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# National Survey of Professional, Administrative, Technical, and Clerical Pay

February-March 1965

Bulletin No. 1469

UNITED STATES DEPARTMENT OF LABOR  
W. Willard Wirtz, Secretary  
BUREAU OF LABOR STATISTICS  
Arthur M. Ross, Commissioner



# **National Survey of Professional, Administrative, Technical, and Clerical Pay**

**February-March 1965**

**Accountants and Auditors  
Attorneys  
Personnel Management  
Engineers and Chemists  
Engineering Technicians  
Draftsmen  
Office Clerical**

**Bulletin No. 1469**

October 1965

**UNITED STATES DEPARTMENT OF LABOR  
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## Preface

The Bureau of Labor Statistics provides in this bulletin the results of the sixth in a series of annual nationwide surveys of compensation for selected professional, administrative, technical, and clerical occupations in private industry. The data, which relate to representative establishments in a broad spectrum of American industry, were obtained by personal visits of Bureau field economists. The salary data are representative of the period February–March 1965. (See appendix A, timing of survey.)

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

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

Occupational definitions prepared for use in the collection of the salary data reflect duties and responsibilities in industry; however, they are designed to be translatable to specific pay grades in the general schedule applying to Federal Classification Act employees. This necessitated limiting some occupations and work levels to employees with specific job functions that could be classified uniformly among establishments. The Bureau of Labor Statistics and the Civil Service Commission collaborated in the preparation of the definitions. (See appendix C.)

This survey was expanded to include establishments in nonmetropolitan counties in addition to metropolitan areas, to which earlier surveys in this series relate. Comparability with the earlier studies was maintained, however, by providing for separate presentation of data for establishments in metropolitan areas. (See appendix B for details on survey changes.)

Information on supplementary benefits, such as paid vacations and holidays and health, insurance, and pension plans relating to office workers, has been incorporated in separate reports. (See order form at the back of this

bulletin.) Data are provided in summary reports for all metropolitan areas combined and by region, and in separate area reports for each area in which occupational wage surveys are conducted.

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

This study was conducted in the Bureau's Division of Occupational Pay by Toivo P. Kanninen under the general direction of L. R. Linsenmayer, Assistant Commissioner for Wages and Industrial Relations. Samuel E. Cohen devised the sampling procedures and supervised the selection of the sample, assisted by Theodore J. Golonka, who was responsible for the preparation of the estimates. The analysis was prepared by Louis E. Badenhop. Field work for the survey was directed by the Bureau's Assistant Regional Directors for Wages and Industrial Relations.

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# National Survey of Professional, Administrative, Technical, and Clerical Pay, February—March 1965

## Summary

Increases in salary levels (mean) during the year ending February—March 1965 ranged from 2 to 5 percent for three-fourths of the professional and administrative occupation work levels and from 2 to 3 percent for nearly all clerical levels surveyed by the Bureau of Labor Statistics.<sup>1</sup> Among the numerically more important occupations studied, increases during the year averaged 3.2 percent for engineers, 3.5 percent for accountants, 2.3 percent for engineering technicians, and 2.4 percent for clerical employees, all levels combined. Over the 4-year period ending February—March 1965, the relative rise in average salaries was smaller for clerical levels than for the professional and administrative levels.

Among the 74 professional, administrative, technical, and clerical occupation work levels surveyed, average (mean) monthly salaries ranged from \$265 for clerks engaged in routine filing to \$2,067 for attorneys in charge of legal staffs, handling complex legal problems but usually subordinate to a general counsel or his immediate deputy in large firms. For engineers, the largest professional group studied, average salaries ranged from \$626 a month for recent college graduates in trainee positions to \$1,759 for those in the highest among eight levels studied. Monthly salaries averaged \$361 for general stenographers, the largest clerical group represented in the survey. Average monthly salaries of engineering technicians ranged from \$411 to \$723 among five work levels. For most of the occupations, salary levels in metropolitan areas and in large establishments were higher than in all establishments in all areas surveyed combined. Salary levels in finance and retail trade industries generally were lower than in other major industry divisions represented in the survey. The lower salaries in finance industries were offset in part by a shorter average workweek.

## Characteristics of the Survey

This annual salary survey, the sixth in a series, relates to establishments employing 250 workers or more in the United States except Alaska and Hawaii.<sup>2</sup> Nationwide estimates of salary levels and distributions are provided for 74 occupation work level categories surveyed 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.<sup>3</sup> Although the survey was conducted over a longer time period, on the average, the data are representative of the period February—March 1965.

Definitions for the occupations selected for study provide for classification of employees according to appropriate work levels (or classes). Within each

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<sup>1</sup> See the explanation of survey timing in appendix A.

<sup>2</sup> Earlier surveys in this series were limited to establishments in metropolitan areas. Results of the earlier survey reports were presented under the title: National Survey of Professional, Administrative, Technical, and Clerical Pay, Winter 1959—60 (BLS Bulletin 1286, 1960); Winter 1960—61 (BLS Bulletin 1310, 1961); Winter 1961—62 (BLS Bulletin 1346, 1962); February—March 1963 (BLS Bulletin 1387, 1963); and February—March 1964 (BLS Bulletin 1422, 1964).

<sup>3</sup> For a detailed description of the scope and method of survey, see appendix A.

occupation, the work levels surveyed, usually designated by Roman numerals with class I assigned to the lowest level, are defined in terms of duties and responsibilities. Specific job factors determining classification, however, varied from occupation to occupation.

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

The geographic coverage of this survey was expanded to include non-metropolitan counties in addition to metropolitan areas, to which earlier surveys in this series relate. The survey was designed, however, to permit separate presentation of data for metropolitan areas. Coverage in metropolitan areas was extended to include the 218 Standard Metropolitan Statistical Areas in the United States except Alaska and Hawaii, as revised in 1964 by the Bureau of the Budget, instead of the 212 areas represented in the previous survey. No changes were made in the industrial coverage. Bookkeeping-machine operators were dropped from the survey and revisions were made in the level definitions for draftsmen and switchboard operators.<sup>4</sup>

Approximately four-fifths of the total employment and nine-tenths of the employment in professional, administrative, technical, clerical, and related occupations within scope of this survey was accounted for by establishments located in metropolitan areas. Nine-tenths of the employees in the selected occupations studied also were employed in metropolitan areas, although the proportion varied considerably among the professional and administrative occupations.

The selected occupations as defined for the study accounted for more than 1,100,000 employees or about a fifth of the estimated total employment in professional, administrative, technical, clerical, and related occupations in all establishments within scope of the survey. Employment in the selected occupations varied widely, reflecting actual differences in employment in the various occupations, as well as differences in the range of duties and responsibilities covered by each occupational definition. Among the professional and administrative occupations, the eight levels of engineers accounted for a total of nearly 332,000 employees, whereas, fewer than 5,000 were employed in each of four of the occupational categories as defined for the study (chief accountants, managers of office services, job analysts, and directors of personnel). (See table 1.) In the clerical field, three occupations at all work levels studied (accounting clerks, stenographers, and typists) accounted for three-fifths of the 520,000 employees in those occupations studied. The selected drafting room occupations had aggregate employment of about 76,000 and the five engineering technician levels together accounted for about 79,000.

Although women accounted for two-fifths of the total employment in the occupations studied, they were largely employed in clerical positions. The clerical occupations, in which the proportion of women amounted to more than 90 percent of the employment in all levels studied, were file clerks, keypunch operators, stenographers, switchboard operators, and typists. Among tabulating-machine operators, however, women accounted for only a third of the work force, and office girls were outnumbered by office boys in a ratio of about 3 to 2. Women accounted for a fourth of the draftsmen-tracers but less than 5 percent of the draftsmen and engineering technicians. The few women employees in the professional and administrative occupations were usually reported in the first few

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<sup>4</sup> For more detailed explanation of survey changes, see appendix B.

levels; those in which women accounted for as many as 10 but less than 25 percent of the employment were: Accountants I, job analysts I and II, and chemists I and II.

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

The general level of salaries for each occupation or work level is presented in this study as the arithmetic mean of all the individual salary rates. Median salaries, the amount below and above which the salaries for 50 percent of the employees are found, are also presented in tables 1, 2, and 3.

### Changes in Salary Levels

Increases in average salary levels ranged from 2.3 to 4.3 percent during the year ending February–March 1965 among the 11 occupational groups studied in which comparisons could be made. Average pay rates for engineering technicians and for clerical occupations as a group rose 2.3 and 2.4 percent, respectively, whereas the increase for each of the nine professional and administrative occupations exceeded 3 percent. The range of increases during the most recent period was similar to that recorded annually since the "Winter 1960–61" (February–March 1961) survey, as shown in the following tabulation.<sup>5</sup> In each of the earlier periods, however, a smaller proportion of the increases exceeded 3 percent. Over the 4-year period (1961–65), increases ranged from 11.2 to 16.2 percent, as shown below and presented in chart 1.

