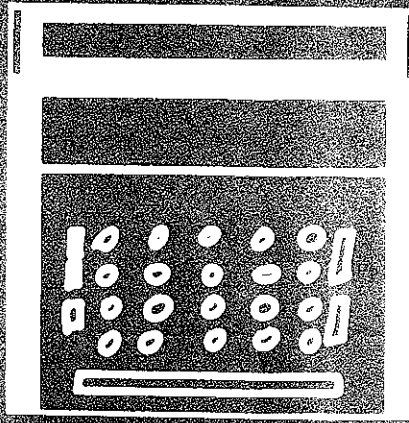
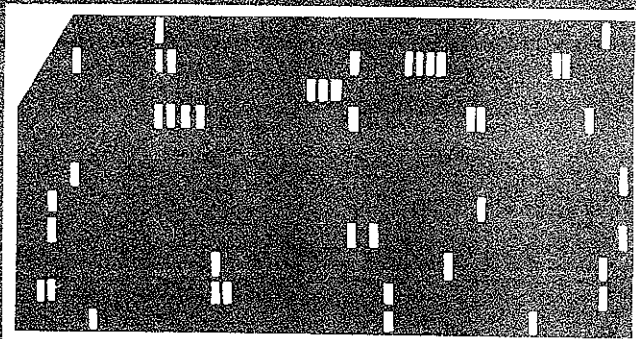
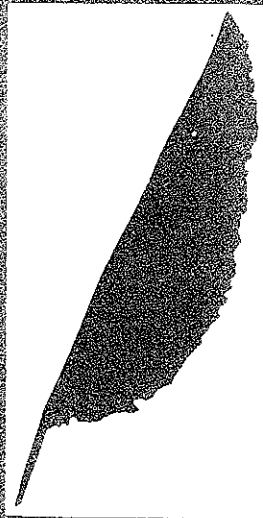
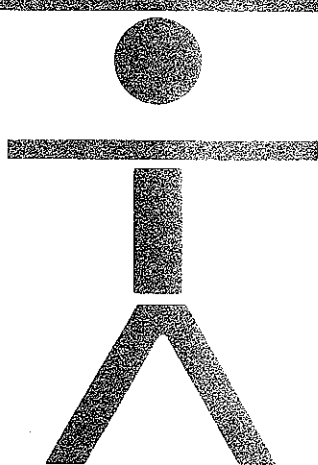
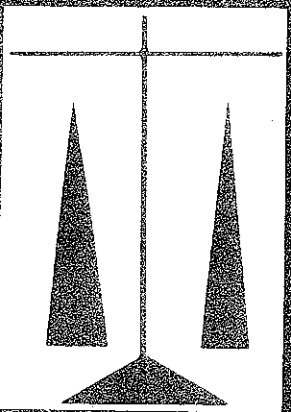
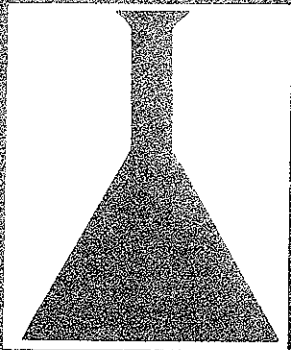


**National Survey
of Professional, Administrative,
Technical, and Clerical Pay,
March 1973**

U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
Bulletin 1804
1973



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U.S. DEPARTMENT OF LABOR
Peter J. Brennan, Secretary

BUREAU OF LABOR STATISTICS
Julius Shiskin, Commissioner

1973



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Preface

This bulletin summarizes the results of the Bureau's annual salary survey of selected professional, administrative, technical, and clerical occupations in private industry. The nationwide salary information, relating to March 1973, is representative of establishments in a broad spectrum of industries throughout the United States, except Alaska and Hawaii.

The survey was designed by the Bureau of Labor Statistics in cooperation with the U.S. Office of Management and Budget and the U.S. Civil Service Commission. It provides a fund of broadly based information on pay in private industry in a form suitable for use in appraising the compensation of salaried employees in the Federal civil service (appendix D). In addition, survey results are useful as a guide for salary administration and in general economic analysis. It should be emphasized that this survey, like any other salary survey, does not provide mechanical answers to pay policy questions.

The occupations studied span a wide range of duties and responsibilities. The occupations selected were those 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 used in the collection of the salary data (appendix C) reflect duties and responsibilities in private industry; however, they are also designed to be translatable to specific General Schedule grades applying to Federal employees. Thus the definitions of some occupations and work levels were limited to specific elements that could be classified uniformly among establishments. The Bureau of Labor Statistics and the Civil Service Commission collaborated in the preparation of the definitions.

The scope of the survey, in terms of industrial, geographic, and minimum establishment-size coverage, remained the same as in March 1972.

The survey could not have been conducted without the cooperation of the many firms whose salary data provide the basis for the statistical information 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 appreciation for the cooperation it has received.

This study was conducted in the Bureau's Office of Wages and Industrial Relations by the Division of Occupational Wage Structures. The analysis in this bulletin was prepared by William M. Smith, assisted by Andrea M. Christensen. Field work for the survey was directed by the Bureau's Assistant Regional Directors, Division of Operations.

Although only nationwide salary data are presented in this bulletin, clerical and drafting occupation salary data are available for each of the 94 metropolitan areas in which the Bureau conducts area wage surveys. These area reports also include information on such supplementary benefits as paid vacations, holidays, and health, insurance, and pension plans relating to nonsupervisory officeworkers. (See the areas listed on the order form at the back of this bulletin.)

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Professional, Administrative, Technical, and Clerical Pay

Summary

Average salaries of workers in the occupations covered by this survey rose 5.4 percent from March 1972 to March 1973, the smallest percent increase recorded in 5 years.¹ Increases for 9 of 11 professional, administrative, and technical support occupations ranged from 4.7 to 6.3 percent; the average increase was 5.4 percent. The average of the increases for clerical occupations also was 5.4 percent; 6 of the 8 advanced between 4.6 and 5.9 percent.

Average monthly salaries for the 77 occupational levels varied from \$404 for clerks engaged in routine filing to \$3,087 for the highest level in the attorney series. For most of the occupations, salary levels in metropolitan areas and in large establishments were higher than the average for all establishments within the full scope of the survey. Salary levels in finance and retail trade industries generally were lower than in other major industry divisions represented in the survey. Reported average standard weekly hours were also generally lower in the finance industries.

Characteristics of the survey

This survey, the 14th in an annual series, provides nationwide salary averages and distributions for 77 work level categories covering 19 occupations. It relates to establishments in all areas of the United States, except Alaska and Hawaii, 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 research, development, and testing laboratories operated on a commercial basis.² The minimum sizes of establishments surveyed are: 250 employees in manufacturing and retail trade; and 100 employees in all other industry divisions.³

Definitions for the occupations included in this study provide for classification of employees according to appropriate work levels. Within each occupation, the work levels surveyed—designated by Roman numerals, with level I as the lowest—are defined in terms of

duties and responsibilities. Specific job factors determining classification, however, vary from occupation to occupation.

The number of work level definitions for each occupation ranges from one for messengers to eight each for chemists and engineers. More than one level of work is defined for survey in most of the occupations; some are purposely defined, however, to cover specific bands of work levels, which are not intended to represent all levels or all workers that may be found in those occupations.

The survey is designed to permit separate presentation of data for metropolitan areas. Coverage in metropolitan areas includes the 261 Standard Metropolitan Statistical Areas in the United States, except Alaska and Hawaii, as revised through November 1971 by the U.S. Office of Management and Budget. Establishments in metropolitan areas accounted for over four-fifths of the total employment and nine-tenths of the professional, administrative, clerical, and related employees within the scope of the survey. Ninety percent of the employees in the occupations chosen for study were employed in metropolitan areas.

The selected occupations accounted for more than 1,550,000 employees, or one-fifth of the estimated employment in professional, administrative, clerical, and related occupations in establishments within the scope of the survey. Employment in the selected occupations varied widely, reflecting actual differences in employment in the various occupations, and also differences arising from variations in the range of duties

¹ Results of the March 1972 survey were presented in *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1972*, Bulletin 1764 (Bureau of Labor Statistics, 1973).

² For a full description of the scope of the 1973 survey, see appendix A.

³ In 1972, the minimum size for establishments in the finance, insurance, and real estate industry was raised from 50 to 100 employees.

and responsibilities covered by the occupational definitions. Among the professional and administrative occupations, the eight levels of engineers accounted for a total of 384,829 employees, whereas there were fewer than 5,000 employees in each of four of the occupational categories as defined for the study (chief accountants, job analysts, directors of personnel, and keypunch supervisors). (See table 1.) Accounting clerks and secretaries accounted for over one-half of the 816,971 employees in the clerical occupations studied. The selected drafting occupations had aggregate employment of 83,397 and the five engineering technician levels together accounted for 88,965 employees.

Although women accounted for approximately one-half of the total employment in the occupations studied, they were employed largely in clerical positions. The clerical occupations in which the proportion of women amounted to more than 90 percent at each level were file clerks, keypunch operators, secretaries, stenographers, and typists. A percentage distribution of women employees by occupation and level is shown in appendix A.

Changes in salary levels

Text table 1 presents percent increases in average salaries that occurred between annual surveys since 1961 for each survey occupation.⁴ Also shown are average percent changes for the two broad occupational groups covered by the survey (the professional, administrative, and technical support group; and the clerical and clerical supervisory group) and the average percent change for the two groups combined. The cumulative 1961-73 percent increases for selected occupations are shown in chart 1.

The 1972-73 increase in average salaries for all survey occupations shown in text table 1 is, at 5.4 percent, lower than the 1971-72 increase of 5.8 percent. The lower increase this year is mainly attributable to smaller salary increases for clerical occupations in the 1972-73 period than in the previous survey year.

To examine the changes in salaries that have occurred since 1961 for different levels of work, all of the occupational classifications were grouped into the three broad categories described in text table 2.

Average salaries increased more for the higher occupational levels (group C) than for the two lower groups from 1961 through 1966, with the exception of the 1962-63 period. Between 1966 and 1969, however, the middle occupational levels (group B) showed larger annual increases than did the lower or higher levels. Between 1969 and 1971, the increases for all three groups were nearly identical. Increases for the middle levels were smaller than for the others between 1971 and 1973.

Another method of examining salary trends is to combine the data into the four occupational groups shown in chart 2. Increases in the 1972 to 1973 period amounted to 5.6 percent for the experienced professional and administrative group; 5.3 percent for the technical support group; 5.1 percent for clerical workers; and 2.8 percent for the entry and developmental professional and administrative group.⁵ These increases were above their respective 12-year averages for all but the entry and developmental professional and administrative group. The annual rate of increase for that group was, at 2.8 percent, considerably less than half its peak rate of increase of 7.2 percent recorded in 1968-69.

Increases in salaries of both clerical and technical support groups averaged 4.4 percent over the 12-year period—less than the increases (4.8 and 4.6 percent) for the experienced and entry professional and administrative groups.⁶

Average salaries, March 1973

Average monthly salaries for the occupations included in this report (table 1) ranged from \$404 for file clerks I to \$3,087 for the top level of attorney surveyed. These extremes reflect the wide range of duties and responsibilities represented by the occupational work levels surveyed. Average salaries for the occupational levels, and a brief indication of the duties and responsibilities they represent, are summarized in the following paragraphs.⁷

⁴ Beginning in 1965, data are for establishments in metropolitan areas and nonmetropolitan counties; before 1965, data are for metropolitan areas only. Establishments employing fewer than 250 workers were excluded before 1966.

⁵ Work levels used for computing 1972-73 increases were:
Clerical—All clerical levels.

Technical support—All levels of draftsmen and engineering technicians.

Entry and developmental professional and administrative—Accountants I and II; auditors I and II; attorneys I; job analysts I and II; chemists I and II; and engineers I and II.

Experienced professional and administrative—Accountants III, IV, V; auditors III and IV; chief accountants I, II, III, and IV; attorneys II, III, IV, V, and VI; job analysts III and IV; directors of personnel I, II, III, and IV; chemists III, IV, V, VI, VII, and VIII; and engineers III, IV, V, VI, VII, and VIII.

A few survey levels, not readily identifiable with any of the four occupational categories, were not used.

⁶ Survey data for 1966-67 and 1971-72 did not represent a 12-month period due to changes in survey timing. Increases for these years have been prorated to represent a 12-month period.

⁷ Classification of employees in the occupations and work levels surveyed is based on factors detailed in the definitions in appendix C.

Text table 1. Percent increases in average salaries, 1961-73, by occupation and group

Occupation and group	1961 to 1962	1962 to 1963	1963 to 1964	1964 to 1965	1965 to 1966	1966 to 1967 ¹	1967 to 1968	1968 to 1969	1969 to 1970	1970 to 1971	1971 to 1972 ¹	1972 to 1973	Average annual rate of increase, 1961 to 1973
All survey occupations ²	2.9	3.0	3.1	3.1	3.3	4.5	5.4	5.7	6.2	6.6	5.8	5.4	4.6
Professional, administrative, and technical support ²	3.0	3.3	3.4	3.7	3.6	4.2	5.5	5.8	6.2	6.7	5.5	5.4	4.7
Accountants	2.8	3.3	2.8	3.5	3.8	4.6	5.7	7.0	6.7	6.7	5.6	4.9	4.8
Auditors	2.9	3.6	3.1	3.9	3.8	4.8	5.5	7.2	7.0	7.0	5.5	5.2	4.9
Chief accountants	2.6	2.8	4.8	3.9	3.3	5.1	5.5	5.8	7.1	9.1	3.9	5.8	5.0
Attorneys	3.2	4.6	3.3	4.2	4.0	3.2	5.3	(³)	7.1	5.0	6.1	6.3	(⁴)
Buyers	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	4.2	4.9	6.6	6.1	7.0	6.3	5.0	(⁵)
Job analysts	1.4	2.6	3.5	4.3	5.4	3.4	7.0	2.1	4.1	7.7	6.8	5.2	4.4
Directors of personnel	3.7	3.0	4.6	3.5	3.6	3.8	5.4	5.4	7.4	8.0	3.9	7.5	5.0
Chemists	3.9	3.8	3.3	3.9	4.8	4.4	5.1	6.5	5.9	5.5	5.1	3.7	4.7
Engineers	2.6	4.4	2.9	3.2	3.7	4.3	5.4	6.2	5.5	5.7	5.2	5.1	4.5
Engineering technicians	(⁵)	2.9	3.6	2.3	2.8	3.7	5.1	5.8	6.3	6.5	5.1	4.7	⁶ 4.4
Drafting	3.2	3.6	2.6	(³)	1.5	3.5	5.3	5.8	4.9	5.6	7.2	6.2	(⁴)
Clerical and clerical supervisory ²	2.8	2.6	2.7	2.4	3.0	4.8	5.3	5.5	6.2	6.5	6.1	5.4	4.5
Accounting clerks	3.0	2.5	2.8	2.2	3.0	3.3	4.7	4.7	6.2	6.0	6.0	4.6	4.1
File clerks	(⁵)	2.6	3.1	2.2	2.9	5.1	6.8	5.5	5.5	6.1	5.5	5.9	⁶ 4.6
Keypunch operators	(⁵)	2.5	2.7	2.3	3.7	5.2	4.9	5.3	6.4	7.0	6.8	5.4	⁶ 4.7
Keypunch supervisors	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	6.1	6.1	8.2	(⁵)
Messengers	2.6	2.8	2.3	3.0	2.8	5.4	6.2	6.7	6.3	6.7	6.3	5.1	4.7
Secretaries	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	4.6	5.3	6.4	6.6	6.1	5.1	(⁵)
Stenographers	(³)	2.5	2.4	2.3	2.9	4.6	4.9	5.9	5.8	7.5	6.4	5.2	⁶ 4.6
Typists	2.5	2.6	2.6	2.5	2.6	5.4	5.8	5.7	6.0	6.1	5.7	4.0	4.3

¹ Survey data did not represent a 12-month period due to a change in survey timing. Data have been prorated to represent a 12-month interval.

² Data for 1 administrative occupation (managers of office services, last surveyed in 1968), and 3 clerical occupations (bookkeeping machine operators, last surveyed in 1964, and switchboard operators and tabulating-machine operators, last surveyed in 1970), not shown above, are included in the averages

for the periods during which they were surveyed.

³ Comparable data not available for both years.

⁴ Comparison over this period was not possible because of changes in the definition of the occupation.

⁵ Not surveyed.

⁶ Average annual rate of increase 1962 to 1973.

NOTE: For method of computation, see appendix A.

Among the five levels of accountants surveyed, average monthly salaries ranged from \$785 for accountants I to \$1,533 for accountants V. Auditors in the four levels defined for survey had average salaries ranging from \$859 a month for auditors I to \$1,389 for auditors IV. Level I in both the accounting and auditing series included trainees who had bachelor's degrees in accounting or the equivalent in education and experience combined. At each corresponding level, average salaries were higher for auditors than for accountants. For level III, the most heavily populated group in both series, monthly salaries averaged \$1,039 for accountants and \$1,131 for auditors. Whereas two-thirds of the accountants were employed in manufacturing, this industry division employed 40 percent of the auditors. Other industry divisions which accounted for large numbers of auditors were finance,

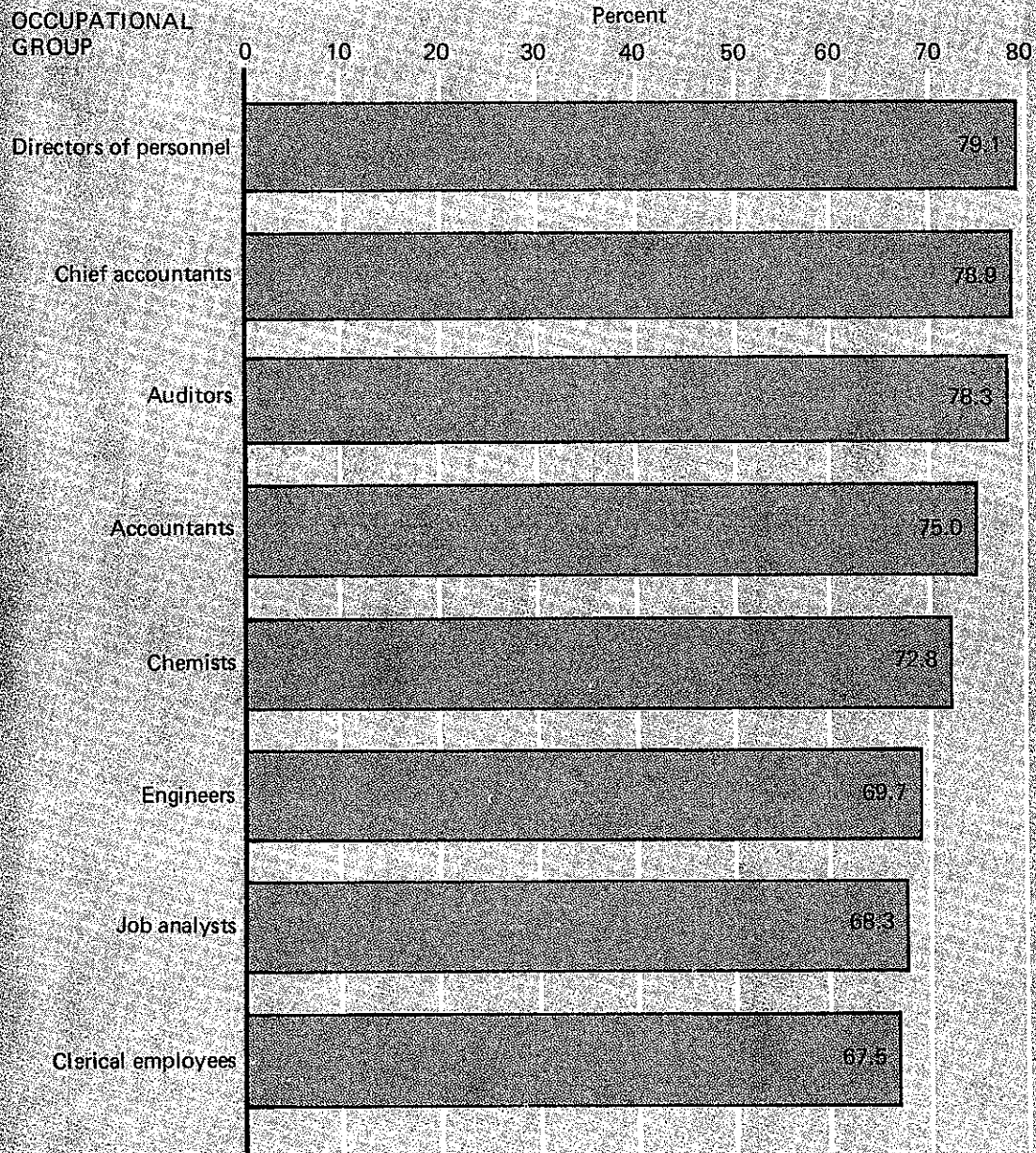
insurance, and real estate (32 percent); and public utilities (15 percent).⁸

Chief accountants were surveyed separately from accountants and include those who develop or adapt and direct the accounting program for a company or an establishment (plant) of a company. Classification by level is determined by the extent of delegated authority and responsibility, the technical complexity of the accounting system, and, to a lesser degree, the size of the professional staff directed. Chief accountants at level I, who have authority to adapt the accounting system established at higher levels to meet the needs of an establishment of a company with relatively few and

⁸ Establishments primarily engaged in providing accounting and auditing services are excluded from the survey.

Chart 1

Cumulative Rise in Average (Mean) Salaries for Selected Occupational Groups, 1961 to 1973



stable functions and work processes (directing one or two accountants), averaged \$1,352 a month. Chief accountants IV,⁹ who have authority to establish and maintain the accounting program, subject to general policy guidelines, for a company with numerous and varied functions and work processes (directing as many as 40 accountants), averaged \$2,228 a month. Over three-fifths of the chief accountants who met the requirements of the definitions for these four levels were employed in manufacturing industries.

Attorneys are classified into survey levels based upon the difficulty of their assignments and their responsibilities. Attorneys I, which includes new law graduates with bar membership and those performing work that is relatively uncomplicated due to clearly applicable precedents and well-established facts, averaged \$1,123 a month. Attorneys in the top level surveyed, level VI, earned an average of \$3,087 a month. These attorneys deal with legal matters of critical importance to their organizations, and are usually subordinate only to the general counsel or his immediate deputy in very large firms. Finance, insurance, and real estate industries employed about four-tenths of the attorneys; manufacturing industries employed about three-tenths; and public utilities, about one-fifth.¹⁰

Buyers average \$800 a month at level I, which includes those who purchase "off-the-shelf" and readily available items and services from local sources. Buyers IV, who purchase large amounts of highly complex and technical items, materials, or services, were paid monthly salaries averaging \$1,369. Manufacturing industries accounted for 86 percent of the buyers in the four levels.

In the personnel management field, four work levels of job analysts and five levels of directors of personnel were studied.¹¹ Job analysts I, defined to include trainees under immediate supervision, averaged \$780, compared with \$1,351 for job analysts IV, who analyze and evaluate a variety of the more difficult jobs under general supervision, and who may participate in the

development and installation of evaluation or compensation systems. Directors of personnel are limited by definition to those who have programs that include, at a minimum, responsibility for administering a job evaluation system, employment and placement functions, and employee relations and services functions. Those with significant responsibility for actual contract negotiation with labor unions as the principal company representative are excluded. Provisions are made in the definition for weighing various combinations of duties and responsibilities to determine the level. Among personnel directors with job functions as specified for the four levels of responsibility, average monthly salaries ranged from \$1,229 for level I to \$2,218 for level IV. Manufacturing industries accounted for 68 percent of the job analysts and 67 percent of the directors of personnel included in the study; the finance, insurance, and real estate industries ranked next, with 19 percent of the job analysts and 12 percent of the directors of personnel.

Chemists and engineers each are surveyed in eight levels. Both series start with a professional trainee level, typically requiring a B.S. degree. The highest level surveyed involves 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 is a recognized authority and where solutions would represent a major scientific or technological advance.¹² Average monthly

⁹ Although chief accountants V and directors of personnel V were surveyed, as defined in appendix C, too few employees in each occupational level met requirements for the level to warrant presentation of salary figures.

¹⁰ Establishments primarily engaged in offering legal advice or legal services are excluded from the survey.

¹¹ See footnote 9.

¹² It is recognized in the definition that top positions of some companies with unusually extensive and complex engineering or chemical programs are above that level.

Text table 2. Percent increases in average salaries, 1961-1973, by work level category

Work level category	1961 to 1962	1962 to 1963	1963 to 1964	1964 to 1965	1965 to 1966	1966 to 1967 ¹	1967 to 1968	1968 to 1969	1969 to 1970	1970 to 1971	1971 to 1972 ¹	1972 to 1973	1961 to 1973
Group A (GS grades 1-4 in appendix D)	2.8	2.7	2.7	2.2	2.9	4.5	5.1	5.5	6.2	6.2	6.3	5.5	67.2
Group B (GS grades 5-10 in appendix D)	2.6	4.0	2.6	3.3	3.7	4.8	5.8	6.5	6.3	6.3	5.2	4.4	71.8
Group C (GS grades 11-15 in appendix D)	3.5	3.7	3.5	4.2	4.2	4.1	4.7	5.9	6.4	6.2	5.6	5.7	75.7

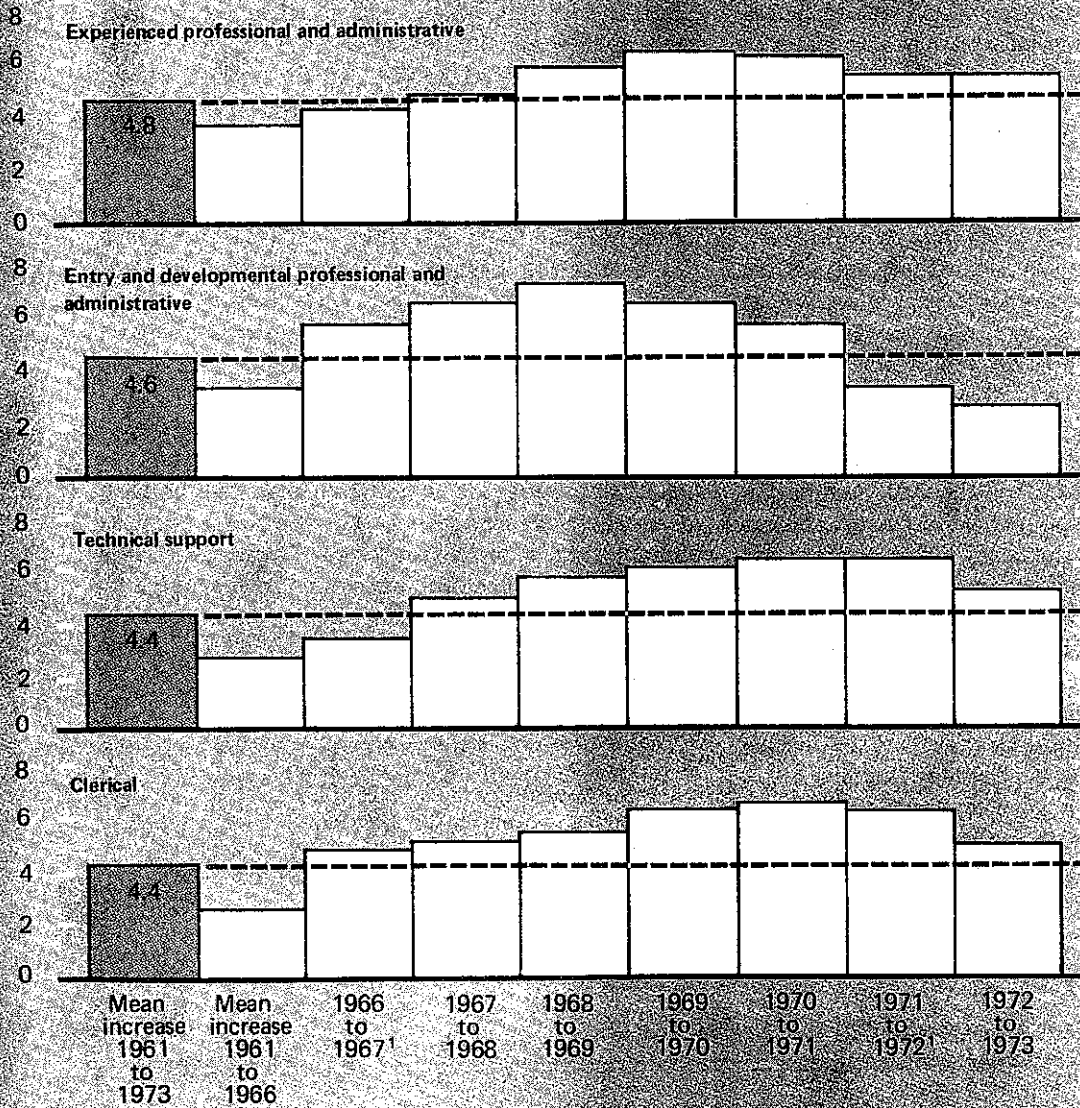
¹ Actual survey-to-survey increases have been prorated to a 12-month period.

