Almost nine-tenths of these had plans covering the full occupational range of clerical, professional, and administrative jobs. Fewer than half of the establishments with 250 to 1,000 employees had formal salary rate systems for white-collar occupations and less than a third had plans covering all or almost all white-collar occupations. In the 1,000- to 2,500-size group, prevalence and extent of coverage of the plans were greater than for the smaller establishments but less than for the 2,500- and over-size group.

The proportion of establishments with formal salary rate systems varied by industry. A relatively high proportion of establishments with such pay systems was found in some of the nonmanufacturing industry divisions, as compared with the manufacturing division. This was largely accounted for by the greater proportion of formal systems in smaller nonmanufacturing establishments, particularly those having a high proportion of white-collar occupations.<sup>13</sup> For example, in the finance, insurance, and real estate division, well over two-thirds of the establishments with 250 and under 1,000 employees had some kind of formal salary rate system coverage meeting the survey criteria. In contrast, fewer than one-half of the manufacturing establishments in the same employment-size group had formal systems for their white-collar employees. Nearly all establishments with 2,500 or more employees in both of these divisions had formal salary rate systems as defined for the survey.

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<sup>12</sup> For additional information on scheduled weekly hours of office workers employed in metropolitan areas, see Wages and Related Benefits, Metropolitan Areas, United States and Regional Summaries, 1960-61 (BLS Bulletin 1285-84, 1962).

<sup>13</sup> Size-group estimates relate to total employment, not to white-collar staffs of similar size. Most manufacturing establishments employ fewer white-collar employees than are found in nonmanufacturing establishments with comparable total employment.

Table 1. Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, <sup>1</sup> winter 1961-62, and percent increase in average salaries from winter 1960-61 <sup>2</sup>

Occupation and class (See definitions in appendix C)	Number of employ- ees	Monthly salaries <sup>3</sup>				Annual salaries <sup>3</sup>				Percent increase in average salaries
		Mean	Median	Middle range <sup>4</sup>		Mean	Median	Middle range <sup>4</sup>		
				First quartile	Third quartile			First quartile	Third quartile	
<b>Accountants and Auditors</b>										
Accountants I .....	4,645	\$490	\$491	\$449	\$530	\$5,880	\$5,892	\$5,388	\$6,360	2.5
Accountants II .....	8,062	538	532	489	584	6,456	6,384	5,868	7,008	2.1
Accountants III .....	17,498	618	611	558	668	7,416	7,332	6,696	8,016	3.0
Accountants IV .....	11,807	749	737	673	821	8,988	8,844	8,076	9,852	3.0
Accountants V .....	4,571	906	885	802	998	10,872	10,620	9,624	11,976	3.1
Auditors I .....	351	445	436	406	478	5,340	5,232	4,872	5,736	2.8
Auditors II .....	2,007	550	545	479	613	6,600	6,540	5,748	7,356	2.0
Auditors III .....	3,466	661	659	583	738	7,932	7,908	6,996	8,856	2.6
Auditors IV .....	1,935	820	792	713	910	9,840	9,504	8,556	10,920	3.8
Chief accountants I .....	452	831	810	720	918	9,972	9,720	8,640	11,016	4.3
Chief accountants II .....	1,142	955	931	843	1,052	11,460	11,172	10,116	12,624	( <sup>5</sup> )
Chief accountants III .....	669	1,096	1,068	972	1,233	13,152	12,816	11,664	14,796	( <sup>5</sup> )
Chief accountants IV .....	229	1,266	1,256	1,086	1,408	15,192	15,072	13,032	16,896	1.2
<b>Attorneys</b>										
Attorneys I .....	215	546	547	488	607	6,552	6,564	5,856	7,284	2.8
Attorneys II .....	769	668	652	575	752	8,016	7,824	6,900	9,024	1.5
Attorneys III .....	966	837	814	712	938	10,044	9,768	8,544	11,256	2.4
Attorneys IV .....	1,262	987	942	838	1,131	11,844	11,304	10,056	13,572	2.1
Attorneys V .....	1,021	1,243	1,224	1,053	1,369	14,916	14,688	12,636	16,428	1.7
Attorneys VI .....	530	1,370	1,338	1,103	1,536	16,440	16,056	13,236	18,432	7.2
Attorneys VII .....	446	1,866	1,814	1,493	2,095	22,392	21,768	17,916	25,140	8.1
<b>Office Services</b>										
Managers, office services I .....	468	615	611	548	676	7,380	7,332	6,576	8,112	1.8
Managers, office services II .....	648	738	738	661	796	8,856	8,856	7,932	9,552	4.4
Managers, office services III .....	290	842	843	752	906	10,104	10,116	9,024	10,872	3.4
Managers, office services IV .....	79	1,022	975	922	1,125	12,264	11,700	11,064	13,500	2.0
<b>Personnel Management</b>										
Job analysts I .....	132	508	506	457	559	6,096	6,072	5,484	6,708	3.0
Job analysts II .....	392	588	570	520	640	7,056	6,840	6,240	7,680	4.8
Job analysts III .....	780	667	660	593	729	8,004	7,920	7,116	8,748	.8
Job analysts IV .....	544	803	801	718	874	9,636	9,612	8,616	10,488	.2
Directors of personnel I .....	743	737	743	639	799	8,844	8,916	7,668	9,588	1.9
Directors of personnel II .....	1,759	869	833	737	966	10,428	9,996	8,844	11,592	4.3
Directors of personnel III .....	944	1,075	1,013	912	1,215	12,900	12,156	10,944	14,580	3.7
Directors of personnel IV .....	342	1,258	1,218	1,075	1,416	15,096	14,616	12,900	16,992	3.9
<b>Chemists and Engineers</b>										
Chemists I .....	1,181	510	511	468	547	6,120	6,132	5,616	6,564	6.0
Chemists II .....	3,492	576	566	526	616	6,912	6,792	6,312	7,392	3.4
Chemists III .....	6,897	663	655	599	717	7,956	7,860	7,188	8,604	3.1
Chemists IV .....	7,004	828	810	731	920	9,936	9,720	8,772	11,040	4.5
Chemists V .....	4,420	998	994	879	1,103	11,976	11,928	10,548	13,236	4.8
Chemists VI .....	2,380	1,122	1,098	986	1,241	13,464	13,176	11,832	14,892	.8
Chemists VII .....	781	1,377	1,333	1,171	1,527	16,524	15,996	14,052	18,324	6.9
Chemists VIII .....	290	1,582	1,537	1,405	1,729	18,984	18,444	16,860	20,748	3.9
Engineers I .....	8,232	559	558	533	586	6,708	6,696	6,396	7,032	2.0
Engineers II .....	31,128	624	620	581	665	7,488	7,440	6,972	7,980	2.5
Engineers III .....	64,111	721	716	661	777	8,652	8,592	7,932	9,324	2.3
Engineers IV .....	73,001	854	844	766	931	10,248	10,128	9,192	11,172	2.6
Engineers V .....	42,177	990	982	874	1,092	11,880	11,784	10,488	13,104	3.1
Engineers VI .....	20,737	1,145	1,137	1,005	1,278	13,740	13,644	12,060	15,336	2.8
Engineers VII .....	5,882	1,384	1,364	1,217	1,527	16,608	16,368	14,604	18,324	.8
Engineers VIII .....	1,545	1,631	1,626	1,432	1,811	19,572	19,512	17,184	21,732	2.7
<b>Engineering Technicians</b>										
Engineering technicians I .....	2,913	392	392	357	431	4,704	4,704	4,284	5,172	( <sup>6</sup> )
Engineering technicians II .....	9,065	455	451	415	492	5,460	5,412	4,980	5,904	( <sup>6</sup> )
Engineering technicians III .....	16,107	521	519	477	563	6,252	6,228	5,724	6,756	( <sup>6</sup> )
Engineering technicians IV .....	18,245	589	585	548	624	7,068	7,020	6,576	7,488	( <sup>6</sup> )
Engineering technicians V .....	6,704	661	657	614	709	7,932	7,884	7,368	8,508	( <sup>6</sup> )

See footnotes at end of table.

Table 1. Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, <sup>1</sup> winter 1961-62, and percent increase in average salaries from winter 1960-61<sup>2</sup>—Continued

Occupation and class (See definitions in appendix C)	Number of employ- ees	Monthly salaries <sup>2</sup>				Annual salaries <sup>3</sup>				Percent increase in average salaries
		Mean	Median	Middle range <sup>4</sup>		Mean	Median	Middle range <sup>4</sup>		
				First quartile	Third quartile			First quartile	Third quartile	
<b>Draftsmen</b>										
Draftsmen, junior -----	18,377	\$425	\$413	\$363	\$473	\$5,112	\$4,966	\$4,367	\$5,689	4.2
Draftsmen, senior -----	35,863	550	537	477	613	6,621	6,464	5,744	7,375	3.7
Tracers -----	2,302	332	326	292	364	3,995	3,928	3,508	4,383	1.6
<b>Clerical</b>										
Bookkeeping-machine operators I -----	22,832	282	275	245	312	3,396	3,304	2,948	3,753	3.6
Bookkeeping-machine operators II -----	5,230	354	352	305	401	4,260	4,232	3,669	4,822	3.4
Clerks, accounting I -----	50,152	330	321	275	377	3,967	3,861	3,303	4,537	3.6
Clerks, accounting II -----	37,580	436	430	369	493	5,241	5,171	4,438	5,936	2.4
Clerks, file I -----	15,673	245	240	213	269	2,952	2,883	2,565	3,236	(7)
Clerks, file II -----	22,994	276	268	236	308	3,317	3,225	2,843	3,701	(7)
Clerks, file III -----	8,278	349	342	294	390	4,199	4,113	3,534	4,696	(7)
Key punch operators I -----	29,881	310	304	266	352	3,730	3,663	3,196	4,235	(8)
Key punch operators II -----	18,657	355	353	313	401	4,273	4,243	3,770	4,823	(8)
Office boys or girls -----	23,119	266	257	230	294	3,201	3,091	2,763	3,532	2.6
Stenographers, general -----	68,237	338	335	292	381	4,064	4,033	3,516	4,586	(9)
Stenographers, senior -----	35,036	384	384	344	425	4,621	4,617	4,139	5,109	(9)
Switchboard operators -----	16,011	338	342	293	388	4,063	4,116	3,523	4,666	2.8
Switchboard operators, special -----	1,033	372	381	334	412	4,479	4,579	4,018	4,960	2.2
Tabulating-machine operators I -----	11,512	318	315	271	360	3,829	3,791	3,266	4,330	1.5
Tabulating-machine operators II -----	18,573	393	394	349	439	4,728	4,736	4,204	5,283	3.1
Tabulating-machine operators III -----	9,170	469	466	419	518	5,640	5,608	5,044	6,237	2.5
Typists I -----	61,951	283	277	248	314	3,403	3,338	2,981	3,781	2.7
Typists II -----	36,760	333	328	291	372	4,007	3,942	3,505	4,482	2.2

<sup>1</sup> For scope of study, see table in appendix A.

<sup>2</sup> For limitations of percent increase in average salaries as a measure of change in salary scale, see p. 3 of text.

<sup>3</sup> Salaries reported relate to the standard salaries that were paid for standard work schedules; i. e., to the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours.

<sup>4</sup> The middle range (interquartile) used here is the central part of the array excluding the upper and lower fourths of the employee distribution.

<sup>5</sup> Revisions in level definitions between surveys limit comparison of change to chief accountants II and III combined; average salaries for these employees as a group increased 2.5 percent during the year.

<sup>6</sup> Not included in the previous survey.

<sup>7</sup> Revisions in level definitions between surveys limit comparison of change to all file clerks combined; average salaries for these employees as a group increased 3.8 percent during the year.

<sup>8</sup> Revisions in level definitions between surveys limit comparison of change to all keypunch operators combined; average salaries for these employees as a group increased 3.1 percent during the year.

<sup>9</sup> Revisions in level definitions between surveys limit comparison of change to junior and senior stenographers combined; average salaries for these employees as a group increased 2.8 percent during the year.

Table 2. Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations<sup>2</sup> by average monthly salaries, winter 1961-62

Average monthly salaries	Accountants					Auditors				Chief accountants			
	I	II	III	IV	V	I	II	III	IV	I	II	III	IV
Under \$325	0.3	-	-	-	-	-	-	-	-	-	-	-	-
\$325 and under \$350	1.4	-	-	-	-	0.3	-	-	-	-	-	-	-
\$350 and under \$375	1.9	(0.6)	-	-	-	6.3	-	-	-	-	-	-	-
\$375 and under \$400	4.2	1.2	-	-	-	14.0	(1.3)	-	-	-	-	-	-
\$400 and under \$425	6.1	3.5	(0.4)	-	-	20.5	5.2	-	-	-	-	-	-
\$425 and under \$450	11.3	4.8	1.4	-	-	21.4	9.5	(1.0)	-	-	-	-	-
\$450 and under \$475	14.0	8.0	2.2	-	-	11.4	8.0	1.6	-	-	-	-	-
\$475 and under \$500	17.1	12.2	3.0	-	-	8.5	5.6	2.7	-	-	-	-	-
\$500 and under \$525	16.6	15.6	5.1	(0.9)	-	7.1	10.3	4.3	-	-	-	-	-
\$525 and under \$550	10.3	13.8	9.4	1.1	-	4.8	12.9	6.5	-	-	-	-	-
\$550 and under \$575	6.9	12.2	11.0	2.0	-	1.1	9.2	6.1	(1.4)	-	-	-	-
\$575 and under \$600	3.7	8.7	11.6	2.4	-	2.3	7.4	8.4	1.4	-	-	-	-
\$600 and under \$625	3.5	5.9	14.0	5.8	-	.6	10.8	7.3	.9	3.1	-	-	-
\$625 and under \$650	1.0	4.8	10.2	1.1	(1.8)	1.4	5.3	8.5	4.8	.7	(0.4)	-	-
\$650 and under \$675	(1.6)	2.7	9.8	7.8	1.6	(.3)	4.6	10.1	6.7	4.2	1.8	-	-
\$675 and under \$700	-	3.0	4.5	8.5	2.7	-	2.4	8.5	6.1	9.5	.9	-	-
\$700 and under \$725	-	.9	5.2	11.3	3.0	-	2.6	7.5	7.3	9.5	3.7	-	-
\$725 and under \$750	-	(2.1)	3.5	9.6	3.5	-	1.9	4.7	8.5	5.5	1.4	-	-
\$750 and under \$775	-	-	2.9	8.8	7.2	-	.7	7.4	9.4	9.3	4.2	1.0	-
\$775 and under \$800	-	-	1.7	6.8	4.8	-	1.1	4.4	4.9	6.0	3.9	1.6	-
\$800 and under \$825	-	-	1.2	5.4	7.0	-	(1.1)	3.9	5.6	5.3	2.3	4.2	-
\$825 and under \$850	-	-	.9	6.0	7.7	-	-	2.3	6.6	2.4	9.4	7.3	-
\$850 and under \$875	-	-	.9	5.2	8.4	-	-	1.3	5.6	13.9	5.6	1.5	(1.3)
\$875 and under \$900	-	-	(1.2)	2.6	6.1	-	-	1.5	3.8	1.8	3.4	1.6	3.9
\$900 and under \$925	-	-	-	3.0	7.2	-	-	(1.9)	4.8	5.1	10.9	3.4	.4
\$925 and under \$950	-	-	-	1.8	4.4	-	-	-	3.6	2.4	8.8	1.8	-
\$950 and under \$975	-	-	-	1.9	5.5	-	-	-	2.8	3.1	2.8	2.7	3.9
\$975 and under \$1,000	-	-	-	1.1	4.6	-	-	-	2.9	6.0	3.2	6.7	3.1
\$1,000 and under \$1,050	-	-	-	1.3	8.2	-	-	-	5.2	4.4	12.1	15.5	7.9
\$1,050 and under \$1,100	-	-	-	(1.1)	4.6	-	-	-	2.5	6.2	7.8	7.2	6.1
\$1,100 and under \$1,150	-	-	-	-	4.0	-	-	-	1.9	(1.5)	3.7	6.3	6.6
\$1,150 and under \$1,200	-	-	-	-	3.0	-	-	-	1.4	-	3.3	5.7	11.8
\$1,200 and under \$1,250	-	-	-	-	1.8	-	-	-	(1.7)	-	4.1	12.6	4.4
\$1,250 and under \$1,300	-	-	-	-	1.3	-	-	-	-	-	3.2	5.2	7.0
\$1,300 and under \$1,350	-	-	-	-	(1.7)	-	-	-	-	-	2.5	5.1	8.7
\$1,350 and under \$1,400	-	-	-	-	-	-	-	-	-	-	(.6)	1.9	9.2
\$1,400 and under \$1,450	-	-	-	-	-	-	-	-	-	-	-	6.4	5.7
\$1,450 and under \$1,500	-	-	-	-	-	-	-	-	-	-	-	(2.1)	2.2
\$1,500 and under \$1,550	-	-	-	-	-	-	-	-	-	-	-	-	4.8
\$1,550 and under \$1,600	-	-	-	-	-	-	-	-	-	-	-	-	2.6
\$1,600 and under \$1,650	-	-	-	-	-	-	-	-	-	-	-	-	2.6
\$1,650 and under \$1,700	-	-	-	-	-	-	-	-	-	-	-	-	2.6
\$1,700 and under \$1,750	-	-	-	-	-	-	-	-	-	-	-	-	.4
\$1,750 and under \$1,800	-	-	-	-	-	-	-	-	-	-	-	-	2.6
\$1,800 and over	-	-	-	-	-	-	-	-	-	-	-	-	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	4,645	8,062	17,498	11,807	4,571	351	2,007	3,466	1,935	452	1,142	669	229
Average monthly salaries	\$490	\$538	\$618	\$749	\$906	\$445	\$550	\$661	\$820	\$831	\$955	\$1,096	\$1,266

See footnotes at end of table.