Occupational group	Percent increase in average salaries				
	1964 to 1965	1963 to 1964	1962 to 1963	1961 to 1962	1961 to 1965
Accountants -----	3.5	2.8	3.3	2.8	13.0
Auditors-----	3.9	3.1	3.6	2.9	14.2
Chief accountants -----	3.9	4.8	2.8	2.6	14.8
Attorneys -----	4.2	3.3	4.6	3.2	16.2
Managers, office services -----	4.3	2.7	2.2	3.3	13.1
Job analysts-----	4.3	3.5	2.6	1.4	12.3
Directors of personnel -----	3.5	4.6	3.0	3.7	15.6
Chemists -----	3.9	3.3	3.8	3.9	15.8
Engineers-----	3.2	2.9	4.4	2.6	13.7
Engineering technicians -----	2.3	3.6	2.9	(1)	(1)
Drafting-----	(2)	2.6	3.6	3.8	(2)
Clerical -----	2.4	2.9	2.6	2.9	11.2

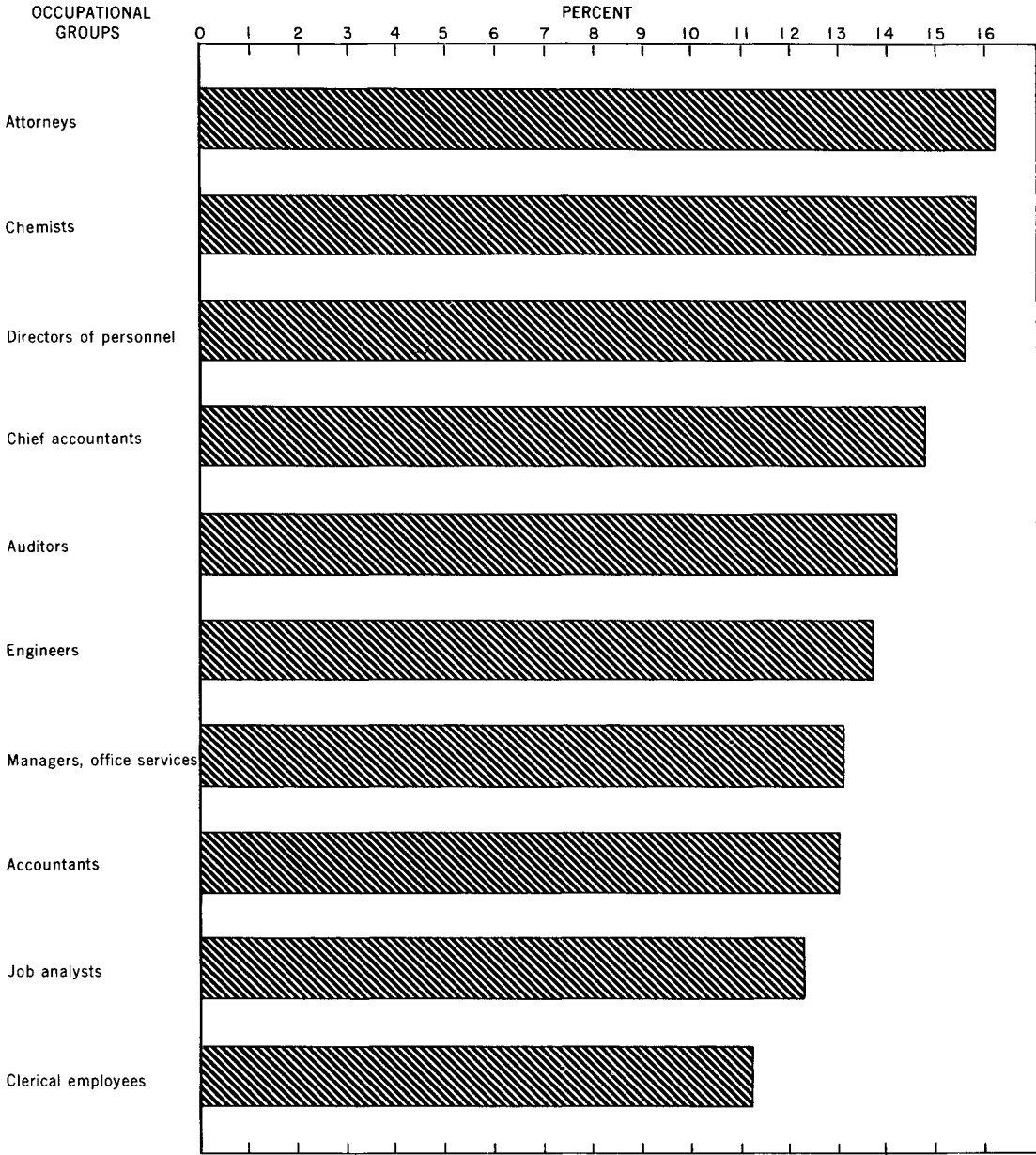
<sup>1</sup> Engineering technicians were not surveyed before 1962.

<sup>2</sup> Comparison with the 1965 data was not possible for draftsmen because of changes in the level definitions.

Although the percent change in average salaries during the recent year differed among the various work levels studied, for the 48 professional and administrative levels, nearly three-fourths had salary increases from 2 to 5 percent, while nearly all of the 17 clerical levels had salary increases from 2 to 3 percent (table 2).

<sup>5</sup> In the comparisons of year-to-year changes, employment in the most recent year was used as a constant employment weight in both periods to eliminate the effect of year-to-year changes in the proportions of employees in various work levels within an occupational category. Changes over the 4-year period were obtained by linking together the year-to-year changes.

**Chart 1. Rise in Average (Mean) Salaries for Selected Occupational Groups, 1961 to 1965**



In order to examine the relative rise in average salaries over the 4-year period (1961-65) among various levels of work, all occupation work levels in which the survey definitions had not been revised between selected periods were classified into three broad groupings, as shown in the following tabulation. The median increases shown were determined by arraying the relative increases in average salaries for the occupation work levels within each of the groupings that were identical for both periods.

Work level groupings	1964 to 1965		1963 to 1965		1961 to 1963		1961 to 1965	
	Number of work levels	Median percent increase	Number of work levels	Median percent increase	Number of work levels	Median percent increase	Number of work levels	Median percent increase
Clerical and beginning technician levels -----	17	2.4	17	5.1	12	5.5	8	10.6
Entry and development professional levels, advanced technician levels, supervisors of nonprofessional levels -----	22	3.4	22	6.6	19	6.7	19	13.7
Fully experienced professional working levels, supervisors of professional levels, and program administrative levels -----	29	3.9	29	7.9	27	7.0	27	15.2

As indicated by this comparison, average salaries have been rising at a higher rate in the professional and administrative levels than in the clerical levels. Over the 1961-65 period, the median increase was 10.6 percent for the grouping representing primarily clerical levels, compared to 13.7 percent for the grouping of lower professional and administrative levels, and 15.2 percent for the fully experienced levels of these occupations studied. A similar pattern of larger median increases at the higher work levels also is apparent for each of the intermediate periods shown. The increases for the levels within the clerical grouping were clustered more closely about the median than were the increases for the other two groupings in each period. For example, in the 1964-65 period, the increases were within 1 percentage point of the median in 16 of the 17 levels in the clerical grouping, compared to a range within 2 percentage points of the median for 21 of the 29 levels of fully experienced personnel in professional and administrative occupations.

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 average salaries, lowering or raising the average. For example, 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; or vacancies may exist at the time of the resurvey. 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, director of personnel, and manager of office services.<sup>6</sup>

#### Average Salaries, February–March 1965

Average (mean) monthly salaries among the 74 professional, administrative, technical, and clerical occupation work levels defined for the current survey ranged from \$265 for file clerks I to \$2,067 for attorneys VII (table 1). These levels range from clerks, who file material that has been classified or is easily classified in a simple serial classification system, to heads of legal staffs with responsibility for planning and conducting legal studies and approving recommendations of subordinates on important technical legal questions, but who are usually subordinate to a general counsel or his immediate deputy in large firms.<sup>7</sup>

Among the five levels of **accountants** surveyed, average monthly salaries ranged from \$526 for accountants I to \$995 for accountants V. **Auditors** in the four levels defined for survey had average salaries ranging from \$517 a month for auditors I to \$894 for auditors IV. Level I in both the accounting and auditing series included trainees with bachelor's degrees in accounting or the equivalent in education and experience combined. Only at level I were salaries of auditors below those for accountants; at level III, which accounted for the largest group of employees in each series, monthly salaries averaged \$729 for auditors and \$677 for accountants. Half the relatively few auditors I and approximately a fifth of those in the higher levels were employed in finance industries, whereas, more than four-fifths of the accountants at all levels were employed in manufacturing and public utilities industries together.<sup>8</sup> The proportion of employees in each major industry division within scope of the survey is shown for each occupation in table 7 and presented graphically in chart 4.