NOTE: For method of computation, see appendix A.

Chart 2

**Increases in Average Salaries for Selected Occupational Groups
1961 to 1973**

Percent increase



¹Data were adjusted to a 12-month period.

salaries ranged from \$934 for engineers I to \$2,458 for engineers VIII, and from \$836 for chemists I to \$2,675 for chemists VIII. Although at level I the average salaries of engineers exceeded those of chemists by 12 percent, the salary advantage of engineers over chemists decreased steadily with each level, until at level VI the average salaries for both occupations were nearly equal, and at level VIII the average salaries for chemists exceeded those for engineers by 9 percent.

Level IV, the largest group in each series, includes professional employees who are fully competent in all technical aspects of their assignments, work with considerable independence, and, in some cases, supervise a few professional and technical workers. Manufacturing industries accounted for three-fourths of all engineers and over nine-tenths of all chemists; the surveyed engineering and scientific services, 12 and 5 percent; and public utilities 12 and 1 percent, respectively.

By definition, the five-level series for **engineering technicians** is limited to employees providing semi-professional technical support to engineers engaged in such areas as research, design, development, testing, or manufacturing process improvement, and whose work pertains to electrical, electronic, or mechanical components or equipment. Technicians engaged primarily in production or maintenance work are excluded. Engineering technicians I, who perform simple, routine tasks under close supervision, or from detailed procedures, were paid monthly salaries averaging \$625. Engineering technicians V, the highest level surveyed, averaged \$1,067 a month. That level includes 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 larger and 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 \$834 and \$938, respectively. As might be expected, most of the technicians as defined were employed in manufacturing (77 percent) and in the scientific services industries studied (14 percent), with public utilities employing nearly all the rest (9 percent). Although the ratio of such technicians to engineers studied was about 1 to 4 in all manufacturing industries, ratios of approximately 1 to 6 were found in public utilities and 1 to 2 in research, development, and testing laboratories.

In the **drafting field**, the definitions used in the survey cover four levels of work—draftsmen-tracers, and draftsmen I, II, and III. Monthly salaries averaged \$557 for draftsmen-tracers and ranged from \$666 to \$1,014 among the three levels of draftsmen. Draftsmen-

tracers copy plans and drawings prepared by others or prepare simple or repetitive drawings of easily visualized items. The three draftsman levels as defined range from employees preparing detail drawings of single units or parts (level I) to those who, working in close support with the design originator, plan the graphic presentation of complex items having distinctive design features, and either prepare or direct the preparation of the drawings (level III). The drafting employees were distributed by industry in about the same proportion as engineers, with 72 percent in manufacturing, 11 percent in public utilities, and 15 percent in the selected engineering and scientific services industries studied.

Keypunch supervisors are classified on the basis of combinations of three elements—level of supervisory responsibility, difficulty of keypunch work supervised, and number of employees supervised. Keypunch supervisors I, who are responsible for the day-to-day supervision of fewer than 20 operators performing routine keypunching operations, averaged \$690 a month. At level V, the highest level defined for survey, keypunch supervisors average \$1,114. Individuals classified at this level supervise more complex keypunching operations, 50 or more operators, and perform at a higher level of supervisory authority.

Among the 16 clerical jobs included in this study, average monthly salaries for secretaries, the most heavily populated clerical occupation studied, ranged from \$612 at level I to \$799 at level IV. Average salaries of \$543 and \$619 were reported for general and senior stenographers; \$516 and \$651 for accounting clerks I and II; and the two levels of typists averaged \$453 and \$528. Generally, average salaries for clerical workers were highest in public utilities and manufacturing industries and lowest in the finance, insurance, and real estate, and retail trade divisions. Employment in manufacturing exceeded that in any of the nonmanufacturing divisions within the scope of the survey in 11 of the 16 clerical work levels; highest employment totals in the other five levels were in the finance, insurance, and real estate division. Women accounted for 95 percent or more of the employees in 12 of the clerical work levels, while men accounted for one-half or more in only one (messenger).

Median monthly salaries (the amount below and above which 50 percent of the employees are found) for most of the work levels were slightly lower than the weighted averages (means) cited above (i.e., the salaries in the upper halves of the arrays had a greater effect on the averages than did the salaries in the lower halves). The relative difference between the median and the mean was less than 3 percent for 58 of the 77 work levels and between 3 and 5 percent in the 19 other levels.

Salary levels in metropolitan areas

In most of the occupational work levels, average salaries for employees in metropolitan areas (table 2) were slightly higher than average salaries for employees in all establishments within the full scope of the survey (table 1). Only in 7 of the 77 work levels studied were average salaries more than 1.5 percent higher in metropolitan areas than in all areas combined. Employment in the survey occupations in metropolitan areas accounted for about seven-eighths of the total nationwide employment reported in these occupations. The proportions varied, however, among occupations and work levels. Nearly all of the attorneys, for example, but only four-fifths of all buyers and directors of personnel, were employed in metropolitan areas. In 67 of the 77 work levels studied, 85 percent or more of the employment was in metropolitan areas. It is apparent, therefore, that, for most work levels, salaries in nonmetropolitan counties could have little effect upon the averages for all establishments combined.

Salary levels in large establishments

It was possible to present separate data for 70 occupational work levels for establishments with 2,500 employees or more (table 3). Comparisons between employment and relative salary levels in these establishments and the full survey are also presented. Establishments employing 2,500 or more accounted for one-third of the professional, administrative, supervisory, and clerical employment within the scope of the survey, and almost three-eighths of the employment in the selected occupations studied. Large establishments accounted for varying proportions of employment in the 70 occupational work levels shown in table 3, ranging from 11 to 74 percent (keypunch supervisors I and job analysts IV, respectively). The range was from 11 to 38 percent for clerical and clerical supervisory jobs, and from 15 to 74 percent for nonclerical jobs.

The salary levels in large establishments, expressed as a percent of levels in all establishments combined, ranged from 99 to 123. Salary averages in large establishments exceeded the all-establishment averages by 5 percent or more in all but one clerical and clerical supervisory occupational level, but in only 25 of 50 nonclerical levels, as shown by the following tabulation (all-establishment average for each occupational level=100 percent):

	<i>Professional, administrative, and technical</i>	<i>Clerical, clerical supervisory</i>
Total number of levels	50	20
Under 100 percent	1	—
100–104 percent	24	1
105–109 percent	19	8
110 percent and over	6	11

Relative salary levels in large establishments tended to be highest for work levels in which large establishments accounted for small proportions of the total employment.

Salary distributions

Percent distributions of employees by monthly salary are presented for the professional and administrative occupations in table 4, and for engineering technicians and keypunch supervisors in table 5; distributions by weekly salary are shown for employees in drafting and clerical occupations in table 6. Within almost all of the 77 occupational work levels, salary rates for the highest paid employees were more than twice those of the lowest paid employees. The absolute spread between highest and lowest paid workers within a given work level tended to widen with each rise in work level for most occupations. All occupations showed a substantial degree of overlapping of individual salaries between work levels. Ranges in salary rates of employees in established pay grades or work levels within salary structures of individual firms also often overlapped substantially.

The middle 50 and 80 percent of the salary range, and the median salary for each occupation work level, have been charted (charts 3 and 4) to point up occupational pay relationships as well as the typically greater degree of salary dispersion associated with the higher work levels in each occupational series.

Expressing the salary range of the middle 50 percent of employees in each work level as a percent of the median salary permits comparison of salary ranges and eliminates extremely low and high salaries from each comparison. As shown in text table 3, the degree of dispersion was between 15 and 30 percent of the median salary in 65 of the 77 work levels. The degree of dispersion tended to be greater in the clerical and keypunch supervisory occupations than in the other occupations studied.

Differences in the range of salaries paid individuals within work levels surveyed reflect a variety of factors other than differences in the range of duties and responsibilities encompassed by the various work level definitions. Two of these factors are: salary structures within establishments which provide for a range of rates for each grade level; and regional variations, particularly in the clerical levels (clerical employees are usually

Text table 3. Distribution of work levels by degree of salary dispersion

Occupation	Number of work levels	Number of levels having degree of dispersion ¹ of -				
		Under 15 percent	15 and under 20 percent	20 and under 25 percent	25 and under 30 percent	30 percent and over
All occupations	77	2	18	34	19	4
Accountants	5	—	2	3	—	—
Auditors	4	—	2	2	—	—
Chief accountants	4	—	1	2	—	1
Attorneys	6	—	—	2	4	—
Buyers	4	—	—	4	—	—
Job analysts	4	1	—	3	—	—
Directors of personnel	4	—	1	—	3	—
Chemists	8	—	2	6	—	—
Engineers	8	1	6	1	—	—
Engineering technicians	5	—	3	2	—	—
Drafting	4	—	—	4	—	—
Keypunch supervisors	5	—	1	1	1	2
Clerical	16	—	—	4	11	1

¹ Degree of dispersion equals the salary range of the middle 50 percent of employees in a work level expressed as a percent of the median salary for that level.

recruited locally, while the job field tends to be broader regionally, often national in scope, for the professional and administrative occupations).¹³ A third factor is industry variation. Table 7 and chart 5 show how employment in surveyed occupations varies by industry.

Pay differences by industry

The survey is planned to permit publication of national salary estimates by level of work. By combining the data for all levels of work studied in each occupation, it is possible to present comparisons between relative salary levels in major industry divisions and all industries combined (table 8).

The relative salary levels for most of the professional, administrative, clerical supervisory, and technical support occupations tended to be closest to the averages for all industry divisions in manufacturing, which had 64 to 93 percent of the employees in 9 of the 12 occupations. Relative salary levels in the public utilities industry division were generally the highest.

For most of the occupations studied, relative salary levels were lower in retail trade and in finance, insurance, and real estate than in other industry divisions. In those occupations in which retail trade and the finance industries contributed a substantial proportion of the total employment, the average salary in the occupation for all industries combined was lowered, and the relative levels in industries such as manufacturing and public utilities tended to be well above 100 percent of the all-industry level. For example, relative pay levels for file clerks

(107 percent of the all-industry level in manufacturing and 130 percent in public utilities) reflected the influence of lower salaries for the high proportion (59 percent) of all-industry employment included in the finance industries. The finance industries, however, also reported lower average standard weekly hours than the other industries surveyed, as shown in table 9.

Average standard weekly hours

The length of the standard workweek, on which the regular straight-time salary is based, is obtained for individual employees in the occupations studied. When individual weekly hours are not available, particularly for some higher level professional and administrative positions, the predominant workweek of the office work force is used as the standard workweek. The distribution of average weekly hours (rounded to the nearest half-hour) is presented in table 9 for all work levels of each occupation combined in major industry divisions surveyed. Average weekly hours were lower in finance, insurance, and real estate (38 hours for a majority of the occupations) than in the other industry divisions (39 or 39.5 hours).¹⁴

¹³ For an analysis of interarea pay differentials in clerical salaries, see *Area Wage Surveys: Metropolitan Areas, United States and Regional Summaries, 1970-71*, Bulletin 1685-92 (Bureau of Labor Statistics, 1973).

¹⁴ For information on scheduled weekly hours of office-workers employed in metropolitan areas, see *Area Wage Surveys: Selected Metropolitan Areas, 1971-72*, Bulletin 1725-95 (Bureau of Labor Statistics, 1973).

Chart 3

Salaries in Professional and Technical Occupations, March 1973

Median Monthly Salaries and Ranges Within Which Fell 50 Percent and 80 Percent of Employees

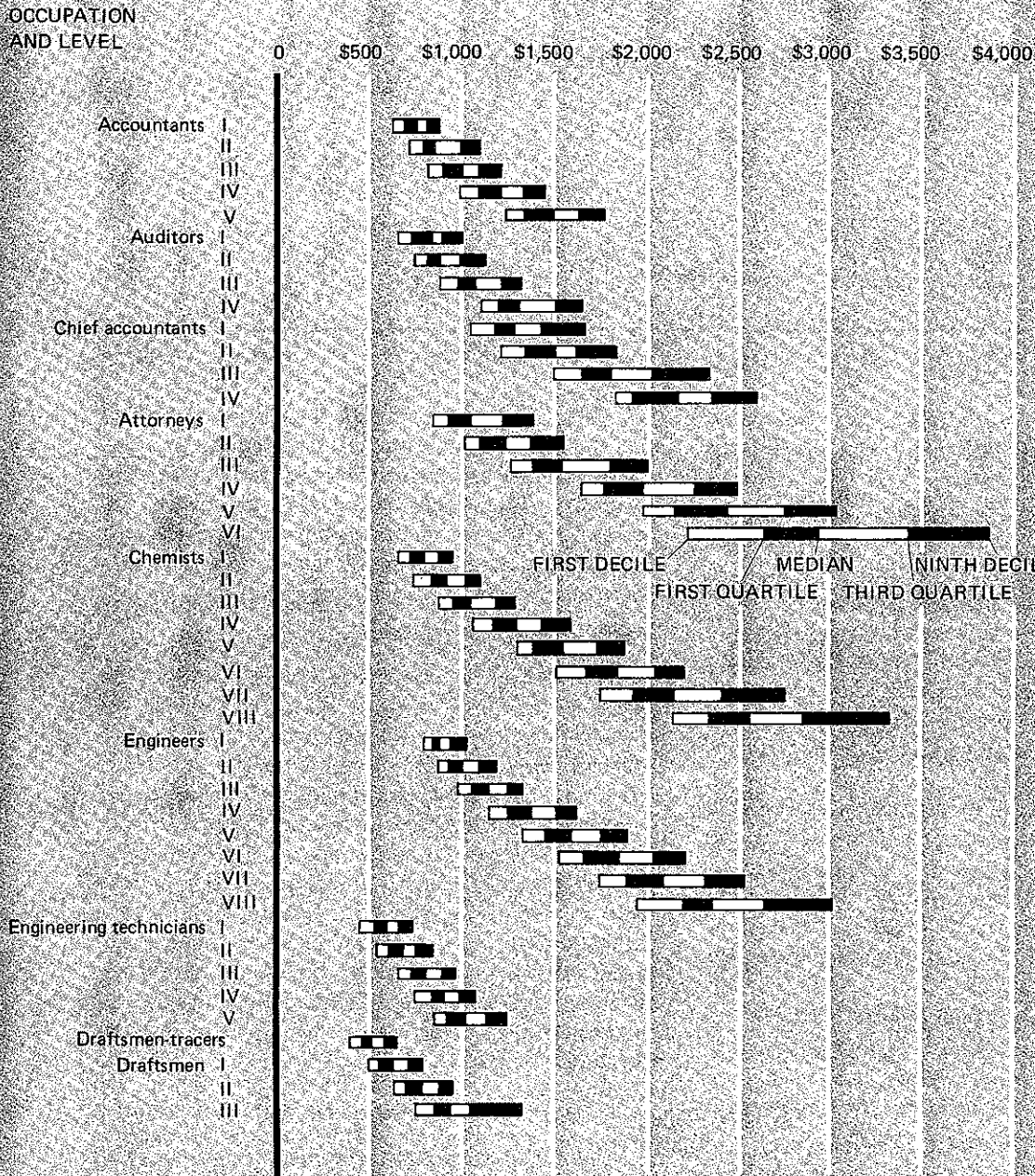


Chart 4

Salaries in Administrative and Clerical Occupations, March 1973

Median Monthly Salaries and Ranges Within Which Fell 50 Percent and 80 Percent of Employees

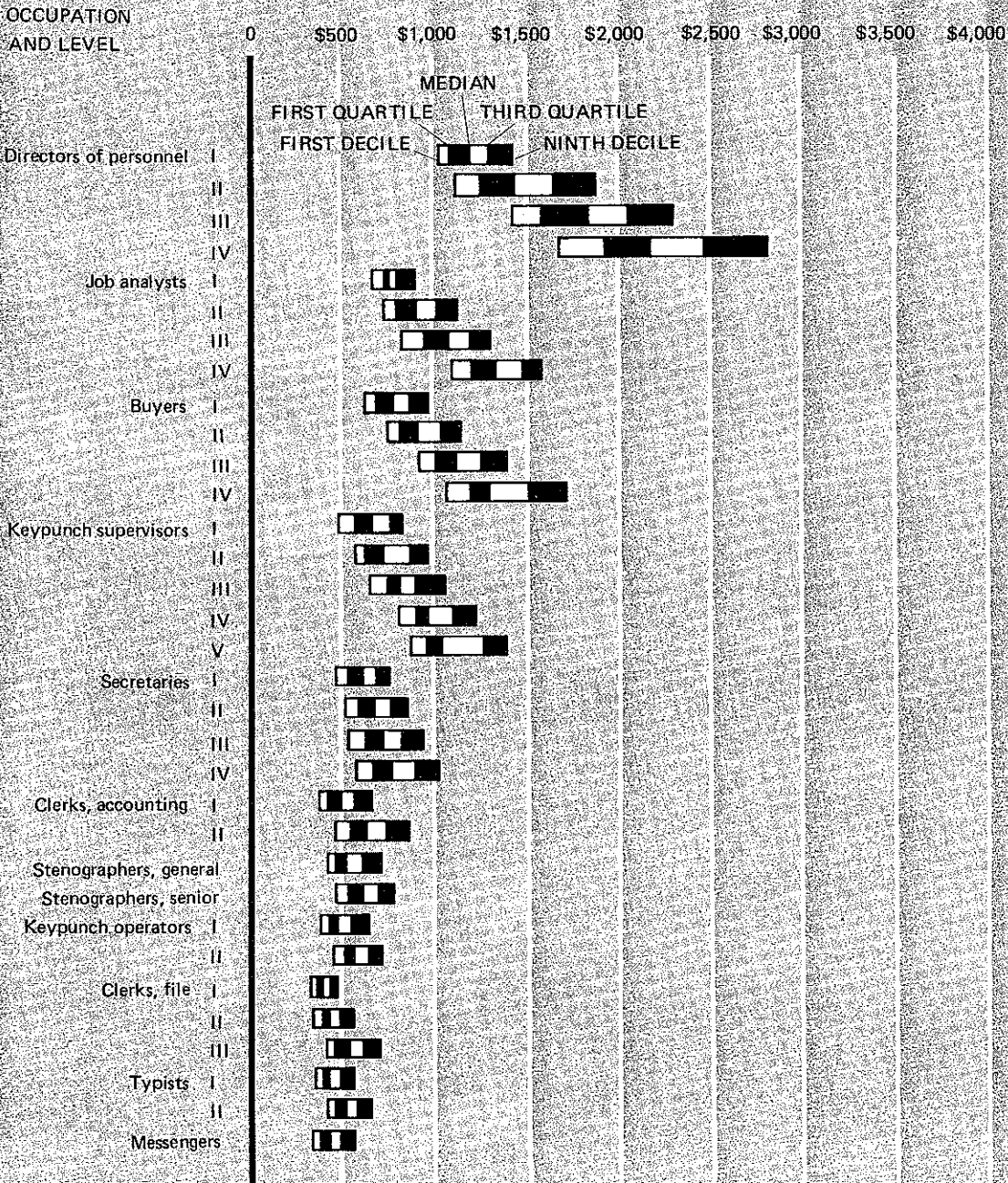


Chart 5

Relative Employment in Selected Occupational Groups by Industry Division, March 1973

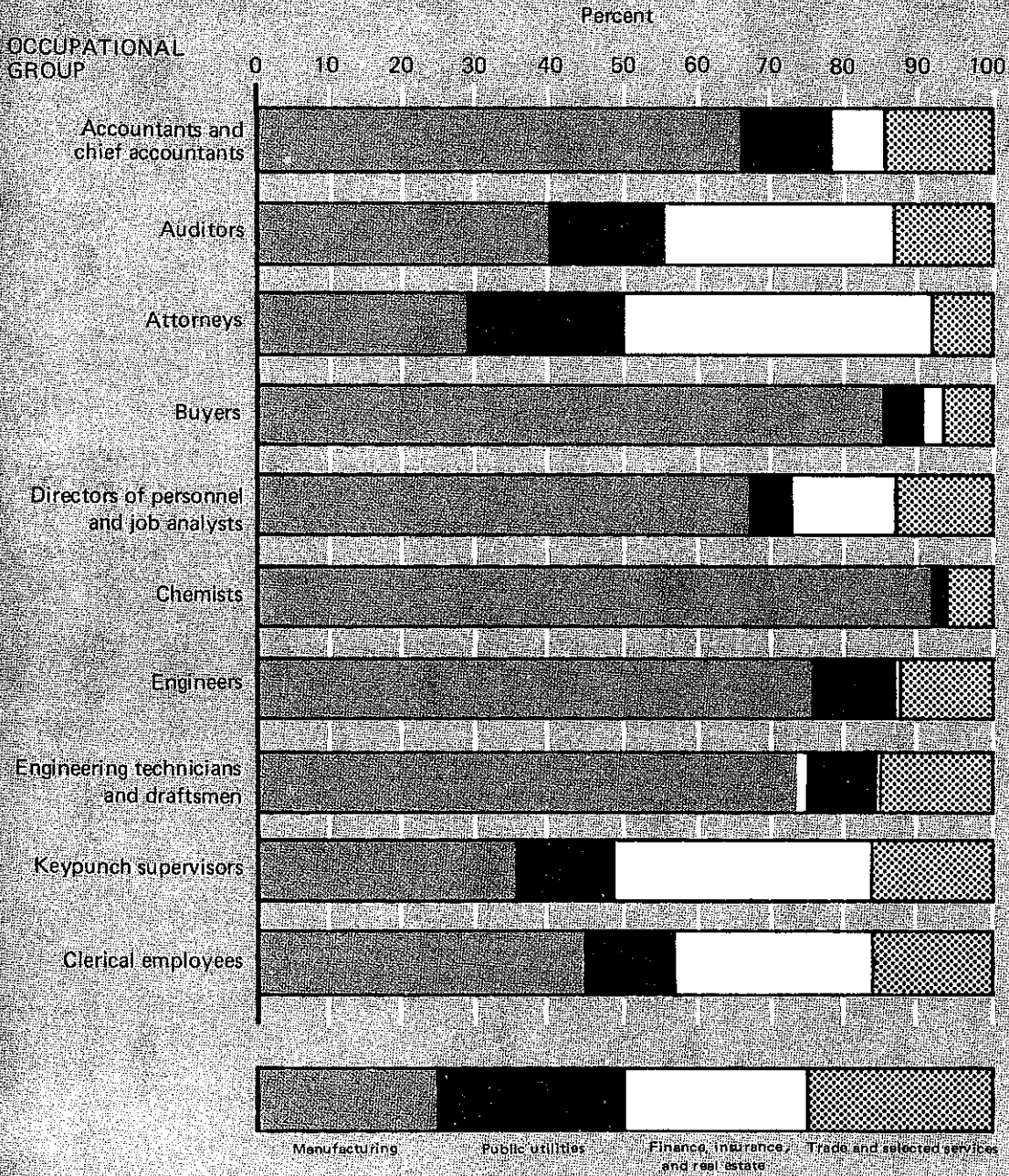


Table 1. Average salaries: United States

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, ¹ United States except Alaska and Hawaii, March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ²	Monthly salaries ³				Annual salaries ³			
		Mean	Median	Middle range ⁴		Mean	Median	Middle range ⁴	
				First quartile	Third quartile			First quartile	Third quartile
Accountants and auditors									
Accountants I	7,026	\$785	\$782	\$715	\$847	\$9,417	\$9,384	\$8,580	\$10,164
Accountants II	12,492	911	895	813	1,006	10,934	10,740	9,756	12,072
Accountants III	27,927	1,039	1,025	930	1,133	12,472	12,300	11,160	13,596
Accountants IV	19,489	1,256	1,250	1,125	1,374	15,068	15,000	13,500	16,488
Accountants V	7,351	1,533	1,516	1,377	1,666	18,400	18,192	16,524	19,992
Auditors I	1,059	859	875	760	925	10,310	10,500	9,120	11,100
Auditors II	2,813	947	925	840	1,020	11,360	11,100	10,080	12,240
Auditors III	4,899	1,131	1,100	1,005	1,250	13,568	13,200	12,060	15,000
Auditors IV	2,524	1,389	1,350	1,235	1,520	16,669	16,200	14,820	18,240
Chief accountants I	644	1,352	1,324	1,205	1,480	16,220	15,888	14,460	17,760
Chief accountants II	1,239	1,553	1,541	1,383	1,650	18,634	18,492	16,596	19,800
Chief accountants III	726	1,891	1,842	1,664	2,041	22,687	22,104	19,968	24,492
Chief accountants IV	323	2,228	2,200	1,950	2,390	26,735	26,400	23,400	28,680
Attorneys									
Attorneys I	558	1,123	1,083	958	1,250	13,478	12,996	11,496	15,000
Attorneys II	1,381	1,296	1,265	1,140	1,416	15,555	15,180	13,680	16,992
Attorneys III	2,416	1,630	1,583	1,416	1,833	19,565	18,996	16,992	21,996
Attorneys IV	1,812	2,058	2,000	1,791	2,291	24,693	24,000	21,492	27,492
Attorneys V	1,035	2,503	2,476	2,194	2,768	30,035	29,712	26,328	33,216
Attorneys VI	613	3,087	2,958	2,667	3,450	37,048	35,496	32,004	41,400
Buyers									
Buyers I	3,204	800	795	695	883	9,603	9,540	8,340	10,596
Buyers II	11,388	953	925	835	1,050	11,431	11,100	10,020	12,600
Buyers III	12,892	1,153	1,133	1,021	1,260	13,835	13,596	12,252	15,120
Buyers IV	4,793	1,369	1,320	1,203	1,520	16,423	15,840	14,436	18,240
Personnel management									
Job analysts I	59	780	758	747	800	9,362	9,096	8,964	9,600
Job analysts II	311	917	910	808	1,025	11,010	10,920	9,696	12,300
Job analysts III	628	1,088	1,100	958	1,200	13,061	13,200	11,496	14,400
Job analysts IV	590	1,351	1,358	1,208	1,490	16,211	16,296	14,496	17,880
Directors of personnel I	1,092	1,229	1,200	1,100	1,310	14,748	14,400	13,200	15,720
Directors of personnel II	1,919	1,479	1,450	1,260	1,641	17,753	17,400	15,120	19,692
Directors of personnel III	1,328	1,832	1,834	1,579	2,041	21,984	22,008	18,948	24,492
Directors of personnel IV	427	2,218	2,166	1,901	2,458	26,611	25,992	22,812	29,496
Chemists and engineers									
Chemists I	1,466	836	833	750	907	10,028	9,996	9,000	10,884
Chemists II	4,535	961	959	865	1,060	11,534	11,508	10,380	12,720
Chemists III	9,123	1,101	1,085	980	1,206	13,217	13,020	11,760	14,472
Chemists IV	10,553	1,345	1,325	1,201	1,478	16,140	15,900	14,412	17,736
Chemists V	7,903	1,609	1,595	1,439	1,755	19,312	19,140	17,268	21,060
Chemists VI	4,160	1,883	1,874	1,700	2,055	22,602	22,488	20,400	24,660
Chemists VII	1,748	2,242	2,175	1,960	2,442	26,899	26,100	23,520	29,304
Chemists VIII	493	2,675	2,582	2,366	2,890	32,099	30,984	28,392	34,680
Engineers I	13,176	934	925	875	983	11,203	11,100	10,500	11,796
Engineers II	28,933	1,049	1,040	965	1,125	12,591	12,480	11,580	13,500
Engineers III	84,813	1,194	1,190	1,091	1,291	14,326	14,280	13,092	15,492
Engineers IV	117,447	1,419	1,415	1,290	1,542	17,030	16,980	15,480	18,504
Engineers V	79,996	1,635	1,625	1,485	1,775	19,614	19,500	17,820	21,300
Engineers VI	42,006	1,882	1,866	1,695	2,051	22,586	22,392	20,340	24,612
Engineers VII	14,871	2,140	2,100	1,906	2,346	25,681	25,200	22,872	28,152
Engineers VIII	3,587	2,458	2,400	2,200	2,667	29,499	28,800	26,400	32,004
Technical support									
Engineering technicians I	3,428	625	625	556	695	7,500	7,500	6,672	8,340
Engineering technicians II	12,005	718	711	639	782	8,613	8,532	7,668	9,384
Engineering technicians III	25,231	834	826	750	910	10,005	9,912	9,000	10,920
Engineering technicians IV	30,332	938	930	855	1,017	11,257	11,160	10,260	12,204
Engineering technicians V	17,969	1,067	1,056	963	1,165	12,799	12,672	11,556	13,980

See footnotes at end of table.