Table 2. Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations<sup>2</sup> by average monthly salaries, winter 1961-62--Continued

Average monthly salaries	Attorneys						
	I	II	III	IV	V	VI	VII
Under \$425	2.8	-	-	-	-	-	-
\$425 and under \$450	7.0	-	-	-	-	-	-
\$450 and under \$475	10.2	-	-	-	-	-	-
\$475 and under \$500	10.2	(1.0)	-	-	-	-	-
\$500 and under \$525	10.2	6.6	-	-	-	-	-
\$525 and under \$550	10.7	5.5	2.4	-	-	-	-
\$550 and under \$575	7.4	11.6	1.8	-	-	-	-
\$575 and under \$600	11.2	13.4	1.9	(0.2)	-	-	-
\$600 and under \$625	18.6	6.0	3.1	1.7	-	-	-
\$625 and under \$650	2.8	5.2	3.6	.4	-	-	-
\$650 and under \$675	5.1	9.9	5.2	.6	-	-	-
\$675 and under \$700	.9	6.0	4.5	1.5	-	-	-
\$700 and under \$725	-	5.2	5.7	4.4	-	-	-
\$725 and under \$750	1.4	4.0	4.7	3.4	-	-	-
\$750 and under \$775	1.4	7.7	4.8	3.2	2.2	-	-
\$775 and under \$800	-	4.8	7.8	2.9	.5	-	-
\$800 and under \$825	-	1.6	8.5	3.3	3.0	-	-
\$825 and under \$850	-	2.5	4.9	7.0	.5	-	-
\$850 and under \$875	-	1.7	8.3	7.9	1.5	-	-
\$875 and under \$900	-	2.5	3.6	3.8	.3	0.6	-
\$900 and under \$925	-	1.4	3.1	7.3	1.2	1.1	-
\$925 and under \$950	-	(3.5)	2.9	3.7	.4	.6	-
\$950 and under \$975	-	-	2.3	3.9	2.1	.6	-
\$975 and under \$1,000	-	-	1.9	2.9	4.4	1.9	-
\$1,000 and under \$1,050	-	-	6.9	11.1	8.6	6.8	-
\$1,050 and under \$1,100	-	-	3.4	2.9	7.1	13.2	-
\$1,100 and under \$1,150	-	-	3.0	4.8	7.1	7.0	(0.4)
\$1,150 and under \$1,200	-	-	2.3	4.4	6.7	4.7	1.6
\$1,200 and under \$1,250	-	-	1.3	4.4	9.6	1.9	-
\$1,250 and under \$1,300	-	-	1.3	6.5	8.0	4.9	.4
\$1,300 and under \$1,350	-	-	(1.0)	1.5	10.9	9.1	8.1
\$1,350 and under \$1,400	-	-	-	1.9	2.8	5.3	1.8
\$1,400 and under \$1,450	-	-	-	.8	2.7	4.2	5.2
\$1,450 and under \$1,500	-	-	-	.9	2.8	7.4	9.0
\$1,500 and under \$1,550	-	-	-	1.0	4.4	8.3	4.7
\$1,550 and under \$1,600	-	-	-	(1.8)	1.0	3.2	1.8
\$1,600 and under \$1,650	-	-	-	-	4.3	4.2	1.6
\$1,650 and under \$1,700	-	-	-	-	3.6	1.9	8.3
\$1,700 and under \$1,750	-	-	-	-	1.1	1.1	2.7
\$1,750 and under \$1,800	-	-	-	-	.2	.9	3.8
\$1,800 and under \$1,850	-	-	-	-	.4	4.2	2.5
\$1,850 and under \$1,900	-	-	-	-	1.1	2.1	6.3
\$1,900 and under \$1,950	-	-	-	-	(1.6)	.6	2.9
\$1,950 and under \$2,000	-	-	-	-	-	2.1	6.3
\$2,000 and under \$2,050	-	-	-	-	-	1.1	2.2
\$2,050 and under \$2,100	-	-	-	-	-	(1.3)	6.3
\$2,100 and under \$2,150	-	-	-	-	-	-	3.4
\$2,150 and under \$2,200	-	-	-	-	-	-	1.6
\$2,200 and under \$2,250	-	-	-	-	-	-	.9
\$2,250 and under \$2,300	-	-	-	-	-	-	1.1
\$2,300 and under \$2,350	-	-	-	-	-	-	2.7
\$2,350 and under \$2,400	-	-	-	-	-	-	.4
\$2,400 and over	-	-	-	-	-	-	<sup>3</sup> 14.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	215	769	966	1,262	1,021	530	446
Average monthly salaries	\$546	\$668	\$837	\$987	\$1,243	\$1,370	\$1,866

See footnotes at end of table.



Table 2. Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations<sup>2</sup> by average monthly salaries, winter 1961-62—Continued

Average monthly salaries	Managers, office services				Job analysts				Directors of personnel			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Under \$350	-	-	-	-	-	0.3	-	-	-	-	-	-
\$350 and under \$375	-	-	-	-	(0.8)	1.5	-	-	-	-	-	-
\$375 and under \$400	-	-	-	-	6.8	-	-	-	-	-	-	-
\$400 and under \$425	1.1	-	-	-	3.8	3.1	-	-	-	-	-	-
\$425 and under \$450	1.9	-	-	-	9.1	1.5	-	-	-	-	-	-
\$450 and under \$475	6.2	-	-	-	16.7	2.3	-	-	-	-	-	-
\$475 and under \$500	2.4	0.5	-	-	10.6	6.4	(1.4)	-	(0.9)	-	-	-
\$500 and under \$525	6.4	.8	-	-	9.1	12.5	3.8	0.4	4.2	-	-	-
\$525 and under \$550	7.7	.2	-	-	14.4	13.3	6.7	1.1	6.7	-	-	-
\$550 and under \$575	7.3	6.3	1.0	-	10.6	11.5	9.1	.6	3.0	-	-	-
\$575 and under \$600	12.4	2.8	-	-	7.6	10.7	5.5	1.7	3.5	-	-	-
\$600 and under \$625	10.9	6.0	.7	-	5.3	8.9	12.6	3.1	1.2	4.0	-	-
\$625 and under \$650	5.1	4.9	3.1	-	2.3	5.1	6.9	3.7	9.6	2.0	-	-
\$650 and under \$675	13.5	8.0	4.5	-	1.5	5.1	9.7	3.9	10.2	2.8	3.0	-
\$675 and under \$700	10.7	6.0	4.5	7.6	1.5	4.1	8.5	6.6	-	3.2	-	-
\$700 and under \$725	5.8	7.7	2.8	-	-	3.6	9.7	5.7	6.1	9.3	-	-
\$725 and under \$750	.2	12.7	7.9	-	-	.8	6.2	4.0	6.5	8.0	.6	-
\$750 and under \$775	2.8	5.7	7.6	-	-	1.8	4.7	8.1	13.2	8.1	1.2	-
\$775 and under \$800	.6	16.4	3.4	2.5	-	1.8	4.9	10.8	10.1	3.5	5.0	-
\$800 and under \$825	1.5	3.2	6.9	3.8	-	1.8	3.1	12.7	1.9	6.8	1.1	-
\$825 and under \$850	-	5.2	10.7	-	-	.5	1.9	7.7	1.7	7.8	1.2	4.4
\$850 and under \$875	2.6	5.2	5.9	2.5	-	1.8	1.4	5.1	1.2	2.7	7.5	1.8
\$875 and under \$900	(1.1)	2.0	14.8	-	-	-	.9	5.7	3.8	5.9	2.2	2.6
\$900 and under \$925	-	.5	6.2	10.1	-	1.8	.4	3.9	4.4	7.6	7.0	-
\$925 and under \$950	-	3.1	.7	6.3	-	-	.6	3.5	.3	.7	6.0	-
\$950 and under \$975	-	-	6.6	13.9	-	-	.1	2.4	.5	4.3	7.4	2.0
\$975 and under \$1,000	-	2.0	2.8	3.8	-	-	1.4	2.0	8.7	3.2	5.3	9.6
\$1,000 and under \$1,050	-	(.8)	4.8	7.6	-	-	(.4)	3.5	1.7	5.7	9.7	.3
\$1,050 and under \$1,100	-	-	2.1	7.6	-	-	-	1.5	(.5)	4.8	5.2	8.8
\$1,100 and under \$1,150	-	-	1.4	17.7	-	-	-	-	-	1.4	2.9	8.8
\$1,150 and under \$1,200	-	-	1.0	2.5	-	-	-	-	-	1.6	8.6	7.3
\$1,200 and under \$1,250	-	-	(.7)	1.3	-	-	-	-	-	1.3	3.9	12.3
\$1,250 and under \$1,300	-	-	-	6.3	-	-	-	-	-	2.2	4.6	6.7
\$1,300 and under \$1,350	-	-	-	-	-	-	-	-	-	1.6	3.4	5.8
\$1,350 and under \$1,400	-	-	-	1.3	-	-	-	-	-	(1.5)	2.6	3.2
\$1,400 and under \$1,450	-	-	-	2.5	-	-	-	-	-	-	3.2	4.7
\$1,450 and under \$1,500	-	-	-	2.5	-	-	-	-	-	-	3.5	4.1
\$1,500 and under \$1,550	-	-	-	-	-	-	-	-	-	-	1.2	2.6
\$1,550 and under \$1,600	-	-	-	-	-	-	-	-	-	-	1.0	3.2
\$1,600 and under \$1,650	-	-	-	-	-	-	-	-	-	-	(2.9)	2.0
\$1,650 and under \$1,700	-	-	-	-	-	-	-	-	-	-	-	1.2
\$1,700 and under \$1,750	-	-	-	-	-	-	-	-	-	-	-	2.3
\$1,750 and under \$1,800	-	-	-	-	-	-	-	-	-	-	-	-
\$1,800 and under \$1,850	-	-	-	-	-	-	-	-	-	-	-	1.8
\$1,850 and under \$1,900	-	-	-	-	-	-	-	-	-	-	-	.3
\$1,900 and under \$1,950	-	-	-	-	-	-	-	-	-	-	-	2.6
\$1,950 and over	-	-	-	-	-	-	-	-	-	-	-	(1.5)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	468	648	290	79	132	392	780	544	743	1,759	944	342
Average monthly salaries	\$615	\$738	\$842	\$1,022	\$508	\$588	\$667	\$803	\$737	\$869	\$1,075	\$1,258

See footnotes at end of table.

Table 2. Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations<sup>2</sup> by average monthly salaries, winter 1961-62—Continued

Average monthly salaries	Chemists							
	I	II	III	IV	V	VI	VII	VIII
Under \$375	1.7	-	-	-	-	-	-	-
\$375 and under \$400	2.8	-	-	-	-	-	-	-
\$400 and under \$425	1.2	(0.3)	-	-	-	-	-	-
\$425 and under \$450	10.8	1.3	-	-	-	-	-	-
\$450 and under \$475	11.7	4.8	-	-	-	-	-	-
\$475 and under \$500	14.6	6.2	(2.0)	-	-	-	-	-
\$500 and under \$525	16.7	11.8	3.7	-	-	-	-	-
\$525 and under \$550	17.5	13.7	3.7	-	-	-	-	-
\$550 and under \$575	6.1	19.0	6.8	-	-	-	-	-
\$575 and under \$600	7.2	13.0	8.8	(1.0)	-	-	-	-
\$600 and under \$625	3.3	7.6	11.5	2.0	-	-	-	-
\$625 and under \$650	3.7	6.9	11.3	2.6	-	-	-	-
\$650 and under \$675	1.0	5.0	10.3	4.9	-	-	-	-
\$675 and under \$700	(1.7)	2.5	9.7	5.1	-	-	-	-
\$700 and under \$725	-	2.1	10.6	7.7	(1.3)	-	-	-
\$725 and under \$750	-	1.4	5.1	7.7	1.2	-	-	-
\$750 and under \$775	-	1.2	4.9	8.7	2.4	-	-	-
\$775 and under \$800	-	1.2	3.0	8.1	2.7	(0.3)	-	-
\$800 and under \$825	-	.8	2.9	6.1	5.6	2.1	-	-
\$825 and under \$850	-	1.2	1.5	6.0	5.3	2.7	-	-
\$850 and under \$875	-	.1	.9	5.6	5.6	2.4	-	-
\$875 and under \$900	-	-	1.2	4.6	5.7	2.5	-	-
\$900 and under \$925	-	-	(2.0)	6.3	5.7	3.6	-	-
\$925 and under \$950	-	-	-	4.9	6.2	5.0	-	-
\$950 and under \$975	-	-	-	3.8	5.0	4.4	-	-
\$975 and under \$1,000	-	-	-	3.6	4.4	4.4	1.2	-
\$1,000 and under \$1,050	-	-	-	6.1	14.2	11.2	5.5	-
\$1,050 and under \$1,100	-	-	-	2.8	9.4	11.9	4.0	-
\$1,100 and under \$1,150	-	-	-	1.2	8.0	8.3	9.3	2.4
\$1,150 and under \$1,200	-	-	-	(1.4)	5.3	9.5	11.7	1.0
\$1,200 and under \$1,250	-	-	-	-	5.2	8.0	8.2	4.8
\$1,250 and under \$1,300	-	-	-	-	3.2	5.8	5.4	7.9
\$1,300 and under \$1,350	-	-	-	-	1.8	5.3	7.4	6.2
\$1,350 and under \$1,400	-	-	-	-	1.0	3.9	3.3	2.1
\$1,400 and under \$1,450	-	-	-	-	(1.0)	3.1	5.2	7.6
\$1,450 and under \$1,500	-	-	-	-	-	1.1	9.5	5.2
\$1,500 and under \$1,550	-	-	-	-	-	1.9	7.9	17.2
\$1,550 and under \$1,600	-	-	-	-	-	(2.3)	4.4	9.0
\$1,600 and under \$1,650	-	-	-	-	-	-	4.6	4.8
\$1,650 and under \$1,700	-	-	-	-	-	-	1.9	4.1
\$1,700 and under \$1,750	-	-	-	-	-	-	1.5	4.8
\$1,750 and under \$1,800	-	-	-	-	-	-	1.7	5.2
\$1,800 and under \$1,850	-	-	-	-	-	-	1.5	5.9
\$1,850 and under \$1,900	-	-	-	-	-	-	1.0	1.0
\$1,900 and under \$1,950	-	-	-	-	-	-	1.5	.3
\$1,950 and under \$2,000	-	-	-	-	-	-	1.0	1.0
\$2,000 and under \$2,050	-	-	-	-	-	-	(2.2)	1.4
\$2,050 and under \$2,100	-	-	-	-	-	-	-	1.4
\$2,100 and under \$2,150	-	-	-	-	-	-	-	1.0
\$2,150 and under \$2,200	-	-	-	-	-	-	-	-
\$2,200 and under \$2,250	-	-	-	-	-	-	-	2.1
\$2,250 and over	-	-	-	-	-	-	-	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	1,181	3,492	6,897	7,004	4,420	2,380	781	290
Average monthly salaries	\$510	\$576	\$663	\$838	\$998	\$1,122	\$1,377	\$1,582

See footnotes at end of table.