**Chief accountants** were surveyed separately from accountants and included those who develop or adapt and direct the accounting program for a company or an establishment (plant) of a company. Level classification was determined by the extent of delegated authority and responsibility; the technical complexity of the 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 stable functions and work processes (directing one or two accountants), averaged \$895 a month. Chief accountants IV,<sup>9</sup> 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 \$1,419 a month. Nearly three-fourths of the chief accountants who met the requirements of the definitions for these four levels were employed in manufacturing industries.

**Attorneys** classified at level I averaged \$614 a month. These were trainees with LL. B. degrees and bar membership who held positions in legal advisory departments of firms in which their full professional training could be utilized.<sup>10</sup>

<sup>6</sup> These types of occupations also may be subject to greater sampling error, as explained in the last paragraph of appendix A.

<sup>7</sup> Classification of employees in the occupations and work levels surveyed was based on factors detailed in the definitions in appendix C.

<sup>8</sup> Establishments primarily engaged in providing accounting and auditing services were excluded from the survey.

<sup>9</sup> Although level V of chief accountant was surveyed, as defined in appendix C, too few employees met requirements for this level to warrant presentation of salary figures.

<sup>10</sup> Establishments primarily engaged in offering legal advice or legal services were excluded from the survey.

Attorneys VII, the highest level surveyed in this series, were paid monthly salaries averaging \$2,067. Level VII was defined to include attorneys in charge of legal staffs, handling assignments in one or more broad legal areas, with responsibility for approving recommendations of subordinates which may have an important bearing on the company's business. Although this was the highest level surveyed, such attorneys were usually subordinate to a general counsel or his immediate deputy in large firms. Manufacturing industries and the finance, insurance, and real estate industries each employed a third of the attorneys; a high proportion of the remainder were employed in public utilities (22 percent).

**Managers of office services**, as defined for the study, included four levels based on the variety of clerical and other office services supervised and the size of the organization serviced. Those at level I were responsible for providing 4 or 5 of the 9 office service functions enumerated in the survey definition for a staff of 300 to 600 employees, compared with seven or eight functions for about 1,500 to 3,000 employees at level IV. Among these levels, average monthly salaries ranged from \$646 to \$1,152. Manufacturing industries accounted for about three-fifths of the employees in the four levels combined, and an additional fifth were employed in finance, insurance, and real estate industries.

In the personnel management field, four work levels each of **job analysts** and **directors of personnel** were studied.<sup>11</sup> Job analysts I, defined to include trainees under immediate supervision, averaged \$558 compared with \$889 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 were limited by definition to those who had programs that included, at a minimum, responsibility for administering a formal job evaluation system, employment and placement functions, and employee relations and services functions. Those with responsibility for actual contract negotiation with labor unions as the principal company representative were excluded. Provisions were made in the definition for weighing various combinations of duties and responsibilities to determine the level classification. Among personnel directors with job functions as specified for the four levels of responsibility, average monthly salaries ranged from \$798 for level I to \$1,413 for level IV. Manufacturing industries accounted for 81 percent of the job analysts and 79 percent of the directors of personnel included in the study; the finance, insurance, and real estate industries ranked next with 12 percent of the job analysts and 8 percent of the directors of personnel.

**Chemists** and **engineers** each were surveyed in eight levels. Each series started with a professional trainee level, typically requiring a B.S. degree. The highest level surveyed involved either full responsibility over a very broad and highly complex and diversified engineering or chemical program, with several subordinates each directing large and important segments of the program; or individual research and consultation in difficult problem areas where the engineer or chemist was a recognized authority and where solutions would represent a major scientific or technological advance.<sup>12</sup> Average monthly salaries ranged from \$626 for engineers I to \$1,759 for engineers VIII, and from \$551 for chemists I to \$1,851 for chemists VIII. Although, at level I, the average salaries of engineers exceeded those for chemists by almost 14 percent, at level IV the difference narrowed to less than 4 percent, and at level VIII the average salaries of chemists exceeded those for engineers by 5 percent. Level IV, the largest

<sup>11</sup> Although level V of director of personnel was surveyed, as defined in appendix C, too few employees met requirements for this level to warrant presentation of salary figures.

<sup>12</sup> It was recognized in the definition that top positions of some companies with unusually extensive and complex engineering or chemical programs were above that level.

group in each series, included professional employees who were fully competent in all technical aspects of their assignments, worked with considerable independence, and, in some cases, supervised a few professional and technical workers. Manufacturing industries accounted for 83 percent of all engineers and 93 percent of all chemists; public utilities, 9 and less than 4 percent, respectively; and the surveyed engineering and scientific services employed virtually all of the others.

The five-level series for **engineering technicians** was limited, by definition, to employees providing semiprofessional technical support to engineers engaged in such areas as research, design, development, testing, or manufacturing process improvement, and whose work pertained to electrical, electronic, or mechanical components or equipment. Technicians engaged primarily in production or maintenance work were excluded. Engineering technicians I, who performed simple, routine tasks under close supervision, or from detailed procedures, were paid monthly salaries averaging \$411. Engineering technicians V, the highest level surveyed, averaged \$723 a month. That level included fully experienced technicians performing more complex assignments involving responsibility for planning and conducting a complete project of relatively limited scope, or a portion of a 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 \$569 and \$640, respectively. As might be expected, nearly all of the technicians as defined were employed in manufacturing (82 percent) and in the scientific services industries studied (13 percent). Although the ratio of such technicians to engineers studied was about 1 to 4, respectively, in all manufacturing industries, higher ratios of approximately 2 to 7 were found in establishments manufacturing mechanical and electrical equipment, and 1 to 2 in research, development, and testing laboratories.

In the **drafting field**, the revised definitions used in this survey covered four levels of work—draftsmen-tracers, and draftsmen I, II, and III. Monthly salaries averaged \$362 for draftsmen-tracers and ranged from \$452 to \$670 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 draftsmen 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 84 percent in manufacturing, 8 percent in public utilities, and nearly all of the remainder in the selected engineering and scientific services industries studied.

Among the 17 **clerical jobs** represented in the study, monthly salaries ranged from \$265 for file clerks I to \$508 for tabulating-machine operators III, who were required to perform, without close supervision, complete reporting assignments by machine, including difficult wiring as required. Averages within the range of \$300 through \$398 a month were recorded for 11 of the other 15 work levels; general stenographers, the largest group of clerical employees studied, averaged \$361. Office boys or girls, two-fifths of whom were employed in manufacturing industries, averaged \$24 a month more than file clerks I, who were more heavily represented in the finance, insurance, and real estate industries. Women accounted for nine-tenths or more of the employees in 11 of the clerical work levels, and the men accounted for half or more in 3 (tabulating-machine operators II and III, and office boys or girls). Although employment in manufacturing exceeded that in the five other nonmanufacturing industry divisions within scope of the survey in 15 of the 17 clerical work levels, in only seven instances did manufacturing account for more than half the employees.



Median monthly salaries (the amount below and above which 50 percent of the employees were found) for most of the work levels were slightly lower than the weighted averages (means) cited above (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 2 percent for 56 of the 74 work levels and as much as 2 but less than 3 percent in 9 additional levels. The weighted average salaries exceeded the medians by 4 percent or more only for directors of personnel IV (5 percent), chemists VIII (4.2 percent), and office boys or girls (4 percent).

### Salary Levels in Metropolitan Areas

Average salaries for most of the occupation work levels were either identical with or only slightly higher in establishments within metropolitan areas, presented in table 2, than in all establishments in metropolitan areas and non-metropolitan counties combined (table 1). The survey was not designed to permit separate presentation of data for establishments in nonmetropolitan counties. Employment in the selected occupations in metropolitan areas accounted for approximately nine-tenths of the total employment in these occupations within scope of the survey. The proportions varied, however, among occupations and work levels. Nearly all of the attorneys at each level, for example, were employed in metropolitan areas, whereas the proportion of chief accountants and directors of personnel for all levels combined was approximately four-fifths with a smaller proportion at the lowest levels. In a majority of the 74 work levels studied, more than nine-tenths of the employment was in metropolitan areas. It is apparent, therefore, that although average salaries usually were lower in the non-metropolitan counties, in those work levels in which nearly all of the employment was in metropolitan areas, the added counties could have little effect upon the averages for all establishments combined. Only in 12 of the 74 work levels studied were average salaries as much as 1 (but not more than 2.5) percent higher in metropolitan areas than in all areas combined; in each of these cases the proportion of the total employment within nonmetropolitan counties exceeded 10 percent.