Table 1. Average salaries: United States—Continued

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, ¹ United States except Alaska and Hawaii, March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ²	Monthly salaries ³				Annual salaries ³			
		Mean	Median	Middle range ⁴		Mean	Median	Middle range ⁴	
				First quartile	Third quartile			First quartile	Third quartile
Technical support—Continued									
Draftsmen-tracers	4, 225	\$557	\$547	\$492	\$603	\$6, 687	\$6, 570	\$5, 902	\$7, 238
Draftsmen I	19, 012	666	652	585	739	7, 988	7, 821	7, 019	8, 864
Draftsmen II	30, 284	819	804	723	902	9, 832	9, 646	8, 672	10, 829
Draftsmen III	29, 876	1, 014	969	870	1, 093	12, 173	11, 627	10, 438	13, 122
Clerical supervisory									
Keypunch supervisors I	949	690	671	580	782	8, 286	8, 052	6, 960	9, 384
Keypunch supervisors II	1, 944	759	730	633	875	9, 107	8, 760	7, 596	10, 500
Keypunch supervisors III	1, 179	846	826	750	905	10, 149	9, 912	9, 000	10, 860
Keypunch supervisors IV	343	1, 006	986	905	1, 107	12, 076	11, 832	10, 860	13, 284
Keypunch supervisors V	54	1, 114	1, 069	976	1, 281	13, 367	12, 828	11, 712	15, 372
Clerical									
Clerks, accounting I	90, 567	516	500	435	571	6, 188	5, 996	5, 214	6, 856
Clerks, accounting II	65, 790	651	630	545	743	7, 812	7, 560	6, 538	8, 916
Clerks, file I	26, 017	404	391	354	435	4, 852	4, 693	4, 249	5, 214
Clerks, file II	22, 643	446	426	375	491	5, 349	5, 110	4, 499	5, 892
Clerks, file III	8, 091	549	531	461	604	6, 593	6, 370	5, 527	7, 247
Keypunch operators I	62, 649	504	482	426	555	6, 042	5, 788	5, 110	6, 659
Keypunch operators II	46, 510	577	565	504	631	6, 922	6, 778	6, 048	7, 570
Messengers	25, 506	445	430	376	491	5, 344	5, 159	4, 511	5, 892
Secretaries I	96, 643	612	605	532	684	7, 347	7, 258	6, 382	8, 209
Secretaries II	97, 282	685	674	590	770	8, 221	8, 086	7, 079	9, 238
Secretaries III	54, 641	737	725	626	839	8, 842	8, 698	7, 508	10, 063
Secretaries IV	16, 757	799	782	675	900	9, 583	9, 385	8, 098	10, 798
Stenographers, general	46, 533	543	523	459	608	6, 521	6, 277	5, 507	7, 300
Stenographers, senior	52, 151	619	607	530	695	7, 425	7, 282	6, 358	8, 342
Typists I	63, 801	453	438	391	498	5, 434	5, 258	4, 693	5, 970
Typists II	41, 390	528	513	460	575	6, 339	6, 161	5, 519	6, 898

¹ For scope of study, see table in appendix A.

² Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed. For further explanation, see appendix A, p.

³ Salaries reported relate to the standard salaries that were paid for standard work schedules; i.e., the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living payments and incentive earnings are included.

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

Table 2. Average salaries: Metropolitan areas

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry,¹ metropolitan areas, March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ²	Monthly salaries ³				Annual salaries ³			
		Mean	Median	Middle range ⁴		Mean	Median	Middle range ⁴	
				First quartile	Third quartile			First quartile	Third quartile
Accountants and auditors									
Accountants I	6,235	\$787	\$783	\$717	\$850	\$9,442	\$9,396	\$8,604	\$10,200
Accountants II	11,374	918	904	817	1,017	11,018	10,848	9,804	12,204
Accountants III	24,417	1,048	1,033	935	1,145	12,581	12,396	11,220	13,740
Accountants IV	16,958	1,263	1,250	1,126	1,386	15,158	15,000	13,512	16,632
Accountants V	6,547	1,538	1,525	1,383	1,670	18,457	18,300	16,596	20,040
Auditors I	997	863	890	775	925	10,361	10,680	9,300	11,100
Auditors II	2,689	948	926	841	1,020	11,378	11,112	10,092	12,240
Auditors III	4,595	1,133	1,100	1,005	1,250	13,590	13,200	12,060	15,000
Auditors IV	2,394	1,390	1,355	1,233	1,521	16,680	16,260	14,796	18,252
Chief accountants I	574	1,335	1,316	1,181	1,458	16,021	15,792	14,172	17,496
Chief accountants II	1,020	1,567	1,542	1,394	1,666	18,802	18,504	16,728	19,992
Chief accountants III	634	1,896	1,842	1,635	2,025	22,747	22,104	19,620	24,300
Chief accountants IV	293	2,227	2,199	1,950	2,390	26,725	26,388	23,400	28,680
Attorneys									
Attorneys I	553	1,122	1,083	958	1,250	13,466	12,996	11,496	15,000
Attorneys II	1,320	1,301	1,266	1,133	1,437	15,609	15,192	13,596	17,244
Attorneys III	2,328	1,634	1,583	1,416	1,833	19,606	18,996	16,992	21,996
Attorneys IV	1,740	2,066	2,016	1,805	2,301	24,788	24,192	21,660	27,612
Attorneys V	1,016	2,508	2,489	2,199	2,791	30,095	29,868	26,388	33,492
Attorneys VI	612	3,089	2,958	2,681	3,450	37,066	35,496	32,172	41,400
Buyers									
Buyers I	2,568	814	815	725	900	9,763	9,780	8,700	10,800
Buyers II	9,146	965	940	836	1,065	11,577	11,280	10,032	12,780
Buyers III	10,873	1,163	1,143	1,030	1,274	13,960	13,716	12,360	15,288
Buyers IV	4,349	1,374	1,325	1,208	1,525	16,493	15,900	14,496	18,300
Personnel management									
Job analysts I	55	786	758	750	808	9,432	9,096	9,000	9,696
Job analysts II	306	919	913	809	1,025	11,029	10,956	9,708	12,300
Job analysts III	589	1,090	1,105	958	1,200	13,085	13,260	11,496	14,400
Job analysts IV	550	1,358	1,367	1,225	1,490	16,294	16,404	14,700	17,880
Directors of personnel I	817	1,228	1,200	1,100	1,320	14,737	14,400	13,200	15,840
Directors of personnel II	1,546	1,482	1,441	1,260	1,641	17,787	17,292	15,120	19,692
Directors of personnel III	1,190	1,841	1,849	1,586	2,041	22,094	22,188	19,032	24,492
Directors of personnel IV	384	2,236	2,167	1,925	2,475	26,835	26,004	23,100	29,700
Chemists and engineers									
Chemists I	1,320	839	833	760	910	10,071	9,996	9,120	10,920
Chemists II	4,082	963	960	866	1,060	11,551	11,520	10,392	12,720
Chemists III	7,848	1,106	1,090	975	1,217	13,271	13,080	11,700	14,604
Chemists IV	9,044	1,352	1,333	1,208	1,488	16,220	15,996	14,496	17,856
Chemists V	6,771	1,617	1,604	1,443	1,761	19,402	19,248	17,316	21,132
Chemists VI	3,675	1,894	1,890	1,708	2,070	22,726	22,680	20,496	24,840
Chemists VII	1,588	2,260	2,214	1,968	2,465	27,120	26,568	23,616	29,580
Chemists VIII	435	2,709	2,640	2,370	2,949	32,510	31,680	28,440	35,388
Engineers I	12,028	937	925	875	984	11,239	11,100	10,500	11,808
Engineers II	26,826	1,054	1,045	970	1,126	12,649	12,540	11,640	13,512
Engineers III	75,924	1,204	1,200	1,100	1,300	14,447	14,400	13,200	15,600
Engineers IV	106,364	1,430	1,424	1,300	1,500	17,164	17,088	15,600	18,612
Engineers V	72,884	1,647	1,634	1,500	1,784	19,763	19,608	18,000	21,408
Engineers VI	38,428	1,893	1,875	1,705	2,064	22,719	22,500	20,460	24,768
Engineers VII	13,824	2,151	2,116	1,919	2,355	25,809	25,392	23,028	28,260
Engineers VIII	3,267	2,475	2,415	2,209	2,675	29,695	28,980	26,508	32,100
Technical support									
Engineering technicians I	2,840	634	630	565	702	7,604	7,560	6,780	8,424
Engineering technicians II	10,446	723	717	642	790	8,676	8,604	7,704	9,480
Engineering technicians III	22,243	840	833	756	917	10,078	9,996	9,072	11,004
Engineering technicians IV	26,708	947	940	860	1,025	11,363	11,280	10,320	12,300
Engineering technicians V	16,848	1,071	1,060	968	1,170	12,857	12,720	11,616	14,040

See footnotes at end of table.

Table 2. Average salaries: Metropolitan areas—Continued

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry,¹ metropolitan areas,² March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ²	Monthly salaries ³				Annual salaries ³			
		Mean	Median	Middle range ⁴		Mean	Median	Middle range ⁴	
				First quartile	Third quartile			First quartile	Third quartile
Technical support—Continued									
Draftsmen-tracers	3,773	\$561	\$549	\$497	\$608	\$6,736	\$6,590	\$5,965	\$7,300
Draftsmen I	15,848	677	663	600	747	8,129	7,953	7,195	8,968
Draftsmen II	25,452	834	821	733	921	10,007	9,854	8,794	11,054
Draftsmen III	26,549	1,029	981	877	1,111	12,348	11,771	10,520	13,327
Clerical supervisory									
Keypunch supervisors I	852	708	715	587	790	8,497	8,580	7,044	9,480
Keypunch supervisors II	1,690	768	741	650	875	9,212	8,892	7,800	10,500
Keypunch supervisors III	1,110	854	826	752	917	10,245	9,912	9,024	11,004
Keypunch supervisors IV	331	1,007	986	900	1,108	12,089	11,832	10,800	13,296
Keypunch supervisors V	52	1,116	1,069	977	1,278	13,395	12,828	11,724	15,336
Clerical									
Clerks, accounting I	79,814	522	504	435	579	6,259	6,048	5,219	6,945
Clerks, accounting II	57,606	660	640	551	754	7,916	7,675	6,611	9,043
Clerks, file I	21,389	406	391	350	436	4,872	4,693	4,199	5,227
Clerks, file II	21,170	445	425	375	490	5,345	5,099	4,499	5,879
Clerks, file III	7,748	550	534	465	604	6,601	6,403	5,579	7,247
Keypunch operators I	54,259	514	495	435	565	6,165	5,944	5,214	6,778
Keypunch operators II	40,436	587	575	520	643	7,041	6,899	6,239	7,717
Messengers	24,016	446	430	376	492	5,348	5,159	4,511	5,903
Secretaries I	86,849	618	608	539	691	7,414	7,300	6,466	8,290
Secretaries II	89,466	690	678	595	776	8,277	8,134	7,138	9,307
Secretaries III	50,496	746	734	635	845	8,951	8,812	7,618	10,138
Secretaries IV	15,296	811	793	686	908	9,731	9,516	8,227	10,894
Stenographers, general	40,537	550	528	464	611	6,595	6,334	5,570	7,335
Stenographers, senior	47,255	624	610	537	701	7,487	7,326	6,441	8,410
Typists I	56,261	458	443	398	501	5,491	5,318	4,776	6,007
Typists II	37,250	531	515	460	581	6,369	6,180	5,519	6,971

¹ For scope of study, see table in appendix A.

² Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed. For further explanation, see appendix A, p. 34.

³ Salaries reported relate to the standard salaries that were paid for standard work schedules; i. e., the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living payments and incentive earnings are included.

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

Table 3. Average salaries: Establishments employing 2,500 or more

(Employment and average monthly salaries for selected professional, administrative, technical, and clerical occupations in private industry¹ in establishments employing 2,500 workers or more,² United States except Alaska and Hawaii, March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ³	Monthly salaries ⁴				Levels in establishments employing 2,500 workers or more expressed as percent of those in all establishments combined	
		Mean	Median	Middle range ⁵		Employment	Mean salaries
				First quartile	Third quartile		
Accountants and auditors							
Accountants I	1,639	\$846	\$836	\$765	\$910	23	108
Accountants II	5,222	999	1,006	905	1,100	42	110
Accountants III	7,707	1,118	1,108	1,000	1,238	28	108
Accountants IV	5,484	1,314	1,299	1,178	1,449	28	105
Accountants V	2,466	1,560	1,558	1,391	1,716	34	102
Auditors I	372	922	904	808	1,042	35	107
Auditors II	984	1,009	958	869	1,152	35	107
Auditors III	1,578	1,171	1,130	1,017	1,315	32	104
Auditors IV	1,081	1,413	1,391	1,250	1,566	43	102
Chief accountants III	215	2,072	1,958	1,755	2,475	30	110
Chief accountants IV	140	2,325	2,286	1,983	2,542	43	104
Attorneys							
Attorneys I	177	1,214	1,208	1,075	1,358	32	99
Attorneys II	324	1,440	1,429	1,250	1,625	23	111
Attorneys III	617	1,734	1,691	1,495	1,922	26	106
Attorneys IV	694	2,123	2,083	1,806	2,383	38	103
Attorneys V	398	2,511	2,500	2,182	2,759	38	100
Attorneys VI	297	3,084	3,050	2,694	3,465	48	100
Buyers							
Buyers I	631	907	910	795	1,017	20	113
Buyers II	2,843	1,045	1,021	916	1,162	25	110
Buyers III	4,518	1,192	1,166	1,050	1,330	35	103
Buyers IV	2,746	1,389	1,322	1,203	1,566	57	101
Personnel management							
Job analysts II	187	940	930	821	1,048	60	103
Job analysts III	329	1,112	1,100	980	1,233	52	102
Job analysts IV	436	1,350	1,355	1,210	1,500	74	100
Directors of personnel III	194	2,176	2,156	1,769	2,588	15	119
Directors of personnel IV	107	2,412	2,430	2,000	2,591	25	109
Chemists and engineers							
Chemists I	331	915	920	843	985	23	109
Chemists II	1,536	1,031	1,026	950	1,116	34	107
Chemists III	3,043	1,189	1,190	1,065	1,305	33	108
Chemists IV	3,487	1,444	1,446	1,308	1,580	33	107
Chemists V	2,631	1,702	1,675	1,520	1,850	33	106
Chemists VI	1,670	1,962	1,933	1,792	2,087	40	104
Chemists VII	625	2,369	2,325	2,125	2,605	36	106
Engineers I	6,134	965	950	904	1,010	47	103
Engineers II	15,074	1,071	1,065	987	1,138	52	102
Engineers III	47,081	1,228	1,225	1,130	1,325	56	103
Engineers IV	68,962	1,461	1,460	1,340	1,580	59	103
Engineers V	45,763	1,677	1,670	1,540	1,810	57	103
Engineers VI	22,270	1,932	1,912	1,750	2,091	53	103
Engineers VII	8,185	2,192	2,167	1,955	2,405	55	102
Engineers VIII	1,558	2,566	2,487	2,250	2,834	43	104
Technical support							
Engineering technicians I	1,843	659	658	590	735	54	105
Engineering technicians II	5,430	760	757	672	837	45	106
Engineering technicians III	10,283	854	852	769	937	41	102
Engineering technicians IV	15,867	958	953	873	1,037	52	102
Engineering technicians V	11,552	1,083	1,078	975	1,194	64	102
Draftsmen-tracers	1,584	603	592	530	648	37	108
Draftsmen I	5,558	718	699	630	789	29	108
Draftsmen II	9,170	865	855	767	945	30	106
Draftsmen III	13,173	1,110	1,050	918	1,312	44	109
Clerical supervisory							
Keypunch supervisors I	109	848	775	726	1,004	11	123
Keypunch supervisors II	382	882	884	730	1,009	20	116
Keypunch supervisors III	349	907	899	784	1,015	30	107
Keypunch supervisors IV	119	1,026	1,033	914	1,159	35	102

See footnotes at end of table.

Table 3. Average salaries: Establishments employing 2,500 or more—Continued

(Employment and average monthly salaries for selected professional, administrative, technical, and clerical occupations in private industry¹ in establishments employing 2,500 workers or more,² United States except Alaska and Hawaii, March 1973)

Occupation and level (See definitions in appendix C)	Number of employees ³	Monthly salaries ⁴				Levels in establishments employing 2,500 workers or more expressed as percent of those in all establishments combined	
		Mean	Median	Middle range ⁵		Employment	Mean salaries
				First quartile	Third quartile		
<u>Clerical</u>							
Clerks, accounting I	16,776	\$592	\$576	\$500	\$669	19	115
Clerks, accounting II	14,423	742	725	619	875	22	114
Clerks, file I	4,273	469	446	395	508	16	116
Clerks, file II	4,963	517	495	430	574	22	116
Clerks, file III	3,057	590	567	504	654	38	107
Keypunch operators I	14,202	590	556	489	669	23	117
Keypunch operators II	13,015	636	626	560	710	28	110
Messengers	5,902	484	466	411	538	23	109
Secretaries I	24,795	651	645	577	721	26	106
Secretaries II	35,958	744	739	647	830	37	109
Secretaries III	15,166	832	820	720	930	28	113
Secretaries IV	4,195	914	890	793	1,013	25	114
Stenographers, general	14,362	590	574	503	659	31	109
Stenographers, senior	17,883	670	669	575	754	34	108
Typists I	13,009	501	478	434	551	20	111
Typists II	13,816	565	540	482	622	33	107

¹ For scope of study, see table in appendix A.

² Includes data from 6 large companies that provided companywide data unidentified by size of establishment. This applies only to data for occupations other than drafting and clerical.

³ Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed. For further explanation, see appendix A, p.

⁴ Salaries reported relate to the standard salaries that were paid for standard work schedules; i.e., the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living payments and incentive earnings are included.

⁵ The middle range (interquartile) used here is the central part of the array excluding the upper and lower fourths of the employee distribution.

Table 4. Employment distribution by salary: Professional and administrative occupations

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, March 1973)

Monthly salary	Accountants					Auditors				Chief accountants			
	I	II	III	IV	V	I	II	III	IV	I	II	III	IV
Under \$575	1.2	-	-	-	-	0.9	-	-	-	-	-	-	-
\$575 and under \$600	1.0	-	-	-	-	1.0	-	-	-	-	-	-	-
\$600 and under \$625	2.3	-	-	-	-	.7	-	-	-	-	-	-	-
\$625 and under \$650	4.5	-	-	-	-	1.6	0.2	-	-	-	-	-	-
\$650 and under \$675	5.6	(2.3)	-	-	-	5.0	1.7	-	-	-	-	-	-
\$675 and under \$700	3.8	1.6	-	-	-	.8	.7	-	-	-	-	-	-
\$700 and under \$725	9.2	3.3	(.7)	-	-	6.0	.9	-	-	-	-	-	-
\$725 and under \$750	5.9	2.4	1.0	-	-	2.5	2.5	-	-	-	-	-	-
\$750 and under \$775	13.0	5.3	.7	-	-	7.6	5.0	-	-	-	-	-	-
\$775 and under \$800	8.5	5.7	1.1	-	-	4.2	3.3	-	-	-	-	-	-
\$800 and under \$825	12.5	7.3	2.0	-	-	8.5	4.1	(1.6)	-	-	-	-	-
\$825 and under \$850	7.8	8.2	3.1	-	-	6.6	8.5	2.0	-	-	-	-	-
\$850 and under \$875	7.0	7.4	3.7	-	-	3.0	6.2	1.2	-	-	-	-	-
\$875 and under \$900	3.8	7.0	4.7	-	-	5.5	8.0	2.8	-	-	-	-	-
\$900 and under \$925	4.1	7.0	6.3	-	-	7.7	7.2	2.9	-	-	-	-	-
\$925 and under \$950	3.6	6.3	5.7	(2.3)	-	20.5	8.4	4.7	-	-	-	-	-
\$950 and under \$975	1.5	4.7	7.1	1.6	-	2.1	5.7	3.8	-	-	-	-	-
\$975 and under \$1,000	1.0	5.0	5.3	1.9	-	2.8	9.0	3.1	(0.6)	3.3	-	-	-
\$1,000 and under \$1,050	1.9	8.4	14.6	6.2	-	4.6	9.1	13.4	2.4	.8	0.1	-	-
\$1,050 and under \$1,100	(1.9)	6.2	11.7	7.6	(1.1)	3.4	2.7	11.7	2.4	8.5	3.0	-	-
\$1,100 and under \$1,150	-	8.6	9.4	10.3	1.5	4.3	5.2	11.5	5.2	9.6	1.3	0.3	-
\$1,150 and under \$1,200	-	1.7	7.4	10.1	1.6	.5	3.6	9.7	5.7	.2	2.3	1.1	-
\$1,200 and under \$1,250	-	1.0	4.9	9.5	3.0	-	1.8	6.6	10.2	10.2	2.5	-	-
\$1,250 and under \$1,300	-	(.7)	3.9	12.6	5.0	-	1.9	9.1	11.8	6.4	6.5	.1	-
\$1,300 and under \$1,350	-	-	3.0	9.1	8.2	-	3.3	5.0	10.0	21.4	5.9	.4	-
\$1,350 and under \$1,400	-	-	2.1	7.5	7.9	-	(1.1)	2.4	9.9	9.3	6.4	3.0	-
\$1,400 and under \$1,450	-	-	(1.4)	6.8	8.7	-	-	2.5	8.2	1.9	5.7	2.2	-
\$1,450 and under \$1,500	-	-	-	4.9	9.4	-	-	2.0	7.0	7.0	8.0	1.4	-
\$1,500 and under \$1,550	-	-	-	3.2	8.4	-	-	1.1	6.0	2.2	10.3	5.8	-
\$1,550 and under \$1,600	-	-	-	2.8	8.8	-	-	.6	5.3	1.6	10.7	3.0	-
\$1,600 and under \$1,650	-	-	-	1.3	8.2	-	-	1.6	2.7	6.4	11.7	7.4	-
\$1,650 and under \$1,700	-	-	-	(2.4)	6.5	-	-	(.8)	3.3	1.9	5.5	9.5	(3.7)
\$1,700 and under \$1,750	-	-	-	-	6.2	-	-	-	2.7	4.2	3.6	4.5	1.5
\$1,750 and under \$1,800	-	-	-	-	4.7	-	-	-	1.7	2.0	3.5	7.0	.6
\$1,800 and under \$1,850	-	-	-	-	3.1	-	-	-	1.3	1.1	1.9	4.5	3.4
\$1,850 and under \$1,900	-	-	-	-	2.7	-	-	-	1.2	(2.2)	3.7	6.2	11.8
\$1,900 and under \$1,950	-	-	-	-	1.7	-	-	-	1.1	-	-	8.0	1.2
\$1,950 and under \$2,000	-	-	-	-	(3.4)	-	-	-	(1.3)	-	.5	6.6	8.4
\$2,000 and under \$2,050	-	-	-	-	-	-	-	-	-	-	1.2	5.1	.9
\$2,050 and under \$2,100	-	-	-	-	-	-	-	-	-	-	.9	1.8	2.8
\$2,100 and under \$2,150	-	-	-	-	-	-	-	-	-	-	.4	2.5	4.6
\$2,150 and under \$2,200	-	-	-	-	-	-	-	-	-	-	2.3	2.5	10.5
\$2,200 and under \$2,250	-	-	-	-	-	-	-	-	-	-	-	1.4	2.5
\$2,250 and under \$2,300	-	-	-	-	-	-	-	-	-	-	-	2.6	9.3
\$2,300 and under \$2,350	-	-	-	-	-	-	-	-	-	-	.2	1.5	12.4
\$2,350 and under \$2,400	-	-	-	-	-	-	-	-	-	-	1.1	1.7	2.2
\$2,400 and under \$2,450	-	-	-	-	-	-	-	-	-	-	1.0	.7	2.5
\$2,450 and under \$2,500	-	-	-	-	-	-	-	-	-	-	-	.3	5.0
\$2,500 and under \$2,600	-	-	-	-	-	-	-	-	-	-	-	2.2	6.5
\$2,600 and under \$2,700	-	-	-	-	-	-	-	-	-	-	-	2.8	2.2
\$2,700 and under \$2,800	-	-	-	-	-	-	-	-	-	-	-	3.0	1.5
\$2,800 and under \$2,900	-	-	-	-	-	-	-	-	-	-	-	(.8)	.6
\$2,900 and under \$3,000	-	-	-	-	-	-	-	-	-	-	-	-	1.2
\$3,000 and over	-	-	-	-	-	-	-	-	-	-	-	-	4.6
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	7,026	12,492	27,927	19,489	7,351	1,059	2,813	4,899	2,524	644	1,239	726	323
Average monthly salary	\$785	\$911	\$1,039	\$1,256	\$1,533	\$859	\$947	\$1,131	\$1,389	\$1,352	\$1,553	\$1,891	\$2,228

See footnote at end of table.