Table 2. Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations<sup>2</sup> by average monthly salaries, winter 1961-62—Continued

Average monthly salaries	Engineers							
	I	II	III	IV	V	VI	VII	VIII
Under \$375	-	-	-	-	-	-	-	-
\$375 and under \$400	-	-	-	-	-	-	-	-
\$400 and under \$425	-	-	-	-	-	-	-	-
\$425 and under \$450	-	-	-	-	-	-	-	-
\$450 and under \$475	(1.9)	(0.6)	-	-	-	-	-	-
\$475 and under \$500	3.1	1.0	-	-	-	-	-	-
\$500 and under \$525	11.7	2.7	(0.6)	-	-	-	-	-
\$525 and under \$550	24.6	5.2	1.0	-	-	-	-	-
\$550 and under \$575	26.5	11.8	1.9	-	-	-	-	-
\$575 and under \$600	16.5	15.0	3.3	-	-	-	-	-
\$600 and under \$625	9.1	16.9	6.0	(1.1)	-	-	-	-
\$625 and under \$650	4.0	14.2	7.5	1.6	-	-	-	-
\$650 and under \$675	2.0	12.4	10.5	2.6	-	-	-	-
\$675 and under \$700	(.6)	7.6	11.7	3.5	-	-	-	-
\$700 and under \$725	-	5.1	11.3	4.7	(1.8)	-	-	-
\$725 and under \$750	-	2.9	10.0	6.2	1.3	-	-	-
\$750 and under \$775	-	2.8	10.6	8.1	3.5	-	-	-
\$775 and under \$800	-	1.1	6.8	7.5	4.0	-	-	-
\$800 and under \$825	-	(.5)	6.4	8.5	5.2	(2.4)	-	-
\$825 and under \$850	-	-	4.5	7.9	4.4	3.4	-	-
\$850 and under \$875	-	-	3.1	7.9	4.8	2.8	-	-
\$875 and under \$900	-	-	1.7	7.1	5.6	2.6	-	-
\$900 and under \$925	-	-	1.1	6.9	6.2	2.9	-	-
\$925 and under \$950	-	-	(1.9)	5.8	5.3	2.9	-	-
\$950 and under \$975	-	-	-	4.5	6.2	3.3	-	-
\$975 and under \$1,000	-	-	-	3.6	5.7	3.9	(2.8)	-
\$1,000 and under \$1,050	-	-	-	5.2	12.9	9.6	2.3	-
\$1,050 and under \$1,100	-	-	-	3.1	9.5	9.7	3.3	(0.6)
\$1,100 and under \$1,150	-	-	-	2.1	7.6	9.1	5.8	2.3
\$1,150 and under \$1,200	-	-	-	1.3	5.6	9.7	7.9	2.7
\$1,200 and under \$1,250	-	-	-	(.8)	3.6	8.3	8.4	1.9
\$1,250 and under \$1,300	-	-	-	-	2.8	8.1	7.4	4.7
\$1,300 and under \$1,350	-	-	-	-	1.8	5.9	9.9	4.5
\$1,350 and under \$1,400	-	-	-	-	1.1	4.1	7.8	4.7
\$1,400 and under \$1,450	-	-	-	-	(1.0)	3.4	7.0	5.5
\$1,450 and under \$1,500	-	-	-	-	-	3.1	8.6	6.1
\$1,500 and under \$1,550	-	-	-	-	-	2.1	6.8	8.1
\$1,550 and under \$1,600	-	-	-	-	-	1.1	4.6	4.9
\$1,600 and under \$1,650	-	-	-	-	-	(1.8)	3.8	7.6
\$1,650 and under \$1,700	-	-	-	-	-	-	3.3	7.5
\$1,700 and under \$1,750	-	-	-	-	-	-	2.4	8.2
\$1,750 and under \$1,800	-	-	-	-	-	-	2.0	4.3
\$1,800 and under \$1,850	-	-	-	-	-	-	1.7	6.6
\$1,850 and under \$1,900	-	-	-	-	-	-	.8	5.6
\$1,900 and under \$1,950	-	-	-	-	-	-	1.2	2.8
\$1,950 and under \$2,000	-	-	-	-	-	-	(2.1)	1.5
\$2,000 and under \$2,050	-	-	-	-	-	-	-	2.6
\$2,050 and under \$2,100	-	-	-	-	-	-	-	3.0
\$2,100 and under \$2,150	-	-	-	-	-	-	-	.3
\$2,150 and under \$2,200	-	-	-	-	-	-	-	.4
\$2,200 and under \$2,250	-	-	-	-	-	-	-	.9
\$2,250 and over	-	-	-	-	-	-	-	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	8,232	31,128	64,111	73,001	42,177	20,737	5,882	1,545
Average monthly salaries	\$559	\$624	\$721	\$854	\$990	\$1,145	\$1,384	\$1,631

<sup>1</sup> To avoid showing small proportions of employees scattered at or near the extremes of the distributions for some occupations, the percentages of employees in these intervals have been accumulated and are shown, in most cases, in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses.

<sup>2</sup> For scope of study, see table in appendix A.

<sup>3</sup> Workers were distributed as follows: 2.5 percent at \$2,400 to \$2,450; 3.1 percent at \$2,450 to \$2,500; 1.1 percent at \$2,500 to \$2,550; 0.2 percent at \$2,550 to \$2,600; 0.2 percent at \$2,600 to \$2,650; 0.2 percent at \$2,650 to \$2,700; 1.1 percent at \$2,800 to \$2,850; and 5.6 percent at \$2,900 to \$2,950.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 3. Percent distribution of engineering technicians<sup>1</sup> by average monthly salaries, winter 1961-62

Average monthly salaries	Engineering technicians				
	I	II	III	IV	V
Under \$275 -----	(0.5)	-	-	-	-
\$275 and under \$300 -----	1.9	-	-	-	-
\$300 and under \$325 -----	4.3	(0.7)	-	-	-
\$325 and under \$350 -----	13.3	1.7	-	-	-
\$350 and under \$375 -----	17.7	4.3	(0.9)	-	-
\$375 and under \$400 -----	17.6	9.3	1.8	-	-
\$400 and under \$425 -----	15.7	15.0	4.5	-	-
\$425 and under \$450 -----	17.3	18.6	6.4	(1.0)	-
\$450 and under \$475 -----	7.9	16.8	10.5	2.4	-
\$475 and under \$500 -----	2.4	12.7	13.6	3.8	(0.5)
\$500 and under \$525 -----	(1.4)	8.7	15.9	6.8	1.3
\$525 and under \$550 -----	-	6.3	14.6	12.2	2.7
\$550 and under \$575 -----	-	2.7	12.6	16.3	3.4
\$575 and under \$600 -----	-	1.2	7.9	19.2	8.7
\$600 and under \$625 -----	-	1.1	3.9	13.5	15.4
\$625 and under \$650 -----	-	(.9)	4.0	9.8	13.9
\$650 and under \$675 -----	-	-	1.9	6.1	14.3
\$675 and under \$700 -----	-	-	(1.5)	3.4	10.2
\$700 and under \$725 -----	-	-	-	2.0	12.4
\$725 and under \$750 -----	-	-	-	2.0	8.3
\$750 and under \$775 -----	-	-	-	(1.5)	4.7
\$775 and under \$800 -----	-	-	-	-	2.0
\$800 and under \$825 -----	-	-	-	-	1.1
\$825 and over -----	-	-	-	-	1.1
Total -----	100.0	100.0	100.0	100.0	100.0
Number of employees -----	2,913	9,065	16,107	18,245	6,704
Average monthly salaries -----	\$392	\$455	\$521	\$589	\$661

<sup>1</sup> For scope of study, see table in appendix A. In order to avoid showing small proportions of employees scattered at or near the extremes of the distributions for some occupations, the percentages of employees in these intervals have been accumulated and are shown, in most cases, in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 4. Percent distribution of employees<sup>1</sup> in selected drafting and clerical occupations<sup>2</sup> by average weekly salaries, winter 1961-62

Average weekly salaries	Draftsmen, junior	Draftsmen, senior	Tracers	Bookkeeping- machine operators		Clerks, accounting		Clerks, file		
				I	II	I	II	I	II	III
Under \$40	-	-	-	-	-	-	-	0.4	0.1	-
\$40 and under \$45	-	-	-	(0.5)	-	(0.5)	-	4.3	2.3	-
\$45 and under \$50	-	-	(0.3)	6.7	0.1	2.7	-	24.0	8.4	(0.5)
\$50 and under \$55	-	-	2.5	12.6	1.2	5.9	-	19.9	15.5	2.6
\$55 and under \$60	(0.5)	-	7.5	16.3	4.5	7.9	(0.9)	20.9	17.0	6.4
\$60 and under \$65	1.3	-	9.0	20.3	9.1	11.7	1.6	12.9	17.5	10.3
\$65 and under \$70	2.2	-	12.1	14.9	9.2	12.2	2.9	6.8	12.4	9.1
\$70 and under \$75	4.6	-	17.2	9.1	11.6	11.0	4.4	3.8	8.5	10.5
\$75 and under \$80	7.3	-	16.9	6.5	11.3	11.6	6.6	1.8	6.6	13.3
\$80 and under \$85	11.8	(1.2)	11.4	4.7	12.9	8.7	8.3	2.4	4.6	11.0
\$85 and under \$90	9.7	1.1	6.2	3.3	10.1	6.7	8.3	1.6	2.7	11.0
\$90 and under \$95	11.8	2.5	6.6	2.1	10.1	5.4	8.9	(1.1)	1.8	7.8
\$95 and under \$100	10.4	4.7	3.4	1.5	6.9	4.5	9.5	-	1.1	4.6
\$100 and under \$105	9.4	6.4	3.3	(1.5)	6.2	3.6	8.6	-	(1.5)	4.8
\$105 and under \$110	7.0	8.7	2.2	-	2.8	2.9	9.3	-	-	2.8
\$110 and under \$115	4.9	8.8	(1.2)	-	1.3	1.8	7.2	-	-	1.0
\$115 and under \$120	3.7	8.9	-	-	1.4	1.1	6.1	-	-	1.2
\$120 and under \$125	3.8	9.5	-	-	(1.4)	(1.8)	4.4	-	-	(3.0)
\$125 and under \$130	3.6	8.6	-	-	-	-	3.7	-	-	-
\$130 and under \$135	2.2	7.1	-	-	-	-	2.3	-	-	-
\$135 and under \$140	1.1	5.8	-	-	-	-	2.2	-	-	-
\$140 and under \$145	1.9	5.5	-	-	-	-	1.8	-	-	-
\$145 and under \$150	1.5	4.7	-	-	-	-	1.0	-	-	-
\$150 and under \$160	(1.2)	6.5	-	-	-	-	1.2	-	-	-
\$160 and under \$170	-	4.6	-	-	-	-	(.8)	-	-	-
\$170 and under \$180	-	3.1	-	-	-	-	-	-	-	-
\$180 and under \$190	-	1.3	-	-	-	-	-	-	-	-
\$190 and over	-	.9	-	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	18,377	35,863	2,302	22,832	5,230	50,152	37,580	15,673	22,994	8,278
Average weekly salaries	\$98.00	\$127.00	\$76.50	\$65.00	\$82.00	\$76.00	\$100.50	\$56.50	\$63.50	\$80.50

See footnotes at end of table.

Table 4. Percent distribution of employees<sup>1</sup> in selected drafting and clerical occupations<sup>2</sup> by average weekly salaries, winter 1961-62—Continued

Average weekly salaries	Key punch operators		Office boys or girls	Stenographers, general	Stenographers, senior	Switch-board operators	Switch-board operators, special	Tabulating-machine operators			Typists	
	I	II						I	II	III	I	II
Under \$40 -----	-	-	0.1	-	-	0.2	-	-	-	-	-	-
\$40 and under \$45 -----	(0.3)	-	1.2	-	-	1.1	-	0.1	-	-	(0.8)	-
\$45 and under \$50 -----	3.0	-	13.2	(0.8)	-	2.3	-	1.5	-	-	6.1	(0.4)
\$50 and under \$55 -----	6.4	(1.2)	17.2	2.9	-	3.6	(0.9)	6.0	(0.3)	-	11.3	1.8
\$55 and under \$60 -----	11.3	2.9	21.0	5.6	(1.5)	5.2	1.6	11.1	1.6	-	15.6	4.9
\$60 and under \$65 -----	14.8	5.8	16.7	9.4	2.5	7.4	4.0	11.9	2.4	-	20.0	11.2
\$65 and under \$70 -----	13.4	9.2	9.8	12.5	4.6	10.0	6.0	11.9	4.0	(0.5)	15.5	14.6
\$70 and under \$75 -----	13.1	12.6	5.5	12.2	6.7	10.1	8.4	13.7	6.0	1.0	11.2	15.2
\$75 and under \$80 -----	10.6	15.1	4.2	13.6	10.9	12.6	9.7	12.0	8.9	2.6	7.6	13.5
\$80 and under \$85 -----	8.2	11.3	5.4	12.1	12.8	11.0	11.1	11.0	12.8	4.2	4.5	11.4
\$85 and under \$90 -----	5.7	10.5	2.6	9.7	15.2	12.6	14.4	6.8	11.7	5.1	4.0	9.2
\$90 and under \$95 -----	5.8	12.5	1.5	7.9	13.1	10.7	18.3	5.7	12.8	7.9	1.6	6.5
\$95 and under \$100 -----	4.2	11.0	(1.5)	5.5	12.5	6.0	14.8	3.1	11.9	10.3	1.2	4.9
\$100 and under \$105 -----	2.0	3.5	-	4.4	7.9	4.3	4.5	2.9	9.4	12.1	(.7)	4.3
\$105 and under \$110 -----	(1.2)	2.0	-	1.8	5.3	1.7	3.5	1.6	7.2	11.9	-	1.1
\$110 and under \$115 -----	-	1.4	-	(1.5)	3.6	(1.2)	(2.8)	(.6)	4.5	9.7	-	(.8)
\$115 and under \$120 -----	-	(1.0)	-	-	1.6	-	-	-	2.8	10.3	-	-
\$120 and under \$125 -----	-	-	-	-	(1.7)	-	-	-	2.1	8.2	-	-
\$125 and under \$130 -----	-	-	-	-	-	-	-	-	1.0	5.6	-	-
\$130 and under \$135 -----	-	-	-	-	-	-	-	-	(.6)	4.2	-	-
\$135 and under \$140 -----	-	-	-	-	-	-	-	-	-	2.6	-	-
\$140 and under \$145 -----	-	-	-	-	-	-	-	-	-	1.7	-	-
\$145 and under \$150 -----	-	-	-	-	-	-	-	-	-	.8	-	-
\$150 and under \$160 -----	-	-	-	-	-	-	-	-	-	1.0	-	-
\$160 and under \$170 -----	-	-	-	-	-	-	-	-	-	(.3)	-	-
\$170 and under \$180 -----	-	-	-	-	-	-	-	-	-	-	-	-
\$180 and under \$190 -----	-	-	-	-	-	-	-	-	-	-	-	-
\$190 and over -----	-	-	-	-	-	-	-	-	-	-	-	-
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees -----	29,881	18,657	23,119	68,237	35,036	16,011	1,033	11,512	18,573	9,170	61,951	36,760
Average weekly salaries -----	\$71.50	\$82.00	\$61.50	\$78.00	\$88.50	\$78.00	\$86.00	\$73.50	\$90.50	\$108.00	\$65.50	\$77.00

<sup>1</sup> To avoid showing small proportions of employees scattered at or near the extremes of the distributions for some occupations, the percentages of employees in these intervals have been accumulated and are shown in most cases, in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses.

<sup>2</sup> For scope of study, see table in appendix A.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 5. Percent distribution of employees in selected professional, administrative, technical, and clerical occupations<sup>1</sup> by industry division,<sup>2</sup> winter 1961-62

Occupation	Manu- facturing	Public utilities <sup>3</sup>	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services <sup>4</sup>
<u>Professional and Administrative</u>						
Accountants .....	71	14	4	( <sup>5</sup> )	6	( <sup>5</sup> )
Auditors .....	41	23	5	4	26	( <sup>5</sup> )
Chief accountants .....	71	9	4	6	9	( <sup>5</sup> )
Attorneys .....	27	21	9	( <sup>5</sup> )	41	( <sup>5</sup> )
Managers, office services .....	59	7	8	( <sup>5</sup> )	22	( <sup>5</sup> )
Job analysts .....	80	6	( <sup>5</sup> ) <sup>5</sup>	( <sup>5</sup> )	11	( <sup>5</sup> )
Directors of personnel .....	71	6	4	6	11	( <sup>5</sup> )
Chemists .....	92	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	6
Engineers .....	81	11	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	7
<u>Technical</u>						
Engineering technicians .....	84	4	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	12
Draftsmen .....	84	8	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	6
<u>Clerical</u>						
Bookkeeping-machine operators .....	25	( <sup>5</sup> )	( <sup>5</sup> )	8	61	( <sup>5</sup> )
Clerks, accounting .....	44	23	6	12	14	( <sup>5</sup> )
Clerks, file .....	31	11	5	10	42	( <sup>5</sup> )
Keypunch operators .....	46	17	6	6	24	( <sup>5</sup> )
Office boys or girls .....	40	16	5	7	31	( <sup>5</sup> )
Stenographers .....	56	16	4	( <sup>5</sup> )	19	( <sup>5</sup> )
Switchboard operators .....	40	19	5	16	18	( <sup>5</sup> )
Tabulating-machine operators .....	43	22	5	5	24	( <sup>5</sup> )
Typists .....	47	8	4	6	33	( <sup>5</sup> )

<sup>1</sup> Each occupation includes the work levels, as defined for survey, for which employment estimates in all industries within scope of the study are shown in table 1.