Manufacturing accounted for nine-tenths of the establishments and employment added to the survey scope by the addition of nonmetropolitan counties; employment in such counties, however, is more heavily concentrated in consumer-goods industries and in relatively small establishments than is the case with manufacturing in metropolitan areas.

### Salary Levels in Large Establishments

It was possible to present separate data for 64 of the 74 occupation work levels for all establishments with 2,500 employees or more (table 3). Comparisons between employments and relative salary levels in these establishments and all establishments combined also are presented. Establishments employing 2,500 or more accounted for two-fifths of the total employment in professional, administrative, supervisory, and clerical occupations within scope of the survey, and approximately the same proportion of total employment in the selected occupations studied. Among the 64 occupation work levels shown in table 3, the percent of total employment in the large establishments varied from 16 to 75 percent (directors of personnel III and engineering technicians V, respectively).

The salary levels in large establishments expressed as a percent of levels in all establishments combined, ranged from less than 100 (for the top level surveyed in each of the accountant, chief accountant, and attorney series)

to 113 for file clerks II. As shown in the following tabulation, salary averages for large establishments exceeded the all-establishment averages by 5 percent or more in 15 of 17 clerical jobs and in 13 of 47 nonclerical jobs.

Pay levels as percent of all establishment average	Number of job categories	
	Professional, administrative, and technical	Clerical
Total -----	47	17
97-100 -----	8	-
101-104-----	26	2
105-109-----	10	13
110 and over-----	3	2

These relative salary levels in large establishments tended to be highest for work levels in which such establishments accounted for the smallest proportion of the total employment. Thus, the degree of employment concentration (in large establishments) ranged from 24 to 43 percent for clerical jobs; in more than half of the nonclerical jobs, more than 40 percent were in establishments with 2,500 or more employees.

### Salary Distributions

Percent distributions of employees by monthly salaries are presented for the professional and administrative occupations in table 4, and for engineering technicians in table 5; distributions by weekly salaries are shown for employees in the drafting and clerical occupations in table 6.<sup>13</sup> Within nearly all of the 74 occupation work levels, salary rates for some of the highest paid employees were twice those of the lowest paid employees. All occupations in which two levels or more of work were surveyed showed a substantial degree of overlapping of individual salaries between work levels in the same occupation. Ranges in salary rates of employees in established pay grades or work levels within salary structures of individual firms also exhibited substantial overlapping.

The middle 50 and 80 percent of the range, and the median salary for each occupation work level have been charted (charts 2 and 3) 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.

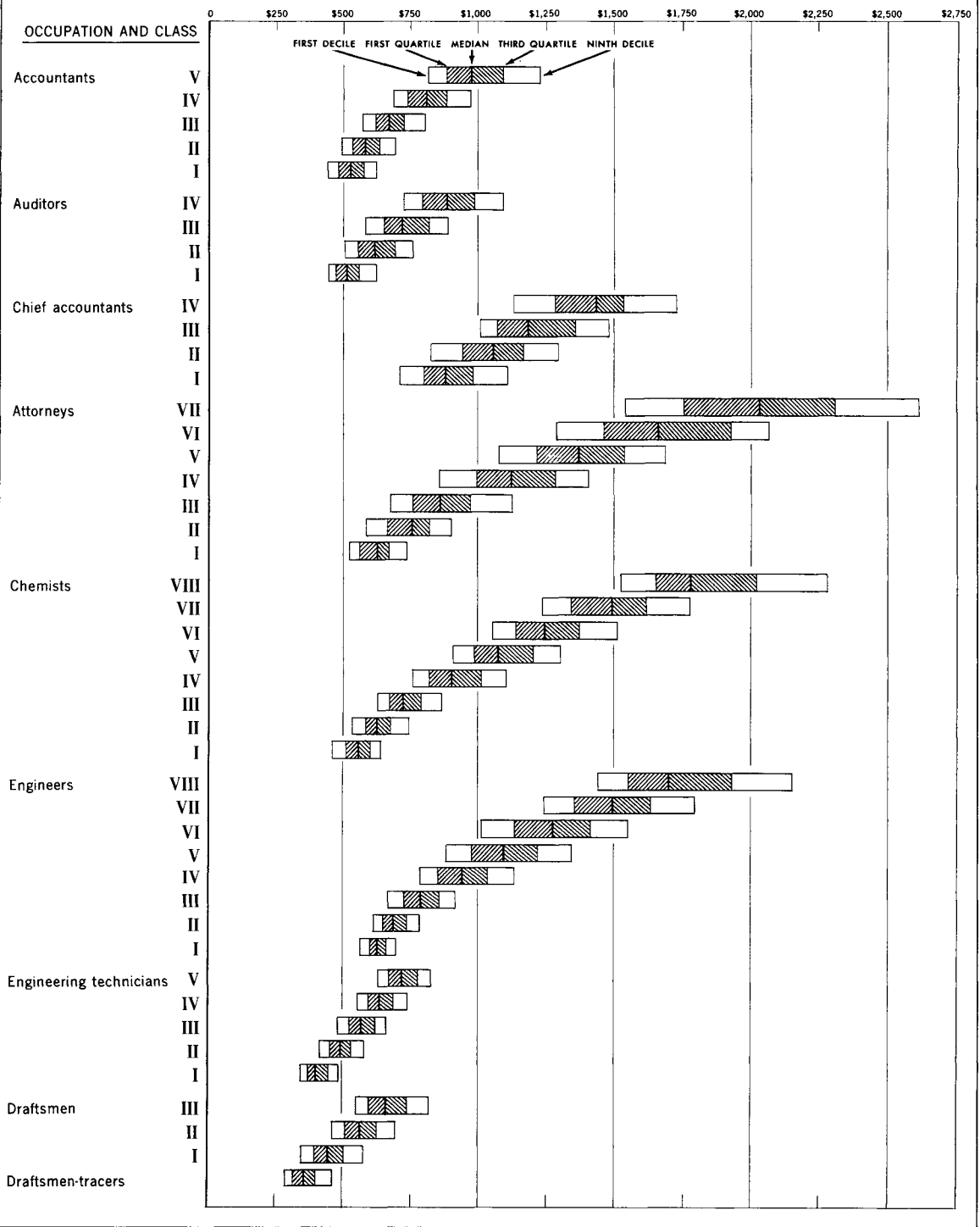
The absolute spread between highest and lowest paid workers within given work levels tended to widen with each successive work level for most occupations in which two levels or more were surveyed. The relative spread in salary ranges showed considerable variation among occupations, and in many cases, the relative spread was smaller for professional and administrative work levels than for clerical levels studied. Expressing the salary range of the middle 50 percent of employees as a percent of the median salary permitted comparisons of salary ranges for the various work levels on the same basis, and also eliminated extreme low and high salaries from each comparison.

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<sup>13</sup> Technical considerations dictated the summarization of employee distributions by weekly salaries in the case of the drafting and clerical jobs.