Table 4. Employment distribution by salary: Professional and administrative occupations—Continued

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, March 1973)

Monthly salary	Attorneys					
	I	II	III	IV	V	VI
Under \$825	0.5	-	-	-	-	-
\$825 and under \$850	3.4	-	-	-	-	-
\$850 and under \$875	.4	-	-	-	-	-
\$875 and under \$900	9.5	-	-	-	-	-
\$900 and under \$925	5.6	-	-	-	-	-
\$925 and under \$950	2.3	(1.2)	-	-	-	-
\$950 and under \$975	4.3	1.5	-	-	-	-
\$975 and under \$1,000	1.4	.2	-	-	-	-
\$1,000 and under \$1,050	15.6	8.5	0.2	-	-	-
\$1,050 and under \$1,100	8.1	6.4	1.7	-	-	-
\$1,100 and under \$1,150	7.3	9.9	.4	-	-	-
\$1,150 and under \$1,200	9.0	9.5	.9	-	-	-
\$1,200 and under \$1,250	5.0	6.2	3.4	-	-	-
\$1,250 and under \$1,300	10.2	12.2	3.5	-	-	-
\$1,300 and under \$1,350	2.7	9.2	5.3	-	-	-
\$1,350 and under \$1,400	2.5	7.0	5.8	-	-	-
\$1,400 and under \$1,450	3.2	6.2	7.9	-	-	-
\$1,450 and under \$1,500	2.7	5.9	7.0	(2.4)	-	-
\$1,500 and under \$1,550	3.0	4.8	6.5	1.8	-	-
\$1,550 and under \$1,600	1.3	1.7	11.0	3.3	-	-
\$1,600 and under \$1,650	(2.0)	2.2	6.2	2.1	-	-
\$1,650 and under \$1,700	-	1.5	4.6	7.5	-	-
\$1,700 and under \$1,750	-	1.3	4.6	2.5	(1.2)	-
\$1,750 and under \$1,800	-	2.1	3.7	6.1	1.0	-
\$1,800 and under \$1,850	-	(2.5)	5.5	3.5	.4	-
\$1,850 and under \$1,900	-	-	2.8	5.5	2.1	-
\$1,900 and under \$1,950	-	-	4.1	6.0	1.8	-
\$1,950 and under \$2,000	-	-	3.6	7.3	3.3	(0.5)
\$2,000 and under \$2,050	-	-	2.6	5.4	4.2	2.6
\$2,050 and under \$2,100	-	-	2.0	6.1	3.6	1.0
\$2,100 and under \$2,150	-	-	1.0	4.6	1.1	2.0
\$2,150 and under \$2,200	-	-	.7	4.5	7.1	2.1
\$2,200 and under \$2,250	-	-	1.0	3.9	4.8	2.1
\$2,250 and under \$2,300	-	-	.7	3.0	5.3	.8
\$2,300 and under \$2,350	-	-	.8	3.3	5.7	1.5
\$2,350 and under \$2,400	-	-	1.5	5.0	3.9	1.1
\$2,400 and under \$2,450	-	-	(.9)	2.2	3.2	.5
\$2,450 and under \$2,500	-	-	-	3.1	3.4	3.1
\$2,500 and under \$2,600	-	-	-	3.8	9.6	2.9
\$2,600 and under \$2,700	-	-	-	2.5	6.3	5.5
\$2,700 and under \$2,800	-	-	-	(3.9)	8.7	8.5
\$2,800 and under \$2,900	-	-	-	-	5.5	6.0
\$2,900 and under \$3,000	-	-	-	-	6.6	11.7
\$3,000 and under \$3,100	-	-	-	-	2.6	4.1
\$3,100 and under \$3,200	-	-	-	-	2.2	3.6
\$3,200 and under \$3,300	-	-	-	-	2.1	6.0
\$3,300 and under \$3,400	-	-	-	-	2.0	5.4
\$3,400 and under \$3,500	-	-	-	-	1.5	6.7
\$3,500 and under \$3,600	-	-	-	-	(.9)	1.3
\$3,600 and under \$3,700	-	-	-	-	-	3.1
\$3,700 and under \$3,800	-	-	-	-	-	2.1
\$3,800 and under \$3,900	-	-	-	-	-	4.6
\$3,900 and under \$4,000	-	-	-	-	-	3.3
\$4,000 and under \$4,100	-	-	-	-	-	1.0
\$4,100 and under \$4,200	-	-	-	-	-	1.0
\$4,200 and under \$4,300	-	-	-	-	-	1.5
\$4,300 and under \$4,400	-	-	-	-	-	.7
\$4,400 and under \$4,500	-	-	-	-	-	2.8
\$4,500 and over	-	-	-	-	-	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	558	1,381	2,416	1,812	1,035	613
Average monthly salary	\$1,123	\$1,296	\$1,630	\$2,058	\$2,503	\$3,087

See footnote at end of table.

Table 4. Employment distribution by salary: Professional and administrative occupations—Continued

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, March 1973)

Monthly salary	Buyers			
	I	II	III	IV
Under \$550	2.0	-	-	-
\$550 and under \$575	2.7	-	-	-
\$575 and under \$600	.2	-	-	-
\$600 and under \$625	2.4	-	-	-
\$625 and under \$650	5.3	(0.9)	-	-
\$650 and under \$675	7.9	1.4	-	-
\$675 and under \$700	5.0	.9	-	-
\$700 and under \$725	4.5	1.9	-	-
\$725 and under \$750	8.0	2.0	-	-
\$750 and under \$775	6.9	3.9	-	-
\$775 and under \$800	5.4	4.7	-	-
\$800 and under \$825	5.3	5.3	(1.9)	-
\$825 and under \$850	7.7	7.9	1.1	-
\$850 and under \$875	6.3	5.3	1.3	-
\$875 and under \$900	5.8	5.2	1.6	-
\$900 and under \$925	5.6	9.9	3.8	-
\$925 and under \$950	3.7	5.1	2.7	(0.8)
\$950 and under \$975	2.3	6.2	3.3	1.4
\$975 and under \$1,000	1.5	4.1	3.5	1.5
\$1,000 and under \$1,050	3.9	10.0	11.2	3.5
\$1,050 and under \$1,100	2.6	7.9	12.0	3.5
\$1,100 and under \$1,150	1.5	5.7	10.8	6.4
\$1,150 and under \$1,200	(1.4)	3.8	9.6	7.3
\$1,200 and under \$1,250	-	3.1	9.5	8.7
\$1,250 and under \$1,300	-	1.6	7.1	11.5
\$1,300 and under \$1,350	-	.9	6.1	11.1
\$1,350 and under \$1,400	-	1.1	4.4	6.7
\$1,400 and under \$1,450	-	(1.4)	2.7	7.4
\$1,450 and under \$1,500	-	-	2.4	4.0
\$1,500 and under \$1,550	-	-	1.7	4.0
\$1,550 and under \$1,600	-	-	1.2	3.9
\$1,600 and under \$1,650	-	-	(2.2)	3.8
\$1,650 and under \$1,700	-	-	-	3.2
\$1,700 and under \$1,750	-	-	-	2.8
\$1,750 and under \$1,800	-	-	-	2.1
\$1,800 and under \$1,850	-	-	-	1.8
\$1,850 and under \$1,900	-	-	-	1.1
\$1,900 and under \$1,950	-	-	-	1.2
\$1,950 and under \$2,000	-	-	-	.6
\$2,000 and under \$2,100	-	-	-	1.0
\$2,100 and under \$2,200	-	-	-	(.5)
Total	100.0	100.0	100.0	100.0
Number of employees	3,204	11,388	12,892	4,793
Average monthly salary	\$800	\$953	\$1,153	\$1,369

See footnote at end of table.

Table 4. Employment distribution by salary: Professional and administrative occupations—Continued

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, 1 March 1973)

Monthly salary	Job analysts				Directors of personnel			
	I	II	III	IV	I	II	III	IV
\$625 and under \$650	1.7	-	-	-	-	-	-	-
\$650 and under \$675	6.8	2.3	-	-	-	-	-	-
\$675 and under \$700	3.4	1.9	-	-	-	-	-	-
\$700 and under \$725	5.1	3.9	(1.3)	-	-	-	-	-
\$725 and under \$750	8.5	4.5	1.3	-	-	-	-	-
\$750 and under \$775	39.0	3.2	1.1	-	-	-	-	-
\$775 and under \$800	6.8	6.1	1.1	-	-	-	-	-
\$800 and under \$825	6.8	5.1	2.9	-	-	-	-	-
\$825 and under \$850	3.4	8.7	2.9	-	-	-	-	-
\$850 and under \$875	6.8	7.4	.6	-	-	-	-	-
\$875 and under \$900	-	5.5	2.5	-	0.9	-	-	-
\$900 and under \$925	1.7	7.1	8.1	-	1.1	-	-	-
\$925 and under \$950	3.4	3.5	2.7	(1.2)	1.3	(1.6)	-	-
\$950 and under \$975	1.7	7.4	3.7	2.5	1.8	1.1	-	-
\$975 and under \$1,000	1.7	3.5	2.9	.5	1.2	.3	-	-
\$1,000 and under \$1,050	1.7	9.6	6.8	2.0	3.9	2.4	-	-
\$1,050 and under \$1,100	1.7	7.1	9.9	2.4	14.0	2.8	-	-
\$1,100 and under \$1,150	-	10.6	13.1	4.4	14.0	4.2	-	-
\$1,150 and under \$1,200	-	(2.6)	13.9	9.0	8.9	2.9	0.7	-
\$1,200 and under \$1,250	-	-	9.4	8.1	13.1	3.6	4.1	-
\$1,250 and under \$1,300	-	-	4.9	6.6	12.2	12.4	1.7	-
\$1,300 and under \$1,350	-	-	3.5	10.8	6.0	6.8	1.6	-
\$1,350 and under \$1,400	-	-	3.3	10.7	7.5	6.7	1.9	-
\$1,400 and under \$1,450	-	-	1.8	7.8	5.2	5.2	1.5	(0.5)
\$1,450 and under \$1,500	-	-	1.8	11.2	.2	9.6	10.5	1.2
\$1,500 and under \$1,550	-	-	(.6)	8.8	.5	5.3	2.6	.5
\$1,550 and under \$1,600	-	-	-	5.4	1.2	7.6	2.4	4.2
\$1,600 and under \$1,650	-	-	-	2.5	.9	2.8	4.9	1.6
\$1,650 and under \$1,700	-	-	-	3.4	2.8	4.4	7.2	6.1
\$1,700 and under \$1,750	-	-	-	1.9	.2	4.0	5.4	.5
\$1,750 and under \$1,800	-	-	-	.7	1.4	3.1	4.0	2.1
\$1,800 and under \$1,850	-	-	-	-	-	1.6	3.9	5.6
\$1,850 and under \$1,900	-	-	-	-	1.0	2.2	5.6	2.6
\$1,900 and under \$1,950	-	-	-	-	(.5)	.6	7.2	3.7
\$1,950 and under \$2,000	-	-	-	-	-	1.6	7.2	8.4
\$2,000 and under \$2,050	-	-	-	-	-	1.3	4.7	2.3
\$2,050 and under \$2,100	-	-	-	-	-	.1	4.5	8.2
\$2,100 and under \$2,150	-	-	-	-	-	.8	2.3	2.3
\$2,150 and under \$2,200	-	-	-	-	-	1.8	4.7	4.9
\$2,200 and under \$2,250	-	-	-	-	-	1.1	.5	.5
\$2,250 and under \$2,300	-	-	-	-	-	(2.2)	1.7	4.0
\$2,300 and under \$2,350	-	-	-	-	-	-	.5	7.7
\$2,350 and under \$2,400	-	-	-	-	-	-	.7	1.9
\$2,400 and under \$2,450	-	-	-	-	-	-	1.4	4.4
\$2,450 and under \$2,500	-	-	-	-	-	-	.7	4.0
\$2,500 and under \$2,600	-	-	-	-	-	-	2.3	5.2
\$2,600 and under \$2,700	-	-	-	-	-	-	1.6	4.9
\$2,700 and under \$2,800	-	-	-	-	-	-	(2.1)	3.3
\$2,800 and under \$2,900	-	-	-	-	-	-	-	2.1
\$2,900 and under \$3,000	-	-	-	-	-	-	-	2.3
\$3,000 and over	-	-	-	-	-	-	-	(4.9)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	59	311	628	590	1,092	1,919	1,328	427
Average monthly salary	\$780	\$917	\$1,088	\$1,351	\$1,229	\$1,479	\$1,832	\$2,218

See footnote at end of table.

Table 4. Employment distribution by salary: Professional and administrative occupations—Continued

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, March 1973)

Monthly salary	Chemists							
	I	II	III	IV	V	VI	VII	VIII
\$600 and under \$625	(1.0)	-	-	-	-	-	-	-
\$625 and under \$650	1.2	-	-	-	-	-	-	-
\$650 and under \$675	4.5	-	-	-	-	-	-	-
\$675 and under \$700	4.4	(0.5)	-	-	-	-	-	-
\$700 and under \$725	4.3	3.7	-	-	-	-	-	-
\$725 and under \$750	6.6	2.7	-	-	-	-	-	-
\$750 and under \$775	6.0	4.5	-	-	-	-	-	-
\$775 and under \$800	7.0	1.5	(0.9)	-	-	-	-	-
\$800 and under \$825	9.3	4.0	1.1	-	-	-	-	-
\$825 and under \$850	10.0	4.9	1.8	-	-	-	-	-
\$850 and under \$875	8.7	5.3	2.5	-	-	-	-	-
\$875 and under \$900	8.0	6.7	2.2	-	-	-	-	-
\$900 and under \$925	7.4	7.5	3.7	-	-	-	-	-
\$925 and under \$950	4.4	4.7	4.1	-	-	-	-	-
\$950 and under \$975	6.6	6.7	7.7	-	-	-	-	-
\$975 and under \$1,000	3.0	7.1	3.8	(2.4)	-	-	-	-
\$1,000 and under \$1,050	4.4	12.8	13.1	3.0	-	-	-	-
\$1,050 and under \$1,100	2.3	9.3	12.2	3.6	(0.7)	-	-	-
\$1,100 and under \$1,150	1.0	9.0	9.8	6.9	1.2	-	-	-
\$1,150 and under \$1,200	-	4.6	10.7	8.0	.6	-	-	-
\$1,200 and under \$1,250	-	2.9	6.6	9.7	1.9	-	-	-
\$1,250 and under \$1,300	-	1.0	7.8	10.6	2.2	(1.3)	-	-
\$1,300 and under \$1,350	-	(.5)	4.4	9.9	5.0	1.3	-	-
\$1,350 and under \$1,400	-	-	2.6	8.8	6.5	1.5	-	-
\$1,400 and under \$1,450	-	-	3.0	8.0	8.5	1.6	-	-
\$1,450 and under \$1,500	-	-	(2.1)	7.0	7.1	1.8	-	-
\$1,500 and under \$1,550	-	-	-	5.7	8.5	3.1	(0.9)	-
\$1,550 and under \$1,600	-	-	-	4.9	8.7	2.5	1.8	-
\$1,600 and under \$1,650	-	-	-	3.9	9.0	4.9	1.0	-
\$1,650 and under \$1,700	-	-	-	2.5	8.4	6.8	1.0	-
\$1,700 and under \$1,750	-	-	-	1.9	6.0	6.3	2.6	-
\$1,750 and under \$1,800	-	-	-	1.1	6.1	7.9	5.6	-
\$1,800 and under \$1,850	-	-	-	1.1	5.2	8.1	1.6	0.6
\$1,850 and under \$1,900	-	-	-	(1.0)	3.4	6.3	6.0	1.2
\$1,900 and under \$1,950	-	-	-	-	2.8	9.5	3.0	.2
\$1,950 and under \$2,000	-	-	-	-	2.1	6.3	5.3	1.8
\$2,000 and under \$2,050	-	-	-	-	1.8	5.3	3.0	1.8
\$2,050 and under \$2,100	-	-	-	-	1.2	5.8	6.4	2.2
\$2,100 and under \$2,150	-	-	-	-	(3.1)	4.1	7.6	1.6
\$2,150 and under \$2,200	-	-	-	-	-	4.0	5.5	4.1
\$2,200 and under \$2,250	-	-	-	-	-	3.2	5.6	6.1
\$2,250 and under \$2,300	-	-	-	-	-	2.2	2.8	3.0
\$2,300 and under \$2,350	-	-	-	-	-	1.2	5.0	2.2
\$2,350 and under \$2,400	-	-	-	-	-	.9	3.9	6.9
\$2,400 and under \$2,450	-	-	-	-	-	1.0	7.1	1.8
\$2,450 and under \$2,500	-	-	-	-	-	(2.2)	3.6	3.2
\$2,500 and under \$2,600	-	-	-	-	-	-	4.5	14.6
\$2,600 and under \$2,700	-	-	-	-	-	-	3.9	6.5
\$2,700 and under \$2,800	-	-	-	-	-	-	2.9	7.7
\$2,800 and under \$2,900	-	-	-	-	-	-	2.7	10.3
\$2,900 and under \$3,000	-	-	-	-	-	-	2.0	2.8
\$3,000 and under \$3,100	-	-	-	-	-	-	1.0	6.9
\$3,100 and under \$3,200	-	-	-	-	-	-	.3	.4
\$3,200 and under \$3,300	-	-	-	-	-	-	.3	2.2
\$3,300 and under \$3,400	-	-	-	-	-	-	2.4	4.7
\$3,400 and under \$3,500	-	-	-	-	-	-	(.7)	1.4
\$3,500 and under \$3,600	-	-	-	-	-	-	-	1.0
\$3,600 and under \$3,700	-	-	-	-	-	-	-	.6
\$3,700 and under \$3,800	-	-	-	-	-	-	-	.6
\$3,800 and under \$3,900	-	-	-	-	-	-	-	1.2
\$3,900 and over	-	-	-	-	-	-	-	(2.0)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	1,466	4,535	9,123	10,553	7,903	4,160	1,748	493
Average monthly salary	\$836	\$961	\$1,101	\$1,345	\$1,609	\$1,883	\$2,242	\$2,675

See footnote at end of table.

Table 4. Employment distribution by salary: Professional and administrative occupations—Continued

(Percent distribution of employees in selected professional and administrative occupations by monthly salary, United States except Alaska and Hawaii, March 1973)

Monthly salary ¹	Engineers							
	I	II	III	IV	V	VI	VII	VIII
\$600 and under \$625	-	-	-	-	-	-	-	-
\$625 and under \$650	-	-	-	-	-	-	-	-
\$650 and under \$675	-	-	-	-	-	-	-	-
\$675 and under \$700	(0.9)	-	-	-	-	-	-	-
\$700 and under \$725	1.2	-	-	-	-	-	-	-
\$725 and under \$750	.6	-	-	-	-	-	-	-
\$750 and under \$775	1.1	-	-	-	-	-	-	-
\$775 and under \$800	1.9	-	-	-	-	-	-	-
\$800 and under \$825	3.3	(2.0)	-	-	-	-	-	-
\$825 and under \$850	5.2	1.2	-	-	-	-	-	-
\$850 and under \$875	9.1	2.3	-	-	-	-	-	-
\$875 and under \$900	11.2	3.2	(1.6)	-	-	-	-	-
\$900 and under \$925	15.2	6.0	1.2	-	-	-	-	-
\$925 and under \$950	10.7	4.7	1.0	-	-	-	-	-
\$950 and under \$975	10.3	7.8	1.7	-	-	-	-	-
\$975 and under \$1,000	8.0	7.8	2.4	(0.7)	-	-	-	-
\$1,000 and under \$1,050	9.1	17.6	7.7	1.1	-	-	-	-
\$1,050 and under \$1,100	5.4	15.2	10.6	1.9	-	-	-	-
\$1,100 and under \$1,150	3.6	13.5	12.3	2.8	-	-	-	-
\$1,150 and under \$1,200	1.8	7.6	13.8	4.7	(1.7)	-	-	-
\$1,200 and under \$1,250	(1.5)	4.4	12.7	6.7	1.7	-	-	-
\$1,250 and under \$1,300	-	3.2	11.1	8.6	2.5	-	-	-
\$1,300 and under \$1,350	-	1.9	8.2	10.0	3.5	-	-	-
\$1,350 and under \$1,400	-	1.2	6.8	10.1	4.5	(1.8)	-	-
\$1,400 and under \$1,450	-	(.5)	4.3	10.9	5.9	1.5	-	-
\$1,450 and under \$1,500	-	-	2.4	10.0	7.3	2.2	-	-
\$1,500 and under \$1,550	-	-	1.2	8.5	8.7	3.8	(1.6)	-
\$1,550 and under \$1,600	-	-	(.8)	7.2	9.3	4.6	1.1	-
\$1,600 and under \$1,650	-	-	-	5.3	9.2	5.4	1.7	-
\$1,650 and under \$1,700	-	-	-	4.8	9.3	6.1	2.1	(1.2)
\$1,700 and under \$1,750	-	-	-	2.5	7.7	7.4	2.8	1.5
\$1,750 and under \$1,800	-	-	-	1.6	6.8	7.6	4.2	1.0
\$1,800 and under \$1,850	-	-	-	(2.6)	5.9	7.3	5.7	1.6
\$1,850 and under \$1,900	-	-	-	-	4.4	7.4	4.8	1.4
\$1,900 and under \$1,950	-	-	-	-	3.3	7.4	6.4	2.3
\$1,950 and under \$2,000	-	-	-	-	2.6	6.4	5.9	2.5
\$2,000 and under \$2,050	-	-	-	-	1.8	5.7	6.3	3.7
\$2,050 and under \$2,100	-	-	-	-	1.2	5.2	6.9	3.3
\$2,100 and under \$2,150	-	-	-	-	(2.6)	4.2	4.8	3.4
\$2,150 and under \$2,200	-	-	-	-	-	3.8	5.9	2.8
\$2,200 and under \$2,250	-	-	-	-	-	3.4	5.5	6.3
\$2,250 and under \$2,300	-	-	-	-	-	2.1	5.1	6.2
\$2,300 and under \$2,350	-	-	-	-	-	1.7	4.4	6.3
\$2,350 and under \$2,400	-	-	-	-	-	1.4	3.6	5.7
\$2,400 and under \$2,450	-	-	-	-	-	1.2	3.5	6.0
\$2,450 and under \$2,500	-	-	-	-	-	(1.7)	3.3	5.8
\$2,500 and under \$2,600	-	-	-	-	-	-	5.7	9.3
\$2,600 and under \$2,700	-	-	-	-	-	-	3.1	6.7
\$2,700 and under \$2,800	-	-	-	-	-	-	2.4	4.5
\$2,800 and under \$2,900	-	-	-	-	-	-	1.2	3.5
\$2,900 and under \$3,000	-	-	-	-	-	-	(2.0)	3.9
\$3,000 and under \$3,100	-	-	-	-	-	-	-	2.2
\$3,100 and under \$3,200	-	-	-	-	-	-	-	2.3
\$3,200 and under \$3,300	-	-	-	-	-	-	-	1.7
\$3,300 and under \$3,400	-	-	-	-	-	-	-	2.0
\$3,400 and under \$3,500	-	-	-	-	-	-	-	(3.0)
\$3,500 and under \$3,600	-	-	-	-	-	-	-	-
\$3,600 and under \$3,700	-	-	-	-	-	-	-	-
\$3,700 and under \$3,800	-	-	-	-	-	-	-	-
\$3,800 and under \$3,900	-	-	-	-	-	-	-	-
\$3,900 and over	-	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	13,176	28,933	84,813	117,447	79,996	42,006	14,871	3,587
Average monthly salary	\$934	\$1,049	\$1,193	\$1,419	\$1,635	\$1,882	\$2,140	\$2,458

¹ For scope of study, see table in appendix A.

NOTE: To avoid showing small proportions of employees scattered at or near the extremes of the distribution for some occupations, the percentages of employees in these intervals have been accumulated and are shown in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses. Because of rounding, sums of individual items may not equal 100.