<sup>2</sup> For scope of study, see table in appendix A.

<sup>3</sup> Transportation (limited to railroad, local and suburban passenger, deep sea water, and air transportation industries), communication, electric, gas, and sanitary services.

<sup>4</sup> Engineering and architectural services; and commercially operated research, development, and testing laboratories.

<sup>5</sup> Less than 4 percent.

Table 6. Relative salary levels for selected professional, administrative, technical, and clerical occupations<sup>1</sup> by industry division,<sup>2</sup> winter 1961-62

(Average salary for each occupation in all industries=100)

Occupation	Manu- facturing	Public utilities <sup>3</sup>	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services <sup>4</sup>
<u>Professional and Administrative</u>						
Accountants -----	100	103	103	95	91	108
Auditors -----	104	105	97	91	90	( <sup>5</sup> )
Chief accountants -----	100	104	( <sup>5</sup> )	( <sup>5</sup> )	97	( <sup>5</sup> )
Attorneys -----	105	( <sup>5</sup> )	104	95	97	( <sup>5</sup> )
Managers, office services -----	99	108	( <sup>5</sup> )	( <sup>5</sup> )	99	( <sup>5</sup> )
Job analysts -----	102	98	( <sup>5</sup> )	( <sup>5</sup> )	87	( <sup>5</sup> )
Directors of personnel -----	99	110	( <sup>5</sup> )	96	102	( <sup>5</sup> )
Chemists -----	100	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	108
Engineers -----	100	98	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	101
<u>Technical</u>						
Engineering technicians -----	99	107	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	102
Draftsmen -----	100	97	( <sup>5</sup> )	97	100	100
<u>Clerical</u>						
Bookkeeping-machine operators -----	114	121	112	98	94	( <sup>5</sup> )
Clerks, accounting -----	106	102	104	86	87	103
Clerks, file -----	109	114	102	87	92	108
Keypunch operators -----	104	106	106	89	90	103
Office boys or girls -----	103	109	99	93	93	97
Stenographers -----	102	106	102	89	88	98
Switchboard operators -----	106	109	105	77	95	99
Tabulating-machine operators -----	106	99	106	94	92	107
Typists -----	105	105	101	93	92	103

<sup>1</sup> Each occupation includes the work levels, as defined for survey, for which data are presented in table 1. In computing relative salary levels for each occupation by industry division, the total employment in each work level in all industries surveyed was used as a constant employment weight, to eliminate the effect of differences in the proportion of employment in various work levels within each occupation.

<sup>2</sup> For scope of study, see table in appendix A.

<sup>3</sup> Transportation (limited to railroad, local and suburban passenger, deep sea water, and air transportation industries), communication, electric, gas, and sanitary services.

<sup>4</sup> Engineering and architectural services; and commercially operated research, development, and testing laboratories.

<sup>5</sup> Insufficient employment in one or more work levels to warrant separate presentation of data.



Table 7. Distribution of 75 selected job categories studied by employees average weekly hours,<sup>1</sup> winter 1961-62

Average weekly hours <sup>1</sup>	Number of job categories		Job category
	Professional, administrative, and technical	Clerical	
	56	19	All categories
38.0	2	1	Attorneys I and VII Clerks, file I
38.5	6	6	Attorneys II, III, IV, and V Auditors I and II Bookkeeping-machine operators I Clerks, file II and III Office boys or girls Tabulating-machine operators I Typists I
39.0	6	12	Attorneys VI Auditors III and IV Job analysts II Managers, office services III and IV Bookkeeping-machine operators II Clerks, accounting I and II Key punch operators I and II Stenographers, general Stenographers, senior Switchboard operators Switchboard operators, special Tabulating-machine operators II and III Typists II
39.5	30	-	Accountants I, II, III, IV, and V Chemists I, II, III, IV, V, VI, VII, and VIII Chief accountants I, III, and IV Directors of personnel I, III, and IV Engineers IV, VI, VII, and VIII Engineering technicians V Job analysts I, III, and IV Managers, office services I and II Tracers
40.0	12	-	Chief accountants II Directors of personnel II Draftsmen, junior Draftsmen, senior Engineers I, II, III, and V Engineering technicians I, II, III, and IV

<sup>1</sup> Based on the scheduled workweek for which employees receive their regular straight-time salary. The average for each job category was rounded to the nearest half hour.

Table 8. Percent distribution of establishments<sup>1</sup> by formal salary rate systems covering white-collar occupations,<sup>2</sup> by major industry divisions, and employment size of establishment, winter 1961-62

Industry division and employment size of establishment	Establishments within scope of survey		Formal systems with established pay grades covering white-collar occupations		No formal system, or system did not provide pay grades
	Number	Percent	Comprehensive coverage <sup>3</sup>	Limited coverage <sup>4</sup>	
All industries -----	12,343	100	38	14	48
250 and under 1,000 workers -----	9,477	100	31	14	55
1,000 and under 2,500 workers -----	1,912	100	53	17	30
2,500 workers or more -----	954	100	74	13	14
Manufacturing -----	7,942	100	38	14	48
250 and under 1,000 workers -----	6,087	100	29	14	57
1,000 and under 2,500 workers -----	1,209	100	57	17	26
2,500 workers or more -----	646	100	89	7	4
Public utilities <sup>5</sup> -----	1,209	100	38	18	43
Wholesale trade -----	628	100	47	19	35
Retail trade -----	1,443	100	18	11	71
Finance, insurance, and real estate -----	1,006	100	56	15	29
Selected services <sup>6</sup> -----	115	100	69	11	20

<sup>1</sup> For scope of survey, see table in appendix A.

<sup>2</sup> Includes formal salary plans providing rate ranges (minimums and maximums specified) for a series of pay grades or pay categories into which at least some of the white collar occupations were classified.

<sup>3</sup> Formal system with established pay grades applies to all, or almost all, white-collar occupations including clerical, professional, and administrative occupations.

<sup>4</sup> Formal system with established pay grades applies to some white-collar occupations, but a significant group or groups of such occupations were not covered.

<sup>5</sup> Transportation (limited to railroad, local and suburban passenger, deep sea water, and air transportation industries), communication, electric, gas, and sanitary services.

<sup>6</sup> Engineering and architectural services; and commercially operated research, development, and testing laboratories.

NOTE: Because of rounding, sums of individual percentages may not equal totals.

## Appendix A: Scope and Method of Survey

### Scope of Survey

This survey relates to all 188 Standard Metropolitan Statistical Areas in the United States, excluding Hawaii, as revised through 1959 by the Bureau of the Budget. Coverage within those areas was limited to establishments in the following industries: Manufacturing; transportation, communication, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; engineering and architectural services; and commercially operated research, development, and testing laboratories. Establishments with fewer than 250 workers at the time of reference of the universe data (in general, first quarter of 1961) were excluded. The estimated number of establishments and the total employment within the scope of the survey, and within the sample actually studied, are listed separately for each major industry division in the accompanying table. As indicated in the table, and explained later in detail, the scope of the study was the same for all occupations; however, the survey consisted of two separate parts, with one sample of establishments studied for the professional and administrative occupations,<sup>14</sup> and another larger sample for drafting and clerical occupations.

Establishments and workers within scope of survey<sup>1</sup> and number studied by industry division, winter 1961-62

Industry division	Within scope of study <sup>1</sup>		Studied for professional and administrative occupations		Studied for drafting and clerical occupations <sup>2</sup>	
	Number of establishments	Workers in establishments	Number of establishments	Workers in establishments	Number of establishments	Workers in establishments
All divisions surveyed -----	12,343	11,961,400	1,744	4,363,301	4,727	6,719,533
Manufacturing -----	7,942	7,684,700	1,169	2,967,194	2,574	3,867,879
Nonmanufacturing: <sup>3</sup>						
Transportation, communication, electric, gas, and sanitary services -----	1,209	1,680,100	208	699,905	640	1,219,287
Wholesale trade -----	628	300,100	50	32,128	229	125,100
Retail trade -----	1,443	1,392,300	140	319,037	755	934,597
Finance, insurance, and real estate -----	1,006	815,700	129	279,700	463	502,803
Services:						
Engineering and architectural services; and commercially operated research, development, and testing laboratories only -----	115	88,500	48	65,337	66	69,867

<sup>1</sup> The study relates to establishments in industries listed employing 250 or more workers in the 188 Standard Metropolitan Statistical Areas in the United States (excluding Hawaii) as revised through 1959 by the Bureau of the Budget.

<sup>2</sup> The national estimates for the drafting and clerical occupations were developed from data collected in the Bureau's occupational wage surveys in major labor markets, excluding data for establishments not within the scope of the survey as determined for the study of professional and administrative occupations.

<sup>3</sup> Limited to railroad, local and suburban passenger, deep sea water (foreign and domestic), and air transportation industries as defined in the 1957 edition of the Standard Industrial Classification Manual.

### Timing of Survey

Salary and related data for the professional and administrative occupations were collected by personal visits to sample establishments during the first half of 1962, largely between February 1 and May 15. The most recent information available at the time of the visit was obtained. For the drafting and clerical occupations, the survey was designed to

<sup>14</sup> Engineering technicians also were included in this part of the survey.

develop nationwide estimates from data collected in the Bureau's occupational wage surveys by labor market, conducted between August 1961 and June 1962. Although some of the areas were surveyed in 1961, those surveyed in the first half of 1962 (with the areas they represented in the nationwide estimates) accounted for two-thirds of the office employment within the scope of the survey in all metropolitan areas combined.

#### Method of Collection

Data were obtained by personal visits of Bureau field economists to representative establishments within the scope of the survey.<sup>15</sup> Employees were classified according to occupation and level, with the assistance of company officials, on the basis of uniform job definitions. In comparing actual duties and responsibilities of employees with those in the survey definitions, extensive use was made of company occupational descriptions, organization charts, and other personnel records. The occupational definitions used in classifying employees appear in appendix C.

#### Nature of Data Collected and Presented

The average salaries reported relate to the standard salaries that were paid for standard work schedules; i. e., to the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. The average salaries presented relate to employees for whom salary data were available.

Under established policies of some companies, officials were not authorized to provide information relating to salaries for all occupations studied. In nearly all instances, however, information was provided on the number of such employees and the appropriate occupational classification. It was thus possible to estimate the proportion of employees for whom salary data were not available. As indicated below, these policies more often related to the higher level positions, mainly because of policies not to disclose pay data for employees considered a part of the management group or classified in occupational levels involving a single employee.

Number of job categories	Percent of employees classified in professional and administrative occupations surveyed for whom salary data were not available
4 -----	10 or more percent Directors of personnel IV (29.9 percent) Engineers VIII (17.3 percent) Directors of personnel III (16.1 percent) Chief accountants IV (13.9 percent)
7 -----	5 to 9.9 percent Chief accountants II and III Attorneys V and VII Engineers VII Chemists VIII Directors of personnel I
37 -----	Less than 5 percent

Comparisons between establishments that provided salary data for each specific occupational level and those not doing so indicated that the two classes of establishments did not differ materially in industries represented, employment, or pay structure for other jobs in this series for which data were available.

<sup>15</sup> The surveys in major labor markets, from which nationwide estimates were developed for the drafting and clerical occupations, provide for collection of data for some areas by a combination of mail and personal visits in alternate years. For establishments reporting by mail, the occupational classifications are based on those made on personal visits in the previous year.

Occupational employment estimates relate to the total in all establishments within the scope of the study and not the number actually surveyed. Employees for whom salary data were not available were not taken into account in the estimates.<sup>16</sup> In addition, the professional and administrative occupations were limited to employees meeting the specific criteria in each survey definition and were not intended to include all employees in each field of work.<sup>17</sup> For these reasons, and because of differences in occupational structure among establishments, the estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the occupations and levels as defined for the survey. These qualifications of the employment estimates do not materially affect the accuracy of the earnings data.

In the occupations surveyed, both men and women were classified and included in the occupational employment and earnings estimates. In the professional, administrative, and technical occupations, one or the other sex was sufficiently predominant to preclude presentation of separate data by sex. For those clerical occupations in which both men and women are commonly employed, separate data by sex are available from the occupational wage survey reports by labor market area. The occupations and work levels included in this study and in which women accounted for 5 percent or more of the employment were distributed, according to the proportion of women employees, as follows:

Percent women	Occupation and level
90 or more -----	All levels of bookkeeping-machine operators; clerks, file; keypunch operators; stenographers; switchboard operators; typists
80 - 84 -----	Clerks, accounting I
50 - 54 -----	Clerks, accounting II; tabulating-machine operators I
40 - 44 -----	Office boys or girls
30 - 34 -----	Tabulating-machine operators II; tracers
15 - 19 -----	Chemists I; engineering technicians I; tabulating-machine operators III
10 - 14 -----	Accountants I; job analysts II; managers, office services I
5 - 9 -----	Chemists II; job analysts I and III; managers, office services II and IV

### Sampling and Estimating Procedures

Although the published estimates relate to 188 Standard Metropolitan Statistical Areas, as revised by the Bureau of the Budget through 1959, the survey was conducted almost entirely within a sample of 80 areas.<sup>18</sup> Within these 80 areas, a sample of establishments was chosen, so that the sampling plan can be described as a two-stage design.

<sup>16</sup> Also not taken into account were a few instances in which although salary data were available for employees in an occupation, there was no satisfactory basis for classifying such employees by the appropriate work levels. The occupations involved in these cases were accountants, engineers, and engineering technicians.

<sup>17</sup> Engineers, for example, are defined to permit classification of employees engaged in engineering work within a band of eight levels, starting with inexperienced engineering graduates and excluding only those within certain fields of specialization or in positions above those covered by level VIII. By way of contrast, such occupations as chief accountants and directors of personnel are defined to include only those with responsibility for a specified program and with duties and responsibilities as indicated for each of the more limited number of work levels selected for study.

<sup>18</sup> In a few instances, establishments outside the 80 areas but within the 188 areas were added to the sample in certain industries when it was not possible to obtain within the sampled area a representative establishment for the stratum.

The sample of 80 areas was based upon the selection of 1 area from a stratum of similar areas. The criteria of stratification were region and type of industrial activity. Each area had a chance of selection roughly proportionate to its total nonagricultural employment. Each of the 35 largest areas formed a stratum by itself, and was certain of inclusion in the sample. Each of these areas represented only itself, but each of the 45 other areas represented itself and similar units.

The design used in the selection of the establishments studied for the professional and administrative occupations differed from that used in the drafting and clerical occupations. As explained earlier, data for the latter occupations were collected in the Bureau's program of occupational wage surveys conducted in the 80 areas. The establishments in those surveys were chosen to provide separate area estimates, with industry division detail, while the design for the survey of professional and administrative occupations was intended to yield only nationwide data with no industrial breakdown, and hence required fewer establishments.

In the case of drafting and clerical occupations, each establishment sample within the area was selected independently to permit the presentation of separate data for that area. These samples were selected from a list of establishments stratified by size (employment) and industry. A greater proportion of the large establishments was selected, but in combining the data each establishment was given its appropriate weight—i. e., where an establishment was chosen as one of four, it was given a weight of four.

Nationwide estimates for the drafting and clerical occupations in 4,700 establishments were formed by applying to each set of data the weights needed to expand these into estimates for the stratum represented by the sample area, and then combining these stratum estimates. In the case of the 35 large self-representing areas, these weights were one. In each of the 45 smaller areas, the weight was the ratio of the total nonagricultural employment in the stratum to that in the sample area.

In the study of professional and administrative occupations, the sampling procedure called for the detailed stratification of the universe of 188 areas by industry and size of establishment. Where one of several areas was selected for study to represent a stratum of several areas, an estimate of the universe for that stratum was derived by weighting the industry and size-of-establishment employment totals in the sample area by the weight used in the larger survey described in the preceding paragraph. From this estimated universe, a sample of approximately 1,750 establishments was selected systematically so that each geographic unit was represented proportionately within the size-of-establishment and industry classes.<sup>19</sup> Although no conscious effort was made to control the representation for each area through all the industries, a count shows that each area contributes nearly its proportionate share to the whole sample.

Each industry was sampled separately, the sampling rates depending on the importance of the industry as an employer of the jobs surveyed, particularly in the scientific and engineering series. Within each industry, a greater proportion of large establishments was selected, but as in the clerical surveys, each establishment was weighted to represent all other units of the same class.

#### Estimates of Sampling Error

The survey procedure yields estimates with widely varying sampling errors, depending on the frequency with which the job occurs, and the dispersion of salary scales. Thus, for engineers III, the relative standard error of the average salary is 0.4 percent, whereas for chemists VIII, it is 3.3 percent. Most of the relative errors are less than 2.0 percent for the professional and administrative occupations. The nationwide estimates for the clerical and drafting-room occupations, based on the much larger sample, are subject to smaller sampling error—less than 0.75 percent in all cases and in many cases less than 0.25 percent.