**Chart 2. Salaries in Professional and Technical Occupations, February-March 1965**

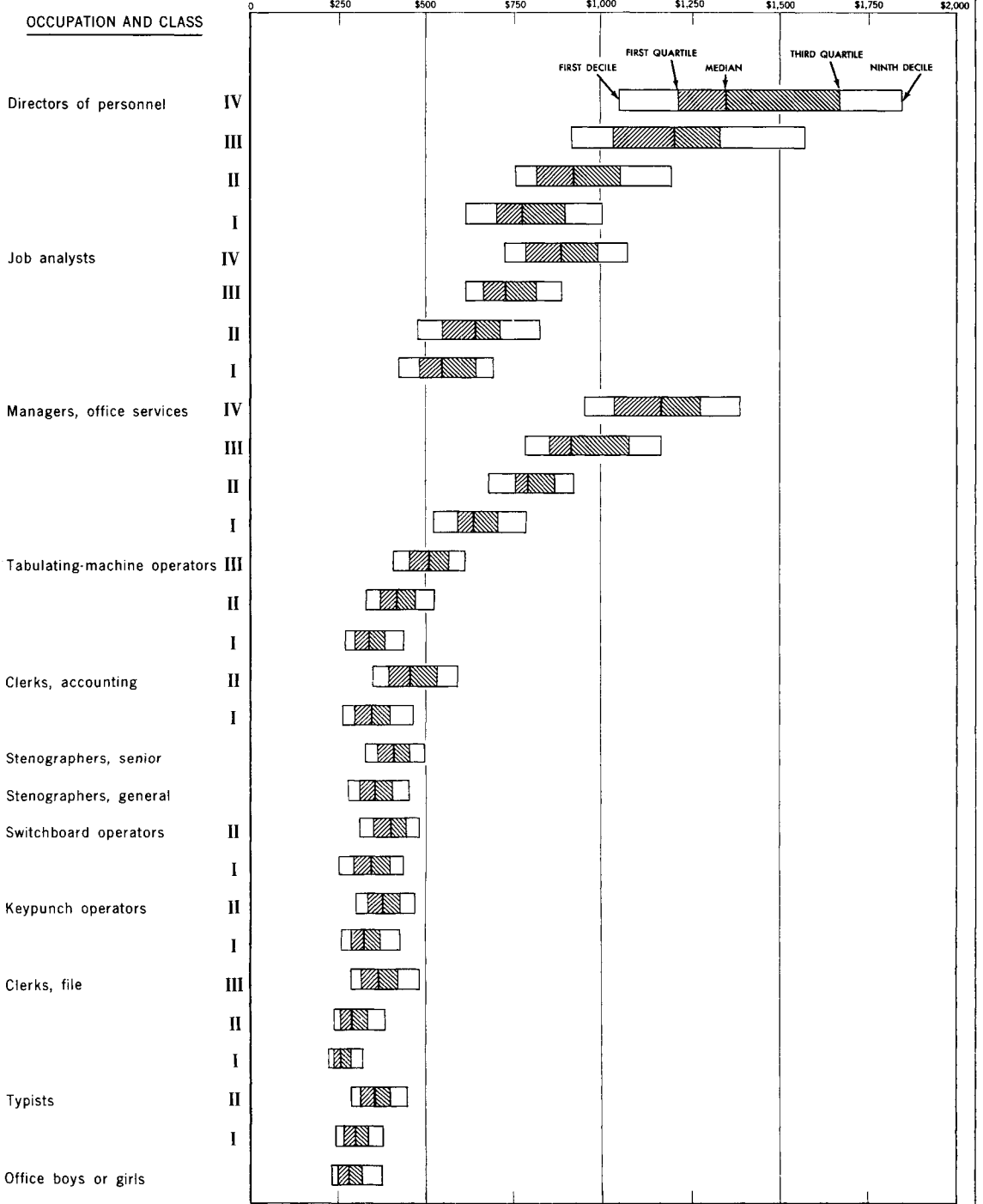
Median Monthly Salaries and Ranges Within Which Fell 50 Percent and 80 Percent of Employees



**Chart 3. Salaries in Administrative and Clerical Occupations, February-March 1965**

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

OCCUPATION AND CLASS



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

Occupational group	Total	Under 15	15 and under 20	20 and under 25	25 and under 30	30 and over
All levels -----	74	6	19	31	16	2
Accountants -----	5		4	1		
Auditors -----	4		1	3		
Chief accountants -----	4		1	3		
Attorneys-----	7		1	3	3	
Managers, office services -----	4	1	1	2		
Job analysts -----	4		1	1	2	
Directors of personnel -----	4			1	2	1
Chemists -----	8	1	4	3		
Engineers -----	8	2	3	3		
Engineering technicians -----	5	2	3			
Drafting -----	4			3	1	
Clerical -----	17			8	8	1

Thus, in this comparison, the middle range for attorney levels amounted to 20 percent or more of the corresponding median in 6 of 7 levels, whereas the range was less than 20 percent of the corresponding median for 5 of the 8 levels of both engineers and chemists. The relative spread tended to widen at the higher levels of most of the professional and administrative occupations. For example, engineers were distributed by level in the preceding tabulation as follows: Levels I and II, under 15 percent; III and IV, 15 and under 20 percent; and levels V through VIII, 20 and under 25 percent with the exception of level VII (19 percent). For the clerical levels studied, the range was between 20 and 30 percent of the corresponding medians with one exception (31 percent for switch-board operators I).

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. Salaries of individuals in the same occupation and grade level may vary considerably within establishments. Salaries of white-collar employees are generally determined on an individual basis or under formalized pay plans which provide for a range in salary rates for each grade level within each occupation. The in-grade salary spread (i. e., the percent difference between the minimum and maximum rates for a grade) tends to be greater in the professional and administrative jobs than in the clerical jobs.<sup>14</sup> For the professional and administrative occupations, the job field tends to be national in scope. Office clerical employees, on the other hand, are usually recruited locally.<sup>15</sup> As pointed out earlier (and indicated in table 7 and chart 4), employment in the various industries within the scope of the survey varies considerably from occupation to occupation. These variations in employment also are reflected in salary levels and distributions to the extent that salaries differ by industry, as explained in the following section.

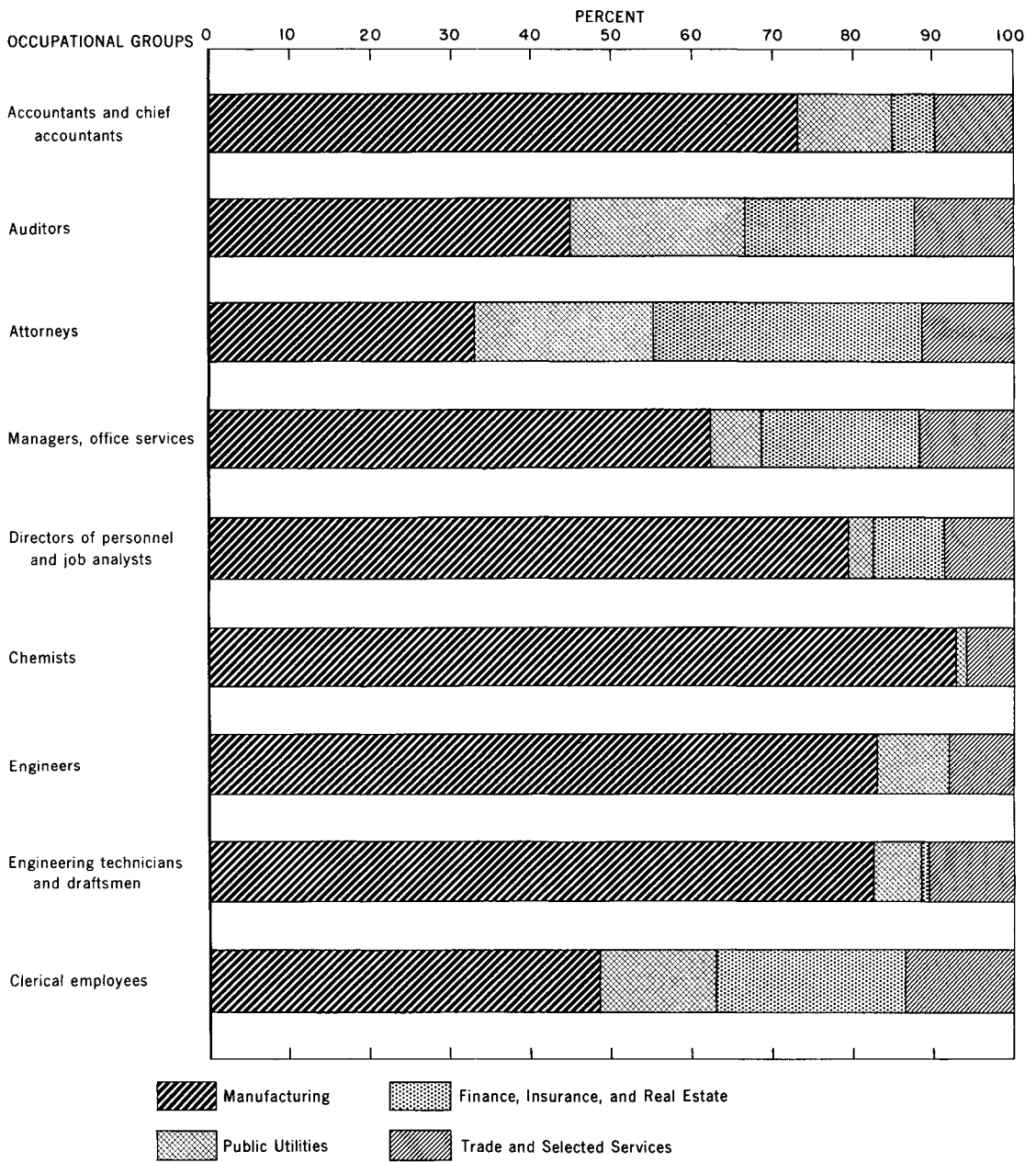
#### Pay Differences by Industry

The survey was planned to permit publication of national salary estimates by level of work for the professional and administrative occupations in all industries within scope of the survey. By combining the data for all levels of work

<sup>14</sup> For a separate study in depth of salary structure characteristics, see Salary Structure Characteristics in Large Firms, 1963 (BLS Bulletin 1417, 1964).