Table 5. Employment distribution by salary: Engineering technicians and keypunch supervisors

(Percent distribution of engineering technicians and keypunch supervisors by monthly salary, United States except Alaska and Hawaii,¹ March 1973)

Monthly salary	Engineering technicians					Keypunch supervisors				
	I	II	III	IV	V	I	II	III	IV	V
Under \$400	1.3	-	-	-	-	-	-	-	-	-
\$400 and under \$425	1.3	-	-	-	-	-	-	-	-	-
\$425 and under \$450	1.8	-	-	-	-	3.7	-	-	-	-
\$450 and under \$475	3.2	-	-	-	-	-	(1.7)	-	-	-
\$475 and under \$500	5.3	(1.3)	-	-	-	3.2	1.4	-	-	-
\$500 and under \$525	4.7	1.1	-	-	-	7.3	.6	-	-	-
\$525 and under \$550	5.1	2.1	-	-	-	2.0	1.1	-	-	-
\$550 and under \$575	8.8	5.0	-	-	-	2.5	3.1	-	-	-
\$575 and under \$600	9.0	5.0	(1.0)	-	-	11.3	6.4	(1.4)	-	-
\$600 and under \$625	9.4	6.3	2.1	-	-	4.0	5.6	3.4	-	-
\$625 and under \$650	8.5	7.2	2.1	-	-	4.1	9.5	4.8	-	-
\$650 and under \$675	11.2	10.4	3.4	(1.0)	-	12.8	9.6	1.9	-	-
\$675 and under \$700	6.7	7.9	4.7	1.0	-	.9	4.7	2.6	-	-
\$700 and under \$725	5.2	8.1	5.8	1.6	-	8.6	4.4	5.3	-	-
\$725 and under \$750	5.5	9.7	5.8	2.6	-	4.8	5.0	5.6	-	-
\$750 and under \$775	5.7	8.8	7.7	3.4	(1.3)	4.7	4.6	11.0	(1.7)	1.9
\$775 and under \$800	2.4	6.0	8.6	4.0	1.1	9.0	4.9	5.9	3.8	-
\$800 and under \$825	1.7	4.9	7.1	4.1	1.6	6.6	4.3	6.5	6.4	5.6
\$825 and under \$850	1.2	3.8	8.6	5.1	1.8	4.6	4.3	11.0	2.3	-
\$850 and under \$875	1.5	2.9	7.9	8.2	3.2	2.7	3.3	6.1	5.2	3.7
\$875 and under \$900	(.6)	1.9	6.5	8.0	3.4	.8	6.0	6.8	3.8	-
\$900 and under \$925	-	1.7	6.4	9.1	4.1	.5	4.1	5.8	7.3	1.9
\$925 and under \$950	-	1.1	4.3	8.5	5.4	-	2.0	2.8	10.2	5.6
\$950 and under \$975	-	1.8	4.7	8.2	5.8	1.5	2.4	2.2	5.0	-
\$975 and under \$1,000	-	1.0	2.9	6.2	6.4	1.1	1.6	2.3	6.7	14.8
\$1,000 and under \$1,050	-	1.5	5.6	10.4	13.3	.9	3.5	3.6	10.5	9.3
\$1,050 and under \$1,100	-	(.5)	2.1	7.4	13.6	1.1	2.6	3.4	6.4	11.1
\$1,100 and under \$1,150	-	-	1.6	4.3	10.7	(1.2)	1.9	3.1	12.0	7.4
\$1,150 and under \$1,200	-	-	(.9)	4.1	8.6	-	1.0	1.1	5.8	1.9
\$1,200 and under \$1,250	-	-	-	1.7	6.2	-	(.5)	.8	4.7	9.3
\$1,250 and under \$1,300	-	-	-	(1.0)	7.2	-	-	.8	5.5	9.3
\$1,300 and under \$1,350	-	-	-	-	4.2	-	-	.4	2.0	-
\$1,350 and under \$1,400	-	-	-	-	1.1	-	-	.3	(.6)	5.6
\$1,400 and under \$1,450	-	-	-	-	(1.0)	-	-	-	-	7.4
\$1,450 and under \$1,500	-	-	-	-	-	-	-	-	-	-
\$1,500 and under \$1,550	-	-	-	-	-	-	-	-	-	5.6
\$1,550 and under \$1,600	-	-	-	-	-	-	-	-	-	-
\$1,600 and under \$1,650	-	-	-	-	-	-	-	1.1	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	3,428	12,005	25,231	30,332	17,969	949	1,944	1,179	343	54
Average monthly salary	\$625	\$718	\$834	\$938	\$1,067	\$690	\$759	\$846	\$1,006	\$1,114

¹ For scope of study, see table in appendix A.

NOTE: To avoid showing small proportions of employees scattered at or near the extremes of the distribution for some occupations, the percentages of employees in these intervals have been accumulated and are shown in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses. Because of rounding, sums of individual items may not equal 100.

Table 6. Employment distribution by salary: Drafting and clerical occupations

(Percent distribution of employees in selected drafting and clerical occupations, by weekly salary, United States except Alaska and Hawaii,¹ March 1973)

Weekly salary	Draftsmen-tracers	Draftsmen			Clerks, accounting	
		I	II	III	I	II
Under \$75	-	-	-	-	1.0	-
\$75 and under \$80	-	-	-	-	1.4	-
\$80 and under \$85	(0.5)	-	-	-	3.6	-
\$85 and under \$90	1.0	-	-	-	4.5	-
\$90 and under \$95	3.1	-	-	-	7.0	(1.3)
\$95 and under \$100	2.4	(1.2)	-	-	6.8	1.6
\$100 and under \$105	10.2	1.1	-	-	8.6	2.5
\$105 and under \$110	3.9	1.1	-	-	8.4	3.1
\$110 and under \$115	6.1	1.5	-	-	8.0	3.5
\$115 and under \$120	8.2	3.4	-	-	8.7	5.6
\$120 and under \$125	12.0	5.1	-	-	7.6	6.3
\$125 and under \$130	9.4	5.3	(2.4)	-	7.1	6.7
\$130 and under \$135	8.6	6.5	1.5	-	5.4	6.5
\$135 and under \$140	10.1	7.4	1.5	-	4.0	6.3
\$140 and under \$145	7.7	8.6	2.5	-	3.5	6.4
\$145 and under \$150	4.1	8.0	2.5	-	2.6	6.6
\$150 and under \$160	3.5	13.5	7.5	(1.2)	3.3	10.2
\$160 and under \$170	3.1	12.1	11.7	2.3	3.2	7.8
\$170 and under \$180	1.8	8.9	13.9	5.3	1.5	7.5
\$180 and under \$190	1.2	6.7	11.6	6.4	1.8	4.9
\$190 and under \$200	1.5	4.0	11.1	8.5	1.0	3.9
\$200 and under \$210	(1.6)	2.2	10.2	12.5	(1.0)	4.3
\$210 and under \$220	-	1.2	6.3	10.4	-	1.9
\$220 and under \$230	-	(1.9)	6.7	9.7	-	1.5
\$230 and under \$240	-	-	3.1	9.5	-	(1.8)
\$240 and under \$250	-	-	2.3	8.1	-	-
\$250 and under \$260	-	-	1.6	4.3	-	-
\$260 and under \$270	-	-	1.6	3.4	-	-
\$270 and under \$280	-	-	1.3	2.5	-	-
\$280 and under \$290	-	-	(.9)	1.8	-	-
\$290 and under \$300	-	-	-	1.2	-	-
\$300 and under \$310	-	-	-	1.8	-	-
\$310 and under \$320	-	-	-	2.2	-	-
\$320 and under \$330	-	-	-	1.8	-	-
\$330 and under \$340	-	-	-	2.0	-	-
\$340 and under \$350	-	-	-	1.1	-	-
\$350 and under \$360	-	-	-	1.4	-	-
\$360 and under \$370	-	-	-	1.7	-	-
\$370 and over	-	-	-	.8	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	4,225	19,012	30,284	29,876	90,567	65,790
Average weekly salary	\$128	\$153	\$189	\$233	\$119	\$150

See footnotes at end of table.

Table 6. Employment distribution by salary: Drafting and clerical occupations—Continued

(Percent distribution of employees in selected drafting and clerical occupations, by weekly salary, United States except Alaska and Hawaii,¹ March 1973)

Weekly salary	Clerks, file			Keypunch operators		Messengers
	I	II	III	I	II	
\$60 and under \$65	0.2	-	-	-	-	0.4
\$65 and under \$70	2.0	1.0	-	-	-	2.2
\$70 and under \$75	7.8	2.4	(²)	(1.3)	-	3.6
\$75 and under \$80	9.7	6.5	1.0	1.5	-	4.7
\$80 and under \$85	13.7	11.7	1.3	4.3	-	9.1
\$85 and under \$90	14.8	11.7	2.6	5.3	(0.9)	9.9
\$90 and under \$95	17.0	11.2	5.8	7.8	1.9	11.8
\$95 and under \$100	9.7	8.0	4.8	8.4	3.1	9.8
\$100 and under \$105	7.1	9.0	7.7	10.1	4.0	9.9
\$105 and under \$110	5.5	9.0	7.4	8.7	5.9	7.8
\$110 and under \$115	4.1	6.9	7.1	7.9	6.2	7.1
\$115 and under \$120	2.7	5.3	7.6	9.0	7.9	5.9
\$120 and under \$125	1.1	4.1	6.9	7.7	9.9	4.1
\$125 and under \$130	1.0	2.8	9.8	4.9	9.8	3.1
\$130 and under \$135	(3.8)	1.9	7.1	4.7	9.4	2.8
\$135 and under \$140	-	1.2	6.3	3.4	7.7	1.2
\$140 and under \$145	-	1.9	3.8	3.1	7.5	1.3
\$145 and under \$150	-	1.2	4.9	2.4	5.2	1.8
\$150 and under \$160	-	1.8	4.5	2.8	6.8	1.2
\$160 and under \$170	-	1.0	3.2	1.3	6.7	2.3
\$170 and under \$180	-	(1.6)	2.0	1.1	2.7	(1.0)
\$180 and under \$190	-	-	1.9	1.7	2.0	-
\$190 and under \$200	-	-	1.4	2.0	.8	-
\$200 and under \$210	-	-	1.0	(.8)	1.2	-
\$210 and over	-	-	1.7	-	(.4)	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	26,017	22,643	8,091	62,649	46,510	25,506
Average weekly salary	\$93	\$103	\$126	\$116	\$133	\$103

See footnotes at end of table.

Table 6. Employment distribution by salary: Drafting and clerical occupations—Continued

(Percent distribution of employees in selected drafting and clerical occupations, by weekly salary, United States except Alaska and Hawaii,¹ March 1973)

Weekly salary	Secretaries				Stenog- raphers, general	Stenog- raphers, senior	Typists	
	I	II	III	IV			I	II
Under \$70	-	-	-	-	-	-	0.4	-
\$70 and under \$75	-	-	-	-	-	-	1.8	-
\$75 and under \$80	-	-	-	-	(0.5)	-	3.5	-
\$80 and under \$85	-	-	-	-	1.6	-	7.0	(1.4)
\$85 and under \$90	(0.8)	-	-	-	2.8	-	10.2	1.9
\$90 and under \$95	1.1	-	-	-	4.9	(1.7)	11.9	4.2
\$95 and under \$100	1.8	(1.0)	(1.4)	-	6.2	1.5	11.8	6.2
\$100 and under \$105	3.1	1.3	1.2	-	7.5	4.1	11.9	9.0
\$105 and under \$110	3.5	1.2	1.1	-	8.2	3.3	9.2	9.0
\$110 and under \$115	4.2	1.8	1.1	(2.3)	8.1	3.8	7.6	9.4
\$115 and under \$120	6.6	3.1	2.2	1.2	9.3	6.0	6.1	11.7
\$120 and under \$125	6.7	4.5	2.6	1.3	7.0	7.8	5.1	10.5
\$125 and under \$130	7.6	4.9	3.3	2.0	7.2	7.0	3.3	8.2
\$130 and under \$135	7.7	5.7	4.3	2.9	6.2	7.5	2.2	6.3
\$135 and under \$140	7.9	6.2	4.0	3.8	5.6	7.6	2.5	5.4
\$140 and under \$145	8.3	6.9	4.8	4.0	5.1	6.8	1.6	4.0
\$145 and under \$150	6.8	6.6	4.6	2.9	3.7	7.0	.9	2.5
\$150 and under \$160	11.7	12.1	11.2	9.0	5.0	10.6	1.7	3.5
\$160 and under \$170	8.3	11.3	11.2	9.7	4.3	8.8	(1.2)	2.0
\$170 and under \$180	7.0	10.3	10.2	10.6	1.9	6.5	-	3.4
\$180 and under \$190	3.3	8.1	9.7	10.0	1.7	4.8	-	2.0
\$190 and under \$200	1.9	5.3	7.8	8.5	2.0	2.6	-	(1.3)
\$200 and under \$210	(1.7)	4.0	6.4	9.0	(1.2)	1.7	-	-
\$210 and under \$220	-	2.3	3.7	5.6	-	(1.0)	-	-
\$220 and under \$230	-	1.8	3.1	4.0	-	-	-	-
\$230 and under \$240	-	1.0	2.2	3.7	-	-	-	-
\$240 and under \$250	-	(.4)	1.5	2.7	-	-	-	-
\$250 and under \$260	-	-	1.0	1.8	-	-	-	-
\$260 and under \$270	-	-	(1.3)	1.6	-	-	-	-
\$270 and under \$280	-	-	-	1.2	-	-	-	-
\$280 and over	-	-	-	2.2	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	96,643	97,282	54,641	16,757	46,533	52,151	63,801	41,390
Average weekly salary	\$141	\$158	\$170	\$183	\$125	\$142	\$104	\$122

¹ For scope of study, see table in appendix A.

² Less than 0.05 percent.

NOTE: To avoid showing small proportions of employees scattered at or near the extremes of the distribution for some occupations, the percentages of employees in these intervals have been accumulated and are shown in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses. Because of rounding, sums of individual items may not equal 100.

Table 7. Occupational employment distribution: By industry division

(Percent distribution of employees in selected professional, administrative, technical, and clerical occupations,¹ by industry division,² United States except Alaska and Hawaii, March 1973)

Occupation	Manu- facturing	Public utilities ³	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services ⁴
<u>Professional and administrative</u>						
Accountants-----	67	12	8	4	8	(5)
Auditors-----	40	15	7	6	32	(5)
Chief accountants-----	64	9	12	6	6	(5)
Attorneys-----	29	21	(5)	4	42	(5)
Buyers-----	86	6	(5)	(5)	(5)	(5)
Job analysts-----	68	8	(5)	(5)	19	(5)
Directors of personnel-----	67	5	7	6	12	(5)
Chemists-----	93	(5)	(5)	(5)	(5)	5
Engineers-----	76	12	(5)	(5)	(5)	12
<u>Technical support</u>						
Engineering technicians-----	77	9	(5)	(5)	(5)	14
Draftsmen-----	72	11	(5)	(5)	(5)	15
<u>Clerical supervisory</u>						
Keypunch supervisors-----	36	13	8	7	35	(5)
<u>Clerical</u>						
Clerks, accounting-----	43	15	11	12	18	(5)
Clerks, file-----	21	7	5	6	59	(5)
Keypunch operators-----	42	11	13	8	25	(5)
Messengers-----	35	13	7	5	37	(5)
Secretaries-----	52	10	7	5	24	(5)
Stenographers-----	53	16	7	(5)	20	(5)
Typists-----	36	9	6	(5)	44	(5)

¹ Each occupation includes the work levels shown in table 1.

² For scope of study, see table in appendix A.

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

⁴ Engineering and architectural services; and commercially operated research, development, and testing laboratories only.

⁵ Less than 4 percent.

Table 8. Relative salary levels: Occupation by industry division

(Relative salary levels for selected professional, administrative, technical, and clerical occupations¹ by industry division,² United States except Alaska and Hawaii, March 1973)

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

Occupation	Manu- facturing	Public utilities ³	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services ⁴
<u>Professional and administrative</u>						
Accountants	100	103	96	96	97	101
Auditors	103	105	104	97	93	116
Chief accountants	103	101	91	99	101	(⁵)
Attorneys	105	104	108	100	94	(⁵)
Buyers	100	106	103	102	(⁵)	97
Job analysts	102	(⁵)	(⁵)	(⁵)	86	(⁵)
Directors of personnel	100	102	106	95	103	100
Chemists	100	(⁵)	(⁵)	(⁵)	(⁵)	98
Engineers	100	103	97	(⁵)	(⁵)	97
<u>Technical support</u>						
Engineering technicians	99	108	(⁵)	(⁵)	(⁵)	102
Draftsmen	100	103	90	95	(⁵)	101
<u>Clerical supervisory</u>						
Keypunch supervisors	102	118	(⁵)	(⁵)	92	(⁵)
<u>Clerical</u>						
Clerks, accounting	102	115	98	92	89	106
Clerks, file	107	130	98	101	93	110
Keypunch operators	101	120	96	96	92	102
Messengers	104	119	101	92	91	94
Secretaries	102	113	100	92	92	104
Stenographers	102	109	96	98	88	99
Typists	104	113	102	104	93	104

¹ Each occupation includes the work levels shown 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.

² For scope of study, see table in appendix A.

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

⁴ Engineering and architectural services; and commercially operated research, development, and testing laboratories only.

⁵ Insufficient employment in 1 work level or more to warrant separate presentation of data.

Table 9. Average weekly hours: Occupation by industry division

(Average standard weekly hours¹ for employees in selected professional, administrative, technical, and clerical occupations² by industry division,³ United States except Alaska and Hawaii, March 1973)

Occupation	Manu- facturing	Public utilities ⁴	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services ⁵
<u>Professional and administrative</u>						
Accountants	39.5	39.5	39.5	39.5	38.0	39.5
Auditors	39.0	39.5	39.5	39.5	38.0	39.5
Chief accountants	39.5	39.0	40.5	40.0	38.5	(⁶)
Attorneys	38.5	39.5	38.5	39.0	37.5	(⁶)
Buyers	39.5	39.5	39.5	39.5	(⁶)	40.0
Job analysts	39.5	(⁶)	(⁶)	(⁶)	38.0	(⁶)
Directors of personnel	39.5	39.0	39.0	39.5	38.5	40.0
Chemists	39.5	(⁶)	(⁶)	(⁶)	(⁶)	39.5
Engineers	40.0	39.0	39.5	(⁶)	(⁶)	39.5
<u>Technical support</u>						
Engineering technicians	40.0	39.5	(⁶)	(⁶)	(⁶)	39.5
Draftsmen	40.0	39.5	40.0	38.5	(⁶)	40.0
<u>Clerical supervisory</u>						
Keypunch supervisors	39.5	39.0	(⁶)	(⁶)	38.0	(⁶)
<u>Clerical</u>						
Clerks, accounting	39.5	39.0	39.0	39.5	38.0	39.5
Clerks, file	39.0	39.0	39.0	39.0	38.0	39.0
Keypunch operators	39.5	39.0	39.5	39.0	38.0	39.5
Messengers	39.0	38.5	38.5	39.0	38.0	39.0
Secretaries	39.0	39.0	38.5	39.0	37.5	40.0
Stenographers	39.5	39.5	39.0	39.0	38.0	39.5
Typists	39.5	39.0	39.0	39.0	37.5	39.5

¹ Based on the standard workweek for which employees receive their regular straight-time salary. If standard hours were not available, the standard hours applicable for a majority of the office work force in the establishment were used. The average for each job category was rounded to the nearest half hour.

² Each occupation includes the work levels shown in table 1.

³ For scope of study, see table in appendix A.

⁴ Transportation (limited to railroad, local and suburban passenger, deep sea water, and air transportation industries), communication, electric, gas, and sanitary services.

⁵ Engineering and architectural services; and commercially operated research, development, and testing laboratories only.

⁶ Insufficient employment in 1 work level or more to warrant separate presentation of data.

Appendix A. Scope and Method of Survey

Scope of survey

The survey relates to establishments in the United States, except Alaska and Hawaii, 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. Excluded are establishments employing fewer than the minimum number of workers, as indicated in the accompanying table for each industry division, at the time of reference of the universe data (generally, first quarter of 1971). The variable minimum employment size, which was adopted in the 1966 survey, more nearly equalizes the white-collar employment of establishments among the various industry divisions.

The estimated number of establishments and the total employment within scope of this survey, and within the samples actually studied, are shown for each major industry division in table A-1. These estimates also are shown separately for establishments employing 2,500 workers or more and those located in Standard Metropolitan Statistical Areas.¹

Timing of survey and method of collection

Survey data collection was planned so that the data would reflect an average reference period of March 1973.²

Data were obtained by Bureau field economists who visited a nationwide sample of representative establishments within the scope of the survey between January and May. Employees were classified according to occupation and level, with the assistance of company officials, on the basis of the BLS job definitions which appear in appendix C. 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.

Sampling and estimating procedures

The sampling procedures called for the detailed stratification of all establishments within the scope of

the survey by location, industry, and size of employment. From this universe, a nationwide sample of about 3,200 establishments (not companies) was selected systematically.³ Each industry was sampled separately, the sampling rates depending on the employment size of the industry. Within each industry, a greater proportion of large than of small establishments was included. In combining the data, each establishment was weighted according to its probability of selection, so that unbiased estimates were generated. To illustrate the process, where one establishment out of four was selected, it was given a weight of 4, thus representing itself plus three others. In instances where data were not available for the original sample member, an alternate of the same original probability of selection was chosen in the same industry-size classification. Where there was no suitable substitution for the original sample member, the missing unit was accounted for by assigning additional weight to the sample member that most closely resembled the missing unit.

Nature of data collected and presented

The reported salaries relate to standard salaries paid for standard work schedules, i.e., the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living payments and incentive

¹ The metropolitan area data in the 1973 survey relate to all 261 SMSA's (within the 48 States surveyed) as revised through November 1971 by the U.S. Office of Management and Budget. Earlier surveys represented SMSA's ranging in numbers from 188 in 1962 and earlier surveys to 229 in the surveys from 1970 to 1972.

² The March payroll period also was used for the 1972 survey. The 1967 through 1971 surveys had a June reference period for all occupations. Prior to the 1967 study, the average reference period was February for clerical and drafting jobs, and March for all other occupations. Until 1963, reports listed "Winter" as the reference period. From 1963 through 1966, the more specific designation, "February-March," was used.

³ A few of the largest employers, together employing approximately one and a quarter million workers, gave data on a companywide basis. These companies were eliminated from the universe to which the preceding procedure applies. The sample count includes the establishments of these companies within the scope of the survey.

Table A-1. Number of establishments and workers within scope of survey and number studied, by industry division, March 1973

Industry division	Minimum employment in establishments in scope of survey	Within scope of survey ¹			Studied		
		Number of establishments	Workers in establishments		Number of establishments	Workers in establishments	
			Total	Professional, administrative, supervisory, and clerical ²		Total	Professional, administrative, supervisory, and clerical ²
United States—all industries ¹	-	29,109	19,731,227	7,528,056	3,178	6,845,909	2,811,142
Manufacturing	250	14,262	12,096,957	3,559,906	1,917	4,355,407	1,456,195
Nonmanufacturing:							
Transportation, ³ communication, electric, gas, and sanitary services	100	2,868	2,292,187	1,122,800	358	1,137,036	571,316
Wholesale trade	100	4,037	852,644	446,760	170	70,731	43,813
Retail trade	250	2,760	2,450,659	496,298	273	645,007	140,058
Finance, insurance, and real estate	100	4,676	1,824,201	1,746,682	367	530,418	524,926
Services:							
Engineering and architectural services; and commercially operated research, development, and testing laboratories only	100	506	214,579	155,610	93	107,310	74,834
Metropolitan areas—all industries ⁴	-	22,850	16,184,232	6,766,238	2,677	6,257,709	2,662,829
Manufacturing	250	9,533	9,004,096	3,000,643	1,499	3,821,468	1,334,673
Nonmanufacturing:							
Transportation, ³ communication, electric, gas, and sanitary services	100	2,169	2,114,184	1,057,785	322	1,115,521	560,759
Wholesale trade	100	3,775	804,290	428,746	162	69,265	43,278
Retail trade	250	2,522	2,332,033	472,545	260	636,015	138,386
Finance, insurance, and real estate	100	4,358	1,733,467	1,661,344	351	524,575	519,856
Services:							
Engineering and architectural services; and commercially operated research, development, and testing laboratories only	100	493	196,162	145,175	83	90,865	65,877
Establishments employing 2,500 workers or more—all industries-	-	1,109	6,481,029	2,558,042	752	5,125,155	2,082,235
Manufacturing	-	692	4,115,817	1,399,314	479	3,352,338	1,141,042

¹ The study relates to establishments in the United States, except Alaska and Hawaii, in industries listed, with total employment at or above the minimum limitation indicated in the first column.

² Includes executive, administrative, professional, supervisory, and clerical employees, but excludes technicians and draftsmen, and sales personnel.

³ Limited to railroad, local and suburban passenger, deep sea water (foreign and domestic), and air transportation industries as defined in the 1967 edition of the Standard Industrial Classification Manual.

⁴ Standard Metropolitan Statistical Areas in the United States, except Alaska and Hawaii, as revised through November 1971 by the U.S. Office of Management and Budget.

earnings are included. The average salaries presented relate to full-time employees for whom salary data are available.

Data presented on year-to-year changes in average salaries are subject to limitations which reflect the nature of the data collected. Changes in average salaries reflect not only 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. Similarly, year-to-year promotions of employees to higher work levels of professional and administrative occupations may affect the average of each level. The established salary ranges for such occupations are relatively wide, and promoted employees, who may have been paid the maximum of the salary scale for the lower level, are likely to be replaced by less experienced employees who may be paid the minimum. Occupations most likely to reflect such changes in the salary averages are the higher levels of professional and administrative occupations and single incumbent positions such as chief accountant and director of personnel.⁴

About 6 percent of the establishments which were asked to supply data would not do so. These corresponded to an estimated total in the universe studied of approximately 1,375,000 workers, about 7 percent of 19,731,227. The noncooperating units were replaced by others in the same industry-size-location classes. If all similar units were already in the sample, the weights of the included establishments were increased to account for the missing units.

Some companies had an established policy of not disclosing salary data for some of their employees. Often this policy related to higher level positions, because these employees were considered part of the management group or were classified in categories which included only one employee. 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 in each category for whom salary data were not available. The number of work level categories affected and the proportion of employees in these categories for whom salary data were not available are as follows:

1 category (directors of personnel IV)	15 percent
4 categories (directors of personnel II, chief accountants III and IV, engineers VIII)	5 to 9.9 percent
19 categories	1 to 4.9 percent
53 categories	Less than 1 percent

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

Occupational employment estimates relate to the total in all establishments within the scope of the survey and not the number actually surveyed. Employees for whom salary data were not available were not taken into account in the estimates.⁵ These estimates were derived by weighting full-time employees in the occupations studied in each sample establishment in proportion to the number of establishments it represented within the scope of the survey. For example, if the sample establishment was selected from a group of four establishments with similar employment in the same industry and region, each full-time employee found in an occupation studied was counted as four employees in compiling the employment estimates for the occupations. In addition, the survey 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.⁶ 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.

⁴ These types of occupations also may be subject to greater sampling error, as explained in the paragraph headed Estimates of sampling error.

⁵ Also not taken into account were a few instances in which salary data were available for employees in an occupation, but where there was no satisfactory basis for classifying the employees by work level.

⁶ 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. In 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.