<sup>19</sup> A few of the largest employers, together employing nearly a million, gave data on a companywide basis. These companies were eliminated from the universe to which the preceding sampling procedure applied. The sample count includes the establishments of these companies within the 188 metropolitan areas.

## Appendix B: Survey Changes in 1961-62

The 1961-62 national survey of professional, administrative, technical, and clerical pay was the same in nearly all respects as the 1960-61 survey.<sup>20</sup> The industrial and geographic scope was the same in both surveys, and the definitions used in classifying employees also were identical for most of the occupations and work levels covered in both periods. Changes in the occupational definitions which affected survey-to-survey comparability of data involved two levels of chief accountants and three of the office clerical occupations, as explained below. An engineering technician series, defined in five levels, was introduced in the 1961-62 survey.

### Changes in Occupational Definitions

Chief accountant.—To facilitate classification of employees by level of work, the factors to be considered in determining levels were arranged in tabular form. (See p. 36.) In addition, the definition for level II was revised to include a third alternative set of factors<sup>21</sup> to permit classifying chief accountants responsible for the accounting program of a company at this level in some situations rather than at level III. This change resulted in more appropriate classification of some employees in level II who were previously omitted or classified in level III and, therefore, affected the survey-to-survey comparability of the data for the two levels.

Attorney.—Changes in this series were confined to the Roman numeral level designations, as follows:

1961-62 level designations ----- I II III IV V VI VII

1960-61 corresponding levels ----- I II III IIIA IV IVA V

File clerk.—The definition was revised to separate these workers into three work level categories instead of two. Levels designated by Roman numerals I and II in the previous survey, therefore, are not comparable with the corresponding level designations as defined for the 1961-62 survey.

Keypunch operator.—The definition was revised to separate these workers into two work level categories instead of a single category.

Stenographer.—The previous definitions separated these employees into two categories—general stenographers and technical stenographers. These definitions were revised to combine general stenographers performing the more responsible duties with technical stenographers into a new senior stenographer category; other general stenographers were retained in the original classification.

<sup>20</sup> Major changes were made between the initial (1959-60) and the 1960-61 survey. For a summary of these changes, see appendix B of National Survey of Professional, Administrative, Technical, and Clerical Pay, Winter 1960-61, BLS Bulletin 1310, 1961.

<sup>21</sup> See third alternative in the definition for chief accountant II in appendix C.

## Appendix C: Occupational Definitions

The primary purpose of preparing job definitions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations or levels within occupations, workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This is essential in order to permit the grouping of occupational wage rates representing comparable job content. To secure comparability of job content, some occupations and work levels are defined to include only those workers meeting specific criteria as to training, job functions, and responsibilities. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's occupational definitions may differ significantly from those in use in individual establishments or those prepared for other purposes. Also see note referring to the definitions for the drafting and clerical occupations on page 54.

### ACCOUNTANTS AND AUDITORS

#### ACCOUNTANT

Performs accounting work requiring professional knowledge of the theory and practice of recording, classifying, examining, and analyzing the data and records of financial transactions. Personally or by supervising others provides accounting service to management by maintaining the books of account, accumulating cost or other similar data, preparing reports and statements, and maintaining the accounting system by interpreting, supplementing, and revising the system as necessary. The work requires a professional knowledge of accounting and a bachelor's degree in accounting or equivalent experience and education combined. (See also chief accountant.)

#### Accountant I

General characteristics.—At this beginning professional level, position is distinguished from nonprofessional positions by the variety of assignments; rate and scope of development expected of the incumbent; and the existence, implicit or explicit, of a planned training program designed to give the beginning accountant practical experience in the operations of an established accounting system. Learns to apply the principles, theories, and concepts of accounting to a particular accounting system.

Direction received.—Works under close supervision of an experienced accountant. The guidance and supervision received are directed primarily to the development of the accountant's professional ability and to the evaluation of his potential for advancement. Limits of assignments are clearly defined, methods of procedure are specified, kinds of items to be noted and referred to supervisor are detailed.

Typical duties and responsibilities.—Many of the assignments will include duties some of which may be nonprofessional in nature such as proving arithmetical accuracy; examining standard accounting documents for completeness, internal accuracy, and conformance with specific accounting requirements; tracing and reconciling records of financial transactions; and preparing detailed statements and schedules for reports. The presence of such nonprofessional tasks, provided they are part of the training and development process, do not prevent the matching of a job if it otherwise meets this definition.

Responsibility for direction of others.—Usually none.



ACCOUNTANT—Continued

## Accountant II

General characteristics.—At this continuing developmental level the professional accountant makes practical applications of technical accounting practices and concepts beyond the mere application of detailed rules and instructions. Assignments are designed to expand his practical experience and to develop his professional judgment in the application of basic accounting techniques to simple professional problems. He is expected to be competent in the application of standard procedures and requirements to routine transactions, and to raise questions about unusual or questionable items and suggest solutions.

Direction received.—Work is reviewed closely to verify its general accuracy and coverage of unusual problems, to insure conformance with required procedures and special instructions, and to insure his professional growth. His progress is evaluated in terms of his ability to apply his professional knowledge to basic accounting problems in the day-to-day operations of an established accounting system.

Typical duties and responsibilities.—Prepares routine working papers, schedules, exhibits, and summaries indicating the extent of his examination and developing and supporting his findings and recommendations. This includes the examination of a variety of accounting documents to verify accuracy of computations and to ascertain that all transactions are properly supported, are in accordance with pertinent regulations, and are classified and recorded according to acceptable accounting standards.

Responsibility for direction of others.—Usually none, although may supervise a few clerks.

## Accountant III

General characteristics.—Performs professional operating or cost accounting work requiring the standardized application of well established accounting principles, theories, concepts, and practices. Receives detailed instructions concerning the overall accounting system and its objectives, the policies and procedures under which it is operated, and the nature of changes in the system or its operation.

Direction received.—A professional accountant at higher level normally is available to furnish advice and assistance as needed. Work is examined for technical accuracy, adequacy of professional judgment, and compliance with instructions through spot checks, appraisal of results, subsequent processing, analysis of reports and statements, and other appropriate means.

Typical duties and responsibilities.—The primary responsibility of most positions at this level is to insure that the day-to-day operations of the segment or system are carried out in accordance with accounting principles and the policies and objectives of the accounting system. Within limits of delegated responsibility, the accountant makes the day-to-day decisions concerning the accounting treatment of financial transactions. He is expected to recommend solutions to complex problems and propose changes in the accounting system, but he has no authority to effectuate these solutions or changes. His solutions are derived from his own knowledge of the application of well-established principles and practices or by referring the problem to his superior for solution.

Responsibility for the direction of others.—In most instances directs the work of a subordinate nonprofessional staff.

ACCOUNTANT—Continued

## Accountant IV

General characteristics.—Performs professional operating or cost accounting work which requires the application of well established accounting principles, theories, concepts and practices to a wide variety of difficult problems. Receives instructions concerning the objectives and operations of the overall accounting system. At this level, compared with level III, the technical accounting problems are more difficult and a greater degree of coordination among more numerous types of accounting records and operations may be essential.

Direction received.—An accountant at higher level normally is available to furnish advice and assistance as needed. Work is reviewed for adequacy of professional judgment, compliance with instructions, and overall accuracy and quality by spot checks and appraisal of results.

Typical duties and responsibilities.—As at level III, a primary characteristic of most positions at this level is the responsibility of operating an accounting system or segment in the intended manner. Makes day-to-day decisions concerning the accounting treatment of financial transactions. He is expected to recommend solutions to complex problems beyond the scope of his responsibility and to propose changes in the accounting system, but he has no authority to act independently on these problems.

Responsibility for direction of others.—Accounting staff supervised, if any, may include professional accountants.

## Accountant V

General characteristics.—Performs professional operating or cost accounting work requiring the application of accounting principles and practices to the solution of very difficult problems for which no clear precedents exist, or to the development or extension of theories and practices to problems to which they have not been applied previously. Also at this level are positions having more than average responsibility because of the nature, magnitude, or impact of the assigned work.

Is more directly concerned with what the system or segment should be, what operating accounting policies and procedures should be established or revised, and the meaning of the data in the reports and statements for which he is responsible.

Direction received.—An accountant at higher level normally is available to furnish advice and assistance as needed. Work is reviewed for adequacy of professional judgment, compliance with instructions, and overall quality.

Typical duties and responsibilities.—In addition to insuring that the system or segment is operated as intended, is deeply involved in the fundamental and complex technical and managerial problems.

Responsibility for direction of others.—Accounting staff supervised, if any, includes professional accountants.

AUDITOR

Audits the financial records of a company or divisions or components of the company, to appraise systematically and verify the accounting accuracy of the records and reports. To the extent determined necessary, examines the transactions entering into the balance sheet and the transactions entering into income, expense, and cost accounts. Determines (1) the existence of recorded assets (including the observation of the taking of physical inventories) and the all inclusiveness of recorded liabilities; (2) the accuracy of financial statements or reports and the fairness of presentation of facts therein; (3) the propriety or legality of transactions; and (4) the degree of compliance with established policies and procedures concerning financial transactions. Evaluates the adequacy of the accounting system and internal financial control. Makes appropriate recommendations for improvement as necessary. (Work typically requires a bachelor's degree in accounting or equivalent experience and education combined.)

Excluded from the definition are positions which call for auditing duties which may require detailed knowledge of the operations of a particular company, but do not require full professional accounting training. For example, when the primary responsibility of the position is to check transactions to determine whether or not they conform to prescribed routines or procedures, it is excluded.

## Auditor I

As a trainee auditor at the entering professional level, performs a variety of routine assignments under the close supervision of an experienced auditor.

## Auditor II

This is the continuing developmental level for the professional auditor. As a junior member of an audit team, independently performs assigned portions of the audit examination which are limited in scope and complexity, such as physically counting to verify inventory items, checking assigned subsidiary ledger accounts against supporting bills or vouchers, checking and balancing various subsidiary ledgers against control accounts, or other similar duties designed to help the team leader check, verify, or prove the accounting entries. Responsibility extends only to the verification of accuracy of computations and the determination that all transactions are properly supported. Any technical problems not covered by instructions are brought to the attention of a superior.

## Auditor III

(1) As auditor in charge of an audit team or in charge of individual audits, independently conducts regular recurring audits in accordance with a prescribed audit policy of the accounts of smaller or less complex companies having gross income up to approximately \$3 million per year, or similar size branch or subsidiary organizations of larger companies. Under minimum supervision, either working alone, or with the assistance of one or two subordinate auditors, examines transactions and verifies accounts; observes and evaluates local accounting procedures and internal controls; prepares audit working papers and submits an audit report in the required pattern containing recommendations for needed changes or improvements, or (2) as a member of an audit team auditing a larger and more complex organization (approximately \$4 to \$25 million gross income per year), independently performs the audit examination of a major segment of the audit such as the checking, verification, and balancing of all accounts receivable and accounts payable, the analysis and verification of assets and reserves, or the inspection and the evaluation of controls and procedures.

AUDITOR—Continued

## Auditor IV

(1) As auditor in charge of an audit team or of individual audits under minimum supervision with the assistance of approximately five subordinate auditors, independently conducts regular recurring audits of a company having gross income of approximately \$4 to \$25 million per year or in companies with much larger gross incomes, audits of accounts of branch or subsidiary organizations of those companies each of which have gross income of \$4 to \$25 million per year. Plans and conducts the audit and prepares an audit report containing recommendations for changes or improvements in accounting practices, procedures, or policies; or (2) as a member of an audit team auditing the accounts of a larger and more complex organization (over \$30 million gross income per year), is assigned relatively independent responsibility for a major segment of the audit such as the checking, verification, and balancing of all accounts receivable and accounts payable, the analysis and verification of assets and reserves, or the inspection and evaluation of controls and procedures.

CHIEF ACCOUNTANT

Responsible for directing the accounting program for a company or for an establishment of a company. The minimum accounting program includes: (1) General accounting (assets, liabilities, income, expense, and capital accounts, including responsibility for profit and loss and balance sheet statements); and (2) with at least one other major accounting activity, typically tax accounting, cost accounting, property accounting, or sales accounting. It may also include such other activities as payroll and timekeeping, tabulating machine operation, etc. (Responsibility for an internal audit program is typically not included.)

The responsibilities of the chief accountant include all of the following:

- (1) Developing, adapting, or revising an accounting system to meet the needs of the organization.
- (2) Supervising, either directly or through subordinate supervisors, the operation of the system with full management responsibility for the quality and quantity of work performed, training and development of subordinates, work scheduling and review, coordination with other parts of the organization served, etc.
- (3) Providing advisory services to the top management officials of the organization served as to:
  - (a) The status of financial resources and the financial trends or results of operations in a manner that is meaningful to management.
  - (b) Methods for improving operations as suggested by his expert knowledge of the financial situation, e.g., proposals for improving cost control, property management, credit and collection, tax reduction, or similar programs.

Definition does not cover positions with responsibility for the accounting program if they also include (as a major part of the job) responsibility for budgeting; work measurement; organization, methods, or procedures studies, or similar functions. Such work is typical of positions sometimes titled as comptroller, budget and accounting manager, financial manager, etc.

Chief accountant jobs which meet the above definition are classified by level<sup>22</sup> of work in accordance with the following:

<sup>22</sup> Insufficient data were obtained for level V to warrant presentation of average salaries.

## CHIEF ACCOUNTANT—Continued

Class	Authority and responsibility (1)	Technical complexity (1)	Subordinate staff of professional accountants in the system for which he is responsible. <sup>2</sup>
I	AR-1	TC-1	Only one or two professional accountants, who do not exceed the accountant III job definition.
II	AR-1	TC-2	About 5 to 10 professional accountants, with at least one or two matching the accountant IV job definition.
	<u>or</u> AR-2	TC-1	About 5 to 10 professional accountants. Most of these match the accountant III job definition, but one or two may match the accountant IV job definition.
	<u>or</u> AR-3	TC-1	Only one or two professional accountants, who do not exceed the accountant IV job definition.
III	AR-1	TC-3	About 15 to 20 professional accountants. At least one or two match the accountant V job definition.
	<u>or</u> AR-2	TC-2	About 15 to 20 professional accountants. Many of these match the accountant IV job definition, but some may match the accountant V job definition.
	<u>or</u> AR-3	TC-1	About 5 to 10 professional accountants. Most of these match the accountant III job definition, but one or two may match as high as accountant V.
IV	AR-2	TC-3	About 25 to 40 professional accountants. Many of these match the accountant V job definition, but several may exceed that level.
	<u>or</u> AR-3	TC-2	About 15 to 20 professional accountants. Most of these match the accountant IV job definition, but several may match accountant V and one or two may exceed that level.
V	AR-3	TC-3	About 25 to 40 professional accountants. Many of these match the accountant V job definition, but several may exceed that level.

<sup>1</sup> AR-1-2 and -3 and TC-1-2 and -3 are explained on the following page.

<sup>2</sup> The number of professional accountants supervised, as shown above, is recognized to be a relatively crude criterion for distinguishing between the various classes. It is to be considered as less important in the matching process than the other criteria. In addition to the staff of professional accountants in the system for which the chief accountant is responsible, there are clerical, machine operation, bookkeeping, and related personnel.

CHIEF ACCOUNTANT—Continued

AR-1. Directs the accounting program for an establishment of a company. The accounting system has been established in considerable detail at higher organizational levels in the company, i. e., accounts, procedures, and reports to be used have been prescribed. The chief accountant has authority, within this prescribed system, to adapt and expand it to fit the particular needs of the organization served, e. g., to provide greater detail; to establish additional accounting controls; to provide special or interim reports and statements needed by the establishment manager for day-to-day operations, etc.

AR-2. Directs the accounting program for an establishment of a company when the delegated authority to modify the basic accounting system established at higher organizational levels within the company clearly exceeds that described in AR-1. The basic accounting system is prescribed only in broad outlines rather than in specific detail, e. g., while certain major financial reports, overall accounts, general policies, etc., are required by the basic system, the chief accountant has broad latitude to decide what specific methods, procedures, accounts, reports, etc., are to be used within the organizational segment he serves. He has authority to evaluate and take final action on recommendations for changes in that portion of the system for which he is responsible, but he must secure prior approval from higher organizational levels for any changes which would affect the basic system prescribed by such higher levels. Accounting reports and statements prepared reflect the events and progress of the entire organizational segment of the company for which he is responsible, and usually these reports represent consolidations of accounting data submitted by subordinate segments of the organization which have accounting responsibilities. (This degree of authority is most characteristically found at an organizational level in the company which is intermediate between the company headquarters level (see AR-3) and the plant level (see AR-1). However, if a similar degree of authority has been delegated to the plant level, the chief accountant at such a place should be matched with this definition.)