<sup>15</sup> For an analysis of interarea pay differentials in clerical salaries, see Wages and Related Benefits: Metropolitan Areas, United States and Regional Summaries, 1963-64 (BLS Bulletin 1385-82, 1965, Pt. II).

**Chart 4. Relative Employment in Selected Occupational Groups by Industry Division, February-March 1965**



studied in each occupation, it was possible to present comparisons between relative salary levels in major industry divisions and all industries combined (table 8). To obtain relative salary levels, aggregates for the work levels in each occupation combined were computed for all industries and for each major industry division. The all-industry employment in each work level was used as a constant employment weight in computing aggregates for the various occupations by industry to eliminate the influence of differences among industry divisions in the proportion of employment in various work levels. The aggregates for each occupation and industry division were then expressed as percentages of the corresponding groups in all industries combined.

For all of the clerical occupations studied, and for a majority of the professional and administrative occupations in which comparisons could be made, relative salary levels were lower in retail trade and in finance, insurance, and real estate than in other industry divisions (table 8). It is apparent, therefore, that in those occupations in which retail trade and the finance industries account for a substantial proportion of the total employment, as shown in table 7, the average salaries for all industries combined are lowered and the relative levels in industries such as manufacturing and public utilities tend to be well above 100 percent of the all-industry level (table 8). For example, relative pay levels for file clerks of 108 percent in manufacturing and 119 percent in public utilities reflect the influence of lower salaries for the high proportion (45 percent) of all-industry employment accounted for by the finance industries. In finance industries, however, the relatively lower salary levels were offset to the extent that average weekly hours in that industry were lower than in the other industries surveyed, as shown in table 9. The relative salary levels for professional, administrative, and technical occupations tended to be nearest to 100 percent of the all-industry levels in manufacturing industries, which accounted for a high proportion of the total employment in most of these occupations.

Relative salary levels for a majority of the clerical and the professional and administrative occupations were slightly higher in public utilities than in manufacturing industries. For engineers, however, relative salary levels in utilities were 97 percent of the all-industry level, compared with 100 for manufacturing and 99 for the selected services. The relative salary position of chemists was above that for engineers in the selected services; this reflected the relatively few chemists compared with engineers within this grouping who were employed in engineering and architectural services firms, where salary levels were lower than in the research, development, and testing laboratories. Salary levels of engineers in the latter industries were nearly 10 percent higher than in engineering and architectural services industries as a group.

#### Average Weekly Hours

The length of the workweek, on which the regular straight-time salary was based, was obtained for individual employees in the occupations studied. 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 than in the other industry divisions for each of the occupations that could be compared. Thus, in finance industries, workweeks averaged 38 hours for a majority of the occupations, compared to 39.5 hours in manufacturing and from 39 to 39.5 hours in the remaining industries surveyed.<sup>16</sup>

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<sup>16</sup> For additional information on scheduled weekly hours of office workers employed in metropolitan areas, see Wages and Related Benefits: Metropolitan Areas, United States and Regional Summaries, 1963-64 (BLS Bulletin 1385-82, 1965, Pt. II).

Table 1. Average Salaries: United States

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, <sup>1</sup> United States except Alaska and Hawaii, February-March 1965)

Occupation and class (See definitions in appendix C)	Number of employees <sup>2</sup>	Monthly salaries <sup>3</sup>				Annual salaries <sup>3</sup>			
		Mean	Median	Middle range <sup>4</sup>		Mean	Median	Middle range <sup>4</sup>	
				First quartile	Third quartile			First quartile	Third quartile
<u>Accountants and auditors</u>									
Accountants I .....	4,811	\$526	\$528	\$480	\$573	\$6,312	\$6,336	\$5,760	\$6,876
Accountants II .....	9,202	587	583	538	636	7,044	6,996	6,456	7,632
Accountants III .....	21,877	677	671	621	727	8,124	8,052	7,452	8,724
Accountants IV .....	15,955	816	809	741	887	9,792	9,708	8,892	10,644
Accountants V .....	6,247	995	977	885	1,094	11,940	11,724	10,620	13,128
Auditors I .....	510	517	512	472	558	6,204	6,144	5,664	6,696
Auditors II .....	1,969	620	613	556	691	7,440	7,356	6,672	8,292
Auditors III .....	3,781	729	718	651	819	8,748	8,616	7,812	9,828
Auditors IV .....	2,425	894	881	793	987	10,728	10,572	9,516	11,844
Chief accountants I .....	474	895	879	799	979	10,740	10,548	9,588	11,748
Chief accountants II .....	1,373	1,049	1,054	942	1,169	12,588	12,648	11,304	14,028
Chief accountants III .....	726	1,217	1,189	1,072	1,359	14,604	14,252	12,864	16,308
Chief accountants IV .....	354	1,419	1,438	1,286	1,536	17,028	17,256	15,432	18,432
<u>Attorneys</u>									
Attorneys I .....	183	614	624	560	669	7,368	7,488	6,720	8,028
Attorneys II .....	525	745	757	665	819	8,940	9,084	7,980	9,828
Attorneys III .....	1,184	876	859	759	970	10,512	10,308	9,108	11,640
Attorneys IV .....	1,310	1,137	1,126	999	1,284	13,644	13,512	11,988	15,408
Attorneys V .....	1,116	1,375	1,370	1,215	1,536	16,500	16,440	14,580	18,432
Attorneys VI .....	558	1,670	1,661	1,460	1,928	20,040	19,932	17,520	23,136
Attorneys VII .....	460	2,067	2,031	1,751	2,309	24,804	24,372	21,012	27,708
<u>Office services</u>									
Managers, office services I .....	418	646	637	590	708	7,752	7,644	7,080	8,496
Managers, office services II .....	717	802	790	754	867	9,624	9,480	9,048	10,404
Managers, office services III .....	331	951	917	851	1,076	11,412	11,004	10,212	12,912
Managers, office services IV .....	79	1,152	1,167	1,038	1,273	13,824	14,004	12,456	15,276
<u>Personnel management</u>									
Job analysts I .....	137	553	542	481	641	6,636	6,504	5,772	7,692
Job analysts II .....	315	639	643	549	715	7,668	7,716	6,588	8,580
Job analysts III .....	857	741	727	669	813	8,892	8,724	8,028	9,756
Job analysts IV .....	577	889	887	785	992	10,668	10,644	9,420	11,904
Directors of personnel I .....	1,078	798	774	705	899	9,576	9,288	8,460	10,788
Directors of personnel II .....	1,689	946	924	819	1,053	11,352	11,088	9,828	12,636
Directors of personnel III .....	1,070	1,210	1,203	1,034	1,332	14,520	14,436	12,408	15,984
Directors of personnel IV .....	418	1,413	1,346	1,210	1,670	16,956	16,152	14,520	20,040
<u>Chemists and engineers</u>									
Chemists I .....	2,307	551	557	511	600	6,612	6,684	6,132	7,200
Chemists II .....	5,531	632	624	584	674	7,584	7,488	7,008	8,088
Chemists III .....	9,187	734	724	670	790	8,808	8,688	8,040	9,480
Chemists IV .....	10,786	915	901	819	1,013	10,980	10,812	9,828	12,156
Chemists V .....	7,318	1,089	1,073	985	1,202	13,068	12,876	11,820	14,424
Chemists VI .....	4,345	1,264	1,247	1,140	1,372	15,168	14,964	13,680	16,464
Chemists VII .....	1,662	1,494	1,491	1,343	1,615	17,928	17,892	16,116	19,380
Chemists VIII .....	500	1,851	1,777	1,652	2,021	22,212	21,324	19,824	24,252
Engineers I .....	10,455	626	625	600	660	7,512	7,500	7,200	7,920
Engineers II .....	29,428	691	686	648	735	8,292	8,232	7,776	8,820
Engineers III .....	79,551	789	787	726	853	9,468	9,444	8,712	10,236
Engineers IV .....	102,899	948	940	852	1,037	11,376	11,280	10,224	12,444
Engineers V .....	62,922	1,106	1,095	978	1,221	13,272	13,140	11,736	14,652
Engineers VI .....	32,992	1,278	1,279	1,135	1,416	15,336	15,348	13,620	16,992
Engineers VII .....	11,005	1,501	1,494	1,353	1,637	18,012	17,928	16,236	19,644
Engineers VIII .....	2,678	1,759	1,701	1,557	1,931	21,108	20,412	18,684	23,172
<u>Engineering technicians</u>									
Engineering technicians I .....	4,607	411	401	371	448	4,932	4,812	4,452	5,376
Engineering technicians II .....	12,014	491	490	452	529	5,892	5,880	5,424	6,348
Engineering technicians III .....	22,620	569	570	524	620	6,828	6,840	6,288	7,440
Engineering technicians IV .....	26,935	640	637	594	684	7,680	7,644	7,128	8,208
Engineering technicians V .....	12,991	723	718	670	775	8,676	8,616	8,040	9,300