Wherever possible, data were collected for men and women separately. If identification by sex was not possible, all workers were reported as the predominant sex. In the professional, administrative, and technical support occupations, men were 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 area wage survey reports compiled by metropolitan 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:

<i>Women (percent)</i>	<i>Occupation and level</i>
95 or more	File clerks I and II, all levels of keypunch operators, secretaries, stenographers, and typists
90-94	Accounting clerks I and file clerks III
85-89	Keypunch supervisors I and II
75-79	Keypunch supervisors III and accounting clerks II
55-59	Keypunch supervisors IV
45-49	Messengers and keypunch supervisors V
40-44	Job analysts I
35-39	Draftsmen-tracers
30-34	Job analysts II
20-24	Job analysts III, chemists I, engineering technicians I, and buyers I
15-19	Accountants I and engineering technicians II
10-14	Accountants II, auditors I, and chemists II and III
5-9	Accountants III, auditors II, job analysts IV, directors of personnel II, buyers II, and draftsmen I and II

Conversion of salary rates

Salary data for the selected occupations were collected in the form in which they were most readily available from company records, i.e., on a weekly, bi-weekly, semimonthly, monthly, or annual basis. For the initial tabulations, the salary data were first converted to a weekly basis for the clerical and drafting occupations and to a monthly basis for all others. The factors used to convert these data were as follows:

<i>Payroll basis</i>	<i>Conversion factors</i>	
	<i>To weekly basis</i>	<i>To monthly basis</i>
Weekly	1.0000	4.3450
Biweekly5000	2.1725
Semimonthly4602	2.0000
Monthly2301	1.0000
Annual0192	.0833

Average monthly salaries presented in tables 1, 2, and 3 and annual salaries presented in tables 1 and 2 for the

clerical and drafting occupations are derived from the average weekly salaries (to the nearest penny) by use of factors 4.345 and 52.14, respectively, and rounding results to the nearest dollar. Average weekly salaries for these occupations, presented in table 6, are rounded to the nearest half-dollar. Average monthly salaries presented in tables 1, 2, and 3 for all other occupations are rounded to the nearest dollar. To obtain the annual salaries, average monthly salaries (to the nearest penny) are multiplied by 12 and rounded to the nearest dollar.

Method of determining median and quartile values

Median and quartile values presented in this report were derived from distributions of employees by salary using \$1 class intervals. Weekly salary class intervals were used for draftsmen and clerical occupations and monthly salary class intervals were used for all other occupations. The weekly values were multiplied by 4.345 to obtain monthly values and by 52.14 to obtain annual values. The annual values for other than draftsmen and clerical occupations were obtained by multiplying monthly values by 12.

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 salaries. Thus, for the 77 surveyed occupational work levels, the relative sampling errors of the average salaries were distributed as follows: 46 were under 2 percent; 23 were 2 and under 4 percent; 4 were 4 and under 6 percent; and 4 were 6 percent and over.⁷ These sampling errors measure the validity of the band within which the true average is likely to fall. Thus, for an occupation with a sample average monthly salary of \$1,000 and sampling error of 4 percent, the chances are 19 out of 20 that the true average lies within the band from \$960 and \$1,040.

Methods of computation of annual percent increases

The percent increases for each occupation in text table 1 were obtained by adding the aggregate salaries for each level in each of two successive years (employment in the most recent year, to eliminate the effects of year-to-year employment shifts, multiplied by the average salaries in both years) and dividing the later sum by the earlier sum. The resultant relative, less 100, is the percent of increase. Changes in the scope of the survey and in occupational definitions were incorporated

⁷ The 6 percent and over group included: Attorneys II—6.8 percent; attorneys III—6.6 percent; chemists VII—8.3 percent; chemists VIII—9.6 percent.

into the series on a continuing basis as soon as two comparable periods were available. The increases for each of the two broad occupational groups were obtained by averaging the increases of the occupations within the group. The increases for all survey occupations were determined by averaging the increases for the two broad occupational groups. The annual increases were then linked together to obtain the changes that have occurred since this series was begun and to compute average annual rates of increase for each occupation and group and for all occupations combined.

The year-to-year percent increases for each group in text table 2 were determined by adding average salaries for all occupations in the group for 2 consecutive years, and dividing the later sum by the earlier sum. The resultant relative, less 100, shows the percent of increase. Changes in the scope of the survey or in the occupational definitions were incorporated into the series as soon as comparable data for 2 consecutive periods were available. The 12-year trends were obtained by linking changes for the individual periods.

Appendix B. Survey Changes in 1973

Changes in occupational definitions

The survey definition for chief accountant was revised slightly to clarify the intent of the definition and facili-

tate uniform interpretation by data collectors, respondents, and users. Since each level represents the same types of positions as in 1972, comparisons of data for trend purposes are not affected.

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 permits 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 p. 64.

Accountants and Auditors

ACCOUNTANT

Performs professional accounting work requiring knowledge of the theory and practice of recording, classifying, examining, and analyzing the data and records of financial transactions. The work generally requires a bachelor's degree in accounting or, in rare instances, equivalent experience and education combined. Positions covered by this definition are characterized by the inclusion of work that is analytical, creative, evaluative, and advisory in nature. The work *draws* upon and *requires* a thorough knowledge of the fundamental doctrines, theories, principles, and terminology of accountancy, and often entails some understanding of such related fields as business law, statistics, and general management. (See also chief accountant.)

Professional responsibilities in accountant positions above the entry and developmental levels include several such duties as:

Analyzing the effects of transactions upon account relationships;

Evaluating alternative means of treating transactions;

Planning the manner in which account structures should be developed or modified;

Assuring the adequacy of the accounting system as the basis for reporting to management;

Considering the need for new or changed controls;

Projecting accounting data to show the effects of proposed plans on capital investments, income, cash position, and overall financial condition;

Interpreting the meaning of accounting records, reports, and statements;

Advising operating officials on accounting matters; and

Recommending improvements, adaptations, or revisions in the accounting system and procedures.

(Entry and developmental level positions provide opportunity to develop ability to perform professional duties such as those enumerated above.)

In addition to such professional work, most accountants are also responsible for assuring the proper recording and documentation of transactions in the accounts.

They, therefore, frequently direct nonprofessional personnel in the actual day-to-day maintenance of books of accounts, the accumulation of cost or other comparable data, the preparation of standard reports and statements, and similar work. (Positions involving such supervisory work but not including professional duties as described above, are not included in this description.)

Excluded are accountants whose *principal or sole* duties consist of designing or improving accounting systems or other nonoperating staff work, e.g., financial analysis, financial forecasting, tax advising, etc. (The criteria that follow for distinguishing among the several levels of work are inappropriate for such jobs.) Note, however, that professional accountant positions with responsibility for recording or reporting accounting data relative to taxes are included, as are operating or cost accountants whose work includes, but is not limited to, improvement of the accounting system.

Some accountants use electronic data processing equipment to process, record, and report accounting data. In some such cases the machine unit is a subordinate segment of the accounting system; in others it is a separate entity or is attached to some other organization. In either instance, providing the primary responsibility of the position is professional accounting work of the type otherwise included, the use of data processing equipment of any type does not of itself exclude a position from the accountant description nor does it change its level.

Accountant I

General characteristics. At this beginning professional level, the accountant learns to apply the principles, theories, and concepts of accounting to a specific system. The position is distinguishable 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 entering accountant practical experience. (Terminal positions are excluded.)

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

Typical duties and responsibilities. Performs a variety of accounting tasks such as: Examining a variety of financial statements for completeness, internal accuracy, and conformance with uniform accounting classifica-

tions or other specific accounting requirements; reconciling reports and financial data with financial statements already on file, and pointing out apparent inconsistencies or errors; carrying out assigned steps in an accounting analysis, such as computing standard ratios; assembling and summarizing accounting literature on a given subject; preparing relatively simple financial statements, not involving problems of analysis or presentation; and preparing charts, tables, and other exhibits to be used in reports. In addition to such work, may also perform some nonprofessional tasks for training purposes.

Responsibility for direction of others. Usually none.

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, to raise questions about unusual or questionable items, and to suggest solutions. (Terminal positions are excluded.)

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 assure 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. Performs a variety of accounting tasks, e.g., prepares routine working papers, schedules, exhibits, and summaries indicating the extent of his examination, and presenting and supporting his findings and recommendations. Examines a variety of accounting documents to verify accuracy of computations and to ascertain that all transactions are properly supported, are in accordance with pertinent policies and procedures, and are classified and recorded according to acceptable accounting standards.

Responsibility for direction of others. Usually none, although he 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. Characteristically, the accounting system or assigned segment is stable and well established (i.e., the basic chart of accounts, classifications, the nature of the cost accounting system, the report requirements, and the procedures are changed infrequently).

Depending upon the workload involved, the accountant may have such assignments as supervision of the *day-to-day operation* of: (a) The entire system of a subordinate establishment, or (b) a major segment (e.g., general accounting; cost accounting; or financial statements and reports) of a somewhat larger system, or (c) in a very large and complex system, may be assigned to a relatively narrow and specialized segment dealing with some problem, function, or portion of work which is itself of the level of difficulty characteristic of this level.

Direction received. A higher level professional accountant normally is available to furnish advice and assistance as needed. Work is reviewed 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 assure that the assigned day-to-day operations are carried out in accordance with established accounting principles, policies, and objectives. The accountant performs such professional work as: Developing nonstandard reports and statements (e.g., those containing cash forecasts reflecting the interrelations of accounting, cost budgeting, or comparable information); interpreting and pointing out trends or deviations from standards; projecting data into the future; predicting the effects of changes in operating programs; or identifying management informational needs, and refining account structures or reports accordingly.

Within the limits of his delegated responsibility, makes day-to-day decisions concerning the accounting treatment of financial transactions. Is expected to recommend solutions to complex problems and propose changes in the accounting system for approval at

higher levels. Such recommendations are derived from his own knowledge of the application of well-established principles and practices.

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

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 accounting system or assigned segment is more complex, i.e., (a) is relatively unstable, (b) must adjust to new or changing company operations, (c) serves organizations of unusually large size, or (d) is complicated by the need to provide and coordinate separate or specialized accounting treatment and reporting (e.g., cost accounting using standard cost, process cost, and job order techniques) for different operations or divisions of company.

Depending upon the workload and degree of coordination involved, the accountant IV may have such assignments as the supervision of the *day-to-day operation* of: (a) The entire accounting system of a subordinate establishment, or (b) a major segment (e.g., general accounting; cost accounting; or financial statements and reports) of an accounting system serving a larger and more complex establishment, or (c) the entire accounting system of a large (e.g., employing several thousand persons) subordinate establishment which in other respects has an accounting system of the complexity that characterizes level III.

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

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 major segment of a system in the intended manner.

The accountant IV exercises professional judgment in making frequent appropriate recommendations for: New accounts; revisions in the account structure; new types of ledgers; revisions in reporting system or subsidiary records; changes in instructions regarding

the use of accounts; new or refined account classifications or definitions; etc. He also makes day-to-day decisions concerning the accounting treatment of financial transactions and is expected to recommend solutions to complex problems beyond the scope of his responsibility.

Responsibility for direction of others. Accounting staff he supervises, if any, may include professional accountants.

Accountant V

General characteristics. Performs professional operating or cost accounting work which is of greater than average professional difficulty and responsibility because of the presence of unusual and novel problems or the unusual magnitude or impact of the accounting program. Typically this level of difficulty arises from (a) the large size of the accounting and operating organization, (b) the atypical nature of the accounting problems encountered, or (c) the unusually great involvement in accounting systems design and development.

Examples of assignments characteristic of this level are the supervision of the *day-to-day operation of*: (a) The entire accounting system of a subordinate establishment having an unusually novel and complex accounting system, or (b) the entire accounting system of a large (e.g., employing several thousand persons) subordinate establishment which in other respects has an accounting system of the complexity that characterizes level IV, or (c) the entire accounting system of a company or corporation that has a relatively stable and conventional accounting system and employs several thousand persons and has a few subordinate establishments which include accounting units, or (d) a major segment of an accounting system that substantially exceeds the characteristics described in any one of the preceding examples.

Direction received. An accountant of 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. The work is characterized by its unusual difficulty or responsibility. Accountants V typically are directly concerned on a relatively continuous basis with what the nature of the accounting system should be, with the devising or revising of the operating accounting policies and procedures that are necessary, and with the managerial as well as

the accounting meaning of the reports and statements for which he is responsible. Accountants V are necessarily deeply involved in fundamental and complex accounting matters and in the managerial problems that are affected.

Responsibility for direction of others. Accounting staff he supervises generally includes professional accountants.

AUDITOR

Performs professional auditing work requiring a bachelor's degree in accounting or, in rare instances, equivalent experience and education combined. Audits the financial records and practices of a company, or of divisions or components of the company, to appraise systematically and verify the accounting accuracy of records and reports and to assure the consistent application of accepted accounting principles. Evaluates the adequacy of the accounting system and internal financial control. Makes appropriate recommendations for improvement as necessary. 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.
- (4) The degree of compliance with established policies and procedures concerning financial transactions.

Excluded are positions which do not require full professional accounting training because the work is confined on a relatively permanent basis to repetitive examinations of a limited area of company operations and accounting processes, e.g., only accounts payable and receivable; demurrage records and related functions, or station operations only of a railroad company; branch offices which do not engage in the full range of banking and accounting activities of the main bank; warehouse operations only of a mail order company; checking transactions to determine whether or not they conform to prescribed routines or procedures. (Examinations of such repetitive or limited nature normally do not require or permit professional audit work to be performed.)

Auditor I

General characteristics. As a trainee auditor at the entering professional level, performs a variety of routine assignments. Typically, he is rotated through a variety of tasks under a planned training program designed to provide practical experience in applying the principles, theories, and concepts of accounting and auditing to specific situations. (Terminal positions are excluded.)

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

Typical duties and responsibilities. Assists in making audits by performing such tasks as: Verification of the accuracy of the balances in various records; examination of a variety of types of documents and vouchers for accuracy of computations; checking transactions to assure they are properly documented and have been recorded in accordance with correct accounting classifications; verifying the count of inventories; preparing detailed statements, schedules, and standard audit working papers; counting cash and other assets; preparing simple reconciliations; and similar functions.

Auditor II

General characteristics. At this continuing developmental level the professional auditor serves as a junior member of an audit team, independently performing selected portions of the audit which are limited in scope and complexity. Auditors at this level typically have acquired knowledge of company operations, policies, and procedures. (Terminal positions are excluded.)

Direction received. Detailed instructions are furnished and the work is reviewed to the extent necessary to verify its general accuracy and coverage of unusual problems, to insure conformance with required procedures and special instructions, and to assure the auditor's professional growth. Any technical problems not covered by instructions are brought to the attention of a superior. His progress is evaluated in terms of his ability to apply his professional knowledge to basic auditing situations.

Typical duties and responsibilities. Applies knowledge of *accounting theory* and audit practices to a variety of relatively simple professional problems in his audit assignments, including such tasks as: The verification of reports against source accounts and records to determine

their reliability; reconciliation of bank and other accounts and verifying the detail of recorded transactions; detailed examinations of cash receipts and disbursement vouchers, payroll records, requisitions, work orders, receiving reports, and other accounting documents to ascertain that transactions are properly supported and are recorded correctly from an accounting or regulatory standpoint; or preparing working papers, schedules, and summaries.

Auditor III

General characteristics. Work at this level consists of the audit of operations and accounting processes that are relatively stable, well-established, and typical of the industry. The audits primarily involve the collection and analysis of readily available findings; there is previous audit experience that is directly applicable; the audit reports are normally prepared in a prescribed format using a standard method of presentation; and few if any major problems are anticipated. The work performed requires the *application* of substantial knowledges of accounting principles and practices, e.g., bases for distinguishing among capital maintenance and operating expenses; accruing reserves for taxes; and other accounting considerations of an equivalent nature.

Direction received. Work is normally within an established audit program and supervision is provided by a higher level auditor who outlines and discusses assignments. Work is spot-checked in progress. Completed assignments are reviewed for adequacy of coverage, soundness of judgment, compliance with professional standards, and adherence to policies.

Typical duties and responsibilities. The auditor examines transactions and verifies accounts; observes and evaluates 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. He is usually responsible for selecting the detailed audit methods to follow, choosing the audit sample and its size, determining the extent to which discrepancies need to be investigated, and deciding the depth of the analyses required to support reported findings and conclusions.

Examples of assignments involving work of this level:

- (1) As a team leader or working alone, independently conducts audits of the complete accounts and related operations of smaller or less complex companies (e.g., involving a centralized accounting system with few or no subordinate, subsidiary, or branch

accounting records) or of comparable segments of larger companies.

(2) As a member of an audit team independently accomplishes varied audit assignments of the above described characteristics, typically major segments of complete audits, or assignments otherwise limited in scope of larger and more complex companies (e.g., complex in that the accounting system entails cost, inventory, and comparable specialized *systems* integrated with the general accounting system).

Illustrative of such assignments are the audit and initial review of accounting treatment and validity of reporting of overhead expenses in a large manufacturing or maintenance organization (e.g., major repair yard of a railroad); or, the checking, verification, and balancing of all accounts receivable and accounts payable; or, the analysis and verification of assets and reserves; or, the inspection and evaluation of accounting controls and procedures.

Auditor IV

General characteristics. Auditors at this level are experienced professionals who apply thorough knowledge of accounting principles and theory in connection with a *variety* of audits. Work at this level is characterized by the audit of organizations and accounting processes which are complex and difficult because of such factors as: Presence of new or changed programs and accounting systems; existence of major specialized accounting functions (e.g., cost accounting, inventory accounting, sales accounting), in addition to general accounting; need to consider extensive and complicated regulatory requirements; lack of or difficulty in obtaining information; and other similar factors. Typically, a variety of different assignments are encountered over a period of time, e.g., 1 year. The audit reports prepared are comprehensive, explain irregularities, cite rules or regulations violated, recommend remedial actions, and contain analyses of items of special importance or interest to company management.

Direction received. Within an established audit program, have responsibility for independently planning and executing audits. Unusually difficult problems are discussed with the supervisor who also reviews completed assignments for adherence to principles and standards and the soundness of conclusions.

Typical duties and responsibilities. Auditors at this level have full responsibility for planning the audit, including determination of the aspects to emphasize, methods to

be used, development of nonstandard or specialized audit aids such as questionnaires, etc., *where previous audit experience and plans are of limited applicability.*

Included in the scope of work that characterizes this level are such functions as: Evaluation of methods used for determining depreciation rates of equipment; evaluation of assets where original costs are unknown; evaluation of the reliability of accounting and reporting systems; analysis of cost accounting systems and cost reports to evaluate the basis for cost and price setting; evaluation of accounting procurement and supply management records, controls, and procedures; and many others.

Examples of assignments involving work at this level:

(1) As a team leader or working alone, independently plans and conducts audits of the complete accounts and related operations of relatively large and complex companies (e.g., complex in that the accounting system entails cost, inventory, and comparable specialized accounting *systems* integrated with the general accounting system) or of company branch, subsidiary, or affiliated organizations which are individually of comparable size and complexity, or

(2) As a member of an audit team independently plans and accomplishes audit assignments that constitute major segments of audits of very large and complex organizations, for example, those with financial responsibilities so great as to involve specialized subordinate, subsidiary, or affiliate accounting systems that are complete in themselves.

NOTE: Excluded from level IV are auditors who, as team leaders or working alone, conduct *complete* audits of very large and complex organizations, for example, those with financial responsibilities so great as to involve specialized subordinate, subsidiary, or affiliate accounting systems that are complete in themselves; or are team members assigned to major segments of audits of even larger or more complex organizations.

CHIEF ACCOUNTANT

As the top technical expert in accounting, is 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) 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, and mechanical or electronic data processing operations which are an adjunct of the accounting system. (Responsibility for an internal audit program is typically *not* included.)

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

(1) On own responsibility, developing or 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, directly or through an official such as a comptroller, 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 as revealed by accounting data, and selecting a manner of presentation that is meaningful to management.

(b) Methods for improving operations as suggested by his expert knowledge of accounting, e.g.; proposals for improving cost control, property management, credit and collection, tax reduction, or similar programs.

Excluded are 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 and procedures studies; or similar nonaccounting functions. (Positions of such breadth are sometimes titled comptroller, budget and accounting manager, financial manager, etc.)

Some positions responsible for supervising general accounting and one or more other major accounting activities but which do *not* fully meet *all* of the responsibilities of a chief accountant specified above may be covered by the descriptions for accountant.

Chief accountant jobs which meet the characteristics described are classified by level ¹ of work according to

(a) authority and responsibility and (b) technical complexity, using the table accompanying the definitions which follow.

Authority and Responsibility

AR-1. The accounting system (i.e., accounts, procedures, and reports to be used) has been prescribed in considerable detail by higher levels in the company or organization. The chief accountant has final, unreviewed authority within the prescribed system, to expand it to fit the particular needs of the organization served, e.g., in the following or comparable ways:

Provides greater detail in accounts and reports or financial statements;

Establishes additional accounting controls, accounts, subaccounts, and subsidiary records; and

Provides special or interim reports and statements needed by the manager responsible for the day-to-day operations of the organization served.

This degree of authority is typically found at a plant or similar subordinate establishment.

AR-2. The basic accounting system is prescribed in broad outline rather than in specific detail. While certain major financial reports, overall accounts, and general policies are required by the basic system, the chief accountant has broad latitude and *authority* to decide the specific methods, procedures, accounts, reports, etc.—to be used within the organizational segment served. He must secure prior approval from higher levels for only those changes which would basically affect the broad requirements prescribed by such higher levels. Typical responsibilities include:

Evaluating and taking final action on recommendations proposed by subordinate establishments for changes in aspects of the accounting system or activities not prescribed by higher authority;

Extending cost accounting operations to areas not previously covered;

Changing from one cost accounting method to another;

Expanding the utilization of computers within the accounting process; and

¹ Insufficient data were obtained for level V to warrant presentation of average salaries.

Table C-1. Criteria for classifying chief accountants by level

Level	Authority and responsibility ¹	Technical complexity ¹	Subordinate staff of professional accountants in the system for which he is responsible.
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.
	<i>or</i>		
	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.
	<i>or</i>		
	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.
	<i>or</i>		
	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.
	<i>or</i>		
	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.
	<i>or</i>		
	AR-3	TC-2	About 15 to 20 professional accountants. Most of these match the accountant IV job definition, but several may match the 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.

¹ AR-1, -2, and -3 and TC-1, -2, and -3 are explained in the accompanying text.

Preparing accounting reports and statements reflecting the events and progress of the entire organization for which he is responsible; often consolidating data submitted by subordinate segments.

This degree of authority is most typically found at intermediate organizational levels such as regional offices, or division or subsidiary headquarters. It is also found in some company level situations where the authority of the chief accountant is less extensive than is described in AR-3. More rarely it is found in plant level chief accountants who have been delegated more authority than usual for such positions as described in AR-1.

AR-3. 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 from a higher level company official responsible for general financial management. Typical responsibilities include:

Determining the basic characteristics of the company's accounting system and the specific accounts to be used;

Devising and preparing accounting reports and statements required to meet management's needs for data;

Establishing basic accounting policies, interpretations, and procedures;

Reviewing and taking action on proposed revisions to the company's accounting system suggested by subordinate units; and

Taking final action on all technical accounting matters.

Characteristically, participates extensively in broad company management processes by providing accounting advice, interpretations, or recommendations based on data accumulated in the accounting system and on his professional judgment and experience.

Technical Complexity

TC-1. The organization which the accounting program serves has relatively few functions, products, work processes, etc., and these tend to be stable and unchang-

ing. 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., which require substantial and frequent adaptations of the basic system to meet management needs (e.g., adoption of new accounts, subaccounts, and subsidiary records; revision of instructions for the use of accounts; improvement or expansion of methods for accumulating and reporting cost data in connection with new or changed work processes).

TC-3. The organization which the accounting program serves puts a *heavy demand on the accounting organization for specialized and extensive adaptations* of the basic system to meet management needs. Such demands arise because the functions, products, work processes, etc., of the organization are very numerous, diverse, unique, or specialized, or there are other comparable complexities. Consequently, the accounting system, to a considerable degree, is developed well beyond established principles and accounting practices in order to:

Provide for the solution of problems for which no clear precedents exist; or

Provide for the development or extension of accounting theories and practices to deal with problems to which these theories and practices have not previously been applied.

Subordinate Staff

In table C-1 the number of professional accountants supervised is recognized to be a relatively crude criterion for distinguishing between various levels. It is to be considered 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.

Attorneys

ATTORNEY

Performs consultation and advisory work and carries out the legal processes necessary to effect the rights,

privileges, and obligations of the company. The work performed requires completion of law school with an LL.B. degree (or the equivalent) and admission to the

bar. Responsibilities or functions include one or more of the following or comparable duties:

Preparing and reviewing various legal instruments and documents, such as contracts, leases, licenses, purchases, sales, real estate, etc;

Acting as agent of the company in its transactions;

Examining material (e.g., advertisements, publications, etc.) for legal implications; advising officials of proposed legislation which might affect the company;

Applying for patents, copyrights, or registration of company's products, processes, devices and trademarks; advising whether to initiate or defend lawsuits;

Conducting pre-trial preparations; defending the company in lawsuits; and

Advising officials on tax matters, Government regulations, and/or corporate rights.

Excluded from this definition are:

Patent work which requires professional training in addition to legal training (typically a degree in engineering or in a science);

Claims examining, claims investigating or similar work for which professional legal training and bar membership is not essential;

Attorneys, frequently titled "general counsel" (and their immediate full associates or deputies), who serve as company officers or the equivalent and are responsible for participating in the overall management and formulation of policy for the company in addition to directing its legal work. (The duties and responsibilities of such positions exceed level VI as described below.)

Attorney jobs which meet the above definition are to be classified and coded in accordance with table C-2 and the definitions which follow.

D-1. Legal questions are characterized by: Facts that are well-established; clearly applicable legal precedents; and

Table C-2. Criteria for classifying attorneys by level

Class	Difficulty of legal work ¹	Responsibility of job ¹	Experience required
I	This is the entry level. The duties and responsibilities after initial orientation and training are those described in D-1 and R-1.		Completion of law school with an LL.B. or J.D. degree plus admission to the bar.
II	or D-1 D-2	or R-2 R-1	Sufficient professional experience (at least 1 year, usually more) at the "D-1" level to assure competence as an attorney.
III	or D-2 D-3	or R-2 R-1	At least 1 year, usually more, of professional experience at the "D-2" level.
IV	or D-2 D-3	or R-3 R-2	Extensive professional experience at the "D-2" or a higher level.
V	D-3	R-3	Extensive professional experience at the "D-3" level.
VI	D-3	R-4	Extensive professional experience at the "D-3" and "R-3" levels.

¹D-1, D-2, D-3, and R-1, R-2, R-3, and R-4 are explained in the accompanying text.

matters not of substantial importance to the organization. (Usually relatively limited sums of money, e.g., a few thousand dollars, are involved.)