AR-3. Directs the accounting program for an entire company with or without subordinate establishments. Has complete responsibility for establishing and maintaining the framework for the basic accounting system used in the company, subject only to general policy guidance and control usually from a company official responsible for general financial management, frequently an officer of the company. The chief accountant evaluates and takes final action on recommendations for basic changes in the accounting system, originating from subordinate units within the system. Accounting reports and statements prepared reflect the events and progress of the entire company, and to the extent that subordinate accounting segments exist, they represent consolidations of accounting data submitted by these segments.

TC-1. The organization which the accounting program serves has relatively few functions, products, work processes, etc., and these tend to be stable and unchanging. The accounting system operates in accordance with well-established principles and practices or those of equivalent difficulty which are typical of that industry.

TC-2. The organization which the accounting program serves has a relatively large number of functions, products, work processes, etc., requiring substantial adaptations of the basic system to meet management needs.

TC-3. The organization which the accounting program serves has functions, products, work processes, etc., which are very numerous, varied, unique, specialized or which, for similar reasons, puts a heavy demand on the accounting organization for specialized and extensive adaptations of the basic system to meet management needs. The accounting system, to a considerable degree is developed well beyond the established principles and practices in order to provide methods for the solution of problems for which no clear precedents exist or to provide for the development or extension of theories and practices to problems to which they have not been previously applied.

## ATTORNEYS

ATTORNEY

Performs work involved in providing consultation and advice to operating officials of the company with respect to its legal rights, privileges, and obligations. Performs such duties as anticipating any legal problems or risks involving the company and advising company officials; preparing and reviewing various legal instruments and documents, such as contracts for leases, licenses, sales, purchases, real estate, etc.; keeping informed of proposed legislation which might affect the company and advising the appropriate company officials; examining and checking for legal implications, public statements or advertising material; advising company whether to prosecute or defend law suits; acting as agent of the company in its transactions; and applying for patents, copyrights, or registration of the company's products, processes, devices, and trademarks. (Patent work which requires training in a technical field, e.g., engineering in addition to legal training, is excluded. Claims examining, claims investigating, or similar work are excluded even though the work is performed by persons with a LL.B. degree, unless there is clear evidence that the job actually requires use of full professional legal training such as that of an attorney who performs investigative duties as a preliminary phase of his total responsibility for preparing a case for trial or actually trying a case in court.)

## Attorney I

As a trainee (LL.B. with membership in bar), performs routine legal work, such as preparing briefs or drawing up contracts for review and evaluation by attorneys of higher grade. Receives immediate supervision in assignments designed to provide training in the application of established methods and techniques of legal research, drafting of legal instruments, etc.

## Attorney II

Performs a variety of legal assignments, e.g., (1) drawing up contracts which require some ingenuity and an ability to evaluate the legal sufficiency of contract terms; (2) preparing draft opinions on legal questions involved in such areas as claims, grievances, labor laws, etc., when the legal question can be resolved relatively easily in the light of well-established facts and clearly applicable precedents. Receives general supervision during assignments, with most work reviewed by an attorney of higher grade. Responsibility for final action is usually limited to matters which are covered by instructions and prior approval of a superior.

## Attorney III

Performs a variety of legal assignments, primarily in the study and analysis of legal questions, problems, or cases. Prepares draft opinions or other kinds of legal work on legal questions involved in such areas as claims, grievances, labor laws, etc., when the questions are complicated by the absence of legal precedents clearly and directly applicable to the case, or by the different possible constructions which might be placed on either the facts or the laws and precedents involved. Typically specializes in one legal field, e.g., labor law, real estate, contracts, etc. Receives general supervision during initial and final stages of assignments, but is expected to conduct work with relative independence. Responsibility for final action is usually limited to matters covered by legal precedents and in which little deviation from standard forms and practices is involved. Any decisions or actions having a bearing on the company's business are reviewed by a superior. May supervise or review the work of a few assistants, normally not attorneys.

Attorney IV (IIIA in 1960-61 survey)<sup>23</sup>

Similar to attorney III but the work is performed under considerably less close supervision and direction. The attorney is expected to independently investigate the facts, search out precedents, define the legal and factual issues, draft all necessary documents, opinions, etc., and present conclusions and recommendations for review. Guidance from superiors during this process occurs only if the problem is clearly more difficult than normal for this level. The final product is reviewed carefully, but primarily for overall soundness of legal reasoning and consistency with company policy, rather than for accuracy of technical detail.

<sup>23</sup> Changes in Roman numeral designation only. No change in the definition.

ATTORNEY—ContinuedAttorney V (IV in 1960-61 survey)<sup>24</sup>

Responsible for a broad legal area in which assignments cover a wide range of difficult and complex legal questions and problems. Primarily serves in an advisory capacity, making studies and developing opinions which may have an important bearing on the conduct of the company's business (e.g., recommending action to protect the company's trademarks and copyrights in foreign countries). Receives a minimum of technical legal supervision. May supervise a small staff of attorneys.

Attorney VI (IVA in 1960-61 survey)<sup>24</sup>

Similar to attorney V but the legal questions and problems are of outstanding difficulty and complexity or of crucial importance to the welfare of the company. For example, (1) complex factual and policy issues which require extensive research, analysis, and obtaining and evaluating expert testimony in controversial areas of science, finance, corporate structure, engineering, etc.; or (2) cases involve very large sums of money (e.g., about \$1 million) or, for other reasons, are very vigorously contested.

Attorney VII (V in 1960-61 survey)<sup>24</sup>

Plans, conducts, and supervises legal assignments within one or more broad legal areas. Supervises a staff of attorneys, and has responsibility for evaluating their performance and approving recommendations which may have an important bearing on the conduct of the company's business. Receives guidance as to company policy but no technical supervision or assistance except when he might request advice on the most difficult, novel, or important technical legal questions. Usually reports to the general counsel or chief attorney of the company or his immediate deputy.

**OFFICE SERVICES**MANAGER, OFFICE SERVICES

Responsible for planning, directing, and controlling of office services, subject only to the most general policy supervision. Plays an active role in anticipating and planning to meet office services needs of the operating organization served. Supervises a group of employees engaged in providing office services of a supporting or "housekeeping" nature to the primary operation of a company, an establishment, or an organizational unit of a company or establishment. (May personally perform some of the functions.) Office services include:

- (a) Receipt, distribution, and dispatch of mail.
- (b) Maintenance of central files.
- (c) Printing or duplication and distribution of forms, publications, etc. (May be limited to ordering the printing or duplication of items. Does not necessarily have charge of a printshop or duplication facilities, especially in large operations, but coordinates the flow to and from the reproduction units.)
- (d) Purchasing office supplies and equipment. (Makes direct purchases of run-of-the-mill office supplies. May be responsible for direct purchase of other items from outside suppliers or may requisition through establishment purchasing departments.)
- (e) Records control and disposal.
- (f) Communications (telephone switchboard and/or teletype service).
- (g) Typing or stenographic pool.
- (h) Office equipment maintenance and repair. (May have direct supervision of maintenance and repair personnel or may coordinate the ordering of such services from outside service suppliers or from a central service unit within the establishment.)
- (i) Space control over office facilities—layout and arrangement of offices. (Typically serves as a staff assistant to management officials in performing this function.)

<sup>24</sup> Ibid., footnote 23.



MANAGER, OFFICE SERVICES—Continued

## Manager, Office Services I

Supervises a staff of employees engaged in performing a few (e. g., four or five) of the above functions as a service to a small organization (e. g., 300 to 600 employees, excluding nonsupervisory plant workers).

## Manager, Office Services II

A. Supervises a staff of employees engaged in performing a few (e. g., four or five) of the above functions as a service to a moderately large organization (e. g., 600 to 1,500 employees, excluding nonsupervisory plant workers).

OR

B. Supervises a staff of employees engaged in performing most (e. g., seven or eight) of the above functions as a service to a small organization (e. g., 300 to 600 employees, excluding nonsupervisory plant workers).

## Manager, Office Services III

A. Supervises a staff of employees engaged in performing a few (e. g., four or five) of the functions as a service to a large organization (e. g., 1,500 to 3,000 employees, excluding nonsupervisory plant workers).

OR

B. Supervises a staff of employees engaged in performing most (e. g., seven or eight) of the above functions as a service to a moderately large organization (e. g., 600 to 1,500 employees, excluding nonsupervisory plant workers).

## Manager, Office Services IV

Supervises a staff of employees engaged in performing most (e. g., seven or eight) of the above functions as a service to a large organization (e. g., 1,500 to 3,000 employees, excluding nonsupervisory plant workers).

**PERSONNEL MANAGEMENT**JOB ANALYST

Performs work involved in collecting, analyzing, and developing occupational data relative to jobs, job qualifications, and worker characteristics as a basis for compensating employees in a fair, equitable, and uniform manner. Performs such duties as studying and analyzing jobs and preparing descriptions of duties and responsibilities and of the physical and mental requirements needed by workers; evaluating jobs and determining appropriate wage or salary levels in accordance with their difficulty and responsibility; independently conducting or participating with representatives of other companies in conducting compensation surveys within a locality or labor market area; assisting in administering merit rating program; reviewing changes in wages and salaries indicated by surveys and recommending changes in pay scales; and auditing individual jobs to check the propriety of evaluations and to apply current job classifications.

## Job Analyst I

As a trainee, performs work in designated areas and of limited occupational scope. Receives immediate supervision in assignments designed to provide training in the application of established methods and techniques of job analysis. Studies the least difficult jobs and prepares reports for review by a job analyst of higher level.

## Job Analyst II

Studies, describes, and evaluates jobs in accordance with established procedures. Is usually assigned to the simpler kinds of both wage and salaried jobs in the establishment. Works independently on such assignments but is limited by instructions of his superior and by defined area of assignment.

JOB ANALYST—Continued

## Job Analyst III

Analyzes and evaluates a variety of wage and salaried jobs in accordance with established evaluation systems and procedures. May conduct wage surveys within the locality or participate in conducting surveys of broad compensation areas. May assist in developing survey methods and plans. Receives general supervision but responsibility for final action is limited.

## Job Analyst IV

Analyzes and evaluates a variety of jobs in accordance with established evaluation systems and procedures, and is given assignment which regularly includes responsibility for the more difficult kinds of jobs. ("More difficult" means jobs which consist of hard-to-understand work processes; e.g., professional, scientific, administrative, or technical; or jobs in new or emerging occupational fields; or jobs which are being established as part of the creation of new organizations; or where other special considerations of these types apply.) Receives general supervision, but responsibility for final action is limited. May participate in the development and installation of evaluation or compensation systems, which may include those for merit rating programs. May plan survey methods and conduct or direct wage surveys within a broad compensation area.

DIRECTOR OF PERSONNEL

Directs a personnel management program for a company or for a plant or establishment of a company. For a job to be covered by this definition, the personnel management program must include responsibility for all three of the following functions:

- (1) Administering a formal job evaluation system; i.e., a system in which there are established procedures by which jobs are analyzed and evaluated on the basis of their duties, responsibilities, and qualification requirements in order to provide a foundation for equitable compensation. Typically, such a system includes the use of one or more sets of job evaluation factors and the preparation of formal job descriptions. It may also include such related functions as wage and salary surveys or merit rating system administration. The job evaluation system(s) does not necessarily cover all jobs in the organization, but does cover a substantial portion of the organization.
- (2) Employment and placement functions; i.e., recruiting actively for at least some kinds of workers through a variety of sources (e.g., schools or colleges, employment agencies, professional societies, etc.); evaluating applicants against demands of particular jobs by use of such techniques as job analysis to determine requirements, interviews, written tests of aptitude, knowledge, or skill, reference checks, experience evaluations, etc.; recommending selections and job placements to management, etc.
- (3) Employee relations and services functions; i.e., functions designed to maintain employees morale and productivity at a high level (for example, administering a formal or informal grievance procedure; identifying and recommending solutions for personnel problems such as absenteeism, high turnover, low productivity, etc.; administration of beneficial suggestions system, retirement, pension, or insurance plans, merit rating system, etc.; overseeing cafeteria operations, recreational programs, industrial health or safety programs, etc.).

Employee training and development functions may or may not be part of the personnel management program for purposes of matching this definition.

Labor relation activities, if any, are confined mainly to the administration, interpretation, and application of labor union contracts and are essentially similar to those described under (3) above. If responsibility for actual contract negotiation with labor unions as the principal company representative is considered a significant one in the job, i.e., the one which serves as the primary basis for qualification requirements and compensation, the job is excluded from being matched with this definition. Participation in bargaining of a less significant nature, e.g., to negotiate detailed settlement of such matters as specific rates, job classifications, work rules, hiring or layoff procedures, etc., within the broad terms of a general agreement reached at higher levels, or to supply advice and information on technical points to the company's principal representative, will not have the effect of excluding the job from coverage.

DIRECTOR OF PERSONNEL—Continued

The director of personnel not only directs a personnel management program of the intensity and scope outlined previously, but (to be a proper match) he is recognized by the top management officials of the organization he serves as the source of advice and assistance on personnel management matters and problems generally. For example, he is typically consulted on the personnel implications of planned changes in management policy or program, the effects on the organization of economic or market trends, product or production method changes, etc.; he represents management in external contacts with other companies, trade associations, government agencies, etc., when the primary subject matter of the contact is on personnel management matters.

Typically, the director of personnel reports to a company officer or a high management official who has responsibility for the operation of a plant or establishment of a company; or, at company headquarters level, he may report to a company officer in charge of industrial relations and personnel management activities or a similar official.

Directors of personnel jobs which meet the above definition are classified by level<sup>25</sup> of work in accordance with the following tabulation:

Number of employees in work force serviced	Personnel program operations level <sup>1</sup>		Personnel program development level <sup>2</sup>	
	Organization serviced— type A <sup>3</sup>	Organization serviced— type B <sup>4</sup>	Organization serviced— type A <sup>3</sup>	Organization serviced— type B <sup>4</sup>
250-750 -----	I	II	II	III
1,000-5,000 -----	II	III	III	IV
6,000-12,000 -----	III	IV	IV	V
15,000-25,000 -----	IV	V	V	-

<sup>1</sup> Personnel program operations level—director of personnel servicing an organizational segment (e.g., a plant) of a company, where the basic personnel program policies, plans, objectives, etc., are established at company headquarters or at some other higher level between the plant and the company headquarters level. The personnel director's responsibility is to put these into operation at the local level, in such a manner as to most effectively serve the local management needs.

<sup>2</sup> Personnel program development level—director of personnel servicing an entire company (with or without subordinate establishments) where the personnel director plays an important role in establishment of basic personnel policies, plans, objectives, etc., for the company, subject to policy direction and control from company officers. There may be instances in which there is such relatively complete delegation of personnel program planning and development responsibility below the company level to an intermediate organization, e.g., a subsidiary or a division, that a job of personnel director for such an organization should be matched as though it were a company level job.

<sup>3</sup> Organization serviced—type A—jobs serviced are (almost exclusively) types which are common in the labor market generally, and consist of relatively easy-to-understand work processes, or for similar reasons do not present particularly difficult recruitment, job evaluation, or training problems. Work force, organizational structure, and other organizational characteristics are relatively stable.

<sup>4</sup> Organization serviced—type B—jobs serviced include a substantial number of types which are largely peculiar to the organization serviced, consist of hard-to-understand work processes (e.g., professional, scientific, administrative, or technical), are jobs in new or emerging occupational fields, are in extremely short supply, have hard-to-match skill requirements, or for similar reasons present difficult recruitment, job evaluation, or training problems. Work force, organizational structure, or other organizational characteristics are complicated, unstable, subject to wide seasonal fluctuations, etc.

NOTE: There are gaps between different degrees of all three elements used to determine job level matches. These gaps have been provided purposely to allow room for judgment in getting the best overall job level match for each job. Thus, a job which services a work force of 850 employees should be matched with level II if it is a personnel program operations level job where the nature of the organization serviced seems to fall slightly below the definition for the type B degree. However, the same job should be matched with level I if the nature of the organization serviced clearly falls well within the definition for the type A degree.

<sup>25</sup> Insufficient data were obtained for level V to warrant presentation of average salaries.

## CHEMISTS AND ENGINEERS

CHEMIST

Performs research, development, interpretive, and analytical work to determine the composition, molecular structure, and properties of substances, to develop or investigate new materials and processes, and to investigate the transformation which substances undergo. Work typically requires a B.S. degree in chemistry or equivalent in education and experience combined.

## Chemist I

General characteristics.—As the beginning level of professional work in chemistry, a bachelor's degree with major study in chemistry, or equivalent is required. Typically receives formal classroom or on-the-job training.

Direction received.—Performs work under close supervision with specific and detailed instructions as to required tasks and results expected.

Typical duties and responsibilities.—Assignments are planned to provide experience in the application of common laboratory techniques and familiarization with methods and practices in the laboratory. Performs a variety of routine analyses, tests, and operations, and assists experienced chemists by carrying out detailed steps of experiments.