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,<sup>1</sup> United States except Alaska and Hawaii, February–March 1965)

Occupation and class (See definitions in appendix C)	Number of employees <sup>2</sup>	Monthly salaries <sup>3</sup>				Annual salaries <sup>3</sup>			
		Mean	Median	Middle range <sup>4</sup>		Mean	Median	Middle range <sup>4</sup>	
				First quartile	Third quartile			First quartile	Third quartile
<b>Draftsmen</b>									
Draftsmen I .....	19,370	\$452	\$445	\$393	\$506	\$5,424	\$5,344	\$4,719	\$6,074
Draftsmen II .....	33,681	573	563	508	626	6,875	6,752	6,100	7,508
Draftsmen III .....	18,976	670	658	593	736	8,038	7,899	7,117	8,838
Draftsmen-tracers .....	4,166	362	358	317	400	4,345	4,302	3,806	4,797
<b>Clerical</b>									
Clerks, accounting I .....	60,401	353	345	295	398	4,235	4,145	3,546	4,771
Clerks, accounting II .....	43,447	466	458	398	530	5,589	5,501	4,771	6,361
Clerks, file I .....	18,785	265	256	235	287	3,176	3,076	2,816	3,441
Clerks, file II .....	22,643	300	289	256	335	3,599	3,467	3,076	4,015
Clerks, file III .....	7,462	376	367	317	424	4,512	4,406	3,806	5,084
Keypunch operators I .....	37,931	329	319	282	369	3,947	3,832	3,389	4,432
Keypunch operators II .....	28,087	383	378	335	430	4,590	4,536	4,015	5,162
Office boys or girls .....	23,555	289	278	250	317	3,472	3,337	2,998	3,806
Stenographers, general .....	72,057	361	356	311	408	4,338	4,275	3,728	4,901
Stenographers, senior .....	48,827	412	411	367	458	4,946	4,927	4,406	5,501
Switchboard operators I .....	10,304	345	345	295	402	4,140	4,145	3,546	4,823
Switchboard operators II .....	8,040	398	400	354	445	4,774	4,797	4,249	5,344
Tabulating-machine operators I .....	8,499	342	335	295	382	4,105	4,015	3,546	4,588
Tabulating-machine operators II .....	17,210	421	419	371	471	5,054	5,032	4,458	5,657
Tabulating-machine operators III .....	8,926	508	506	454	565	6,097	6,074	5,449	6,778
Typists I .....	66,458	304	298	265	335	3,646	3,572	3,181	4,015
Typists II .....	37,646	361	356	317	402	4,336	4,275	3,806	4,823

<sup>1</sup> For scope of study, see table in appendix A.<sup>2</sup> 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 p. 33 of appendix A.<sup>3</sup> 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 bonuses and incentive earnings are included.<sup>4</sup> The middle range (interquartile) used here is the central part of the array excluding the upper and lower fourths of the employee distribution.

Table 2. Average Salaries: Metropolitan Areas

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, metropolitan areas, <sup>1</sup> February-March 1965, and percent increase in mean salaries during the year <sup>2</sup>)

Occupation and class (See definitions in appendix C)	Number of employees <sup>3</sup>	Monthly salaries <sup>4</sup>				Annual salaries <sup>4</sup>				Percent increase in mean salaries
		Mean	Median	Middle range <sup>5</sup>		Mean	Median	Middle range <sup>5</sup>		
				First quartile	Third quartile			First quartile	Third quartile	
<b>Accountants and auditors</b>										
Accountants I .....	4,401	\$527	\$529	\$481	\$574	\$6,324	\$6,348	\$5,772	\$6,888	1.3
Accountants II .....	8,267	590	584	540	639	7,030	7,003	6,470	7,668	3.5
Accountants III .....	19,608	682	674	625	733	8,184	8,038	7,712	8,795	3.5
Accountants IV .....	14,100	822	814	751	895	9,864	9,768	9,012	10,740	3.8
Accountants V .....	5,633	1,002	987	889	1,098	12,024	11,844	10,668	13,176	3.9
Auditors I .....	497	518	512	472	560	6,216	6,144	5,664	6,720	6.6
Auditors II .....	1,923	621	614	549	692	7,452	7,368	6,588	8,304	3.7
Auditors III .....	3,622	732	720	653	824	8,784	8,640	7,836	9,888	3.1
Auditors IV .....	2,334	898	884	797	991	10,776	10,608	9,564	11,892	4.8
Chief accountants I .....	337	915	913	779	1,040	10,980	10,956	9,348	12,480	6.6
Chief accountants II .....	1,090	1,062	1,062	957	1,191	12,744	12,744	11,484	14,292	1.3
Chief accountants III .....	623	1,236	1,203	1,103	1,403	14,832	14,436	13,236	16,836	5.0
Chief accountants IV .....	311	1,426	1,430	1,273	1,554	17,112	17,160	15,276	18,648	7.3
<b>Attorneys</b>										
Attorneys I .....	177	615	629	560	669	7,380	7,548	6,720	8,028	1.8
Attorneys II .....	519	745	758	664	819	8,940	9,096	7,968	9,828	4.8
Attorneys III .....	1,160	876	857	759	969	10,512	10,284	9,108	11,628	5.5
Attorneys IV .....	1,282	1,140	1,130	1,004	1,286	13,680	13,560	12,048	15,432	6.7
Attorneys V .....	1,098	1,376	1,373	1,214	1,538	16,512	16,476	14,568	18,456	3.0
Attorneys VI .....	548	1,674	1,665	1,461	1,933	20,088	19,980	17,532	23,196	9.1
Attorneys VII .....	459	2,067	2,030	1,749	2,310	24,804	24,360	20,988	27,720	2.1
<b>Office services</b>										
Managers, office services I .....	371	653	640	599	711	7,836	7,680	7,188	8,532	4.5
Managers, office services II .....	637	801	791	753	868	9,612	9,492	9,036	10,416	4.0
Managers, office services III .....	312	952	915	852	1,074	11,424	10,980	10,224	12,888	3.9
Managers, office services IV .....	78	1,156	1,169	1,041	1,274	13,872	14,028	12,492	15,288	7.1
<b>Personnel management</b>										
Job analysts I .....	133	553	549	480	643	6,636	6,588	5,760	7,716	1.9
Job analysts II .....	304	641	645	548	719	7,692	7,740	6,576	8,628	3.2
Job analysts III .....	779	745	731	672	817	8,940	8,772	8,064	9,804	4.6
Job analysts IV .....	548	889	886	786	992	10,668	10,632	9,432	11,904	5.0
Directors of personnel I .....	644	818	824	707	913	9,816	9,888	8,484	10,956	1.6
Directors of personnel II .....	1,365	960	934	833	1,060	11,520	11,208	9,996	12,720	3.2
Directors of personnel III .....	896	1,217	1,201	1,038	1,342	14,604	14,412	12,456	16,104	5.1
Directors of personnel IV .....	382	1,416	1,366	1,206	1,677	16,992	16,392	14,472	20,124	2.9
<b>Chemists and engineers</b>										
Chemists I .....	2,015	551	560	509	602	6,612	6,720	6,108	7,224	2.4
Chemists II .....	4,786	635	628	583	683	7,620	7,536	6,996	8,196	4.1
Chemists III .....	7,851	741	732	676	798	8,892	8,784	8,112	9,576	3.3
Chemists IV .....	9,279	924	910	828	1,021	11,088	10,920	9,936	12,252	4.3
Chemists V .....	6,153	1,105	1,090	1,000	1,218	13,260	13,080	12,000	14,616	4.0
Chemists VI .....	3,806	1,269	1,251	1,144	1,381	15,228	15,012	13,728	16,572	3.3
Chemists VII .....	1,399	1,504	1,491	1,345	1,625	18,048	17,892	16,140	19,500	4.2
Chemists VIII .....	465	1,850	1,760	1,649	2,005	22,200	21,120	19,788	24,060	5.3
Engineers I .....	9,341	628	626	601	661	7,536	7,512	7,212	7,932	2.6
Engineers II .....	26,949	692	687	649	736	8,304	8,244	7,788	8,832	3.7
Engineers III .....	72,968	793	792	729	856	9,516	9,504	8,748	10,272	3.4
Engineers IV .....	95,075	953	947	856	1,043	11,436	11,364	10,272	12,516	3.8
Engineers V .....	57,219	1,113	1,103	983	1,230	13,356	13,236	11,796	14,760	3.3
Engineers VI .....	30,450	1,284	1,286	1,142	1,422	15,408	15,432	13,704	17,064	4.0
Engineers VII .....	9,929	1,512	1,504	1,366	1,643	18,144	18,048	16,392	19,716	2.8
Engineers VIII .....	2,504	1,762	1,702	1,561	1,929	21,144	20,424	18,732	23,148	3.2
<b>Engineering technicians</b>										
Engineering technicians I .....	4,121	413	414	372	450	4,956	4,968	4,464	5,400	1.7
Engineering technicians II .....	10,493	492	490	453	530	5,904	5,880	5,436	6,360	1.4
Engineering technicians III .....	20,472	573	572	528	622	6,876	6,864	6,336	7,464	3.1
Engineering technicians IV .....	25,160	642	638	597	686	7,704	7,656	7,164	8,232	2.6
Engineering technicians V .....	12,237	723	718	671	777	8,676	8,616	8,052	9,324	1.4