Examples of D-1 work:

(a) Legal investigation, negotiation, and research preparatory to defending the organization in potential or actual lawsuits involving alleged negligence where the facts can be firmly established and there are precedent cases directly applicable to the situation.

(b) Searching case reports, legal documents, periodicals, textbooks, and other legal references, and preparing draft opinions on employee compensation or benefit questions when there is a substantial amount of clearly applicable statutory, regulatory, and case material.

(c) Drawing up contracts and other legal documents in connection with real property transactions requiring the development of detailed information but *not* involving serious questions regarding titles to property or other major factual or legal issues.

D-2. Legal work is regularly difficult by reason of one or more of the following: The absence of clear and directly applicable legal precedents; the different possible interpretations that can be placed on either the facts, the laws, or the precedents involved; the substantial importance of the legal matters to the organization (e.g., sums as large as \$100,000 are generally directly or indirectly involved); the matter is being strongly pressed or contested in formal proceedings or in negotiations by the individuals, corporations, or Government agencies involved.

Examples of D-2 work:

(a) Advising on the legal implications of advertising representations when the facts supporting the representations and the applicable precedent cases are subject to different interpretations.

(b) Reviewing and advising on the implications of new or revised laws affecting the organization.

(c) Presenting the organization's defense in court in a negligence lawsuit which is strongly pressed by counsel for an organized group.

(d) Providing legal counsel on tax questions complicated by the absence of precedent decisions that are directly applicable to the organization's situation.

D-3. Legal work is typically complex and difficult because of one or more of the following: The questions are unique and require a high order of original and creative legal endeavor for their solution; the questions require extensive research and analysis and the obtain-

ing and evaluation of expert testimony regarding controversial issues in a scientific, financial, corporate organization, engineering, or other highly technical area; the legal matter is of critical importance to the organization and is being vigorously pressed or contested (e.g., sums such as \$1 million or more are generally directly or indirectly involved).

Examples of D-3 work:

(a) Advising on the legal aspects and implications of Federal antitrust laws to projected greatly expanded marketing operations involving joint ventures with several other organizations.

(b) Planning legal strategy and representing a utility company in rate or Government franchise cases involving a geographic area including parts or all of several States.

(c) Preparing and presenting a case before an appellate court where the case is highly important to the future operation of the organization and is vigorously contested by very distinguished (e.g., having a broad regional or national reputation) legal talent.

(d) Serving as the principal counsel to the officers and staff of an insurance company on the legal problems in the sale, underwriting, and administration of group contracts involving nationwide or multistate coverages and laws.

(e) Performing the principal legal work in a nonroutine major revision of the company's charter or in effectuating new major financing steps.

R-1. Responsibility for final action is usually limited to matters covered by legal precedents and in which little deviation from standard practice is involved. Any decisions or actions having a significant bearing on the organization's business are reviewed. (Is given guidance in the initial stages of his assignment. Assignments are then carried out with moderate independence although guidance is generally available and is sought from time to time on problem points.)

R-2. Usually works independently in investigating the facts, searching legal precedents, defining the legal and factual issues, drafting the necessary legal documents, and developing conclusions and recommendations. Decisions having an important bearing on the organization's business are reviewed. (Receives information from supervisor regarding unusual circumstances or important policy considerations pertaining to a legal problem. If trials are involved, may receive guidance from a supervisor regarding presentation, line of approach, possible line of opposition to be encountered, etc. In the case of nonroutine written presentations the final

product is reviewed carefully, but primarily for overall soundness of legal reasoning and consistency with organization policy. Some, but not all attorneys, make assignments to one or more lower level attorneys, aids, or clerks.)

R-3. Carries out assignments independently and makes final legal determinations in matters of substantial importance to his organization. Such determinations are subject to review only for consistency with company policy, possible precedent effect, and overall effectiveness. To carry out his assignments he deals regularly with company officers and top level management officials and confers or negotiates regularly with senior attorneys, and officials in other companies or in Government agencies on various aspects of his assigned work. (Receives little or no preliminary instruction on legal problems and a minimum of technical legal supervision. May assign and review work of a few attorneys, but this is not a primary responsibility.)

R-4. Carries out assignments which entail independently planning investigations and negotiations on legal problems of the highest importance to his organization and developing completed briefs, opinions, contracts, or other legal products. To carry out his assignments he represents his organization at conferences, hearings, or

trials, and personally confers and negotiates with top attorneys and top-ranking officials in private companies or in Government agencies. On various aspects of his assigned work may give advice directly and personally to corporation officers and top level managers, or may work through the general counsel of the company in advising officers. (Generally receives no preliminary instruction on legal problems. On matters requiring the concentrated efforts of several attorneys or other specialists, is responsible for directing, coordinating and reviewing the work of the attorneys involved.)

OR

As a primary responsibility, directs the work of a staff of attorneys, one, but usually more, of whom regularly perform D-3 legal work. With respect to the work directed, gives advice directly to corporation officers and top managerial officers, or may give such advice through the general counsel. (Receives guidance as to organization policy but no technical supervision or assistance except when he might request advice from, or be briefed on, the overall approach to the most difficult, novel, or important legal questions, by the general counsel. Usually reports to the general counsel or his deputy.)

Buyers

BUYER

Purchases materials, supplies, equipment, and services (e.g., utilities, maintenance, and repair). In some instances items are of types that must be specially designed, produced, or modified by the vendor in accordance with drawings or engineering specifications.

Solicits bids, analyzes quotations received, and selects or recommends supplier. May interview prospective vendors. Purchases items and services at the most favorable price consistent with quality, quantity, specification requirements, and other factors. Prepares or supervises preparation of purchase orders from requisitions. May expedite delivery and visit vendors' offices and plants.

Normally, purchases are unreviewed when they are consistent with past experience, and are in conformance with established rules and policies. Proposed purchase transactions that deviate from the usual or from past experience in terms of prices, quality of items, quantities, etc., or that may set precedents for future purchases, are reviewed by higher authority prior to final action.

In addition to the work described above, some (but not all) buyers direct the work of one or a few clerks who perform routine aspects of the work. As a secondary and subsidiary duty, some buyers may also sell or dispose of surplus, salvage, or used materials, equipment, or supplies.

NOTE: Some buyers are responsible for the purchasing of a variety of items and materials. When the variety includes items and work described at more than one of the following levels, the position should be considered to equal the highest level that characterizes at least a substantial portion of the buyer's time.

Excluded are:

- (a) Buyers of items for direct sale, either wholesale or retail;
- (b) Brokers and dealers buying for clients or for investment purposes;
- (c) Positions that specifically require professional education and qualifications in a physical science or in engineering (e.g., chemist, mechanical engineer);

(d) Buyers who specialize in purchasing a single or a few related items of highly variable quality such as raw cotton or wool, tobacco, cattle, or leather for shoe uppers, etc. Expert personal knowledge of the item is required to judge the relative value of the goods offered, and to decide the quantity, quality, and price of each purchase in terms of its probable effect on the organization's profit and competitive status;

(e) Buyers whose principal responsibility is the supervision of other buyers or the management, direction, or supervision of a purchasing program;

(f) Persons predominantly concerned with contract or subcontract administration;

(g) Persons whose major duties consist of ordering, reordering, or requisitioning items under existing contracts; and

(h) Positions restricted to the clerical functions or to purchase expediting work.

Buyer I

Purchases "off-the-shelf" types of readily available, commonly used materials, supplies, tools, furniture, services, etc.

Transactions usually involve local retailers, wholesalers, jobbers, and manufacturers' sales representatives.

Quantities purchased are generally small amounts, e.g., those available from local sources.

Examples of items purchased include: Common stationery and office supplies; standard types of office furniture and fixtures; standard nuts, bolts, screws; janitorial and common building maintenance supplies; and common building maintenance or common utility services.

Buyer II

Purchases "off-the-shelf" types of standard, generally available technical items, materials, and services.

Transactions usually involve dealing directly with manufacturers, distributors, jobbers, etc.

Quantities of items and materials purchased may be relatively large, particularly in the case of contracts for continuing supply over a period of time.

May be responsible for locating or promoting possible new sources of supply. Usually is expected to keep abreast of market trends, changes in business practices in the assigned markets, new or altered types of materials entering the market, etc.

Examples of items purchased include: Industrial types of handtools; electronic tube and component

test instruments; standard electronic parts and components; electric motors; gasoline service station equipment; 'PBX or other specialized telephone services; and routine purchases of common raw materials such as standard grades and sizes of steel bars, rods, and angles.

Also included at this level are buyers of materials of the types described for buyer I when the quantities purchased are large so that local sources of supply are generally inadequate and the buyer must deal directly with manufacturers on a broader than local scale.

Buyer III

Purchases items, materials, or services of a technical and specialized nature. The items, while of a common general type, are usually made, altered, or customized to meet the user's specific needs and specifications.

Transactions usually require dealing with manufacturers. The number of potential vendors is likely to be small and price differentials often reflect important factors (quality, delivery dates and places, etc.) that are difficult to evaluate.

The quantities purchased of any item or service may be large.

Many of the purchases involve one or more of such complications as: Specifications that detail, in technical terms, the required physical, chemical, electrical, or other comparable properties; special testing prior to acceptance; grouping of items for lot bidding and awards; specialized processing, packing, or packaging requirements; export packs; overseas port differentials; etc.

Is expected to keep abreast of market and product developments. May be required to locate new sources of supply.

Some positions may involve *assisting* in the training or supervising of lower level buyers or clerks.

Examples of items purchased include: Castings; special extruded shapes of normal size and material; special formula paints; electric motors of special shape or speed; special packaging of items; and raw materials in substantial quantities.

Buyer IV

Purchases highly complex and technical items, materials, or services, usually those specially designed and manufactured exclusively for the purchaser.

Transactions require dealing with manufacturers and often involved persuading potential vendors to under-

take the manufacturing of custom designed items according to complex and rigid specifications.

Quantities of items and materials purchased are often large in order to satisfy the requirements for an entire large organization for an extended period of time. Complex schedules of delivery are often involved. Buyer determines appropriate quantities to be contracted for at any given period of time.

Transactions are often complicated by the presence of one or more such matters as inclusion of: Requirements for spare parts, preproduction samples and testing, or technical literature; or patent and royalty provisions.

Keeps abreast of market and product developments. Develops new sources of supply.

In addition to the work described above, a few positions may also require supervision over a few lower level buyers or clerks. (No position is included in this level *solely* because supervisory duties are performed.)

Examples of items purchased include: Special purpose high cost machine tools and production

facilities; raw materials of critically important characteristics or quality; parts, subassemblies, components, etc., specially designed and made to order (e.g., communications equipment for installation in aircraft being manufactured; component assemblies for missiles and rockets; and motor vehicle frames).

NOTE: Excluded are buying positions above level IV. Some buyers above level IV make purchases in such unusually large quantities that they can affect the market price of a commodity or produce other significant effects on the industry or trade concerned. Others may purchase items of either (1) extraordinary technical complexity, e.g., involving the outermost limits of science or engineering, or (2) unusually high individual or unit value. Such buyers often persuade suppliers to expand their plants or convert facilities to the production of new items or services. These types of buying functions are often performed by program managers or company officials who have primary responsibilities other than buying.

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 tech-

niques 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 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 a segment of a company. Serves top management officials of the organization as the source of advice and assistance on personnel management matters and problems generally; 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.; represents management in contacts with other companies, trade associations, government agencies, etc., dealing primarily with personnel management matters.

Typically the director of personnel for a company reports to a company officer in charge of industrial relations and personnel management activities or an officer of similar level. Below the company level the director of personnel typically reports to a company officer or a high management official who has responsibility for the operation of a plant, establishment, or other segment of the 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 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, skill, reference checks, experience evaluations, etc.; recommending selections and job placements to management, etc.

(3) *Employee relations and services function;* 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 and safety programs, etc.)

In addition, positions covered by this definition may, but do not necessarily, include responsibilities in the following areas:

a. *Employee training and development;*

b. *Labor relations activities* which are confined mainly to the administration, interpretation, and application of those aspects of labor union contracts that are essentially of the type described under (3) above. May also participate in bargaining of a subordinate 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.

Excluded are positions in which responsibility for actual contract negotiation with labor unions as the principal company representative is a significant aspect of the job, i.e., a responsibility which serves as a primary basis for qualification requirements and compensation.

Directors of personnel jobs which meet the above definition are classified by level² of work in accordance with the criteria shown in table C-3.

² Insufficient data were obtained for level V to warrant presentation of average salaries.

Table C-3. Criteria for classifying directors of personnel by level

Number of employees in work force serviced	"Operations level" personnel program ¹		Number of employees in work force serviced	"Development level" personnel program ²	
	"Type A" organization serviced ³	"Type B" organization serviced ⁴		"Type A" organization serviced ³	"Type B" organization serviced ⁴
250-750	I	II	250-750	II	III
1,000-5,000	II	III	1,000-5,000	III	IV
6,000-12,000	III	IV	6,000-12,000	IV	V
15,000-25,000	IV	V	15,000-25,000	V	

¹ "Operations level" personnel program—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.

² "Development level" personnel program—either:

(a) 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, or (b) director of personnel servicing an intermediate organization below the company level, e.g., a division or a subsidiary, to which a relatively complete delegation of personnel program planning and development responsibility is made. In this situation only basic policy direction is given by the parent company and local officers. The director of personnel has essentially the same degree of latitude and responsibility for establishment of basic personnel policies, plans, objectives, etc., as described above in (a).

³ "Type A" - organization serviced—most jobs serviced do not present particularly difficult or unusual recruitment, job

evaluation, or training problems because the jobs consist of relatively easy-to-understand work processes, and an adequate labor supply is available. These conditions are most likely to be found in organizations in which the work force and organizational structure are relatively stable.

⁴ "Type B" - organization serviced—a substantial number of jobs present difficult recruitment, job evaluation, or training problems because the jobs: Consist of hard-to-understand work processes (e.g., professional, scientific, administrative, or technical); have hard-to-match skill requirements; are in new or emerging occupations; or are extremely hard to fill. These conditions are most likely to be found in organizations in which the work force, organizational structure, work processes or functions, etc., are complicated or unstable.

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.

Chemists and Engineers

CHEMIST

Performs professional work in research, development, interpretation, and analysis 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 appropriate and substantial college level study of chemistry plus experience.

Chemist I

General characteristics. This is the entry level of professional work requiring a bachelor's degree in chemistry and no experience, or the equivalent (to a degree) in appropriate education and experience. Performs assignments designed to develop professional capabilities and to provide experience in the application of training in

chemistry as it relates to the company's programs. May also receive formal classroom or seminar type training. (Terminal positions are excluded.)

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

Typical duties and responsibilities. Performs a variety of routine tasks that are planned to provide experience and familiarization with the chemistry staff, methods, practices and programs of the company. The work includes a variety of routine qualitative and quantitative analyses; physical tests to determine properties such as viscosity, tensile strength, and melting point; and assisting more experienced chemists to gain additional knowledge through personal observation and discussion.

Responsibility for the direction of others. Usually none

Chemist II

General characteristics. At this continuing developmental level, performs routine chemical work requiring selection and application of general and specialized methods, techniques, and instruments commonly used in the laboratory and the ability to carry out instructions when less common or proposed methods or procedures are necessary. Requires work experience acquired in an entry level position, or appropriate graduate level study. For training and developmental purposes, assignments may include some work that is typical of a higher level. (Terminal positions are excluded.)

Direction received. Supervisor establishes the nature and extent of analysis required, specifies methods and criteria on new types of assignments, and reviews work for thoroughness of application of methods and accuracy of results.

Typical duties and responsibilities. Carries out a wide variety of standardized methods, tests, and procedures. In accordance with specific instructions may carry out proposed and less common ones. Is expected to detect problems in using standardized procedures because of the condition of the sample, difficulties with the equipment, etc. Recommends modifications of procedures, e.g., extending or curtailing the analysis or using alternate procedures, based on his knowledge of the problem and pertinent available literature. Conducts specified phases of research projects as an assistant to an experienced chemist.

Responsibility for the direction of others. May be assisted by a few aids or technicians.

Chemist III

General characteristics. Performs a broad range of chemical tests and procedures utilized in the laboratory, using judgment in the independent evaluation, selection, and adaptation of standard methods and techniques. May carry through a complete series of tests on a product in its different process stages. Some assignments require a specialized knowledge of one or two common categories of related substances. Performance at this level requires developmental experience in a professional position, or equivalent graduate level education.

Direction received. On routine work, supervision is very general. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Typical duties and responsibilities. In accordance with instructions as to the nature of the problem, selects standard methods, tests or procedures; when neces-

sary, develops or works out alternate or modified methods with supervisor's concurrence. Assists in research by analyzing samples or testing new procedures that require specialized training because (a) standard methods are inapplicable, (b) analytical findings must be interpreted in terms of compliance or noncompliance with standards, or (c) specialized and advanced equipment and techniques must be adapted.

Responsibility for the direction of others. May supervise or coordinate the work of a few technicians or aids, and be assisted by lower level chemists.

Chemist IV

General characteristics. As a fully competent chemist in all conventional aspects of the subject-matter or the functional area of the assignments, plans and conducts work requiring (a) mastery of specialized techniques or ingenuity in selecting and evaluating approaches to unforeseen or novel problems, and (b) ability to apply a research approach to the solution of a wide variety of problems and to assimilate the details and significance of chemical and physical analyses, procedures, and tests. Requires sufficient professional experience to assure competence as a fully trained worker; or, for positions primarily of a research nature, completion of all requirements for a doctoral degree may be substituted for experience.

Direction received. Independently performs most assignments with instructions as to the general results expected. Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.

Typical duties and responsibilities. Conducts laboratory assignments requiring the determination and evaluation of alternative procedures and the sequence of performing them. Performs complex, exacting, unusual analytical assignments requiring specialized knowledge of techniques or products. Interprets results, prepares reports, and may provide technical advice in his specialized area.

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

Chemist V

General characteristics. Participates in planning laboratory 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 (e.g., class of chemical compounds, or a class of products), making recommendations and conclusions which serve as the basis for undertaking or rejecting important projects.

Development of the knowledge and expertise required for this level of work usually reflects progressive experience through chemist IV

Direction received. Supervision and guidance relates largely to overall objectives, critical issues, new concepts, and policy matters. Consults with supervisor concerning unusual problems and developments.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity plans, organizes, and directs assigned laboratory programs. Independently defines scope and critical elements of the projects and selects approaches to be taken. A substantial portion of the work supervised is comparable to that described for chemist IV. (2) As individual researcher or worker, carries out projects requiring development of new or highly modified scientific techniques and procedures, extensive knowledge of his specialty, and knowledge of related scientific fields.

Responsibility for the direction of others. Supervises, coordinates, and reviews the work of a small staff of chemists and technicians engaged in varied research and development projects, or a larger group performing routine analytical work. Estimates manpower needs and schedules and assigns work to meet completion date. Or, as individual researcher or worker, may be assisted on projects by other chemists or technicians.

Chemist VI

General characteristics. Performs work requiring leadership and expert knowledge in a specialized field, product, or process. Formulates and conducts a systematic attack on a problem area of considerable scope and complexity which must be approached through a series of complete and conceptually related studies, or a number of projects of lesser scope. The problems are complex because they are difficult to define and require unconventional or novel approaches or have other difficult features. Maintains liaison with individuals and units within and outside his organization with responsibility for acting independently on technical matters pertaining to his field. Work at this level usually requires extensive progressive experience including work comparable to chemist V.

Direction received. Supervision received is essentially administrative, with assignments given in terms of broad general objectives and limits.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity (a) plans,

develops, coordinates, and directs a number of larger and important projects or a project of major scope and importance, or (b) is responsible for the entire chemical program of a company, when the program is of limited complexity and scope. Activities under his leadership are of a scope that they require a few (3 to 5) subordinate supervisors or team leaders with at least one in a position comparable to level V. (2) As individual researcher or worker determines, conceives, plans, and conducts projects of major importance to the company. Applies a high degree of originality and ingenuity in adapting, extending, and synthesizing existing theory, principles, and techniques into original combinations and configurations. May serve as a consultant to other chemists in his specialty.

Responsibility for the direction of others. Plans, organizes, and supervises the work of a staff of chemists and technicians. Evaluates progress of the staff and results obtained, and recommends major changes to achieve overall objectives. Or, as individual worker or researcher may be assisted on individual projects by other chemists or technicians.

Chemist VII

General characteristics. Makes decisions and recommendations that are recognized as authoritative and have an important impact on extensive chemical activities. Initiates and maintains extensive contacts with key chemists and officials of other organizations and companies, requiring skill in persuasion and negotiation of critical issues. At this level individuals will have demonstrated creativity, foresight, and mature judgment in anticipating and solving unprecedented chemical problems, determining program objectives and requirements, organizing programs and projects, and developing standards and guides for diverse chemical activities.

Direction received. Receives general administrative direction.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity is responsible for (a) an important segment of a chemical program of a company with extensive and diversified scientific requirements, or (b) the entire chemical program of a company where the program is more limited in scope. The overall chemical program contains critical problems the solution of which requires major technological advances and opens the way for extensive related development. 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. Recommends facilities, personnel, and funds required.

(2) As individual researcher and consultant selects problems for research to further the company's objectives. Conceives and plans investigations in which the phenomena and principles are not adequately understood, and where few or contradictory scientific precedents or results are available for reference. Outstanding creativity and mature judgment are required to devise hypotheses and techniques of experimentation and to interpret results. As a leader and authority in his company, in a broad area of specialization, or in a narrow but intensely specialized one, advises the head of a large laboratory or company officials on complex aspects of extremely broad and important programs. Has responsibility for exploring, evaluating, and justifying proposed and current programs and projects and furnishing advice on unusually complex and novel problems in the specialty field. Typically will have contributed innovations (e.g., techniques, products, procedures) which are regarded as significant advances in the field.

Responsibility for the direction of others. Directs several subordinate supervisors or team leaders, some of whom are in positions comparable to chemist VI; or, as individual researcher and consultant, may be assisted on individual projects by other chemists and technicians.

Chemist VIII

General characteristics. Makes decisions and recommendations that are authoritative and have a far-reaching impact on extensive chemical and related activities of the company. Negotiates critical and controversial issues with top level chemists and officers of other organizations and companies. Individuals at this level have demonstrated a high degree of creativity, foresight, and mature judgment in planning, organizing, and guiding extensive chemical programs and activities of outstanding novelty and importance.

Direction received. Receives general administrative direction.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity is responsible for (a) the entire chemical program of a company which is of moderate scope, or (b) an important segment of a chemical program of a company with very extensive and highly diversified scientific requirements, where programs are of such complexity and scope that they are of critical importance to overall operations and include problems of extraordinary difficulty that have resisted solution. Decides the kind and extent of chemical

programs needed to accomplish the objectives of the company, for choosing the scientific approaches, for planning and organizing facilities and programs, and for interpreting results. (2) As individual researcher and consultant formulates and guides the attack on problems of exceptional difficulty and marked importance to the company and/or industry. Problems are characterized by planning and organizing facilities and programs, and for the lack of scientific precedents and source materials, or the lack of success of prior research and analysis so that their solution would represent an advance of great significance and importance. Performs advisory and consulting work for the company as a recognized authority for broad program areas of considerable novelty and importance. Has made contributions such as new products or techniques, development of processes, etc., which are regarded as major advances in the field.

Responsibility for the direction of others. Supervises several subordinate supervisors or team leaders some of whose positions are comparable to chemist VII or individual researchers some of whose positions are comparable to chemist VII and sometimes chemist VIII. As an individual researcher and consultant may be assisted on individual projects by other chemists or technicians.

NOTE: Individuals in charge of a company's chemical program may match any of several of the survey job levels, depending on the size and complexity of chemical programs. Excluded from level VIII are chemists in charge of programs so extensive and complex (e.g., consisting of highly diversified or unusually novel products and procedures) that one or more subordinate supervisory chemists are performing at level VIII. Also excluded from level VIII are individual researchers and consultants who are recognized as national and/or international authorities and scientific leaders in very broad areas of scientific interest and investigation.

ENGINEER

Performs professional 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 combined education and experience. (Excluded are: Safety engineers, industrial engineers, quality control engineers, sales engineers, and engineers whose primary responsibility is to be in charge of nonprofessional maintenance work.)

Engineer I

General characteristics. This is the entry level of professional work requiring a bachelor's degree in engineering and no experience, or the equivalent (to a degree) in appropriate education and experience. Performs assignments designed to develop professional work knowledges and abilities. May also receive formal classroom or seminar type training. (Terminal positions are excluded.)

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

Typical duties and responsibilities. Performs a variety of routine tasks that are planned to provide experience and familiarization with the engineering staff, methods, practices, and programs of the company.

Responsibility for the direction of others. Usually 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 and in making preliminary selections and adaptations of engineering alternatives. Requires work experience acquired in an entry level position, or appropriate graduate level study. For training and developmental purposes, assignments may include some work that is typical of a higher level. (Terminal positions are excluded.)

Direction received. Supervisor screens assignments for unusual or difficult problems and selects techniques and procedures to be applied on nonroutine work. 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 be assisted by a few aids or technicians.

Engineer III

General characteristics. Independently evaluates, selects, and applies standard engineering techniques, procedures,

and criteria, using judgment in making minor adaptations and modifications. Assignments have clear and specified objectives and require the investigation of a limited number of variables. Performance at this level requires developmental experience in a professional position, or equivalent graduate level education.

Direction received. Receives instructions on specific assignment objectives, complex features, and possible solutions. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Typical duties and responsibilities. Performs work which involves conventional types of plans, investigations, surveys, structures, or equipment with relatively few complex features for which there are precedents. Assignments usually include one or more of the following: 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 and techniques commonly employed in the specific narrow area of assignments.

Responsibility for the direction of others. May supervise or coordinate the work of draftsmen, technicians, and others who assist in specific assignments.

Engineer IV

General characteristics. As a fully competent engineer in all conventional aspects of the subject-matter or the functional area of the assignments, plans and conducts work requiring judgment in the independent evaluation, selection, and substantial adaptation and modification of standard techniques, procedures, and criteria. Devises new approaches to problems encountered. Requires sufficient professional experience to assure competence as a fully trained worker; or, for positions primarily of a research nature, completion of all requirements for a doctoral degree may be substituted for experience.

Direction received. Independently performs most assignments with instructions as to the general results expected. Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.

Typical duties and responsibilities. Plans, schedules, conducts, or coordinates detailed phases of the engineering work in a part of a major project or in a total project of moderate scope. Performs work which involves conventional engineering practice but may include 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 assigned work.

Engineer V

General characteristics. Applies 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. Requires the use of advanced techniques and the modification and extension of theories, precepts and practices of his field and related sciences and disciplines. The knowledge and expertise required for this level of work usually result from progressive experience, including work comparable to engineer IV.

Direction received. Supervision and guidance relate largely to overall objectives, critical issues, new concepts, and policy matters. Consults with supervisor concerning unusual problems and developments.