Responsibility for the direction of others.—None.

## Chemist II

General characteristics.—At this continuing developmental level for professional chemists, work is characterized by selection and application of general and specialized methods, techniques, and instruments commonly used in the laboratory. May receive advanced on-the-job training or formal classroom instruction.

Direction received.—Supervisors establish the nature and extent of analysis required, specify methods and criteria on new types of assignments, and review work for thoroughness of application of methods and accuracy of results.

Typical duties and responsibilities.—Analyzes a wide variety of samples for which there are standard or established methods of analysis or for which the adaptation of standard methods is obvious or determined by others. Conducts specified phases of research projects as an assistant to an experienced chemist.

Responsibility for the direction of others.—May supervise a few technicians or aids.

## Chemist III

General characteristics.—Performs work requiring application of knowledge of a specialized field of chemistry and ingenuity in the independent evaluation, selection, and adaptation of standard methods and techniques.

Direction received.—On routine work, supervision is very general; unusual problems are resolved with close collaboration of supervisor. Completed work is reviewed for application of sound judgment in choice of methods and adequacy of results.

Typical duties and responsibilities.—Develops details of research and development assignments in accordance with a line of approach suggested by the supervisor and adapts methods to the specific requirements of assignments. Analyzes samples that require specialized training because standard methods are unapplicable, because of required interpretive judgment of quality of substances, or because of required specialized skill in adapting techniques such as microanalysis.

Responsibility for the direction of others.—May supervise a few technicians or aids.

CHEMIST—Continued

## Chemist IV

General characteristics.—Plans and conducts work in chemistry requiring mastery of specialized techniques or considerable ingenuity in selecting and evaluating approaches to unforeseen or novel problems.

Direction received.—Generally works independently of technical supervision but refers proposed plans and unusually important or complex problems to supervisor for guidance.

Typical duties and responsibilities.—Conducts research assignments requiring the evaluation of alternate methods of approach. Undertakes the more complex, and exacting, or esoteric analytical assignments requiring a specialist in technique or product. Prepares interpretive reports of results and may provide technical advice on significance of results.

Responsibility for the direction of others.—May supervise a small staff of chemists and technicians.

## Chemist V

General characteristics.—Participates in planning research programs on the basis of specialized knowledge of problems and methods and probable value of results. May serve as an expert in a narrow specialty making recommendations and conclusions which serve as the basis for undertaking or rejecting important projects.

Direction received.—Usually discusses important developments with supervisor. Supervision received relates largely to work objectives and administrative aspects.

Typical duties and responsibilities.—From broad program objectives, plans, organizes, and supervises or conducts research investigations with responsibility for defining projects and scope and independently selecting lines of approach.

As individual worker, carries out research project requiring origination of new scientific techniques and mature background of knowledge of related fields of science.

Responsibility for the direction of others.—May supervise a small group of chemists engaged in varied research projects or a larger group on routine analytical work.

## Chemist VI

General characteristics.—Performs work requiring leadership and expert knowledge in a specialized field of chemistry. Conceives, plans, and directs projects of a pioneering nature to create new methods and techniques or to resolve problems which have proved unusually refractory.

Direction received.—Supervision received is essentially administrative with assignments broadly indicated in terms of objectives.

Typical duties and responsibilities.—Determines the kinds of projects and data needed to meet objectives of programs. Maintains liaison with related organizations and represents the laboratory in important conferences with authority to commit the organization. May serve as a consultant to other chemists in the specialty field.

Responsibility for the direction of others.—May plan, organize, direct, and evaluate the work of a group of chemists.

## Chemist VII

General characteristics.—~~Supervisor~~ provides leadership and scientific guidance for a broad and diversified program in chemistry and related supporting activities such as to require several subordinate supervisors responsible for programs typically identified with level VI. Recommends the facilities, personnel, and funds required to carry out programs and evaluates accomplishments.

CHEMIST—Continued

Individual researcher and consultant—is a nonsupervisory chemist of recognized leadership status and authoritativeness in his company, in a broad area of specialization. Is consulted extensively by associates and others with a high degree of reliance placed on his scientific interpretations and advice.

Direction received.—Under general administrative direction.

Typical duties and responsibilities.—Supervisor—is responsible for an important segment of a chemical program of a company with extensive and diversified scientific requirements or the entire chemical program of a company where the program is limited in scope. Makes authoritative technical recommendations concerning the scientific objectives and levels of work which will be most profitable in the light of company requirements and scientific and industrial trends and developments.

Individual researcher and consultant—selects problems for research and conceives and plans investigations in which the phenomena and principles are not adequately understood, so that outstanding creativity and mature judgment are required to devise hypotheses and techniques of experimentation and to interpret results. Advises the head of a large laboratory on complex aspects of extremely broad and important programs with responsibility for exploring, justifying, and evaluating proposed and current programs and projects and furnishing advice on unusually complex and novel problems in the specialty field.

Responsibility for the direction of others.—Supervisor—see "general characteristics" above.

## Chemist VIII

General characteristics.—Supervisor—provides leadership and scientific guidance for a very broad and highly diversified program in chemistry and related supporting activities requiring several subordinate supervisors responsible for programs typically identified with level VII, or a large number of supervisors of lower levels. Recommends the facilities, personnel, and funds required for programs and evaluates accomplishments.

Individual researcher and consultant—serves as a consultant to top-level management on scientific questions of far-reaching significance. Is sought as a consultant by chemists who are themselves specialists in the field. Is a nationally recognized research leader and consultant for his company.

Direction received.—Receives general administrative direction.

Typical duties and responsibilities.—Supervisor—is responsible for an important segment of a chemical program of a company with very extensive and highly diversified scientific requirements or the entire chemical program of a company where the program is of moderate scope. Is responsible for deciding the kind and extent of chemical and related program needed to accomplish the objectives of the company, for choosing the scientific approaches, for planning and organizing facilities and programs, and for interpreting results.

Individual researcher and consultant—formulates and guides the attack on exceptionally difficult and important problems whose solution would represent a major scientific or technological advance.

Responsibility for the direction of others.—Supervisor—see "general characteristics" above.

This level does not include the chief chemist of a company with a very extensive and highly diversified program; or the assistant chief chemist of a company with an unusually extensive and novel chemical program.

ENGINEER

Performs work in research, development, design, testing, analysis, production, construction, maintenance, operation, planning, survey, estimating, application, or standardization of engineering facilities, systems, structures, processes, equipment devices, or materials requiring knowledge of the science and art by which materials, natural resources, and power are made useful. Work typically requires a B.S. degree in engineering or the equivalent in experience and education combined. (Safety engineers, industrial engineers, quality control engineers, and sales engineers are to be excluded.)

## Engineer I

General characteristics.—As the beginning level of engineering work, a bachelor's degree in engineering or equivalent is required. Typically receives formal classroom or on-the-job training.

Direction received.—Performs work under close supervision with specific and detailed instructions as to required tasks and results expected. Work is checked during progress, and upon completion is reviewed for accuracy.

Typical duties and responsibilities.—Performs simple tasks that are planned to provide experience and familiarization with methods and practices of the company in the specialty field and to ascertain the interests and aptitudes of the beginning engineer.

Responsibility for the direction of others.—None.

## Engineer II

General characteristics.—At this continuing developmental level, performs routine engineering work requiring application of standard techniques, procedures, and criteria in carrying out a sequence of related engineering tasks. Limited exercise of judgment is required on details of work. May receive advanced on-the-job or classroom instructions.

Direction received.—Supervisor screens assignments to eliminate difficult problems and selects techniques and procedures to be applied. Receives close supervision on new aspects of assignments.

Typical duties and responsibilities.—Using prescribed methods, performs specific and limited portions of a broader assignment of an experienced engineer. Applies standard practices and techniques in specific situations, adjusts and correlates data, recognizes discrepancies in results, and follows operations through a series of related detailed steps or processes.

Responsibility for the direction of others.—May supervise a few aids or technicians.

## Engineer III

General characteristics.—Work requires independent evaluation, selection, and application of standard engineering techniques, procedures, and criteria, using judgment and ingenuity in making minor adaptations and modifications.

Direction received.—Receives instruction on specific assignment objectives, points of emphasis, reference and information sources, and possible solutions. Unusual problems are solved jointly with supervisor, and work is reviewed for application of sound engineering judgment.

Typical duties and responsibilities.—Assignments include equipment design and development, test of materials, preparation of specifications, process study, research investigations, report preparation, and other activities of limited scope requiring knowledge of principles, practices, and techniques commonly employed in the specific narrow area of assignments. Performs work which involves conventional types of plans, investigations, surveys, structures, or equipment with relatively few complex features for which there are precedents.

Responsibility for the direction of others.—May supervise the work of draftsmen, inspectors, and other technicians assigned to assist in the work.

ENGINEER—Continued

## Engineer IV

General characteristics.—Work requires originality and judgment in the independent evaluation, selection, and substantial adaptation and modification of standard techniques, procedures, and criteria. Is recognized as fully competent in all conventional aspects of the subject-matter or functional area of assignments.

Direction received.—Receives direct supervision and guidance primarily on novel or controversial problems or questions. Makes independent technical decisions on details of work covered by precedents.

Typical duties and responsibilities.—Plans, schedules, and coordinates detailed phases of the engineering work in a part of a major project or in a total project of moderate scope. Devises new approaches to problems encountered. Performs work which involves conventional engineering practice but includes a variety of complex features such as conflicting design requirements, unsuitability of standard materials, and difficult coordination requirements. Work requires a broad knowledge of precedents in the specialty area and a good knowledge of principles and practices of related specialties.

Responsibility for the direction of others.—May supervise a few engineers or technicians on routine work.

## Engineer V

General characteristics.—Work requires application of intensive and diversified knowledge of engineering principles and practices in broad areas of assignments and related fields. Makes decisions independently on engineering problems and methods, and represents the organization in conferences to resolve important questions and to plan and coordinate work. Positions may be supervisory or nonsupervisory.

Direction received.—Receives supervision and guidance only in terms of specific work objectives and critical issues.

Typical duties and responsibilities.—Supervisor—plans, develops, coordinates, and directs a large and important engineering project or a number of small projects with many complex features.

Nonsupervisory researcher—carries out complex or novel research assignments requiring the development of new or improved techniques and procedures.

Nonsupervisory staff specialist—develops and evaluates plans and criteria for a variety of projects and activities to be carried out by others.

Responsibility for the direction of others.—Supervisor—supervises, coordinates, and reviews the work of a small staff of engineers and technicians. Estimates manpower needs and schedules and assigns work to meet completion date.

## Engineer VI

General characteristics.—Work is characterized by full technical responsibility for interpreting, organizing, executing, and coordinating assignments. Maintains liaison with other organizations or companies. Positions may be supervisory or nonsupervisory.

Direction received.—Assignments are received in terms of broad general objectives and limits. Supervision concerns administrative features of the work.

Typical duties and responsibilities.—Conceives and plans engineering projects involving exploration of subject area, definition of scope and selection of problems for investigation, and development of novel concepts and approaches.

Supervisor—plans, develops, coordinates, and directs a number of large and important projects or a project of major scope and importance.

Nonsupervisory researcher—plans and conducts research or other work requiring pioneering in areas in which large blocks of data are controversial or unknown.



ENGINEER—Continued

Nonsupervisory staff specialist—as an expert in a specific field, performs advisory, consulting, and review work.

Responsibility for direction of others.—Supervisor—directs a staff of project engineers and assistants. Evaluates progress of the staff and results obtained, and recommends major changes to achieve overall objectives.

## Engineer VII

General characteristics.—Work is characterized by decisions and recommendations which are recognized as authoritative and have an important impact on extensive engineering activities. Initiates and maintains extensive contacts with key engineers and officials of other organizations and companies; this requires skill in persuasion and negotiations of critical issues. Positions may be supervisory or nonsupervisory.

Direction received.—Receives general administrative direction.

Typical duties and responsibilities.—Demonstrates creativity, foresight, and mature engineering judgment in anticipating and solving unprecedented engineering problems, determining program objectives and requirements, organizing programs and projects, and developing standards and guides for diverse engineering activities.

Supervisor—plans, develops, coordinates, and directs an engineering program consisting of many large and important projects.

Nonsupervisory—performs advisory, consulting, and review work as authoritative specialist or expert in broad program areas.

Responsibility for the direction of others.—Supervisor—directs a large staff of project engineers, and engineers and scientists in supporting functions. Several subordinate supervisors are responsible for projects or activities typically identified with level VI.

## Engineer VIII

General characteristics.—Work is characterized by authoritative decisions and recommendations which have a far-reaching impact on extensive engineering and related activities of the company. Negotiates critical and controversial issues with top level engineers and officers of other organizations and companies. Positions may be supervisory or nonsupervisory.

Direction received.—Receives general administrative direction.

Typical duties and responsibilities.—Demonstrates a high degree of creativity, foresight, and mature engineering judgment in planning, organizing, and guiding extensive engineering programs and activities of outstanding novelty and importance.

Supervisor—plans, develops, coordinates, and directs a highly complex and diversified engineering program consisting of many large and important projects and supporting activities.

Nonsupervisory—performs advisory and consulting work for his company as a nationally recognized authority for broad program areas of considerable novelty and importance.

Responsibility for the direction of others.—Directs a very large staff of project engineers, and engineers and scientists in supporting functions. Several subordinate supervisors are responsible for programs, projects, or activities typically identified with level VII.

This level does not include positions of chief engineers of companies with large engineering organization; e.g., those engaged in research and development on a variety of complex weapons systems with numerous novel components, or of chiefs of primary organizational segments of companies with very large engineering organizations engaged in unusually extensive and diversified research and development.

## ENGINEERING TECHNICIANS

### ENGINEERING TECHNICIAN

To be covered by these definitions, employees must meet all of the following criteria:

- (1) Provides semiprofessional technical support for engineers working in such areas as research, design, development, testing or manufacturing process improvement.
- (2) Work pertains to electrical, electronic, or mechanical components or equipment.
- (3) Required to have some knowledge of science or engineering.

(Excludes production or maintenance workers, quality control testers, craftsmen, draftsmen, designers, and engineers.)

#### Engineering Technician I

Performs simple routine tasks under close supervision or from detailed procedures. Work is checked in process or on completion. Performs at this level, one or a combination of such typical duties as:

Assembles or installs equipment or parts requiring simple wiring, soldering, or connecting.

Performs simple or routine tasks or tests such as tensile or hardness tests; operates, and adjusts simple test equipment; records test data.

Gathers and maintains specified records of engineering data such as tests, and drawings; performs computations by substituting numbers in specified formulas; plots data and draws simple curves and graphs.

#### Engineering Technician II

Performs standardized or prescribed assignments, involving a sequence of related operations. Follows standard work methods or explicit instructions; technical adequacy of routine work is reviewed on completion; nonroutine work may also be reviewed in process. Performs at this level, one or a combination of such typical duties as:

Assembles or constructs simple or standard equipment or parts. May service or repair simple instruments or equipment.

Conducts a variety of standardized tests; may prepare test specimens; sets up and operates standard test equipment; records test data.

Extracts engineering data from various prescribed sources; processes the data following well defined methods; presents the data in prescribed form.

#### Engineering Technician III

Performs assignments that are not completely standardized or prescribed. Selects or adapts standard procedures or equipment. Receives initial instructions, equipment requirements and advice from supervisor or engineer; technical adequacy of completed work is checked. Performs at this level, one or a combination of such typical duties as:

Constructs components, subunits or simple models or adapts standard equipment. May troubleshoot and correct malfunctions.

Conducts various tests or experiments which may require minor modifications in test setups or procedures; selects, sets up and operates standard test equipment and records test data.

Extracts and compiles a variety of engineering data; processes or computes data using specified formulas and procedures. Performs routine analysis to check applicability, accuracy, and reasonableness of data.

ENGINEERING TECHNICIAN—Continued

## Engineering Technician IV

Performs nonroutine assignments of substantial variety and complexity. Receives objectives and technical advice from supervisor or engineer; work is reviewed for technical adequacy. May be assisted by lower level technicians. Performs at this level, one or a combination of such typical duties as:

Works on limited segment of development project; constructs experimental or prototype models to meet engineering requirements; conducts tests or experiments; records and evaluates data and reports findings.

Conducts tests or experiments requiring selection and adaptation or modification of test equipment and test procedures; sets up and operates equipment; records data; analyzes data and prepares test reports.

Compiles and computes a variety of engineering data; may analyze test and design data; develops or prepares schematics, designs, specifications, parts lists or makes recommendations regarding these items. May review designs or specifications for adequacy.

## Engineering Technician V

Performs nonroutine and complex assignments involving responsibility for planning and conducting a complete project of relatively limited scope or a portion of a larger and more diverse project. Selects and adapts plans, techniques, designs or layouts. May coordinate portions of overall assignment; reviews, analyzes and integrates the technical work of others. Supervisor or professional engineer outlines objectives, requirements and design approaches; completed work is reviewed for technical adequacy and satisfaction of requirements. May be assisted by lower level technicians. Performs at this level, one or a combination of such typical duties as:

Designs, develops and constructs major units, devices or equipment; conducts tests or experiments; analyzes results and redesigns or modifies equipment to improve performance; reports results.

Plans or assists in planning tests to evaluate equipment performance. Determines test requirements, equipment modification and test procedures; conducts tests, analyzes and evaluates data and prepares reports on findings and recommendations.

Reviews and analyzes a variety of engineering data to determine requirements to meet engineering objectives; may calculate design data; prepares layouts, detailed specifications, parts lists, estimates, procedures, etc. May check and analyze drawings or equipment to determine adequacy of drawings and design.

**DRAFTSMEN**DRAFTSMAN, JUNIOR (Assistant Draftsman)

Draws to scale units or parts of drawings prepared by draftsman or others for engineering, construction, or manufacturing purposes. Uses various types of drafting tools as required. May prepare drawings from simple plans or sketches, or perform other duties under direction of a draftsman.

DRAFTSMAN, SENIOR

Prepares working plans and detail drawings from notes, rough or detailed sketches for engineering, construction, or manufacturing purposes. Duties involve a combination of the following: Preparing working plans, detail drawings, maps, cross-sections, etc., to scale by use of drafting instruments; making engineering computations such as those involved in strength of materials, beams and trusses; verifying completed work, checking dimensions, materials to be used, and quantities; writing specifications; and making adjustments or changes in drawings or specifications. May ink in lines and letters on pencil drawings, prepare detail units of complete drawings, or trace drawings. Work is frequently in a specialized field such as architectural, electrical, mechanical, or structural drafting.

TRACER

Copies plans and drawings prepared by others, by placing tracing cloth or paper over drawing and tracing with pen or pencil. Uses T-square, compass, and other drafting tools. May prepare simple drawings and do simple lettering.

CLERICALBOOKKEEPING-MACHINE OPERATOR

Operates a bookkeeping machine (Remington Rand, Elliott Fisher, Sundstrand, Burroughs, National Cash Register, with or without a typewriter keyboard) to keep a record of business transactions.

## Bookkeeping-Machine Operator I

Keeps a record of one or more phases or sections of a set of records usually requiring little knowledge of basic bookkeeping. Phases or sections include accounts payable, payroll, customers' accounts (not including a simple type of billing described under biller, machine), cost distribution, expense distribution, inventory control, etc. May check or assist in preparation of trial balances and prepare control sheets for the accounting department.

## Bookkeeping-Machine Operator II

Keeps a set of records requiring a knowledge of and experience in basic bookkeeping principles and familiarity with the structure of the particular accounting system used. Determines proper records and distribution of debit and credit items to be used in each phase of the work. May prepare consolidated reports, balance sheets, and other records by hand.

CLERK, ACCOUNTING

## Clerk, Accounting I

Under supervision, performs one or more routine accounting operations such as posting simple journal vouchers or accounts payable vouchers, entering vouchers in voucher registers; reconciling bank accounts; and posting subsidiary ledgers controlled by general ledgers, or posting simple cost accounting data. This job does not require a knowledge of accounting and bookkeeping principles, but is found in offices in which the more routine accounting work is subdivided on a functional basis among several workers.

## Clerk, Accounting II

Under general direction of a bookkeeper or accountant, has responsibility for keeping one or more sections of a complete set of books or records relating to one phase of an establishment's business transactions. Work involves posting and balancing subsidiary ledger or ledgers such as accounts receivable or accounts payable; examining and coding invoices or vouchers with proper accounting distribution; requires judgment and experience in making proper assignments and allocations. May assist in preparing, adjusting, and closing journal entries; may direct accounting clerks I.

CLERK, FILE

## Clerk, File I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e. g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; may fill out withdrawal charge. Performs simple clerical and manual tasks required to maintain and service files.

CLERK, FILE—Continued

## Clerk, File II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

## Clerk, File III

In an established filing system containing a number of varied subject matter files, classifies and indexes file material such as correspondence, reports, technical documents, etc. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

KEYPUNCH OPERATOR

## Keypunch Operator I

Under close supervision or following specific procedures or instructions, transcribes data from source documents to punched cards. Operates a numerical and/or alphabetical or combination keypunch machine to keypunch tabulating cards. May verify cards.

Working from various standardized source documents, follows specified sequences which have been coded or prescribed in detail and require little or no selecting, coding, or interpreting data to be punched. Problems arising from erroneous items or codes, missing information, etc., are referred to supervisor.

## Keypunch Operator II

Operates a numerical and/or alphabetical or combination keypunch machine to transcribe data from various source documents to keypunch tabulating cards.

Performs same tasks as lower level keypunch operator but in addition, work requires application of coding skills and the making of some determinations, for example, locates on the source document the items to be punched; extracts information from several documents; searches for and interprets information on the document to determine information to be punched. May train inexperienced operators.

OFFICE BOY OR GIRL

Performs various routine duties such as running errands; operating minor office machines, such as sealers or mailers; opening and distributing mail; and other minor clerical work.

STENOGRAPHER, GENERAL

Primary duty is to take dictation from one or more persons either in shorthand or by Stenotype or similar machine, involving a normal routine vocabulary; transcribe dictation. May also type from written copy. May maintain files, keep simple records or perform other relatively routine clerical tasks. May operate from a stenographic pool. Does not include transcribing-machine work.

STENOGRAPHER, SENIOR

Primary duty is to take dictation from one or more persons, either in shorthand or by Stenotype or similar machine, involving a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research, and transcribe dictation. May also type from written copy. May also set up and maintain files, keep records, etc.

OR

Performs stenographic duties requiring significantly greater independence and responsibility than stenographer, general as evidenced by the following: Work requires high degree of stenographic speed and accuracy; a thorough working knowledge of general

STENOGRAPHER, SENIOR—Continued

business and office procedure and of the specific business operations, organization, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining followup files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc. Does not include transcribing-machine work.

NOTE: This job is distinguished from that of a secretary in that the secretary normally works in a confidential relationship to only one manager or executive and performs more responsible and discretionary tasks as described in that job definition.

SWITCHBOARD OPERATOR

Operates a single- or multiple-position telephone switchboard. Duties involve handling incoming, outgoing, intraplant, or office calls. May handle routine long-distance calls and records toll calls. May perform limited information work, for example, furnishing telephone extension numbers when a specific name is furnished. May occasionally take telephone orders.

SWITCHBOARD OPERATOR, SPECIAL

In addition to the work described above for switchboard operator or as a full-time assignment, serves as a "special" operator who handles the more complex long-distance calls (e.g., conference, collect, overseas, or similar calls) or performs full telephone information service (e.g., where a knowledge of the work done in different parts of the organization is required).

TABULATING-MACHINE OPERATOR

## Tabulating-Machine Operator I

Operates simple tabulating or electrical accounting machines, such as the sorter, reproducing punch, collator, etc., with specific instructions. May include the performance of some simple wiring from diagrams and some filing work. The work typically involves portions of a work unit, for example, individual sorting or collating runs, or repetitive operations.

## Tabulating-Machine Operator II

Operates more difficult tabulating or electrical accounting machines, such as the tabulator and calculator, in addition to the sorter, reproducer, and collator. This work is performed under specific instructions and may include the performance of some wiring from diagrams. The work typically involves, for example, tabulations involving a repetitive accounting exercise, a complete but small tabulating study, or parts of a longer and more complex report. Such reports and studies are usually of a recurring nature where the procedures are well established. May also include the training of new employees in the basic operation of the machine.

## Tabulating-Machine Operator III

Operates a variety of tabulating or electrical accounting machines, typically including such machines as the tabulator, calculator, interpreter, collator, and others. Performs complete reporting assignments without close supervision, and performs difficult wiring as required. The complete reporting and tabulating assignments typically involve a variety of long and complex reports which often are of irregular or nonrecurring type requiring some planning and sequencing of steps to be taken. As a more experienced operator, is typically involved in training new operators in machine operations, or partially trained operators in wiring from diagrams and operating sequences of long and complex reports. Does not include working supervisors performing tabulating-machine operations and day-to-day supervision of the work and production of a group of tabulating-machine operators.

TYPIST

Uses a typewriter to make copies of various materials or to make out bills after calculations have been made by another person. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Typist II

Performs one or more of the following: Typing material in final form when it involves combining material from several sources or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

Typist I

Performs one or more of the following: Copy typing from rough or clear drafts; routine typing of forms, insurance policies, etc.; setting up simple standard tabulations, or copying more complex tables already set up and spaced properly.

**NOTE:** The definitions for the drafting and clerical occupations shown in this bulletin are the same as those used in the Bureau's program of labor market occupational wage surveys. (See the list of areas in the order form at the back of this bulletin.) The level designations used in this bulletin, however, differ from those used in the area bulletins. The equivalent level designations for the occupations concerned are as follows:

Occupation	National Survey of Professional, Administrative, Technical, and Clerical Pay	Labor Market Occupational Wage Surveys
Clerk, accounting	I	B
	II	A
Clerk, file	I	C
	II	B
	III	A
Keypunch operator	I	B
	II	A
Tabulating-machine operator	I	C
	II	B
	III	A
Typist	I	B
	II	A

## Appendix D: Comparison of Average Annual Salaries in Private Industry, Winter 1961-62, with Federal Classification Act Salary Rate Ranges

The survey was designed, among other uses, to provide a basis for comparing Federal salaries under the Classification Act with general pay levels in private industry. Definitions for the professional, managerial, and supervisory occupation work levels used in the survey were prepared by the Civil Service Commission staff, in collaboration with the Bureau of Labor Statistics, to assure compilation of pay data for work levels that would be equivalent to the Classification Act grades. All definitions used in the survey were graded by the Commission in accordance with the standards established for each grade under the Classification Act. For each of the occupation work levels surveyed by the Bureau of Labor Statistics, the equivalent Classification Act grade, as determined by the Commission, is identified in the following table.



Comparison of average annual salaries in private industry,<sup>1</sup> winter 1961-62, with corresponding Federal Classification Act salary rate ranges<sup>2</sup>

Occupation and class surveyed by BLS <sup>3</sup>	Average annual salaries in private industry <sup>4</sup>	Federal Classification Act salary rate ranges <sup>2</sup>		
		Grade <sup>5</sup>	Minimum	Maximum
<u>Accountants and Auditors</u>				
Accountants I .....	\$5,880	GS-5	\$4,565	\$6,005
Accountants II .....	6,456	GS-7	5,540	7,205
Accountants III .....	7,416	GS-9	6,675	8,700
Accountants IV .....	8,988	GS-11	8,045	10,165
Accountants V .....	10,872	GS-12	9,475	11,995
Auditors I .....	5,340	GS-5	4,565	6,005
Auditors II .....	6,600	GS-7	5,540	7,205
Auditors III .....	7,932	GS-9	6,675	8,700
Auditors IV .....	9,840	GS-11	8,045	10,165
Chief accountants I .....	9,972	GS-11	8,045	10,165
Chief accountants II .....	11,460	GS-12	9,475	11,995
Chief accountants III .....	13,152	GS-13	11,150	14,070
Chief accountants IV .....	15,192	GS-14	12,845	16,245
<u>Attorneys</u>				
Attorneys I .....	6,552	GS-7	5,540	7,205
Attorneys II .....	8,016	GS-9	6,675	8,700
Attorneys III .....	10,044	GS-11	8,045	10,165
Attorneys IV .....	11,844	GS-12	9,475	11,995
Attorneys V .....	14,916	GS-13	11,150	14,070
Attorneys VI .....	16,440	GS-14	12,845	16,245
Attorneys VII .....	22,392	GS-15	14,565	17,925
<u>Office Services</u>				
Managers, office services I .....	7,380	GS-9	6,675	8,700
Managers, office services II .....	8,856	GS-10	7,290	9,495
Managers, office services III .....	10,104	GS-11	8,045	10,165
Managers, office services IV .....	12,264	GS-12	9,475	11,995
<u>Personnel Management</u>				
Job analysts I .....	6,096	GS-5	4,565	6,005
Job analysts II .....	7,056	GS-7	5,540	7,205
Job analysts III .....	8,004	GS-9	6,675	8,700
Job analysts IV .....	9,636	GS-11	8,045	10,165
Directors of personnel I .....	8,844	GS-11	8,045	10,165
Directors of personnel II .....	10,428	GS-12	9,475	11,995
Directors of personnel III .....	12,900	GS-13	11,150	14,070
Directors of personnel IV .....	15,096	GS-14	12,845	16,245
<u>Chemists and Engineers</u>				
Chemists I .....	6,120	GS-5	4,565	6,005
Chemists II .....	6,912	GS-7	5,540	7,205
Chemists III .....	7,956	GS-9	6,675	8,700
Chemists IV .....	9,936	GS-11	8,045	10,165
Chemists V .....	11,976	GS-12	9,475	11,995
Chemists VI .....	13,464	GS-13	11,150	14,070
Chemists VII .....	16,524	GS-14	12,845	16,245
Chemists VIII .....	18,984	GS-15	14,565	17,925
Engineers I .....	6,708	GS-5	4,565	6,005
Engineers II .....	7,488	GS-7	5,540	7,205
Engineers III .....	8,652	GS-9	6,675	8,700
Engineers IV .....	10,248	GS-11	8,045	10,165
Engineers V .....	11,880	GS-12	9,475	11,995
Engineers VI .....	13,740	GS-13	11,150	14,070
Engineers VII .....	16,608	GS-14	12,845	16,245
Engineers VIII .....	19,572	GS-15	14,565	17,925
<u>Engineering Technicians</u>				
Engineering technicians I .....	4,704	GS-3	3,820	4,830
Engineering technicians II .....	5,460	GS-4	4,110	5,370
Engineering technicians III .....	6,252	GS-5	4,565	6,005
Engineering technicians IV .....	7,068	GS-7	5,540	7,205
Engineering technicians V .....	7,932	GS-9	6,675	8,700

See footnotes at end of table.

Comparison of average annual salaries in private industry,<sup>1</sup> winter 1961-62, with corresponding Federal Classification Act salary rate ranges<sup>2</sup>—Continued

Occupation and class surveyed by BLS <sup>3</sup>	Average annual salaries in private industry <sup>4</sup>	Federal Classification Act salary rate ranges <sup>2</sup>		
		Grade <sup>5</sup>	Minimum	Maximum
<u>Draftsmen</u>				
Draftsmen, junior -----	\$5,112	GS-4	\$4,110	\$5,370
Draftsmen, senior -----	6,621	GS-6	5,035	6,565
Tracers -----	3,995	GS-3	3,820	4,830
<u>Clerical</u>				
Bookkeeping-machine operators I -----	3,396	GS-2	3,560	4,505
Bookkeeping-machine operators II -----	4,260	GS-3	3,820	4,830
Clerks, accounting I -----	3,967	GS-3	3,820	4,830
Clerks, accounting II -----	5,241	GS-4	4,110	5,370
Clerks, file I -----	2,952	GS-1	3,245	4,190
Clerks, file II -----	3,317	GS-2	3,560	4,505
Clerks, file III -----	4,199	GS-3	3,820	4,830
Keypunch operators I -----	3,730	GS-2	3,560	4,505
Keypunch operators II -----	4,273	GS-3	3,820	4,830
Office boys or girls -----	3,201	GS-1	3,245	4,190
Stenographers, general -----	4,064	GS-3	3,820	4,830
Stenographers, senior -----	4,621	GS-4	4,110	5,370
Switchboard operators -----	4,063	GS-2	3,560	4,505
Switchboard operators, special -----	4,479	GS-3	3,820	4,830
Tabulating-machine operators I -----	3,829	GS-2	3,560	4,505
Tabulating-machine operators II -----	4,728	GS-3	3,820	4,830
Tabulating-machine operators III -----	5,640	GS-4	4,110	5,370
Typists I -----	3,403	GS-2	3,560	4,505
Typists II -----	4,007	GS-3	3,820	4,830

<sup>1</sup> For scope of survey, see table in appendix A.

<sup>2</sup> As revised under Classification Act Amendments of 1962, effective the first day of the first pay period beginning on or after October 11, 1962.

<sup>3</sup> For definitions, see appendix C.

<sup>4</sup> Survey findings as presented in table 1 of this report.

<sup>5</sup> Equivalent grades in the general schedule were supplied by the U.S. Civil Service Commission. Including minimum and maximum rates, the following number of salary rates are specified: Grades 1 through 10—10 rates; grades 11 through 14—9 rates; and grade 15—8 rates. Information on the specific rates within the rate range for each grade as well as provisions for within-grade increases, and on pay scales in special situations, such as shortage occupations (including engineers and scientists), may be obtained from the Commission.

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