Typical duties and responsibilities. One or more of the following: (1) In a supervisory capacity plans, develops, coordinates, and directs a large and important engineering project or a number of small projects with many complex features. A substantial portion of the work supervised is comparable to that described for engineer IV. (2) As individual researcher or worker carries out complex or novel assignments requiring the development of new or improved techniques and procedures. Work is expected to result in the development of new or refined equipment, materials, processes, products, and/or scientific methods. (3) As staff specialist develops and evaluates plans and criteria for a variety of projects and activities to be carried out by others. Assesses the feasibility and soundness of proposed engineering evaluation tests, products, or equipment when necessary data are insufficient or confirmation by testing is advisable. Usually performs as a staff advisor and consultant as to a technical specialty, a type of facility or equipment, or a program function.

Responsibility for the direction of others. 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. Or, as individual researcher or staff specialist may be assisted on projects by other engineers or technicians.

Engineer VI

General characteristics. Has full technical responsibility for interpreting, organizing, executing, and coordinating assignments. Plans and develops engineering projects concerned with unique or controversial problems which have an important effect on major company programs. This involves exploration of subject area, definition of scope and selection of problems for investigation, and development of novel concepts and approaches. Maintains liaison with individuals and units within or outside his organization with responsibility for acting independently on technical matters pertaining to his field. Work at this level usually requires extensive progressive experience including work comparable to engineer V.

Direction received. Supervision received is essentially administrative, with assignments given in terms of broad general objectives and limits.

Typical duties and responsibilities. One or more of the following: (1) In a supervisory capacity (a) plans, develops, coordinates, and directs a number of large and important projects or a project of major scope and importance, or (b) is responsible for the entire engineering program of a company when the program is of limited complexity and scope. The extent of his responsibilities generally require a few (3 to 5) subordinate supervisors or team leaders with at least one in a position comparable to level V. (2) As individual researcher or worker conceives, plans, and conducts research in problem areas of considerable scope and complexity. The problems must be approached through a series of complete and conceptually related studies, are difficult to define, require unconventional or novel approaches; and require sophisticated research techniques. Available guides and precedents; contain critical gaps, are only partially related to the problem, or may be largely lacking due to the novel character of the project. At this level, the individual researcher generally will have contributed inventions, new designs, or techniques which are of material significance in the solution of important problems. (3) As a staff specialist serves as the technical specialist for the organization (division or company) in the application of advanced theories, concepts, principles, and processes for an assigned area of responsibility (i.e., subject matter, function, type of facility or equipment, or product). Keeps abreast of new scientific methods and developments affecting his organization for the purpose of recommending changes in emphasis of programs or new programs warranted by such developments.

Responsibility for the direction of others. Plans, organizes, and supervises the work of a staff of engineers

and technicians. Evaluates progress of the staff and results obtained, and recommends major changes to achieve overall objectives. Or, as individual researcher or staff specialist may be assisted on individual projects by other engineers or technicians.

Engineer VII

General characteristics. Makes decisions and recommendations that 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, requiring skill in persuasion and negotiation of critical issues. At this level individuals will have demonstrated 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.

Direction received. Receives general administrative direction.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity is responsible for (a) an important segment of the engineering program of a company with extensive and diversified engineering requirements, or (b) the entire engineering program of a company when it is more limited in scope. The overall engineering program contains critical problems the solution of which requires major technological advances and opens the way for extensive related development. The extent of his responsibilities generally requires several subordinate organizational segments or teams. Recommends facilities, personnel, and funds required to carry out programs which are directly related with and directed toward fulfillment of overall company objectives. (2) As individual researcher and consultant is a recognized leader and authority in his company in a broad area of specialization or in a narrow but intensely specialized field. Selects research problems to further the company's objectives. Conceives and plans investigations of broad areas of considerable novelty and importance for which engineering precedents are lacking in areas critical to the overall engineering program. Is consulted extensively by associates and others with a high degree of reliance placed on his scientific interpretations and advice. Typically, will have contributed inventions, new designs, or techniques which are regarded as major advances in the field.

Responsibility for the direction of others. Directs several subordinate supervisors or team leaders, some of whom

are in positions comparable to engineer VI; or, as individual researcher and consultant, may be assisted on individual projects by other engineers and technicians.

Engineer VIII

General characteristics. Makes decisions and recommendations that are recognized as authoritative and 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. Individuals at this level demonstrate a high degree of creativity, foresight, and mature judgment in planning, organizing, and guiding extensive engineering programs and activities of outstanding novelty and importance.

Direction received. Receives general administrative direction.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity is responsible for (a) an important segment of a very extensive and highly diversified engineering program of a company, or (b) the entire engineering program of a company when the program is of moderate scope. The programs are of such complexity and scope that they are of critical importance to overall objectives, include problems of extraordinary difficulty that often have resisted solution, and consist of several segments requiring subordinate supervisors. Is responsible for deciding the kind and extent of engineering and related programs needed to accomplish the objectives of the company, for choosing the scientific approaches, for planning and organizing facilities and programs, and for interpreting results. (2) As individual researcher and consultant formulates and guides the attack on problems of exceptional difficulty and marked importance to the company or industry. Problems are characterized by their lack of scientific precedents and source material, or lack of success of prior research and analysis so that their solution would represent an advance of great significance and importance. Performs advisory and consulting work for the company as a recognized authority for broad program areas or in an intensely specialized area of considerable novelty and importance.

Responsibility for the direction of others. Supervises several subordinate supervisors or team leaders some of whose positions are comparable to engineer VII, or individual researchers some of whose positions are comparable to engineer VII and sometimes engineer VIII. As an individual researcher and consultant may be assisted on individual projects by other engineers or technicians.

NOTE: Individuals in charge of a company's engineering program may match any of several of the survey job levels depending on the size and complexity of engineering programs. Excluded from level VIII are engineers in charge of programs so extensive and complex (e.g., consisting of research and development on a variety of complex products or systems with numerous

novel components) that one or more subordinate supervisory engineers are performing at level VIII. Also excluded from level VIII are individual researchers and consultants who are recognized as national and/or international authorities and scientific leaders in very broad areas of scientific interest and investigation.

Technical Support

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, drawings, etc.; 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 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; 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.

DRAFTSMAN

Draftsman-tracer

Copies plans and drawings prepared by others by placing tracing cloth or paper over drawings and tracing

with pen or pencil. (Does not include tracing limited to plans primarily consisting of straight lines and a large scale not requiring close delineation.)

and/or

Prepares simple or repetitive drawings of easily visualized items. Work is closely supervised during progress.

Draftsman I

Prepares detail drawings of single units or parts for engineering, construction, manufacturing, or repair purposes. Types of drawings prepared include isometric projections (depicting three dimensions in accurate scale) and sectional views to clarify positioning or components and convey needed information. Consolidates details from a number of sources and adjusts or transposes scale as required. Suggested methods of approach, applicable precedents, and advice on source materials are given with initial assignments. Instructions are less complete when assignments recur. Work may be spot checked during progress.

Draftsman II

Performs nonroutine and complex drafting assignments that require the application of most of the standardized drawing techniques regularly used. Duties typically involve such work as: Prepares working drawings of subassemblies with irregular shapes, multiple functions, and precise positional relationships between components; prepares architectural drawings for construction of a building including detail drawings of foundations, wall sections, floor plans, and roof. Uses accepted formulas and manuals in making necessary computations to determine quantities of materials to be used, load capacities, strengths, stresses, etc. Receives initial instructions, requirements, and advice from supervisor. Completed work is checked for technical adequacy.

Draftsman III

Plans the graphic presentation of complex items having distinctive design features that differ significantly from established drafting precedents. Works in close support with the design originator, and may recommend minor design changes. Analyzes the effect of each change on the details of form, function, and positional relationships of components and parts. Works with a minimum of supervisory assistance. Completed work is reviewed by design originator for consistency with prior engineering determinations. May either prepare drawings, or direct their preparation by lower level draftsmen.

Clerical Supervisory

KEYPUNCH SUPERVISOR

Supervises three or more keypunch operators who keypunch or verify cards or tape for computer or tabulating machine processing. May also, as an incidental responsibility, supervise the operation of other types of punching machines such as reproducers or gang punches.

Excluded are: (a) Positions also responsible for supervising the operation of equipment such as computers, tabulating machines, or other kinds of office machines; (b) positions responsible for supervising clerical work not directly related to the keypunch function; and

(c) working supervisors, group leaders, or other overseers with more limited supervisory responsibility than is described below.

Keypunch supervisory positions are classified in five levels (I through V) on the basis of combinations of three elements—level and kind of supervisory responsibility, difficulty of keypunch work supervised, and number of employees supervised. In the following table two levels of supervision are described and each is followed by a brief chart that shows the level of keypunch supervisor for each combination of the other two elements.

Text table C-4. Level and kind of supervisory responsibility

Lower		Upper		
<p>Is responsible for the day-to-day operations and flow of work when the organization of the work, assignment of employees to positions, the job types and levels, instructions and procedures, etc., are prescribed by higher authority. Within this prescribed framework, assigns work to individual employees; instructs employees in specific tasks and procedures; insures work meets established standards of quality; checks attendance; keeps production records; provides information to higher levels for use in budgeting, planning of personnel changes, adjusting to variations in the workload, etc., reports problems to a higher level supervisor. (Exclude positions in which keypunching rather than supervisory responsibility is the most significant function.)</p>		<p>In addition to being responsible for the functions of the lower level of supervisory responsibility, plans and establishes the organization and flow of work; plans changes to meet both short- and long-term workload trends and changes; selects employees and assigns them to positions; assigns and reviews work of subordinates, initiates recommendations or formal actions such as requests for staff, job evaluation actions, promotions, etc.; approves absences and vacation schedules; recommends disciplinary actions; in some positions, assists programmers, project planners, or other technical specialists in designing card layouts and detailed punching instructions.</p>		
Number of employees supervised	Difficulty of keypunch work supervised		Difficulty of keypunch work supervised	
	Less difficult ¹	More difficult ²	Less difficult ¹	More difficult ²
Level of keypunch supervisor		Level of keypunch supervisor		
3-15	I	II	II	III
20-40	II	III	III	IV
50 or more	III	IV	IV	V

¹ *Less difficult keypunch work* - Work is routine and repetitive. Under close supervision or following specific procedures or instructions, works from various standardized source documents which have been coded, follows specified procedures which have been prescribed in detail and require little or no selecting, coding, or interpreting of data to be recorded. Refers to supervisor problems arising from erroneous items or codes or missing information. (This level is the same as the BLS Class B Keypunch Operator.)

² *More difficult keypunch work* - Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be keypunched from a variety of documents. On occasion may also perform some routine keypunch work. May train inexperienced keypunch operators. (This level is the same as the BLS Class A Keypunch Operator.)

NOTE: If the keypunch activities include both "more difficult" and "less difficult" work, classification should be on the basis of the more difficult work, provided that a significant proportion of the keypunch operators work at this level. The number of keypunch operators performing more difficult work is considered significant when at least 25 percent of the operators work at this level, *provided* there are at least two such operators in units with a total of 3 or 4 employees, 3 such operators in units with a total of 5 to 12 employees, and 4 such operators in units with a total of 13 or more operators.

Clerical

CLERK, ACCOUNTING

Performs one or more accounting clerical tasks such as posting to registers and ledgers; reconciling bank accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying for clerical accuracy various types of reports, lists, calculations, posting, etc.; or preparing simple, or assisting in preparing more complicated, journal vouchers. May work in either a manual or automated accounting system.

The work requires a knowledge of clerical methods and office practices and procedures which relates to the clerical processing and recording of transactions and accounting information. With experience, the worker typically becomes familiar with the bookkeeping and accounting terms and procedures used in the assigned work, but is not required to have a knowledge of the formal principles of bookkeeping and accounting.

Positions are classified into levels on the basis of the following definitions.

Clerk, Accounting I

Under close supervision, following detailed instructions and standardized procedures, performs one or more routine accounting clerical operations, such as posting to ledgers, cards, or worksheets where identification of items and locations of postings are clearly indicated; checking accuracy and completeness of standardized and repetitive records or accounting documents; and coding documents using a few prescribed accounting codes.

Clerk, Accounting II

Under general supervision, performs accounting clerical operations which require the application of experience and judgment, for example, clerically processing complicated or nonrepetitive accounting transactions, selecting among a substantial variety of prescribed accounting codes and classifications, or tracing transactions through previous accounting actions to determine source of discrepancies. May be assisted by one or more accounting clerks I.

CLERK, FILE

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions.

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. May perform simple clerical and manual tasks required to maintain and service files.

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

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. 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

Operates a keypunch machine to record or verify alphabetic and/or numeric data on tabulating cards or on tape.

Positions are classified into levels on the basis of the following definitions.

Keypunch Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or instructions, works from various standardized source documents which have been coded, and follows specified procedures which have been prescribed in detail and require little or no selecting, coding, or interpreting of data to be recorded. Refers to supervisor problems arising from erroneous items or codes or missing information.

Keypunch Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in

searching for, interpreting, selecting, or coding items to be keypunched from a variety of source documents. On occasion may also perform some routine keypunch work. May train inexperienced keypunch operators.

MESSENGER

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. Exclude positions that require operation of a motor vehicle as a significant duty.

SECRETARY

Assigned as personal secretary, normally to one individual. Maintains a close and highly responsive relationship to the day-to-day work of the supervisor. Works fairly independently receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties, usually including most of the following:

- (a) Receives telephone calls, personal callers, and incoming mail, answers routine inquiries, and routes technical inquiries to the proper persons;
- (b) Establishes, maintains, and revises the supervisor's files;
- (c) Maintains the supervisor's calendar and makes appointments as instructed;
- (d) Relays messages from supervisor to subordinates;
- (e) Reviews correspondence, memoranda, and reports prepared by others for the supervisor's signature to assure procedural and typographic accuracy;
- (f) Performs stenographic and typing work.

May also perform other clerical and secretarial tasks of comparable nature and difficulty. The work typically requires knowledge of office routine and understanding of the organization, programs, and procedures related to the work of the supervisor.

Exclusions

Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

- (a) Positions which do not meet the "personal" secretary concept described above;
- (b) Stenographers not fully trained in secretarial type duties;

(c) Stenographers serving as office assistants to a group of professional, technical, or managerial persons;

(d) Secretary positions in which the duties are either substantially more routine or substantially more complex and responsible than those characterized in the definition;

(e) Assistant type positions which involve more difficult or more responsible technical, administrative, supervisory, or specialized clerical duties which are not typical of secretarial work.

NOTE: The term "corporate officer," used in the level definitions following, refers to those officials who have a significant corporatwide policymaking role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all cases identify such positions. Vice presidents whose primary responsibility is to act personally on individual cases or transactions (e.g., approve or deny individual loan or credit actions; administer individual trust accounts; directly supervise a clerical staff) are not considered to be "corporate officers" for purposes of applying the following level definitions:

Secretary I

1. Secretary to the supervisor or head of a *small* organizational unit (e.g., fewer than about 25 or 30 persons); or
2. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer, or assistant, skilled technician or expert. (*NOTE:* Many companies assign stenographers, rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.)

Secretary II

1. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the definition for level III, but whose organizational unit normally numbers *at least several dozen employees* and is usually divided into organizational segments which are often, in turn, further subdivided. In some companies, this level includes a wide range of organizational echelons; in others, only one or two; or
2. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, *fewer than 5,000 persons*.

Secretary III

1. Secretary to the chairman of the board or president of a company that employs, in all, *fewer than 100 persons; or*

2. Secretary to a corporate officer (other than chairman of the board or president) of a company that employs, in all, *over 100 but fewer than 5,000 persons; or*

3. Secretary to the head (immediately below the officer level) over either a major *corporatwide* functional activity (e.g., marketing, research, operations, industrial relations, etc.) *or* a major geographic or organizational segment (e.g., a regional headquarters; a major division) of a company that employs, in all, *over 5,000 but fewer than 25,000 employees; or*

4. Secretary to the head of an individual plant, factory, etc. (or other equivalent level of official) that employs, in all, *over 5,000 persons; or*

5. Secretary to the head of a large and important organizational segment (e.g., a middle management supervisor of an organizational segment often involving as many as several hundred persons) of a company that employs, in all, *over 25,000 persons.*

Secretary IV

1. Secretary to the chairman of the board or president of a company that employs, in all, *over 100 but fewer than 5,000 persons; or*

2. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, *over 5,000 but fewer than 25,000 persons; or*

3. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a company that employs, in all, *over 25,000 persons.*

STENOGRAPHER

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings.

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

Stenographer, General

Dictation involves a normal routine vocabulary. May maintain files, keep simple records or perform other relatively routine clerical tasks.

Stenographer, Senior

Dictation involves a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research. 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 a high degree of stenographic speed and accuracy; a thorough working knowledge of general 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 follow-up files; assembling material for reports, memorandums, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc.

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 I

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

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; or 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.

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 occupational wage

surveys in metropolitan areas. (See the list of areas on 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	Occupational Wage Surveys in Metropolitan Areas
Draftsman	I II III	C B A
Clerk, accounting	I II	B A
Clerk, file	I II III	C B A
Keypunch operator	I II	B A
Secretary	I II III IV	D C B A
Typist	I II	B A

Appendix D. Comparison of Average Annual Salaries in Private Industry, March 1973, with Corresponding Salary Rates for Federal Employees Under the General Schedule

The survey was designed to provide a basis for comparing salaries under the General Schedule classification and pay system with salaries in private enterprise. To assure collection of pay data for work levels equivalent to the General Schedule grade levels, the Civil Service Commission, in cooperation with the Bureau of Labor

Statistics, prepared the occupational work level definitions used in the survey. Definitions were graded by the Commission according to standards established for each grade level. Table D-1 shows the surveyed jobs grouped by work levels equivalent to General Schedule grade levels.

Table D-1. Comparison of average annual salaries in private industry, March 1973, with salary rates for Federal employees under the General Schedule

Occupation and level surveyed by BLS ¹	Average annual salaries in private industry ²	Salary rates for Federal employees under the General Schedule ³											
		Grade ⁴	Average ⁵	Per annum rate and step ⁶									
				1	2	3	4	5	6	7	8	9	10
Clerks, file I -----	\$4,852	GS 1	\$4,934	\$4,798	\$4,958	\$5,118	\$5,278	\$5,438	\$5,598	\$5,758	\$5,918	\$6,078	\$6,238
Messengers -----	5,344												
Clerks, file II -----	5,349	GS 2	5,630	5,432	5,613	5,794	5,975	6,156	6,337	6,518	6,699	6,880	7,061
Keypunch operators I -----	6,042												
Typists I -----	5,434												
Clerks, accounting I -----	6,188	GS 3	6,706	6,128	6,332	6,536	6,740	6,944	7,148	7,352	7,556	7,760	7,964
Clerks, file III -----	6,593												
Draftsmen-tracers -----	6,687												
Engineering technicians I -----	7,500												
Keypunch operators II -----	6,922												
Keypunch supervisors I -----	8,286												
Stenographers, general -----	6,521												
Typists II -----	6,339												
Clerks, accounting II -----	7,812												
Draftsmen I -----	7,988												
Engineering technicians II -----	8,613												
Keypunch supervisors II -----	9,107												
Stenographers, senior -----	7,425												
Accountants I -----	9,417	GS 5	8,833	7,694	7,951	8,208	8,465	8,722	8,979	9,236	9,493	9,750	10,007
Auditors I -----	10,310												
Buyers I -----	9,603												
Chemists I -----	10,028												
Draftsmen II -----	9,832												
Engineers I -----	11,203												
Engineering technicians III -----	10,005												
Job analysts I -----	9,362												
Keypunch supervisors III -----	10,149												
Keypunch supervisors IV -----	12,076												
Accountants II -----	10,934												
Auditors II -----	11,360												
Buyers II -----	11,431												
Chemists II -----	11,534												
Draftsmen III -----	12,173												
Engineers II -----	12,591												
Engineering technicians IV -----	11,257												
Job analysts II -----	11,010												
Keypunch supervisors V -----	13,367												
Accountants III -----	12,472	GS 9	13,143	11,614	12,001	12,388	12,775	13,162	13,549	13,936	14,323	14,710	15,097
Attorneys I -----	13,478												
Auditors III -----	13,568												
Buyers III -----	13,835												
Chemists III -----	13,217												
Engineers III -----	14,326												
Engineering technicians V -----	12,799												
Job analysts III -----	13,061												
Accountants IV -----	15,068	GS 11	15,869	13,996	14,462	14,928	15,394	15,860	16,326	16,792	17,258	17,724	18,190
Attorneys II -----	15,555												
Auditors IV -----	16,669												
Buyers IV -----	16,423												
Chemists IV -----	16,140												
Chief accountants I -----	16,220												
Directors of personnel I -----	14,748												
Engineers IV -----	17,030												
Job analysts IV -----	16,211												
Accountants V -----	18,400												
Attorneys III -----	19,565												
Chemists V -----	19,312												
Chief accountants II -----	18,634												
Directors of personnel II -----	17,753												
Engineers V -----	19,614												

See footnotes at end of table.

Table D-1. Comparison of average annual salaries in private industry , March 1973, with salary rates for Federal employees under the General Schedule—Continued

Occupation and level surveyed by BLS ¹	Average annual salaries in private industry ²	Salary rates for Federal employees under the General Schedule ³											
		Grade ⁴	Average ⁵	Per annum rate and step ⁶									
				1	2	3	4	5	6	7	8	9	10
Attorneys IV -----	\$24,693	GS 13	\$22,259	\$19,700	\$20,357	\$21,014	\$21,671	\$22,328	\$22,985	\$23,642	\$24,299	\$24,956	\$25,613
Chemists VI -----	22,602												
Chief accountants III -----	22,687												
Directors of personnel III -----	21,984												
Engineers VI -----	22,586												
Attorneys V -----	30,035	GS 14	26,100	23,088	23,858	24,628	25,398	26,168	26,938	27,708	28,478	29,248	30,018
Chemists VII -----	26,899												
Chief accountants IV -----	26,735												
Directors of personnel IV -----	26,611												
Engineers VII -----	25,681												
Attorneys VI -----	37,048	GS 15	30,805	26,898	27,795	28,692	29,589	30,486	31,383	32,280	33,177	34,074	34,971
Chemists VIII -----	32,099												
Engineers VIII -----	29,499												

¹ For definitions, see appendix C.

² Survey findings as summarized in table 1 of this bulletin. For scope of survey see appendix A.

³ Salary rates in effect in March 1973, reference date of the BLS survey, as established by Executive Order 11691 issued under authority of Section 5305 of title 5, U.S. Code.

⁴ Corresponding grades in the General Schedule were supplied by the U.S. Civil Service Commission.

⁵ Mean salary of all General Schedule employee in each grade as of March 31, 1973. Not limited to Federal employees in occupations surveyed by BLS.

⁶ Section 5335 of title 5 of the U.S. Code provides for within-grade increases on condition that the employee's work is of an acceptable level of competence as defined by the head of the agency. For employees who meet this condition, the service requirements are 52 calendar weeks each for advancement to salary rates 2, 3, and 4; 104 weeks each for advancement to salary rates 5, 6, and 7; and 156 weeks each for advancement to salary rates 8, 9, and 10. Section 5336 provides that an additional within-grade increase may be granted within any period of 52 weeks in recognition of high quality performance above that ordinarily found in the type of position concerned.

Under Section 5303 of title 5 of the United States Code, higher minimum rates (but not exceeding the maximum salary rate prescribed in the General Schedule for the grade or level) and a corresponding new salary range may be established for positions or occupations under certain conditions. The conditions include a finding that the Government's recruitment or retention of well-qualified persons is significantly handicapped because the salary rates in private industry are substantially above the salary rates of the statutory pay schedules. As of March 1973, there were no special rates for the occupations covered by this survey. Information on special rates may be obtained from the U.S. Civil Service Commission, Washington, D. C. 20415, or its regional offices.

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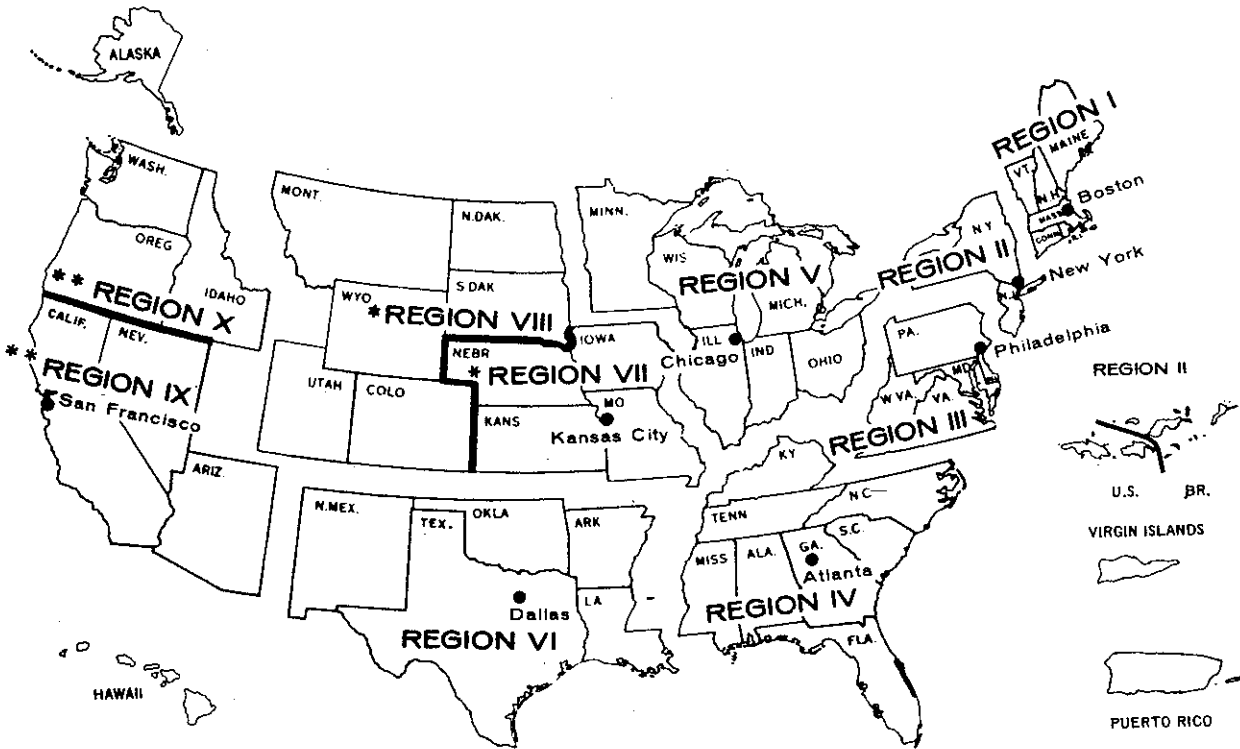
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