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, metropolitan areas, <sup>1</sup> February–March 1965, and percent increase in mean salaries during the year <sup>2</sup>)

Occupation and class (See definitions in appendix C)	Number of employees <sup>3</sup>	Monthly salaries <sup>4</sup>				Annual salaries <sup>4</sup>				Percent increase in mean salaries
		Mean	Median	Middle range <sup>5</sup>		Mean	Median	Middle range <sup>5</sup>		
				First quartile	Third quartile			First quartile	Third quartile	
<b>Draftsmen</b>										
Draftsmen I .....	17,049	\$458	\$450	\$398	\$513	\$5,500	\$5,396	\$4,771	\$6,153	( <sup>6</sup> )
Draftsmen II .....	30,011	580	569	515	632	6,957	6,830	6,179	7,586	( <sup>6</sup> )
Draftsmen III .....	17,273	675	665	597	743	8,105	7,977	7,143	8,916	( <sup>6</sup> )
Draftsmen-tracers .....	3,722	365	361	319	402	4,376	4,328	3,832	4,823	( <sup>6</sup> )
<b>Clerical</b>										
Clerks, accounting I .....	54,712	356	350	300	402	4,274	4,197	3,598	4,823	2.5
Clerks, accounting II .....	38,660	469	463	400	534	5,632	5,553	4,797	6,413	1.8
Clerks, file I .....	16,951	265	259	235	289	3,184	3,102	2,816	3,467	2.5
Clerks, file II .....	21,822	300	291	256	335	3,602	3,493	3,076	4,015	2.0
Clerks, file III .....	7,217	376	367	317	424	4,513	4,406	3,806	5,084	2.1
Keypunch operators I .....	33,824	333	324	285	376	3,996	3,884	3,415	4,510	2.0
Keypunch operators II .....	25,223	386	382	339	432	4,637	4,588	4,067	5,188	2.7
Office boys or girls .....	22,421	289	278	250	317	3,470	3,337	2,998	3,806	3.0
Stenographers, general .....	66,643	364	358	313	413	4,364	4,302	3,754	4,953	2.2
Stenographers, senior .....	44,904	413	411	367	461	4,959	4,927	4,406	5,527	2.4
Switchboard operators I .....	9,678	346	348	295	402	4,150	4,171	3,546	4,823	( <sup>7</sup> )
Switchboard operators II .....	7,392	401	402	356	450	4,806	4,823	4,275	5,396	( <sup>7</sup> )
Tabulating-machine operators I .....	7,791	343	337	295	382	4,118	4,041	3,546	4,588	2.2
Tabulating-machine operators II .....	15,672	421	419	371	471	5,056	5,032	4,458	5,657	2.4
Tabulating-machine operators III .....	8,208	508	506	452	563	6,091	6,074	5,423	6,752	2.4
Typists I .....	60,482	305	300	267	337	3,661	3,598	3,207	4,041	2.6
Typists II .....	35,422	363	358	317	404	4,351	4,302	3,806	4,849	2.4

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

<sup>2</sup> For limitations of percent increase in average salaries as a measure of change in salary scales, see p. 5 of text.

<sup>3</sup> 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 p. 33 of appendix A.

<sup>4</sup> 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 bonuses and incentive earnings are included.

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

<sup>6</sup> Because of changes in the number and definitions of levels between surveys, increases in average salaries during the year for draftsmen could not be presented.

<sup>7</sup> Revisions in level definitions between surveys limit comparison of change to all switchboard operators combined; average salaries for these employees as a group increased 2.9 percent during the year.

Table 3. Average Salaries: Establishments Employing 2,500 or More

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations<sup>1</sup> in establishments employing 2,500 workers or more,<sup>2</sup> United States except Alaska and Hawaii, February-March 1965, and comparison with levels in all establishments combined)

Occupation and class (See definitions in appendix C)	Number of employees <sup>3</sup>	Monthly salaries <sup>4</sup>				Levels in large establishments expressed as percent of those in all establishments combined	
		Mean	Median	Middle range <sup>5</sup>		Employment	Mean salaries
				First quartile	Third quartile		
<b>Accountants and auditors</b>							
Accountants I .....	2,382	\$557	\$558	\$514	\$601	50	106
Accountants II .....	3,959	612	605	558	662	43	104
Accountants III .....	7,488	703	691	639	755	34	104
Accountants IV .....	4,891	834	819	759	901	31	102
Accountants V .....	2,406	983	951	876	1,083	39	99
Auditors II .....	869	637	638	568	709	44	103
Auditors III .....	1,448	749	734	656	847	38	103
Auditors IV .....	1,114	891	878	796	979	46	100
Chief accountants III .....	160	1,312	1,308	1,099	1,445	22	108
Chief accountants IV .....	106	1,397	1,381	1,149	1,585	30	98
<b>Attorneys</b>							
Attorneys II .....	203	787	774	696	872	39	106
Attorneys III .....	361	963	940	832	1,084	30	110
Attorneys IV .....	423	1,181	1,164	1,031	1,340	32	104
Attorneys V .....	380	1,376	1,383	1,219	1,536	34	100
Attorneys VI .....	199	1,723	1,694	1,508	1,938	36	103
Attorneys VII .....	174	2,001	1,934	1,771	2,268	38	97
<b>Office services</b>							
Managers, office services III .....	152	954	933	832	1,079	46	100
<b>Personnel management</b>							
Job analysts II .....	217	670	664	571	749	69	105
Job analysts III .....	542	764	756	684	841	63	103
Job analysts IV .....	407	890	889	797	988	71	100
Directors of personnel III .....	167	1,332	1,393	1,070	1,586	16	110
Directors of personnel IV .....	146	1,569	1,558	1,381	1,810	35	111
<b>Chemists and engineers</b>							
Chemists I .....	574	601	606	566	639	25	109
Chemists II .....	1,918	670	659	608	729	35	106
Chemists III .....	2,923	772	757	698	841	32	105
Chemists IV .....	3,699	942	935	842	1,040	34	103
Chemists V .....	3,002	1,097	1,085	996	1,200	41	101
Chemists VI .....	1,985	1,277	1,262	1,151	1,383	46	101
Chemists VII .....	649	1,550	1,529	1,393	1,660	39	104
Chemists VIII .....	214	1,887	1,835	1,674	2,122	43	102
Engineers I .....	5,887	638	636	607	669	56	102
Engineers II .....	17,954	695	689	651	738	61	101
Engineers III .....	47,665	805	807	744	866	60	102
Engineers IV .....	62,799	974	970	876	1,063	61	103
Engineers V .....	35,604	1,133	1,131	1,006	1,254	57	102
Engineers VI .....	19,021	1,302	1,311	1,155	1,449	58	102
Engineers VII .....	5,487	1,558	1,547	1,407	1,689	50	104
Engineers VIII .....	1,434	1,815	1,766	1,604	1,997	54	103
<b>Engineering technicians</b>							
Engineering technicians I .....	2,246	416	418	379	455	49	101
Engineering technicians II .....	5,544	500	497	457	540	46	102
Engineering technicians III .....	12,253	582	581	536	636	54	102
Engineering technicians IV .....	16,463	647	643	601	692	61	101
Engineering technicians V .....	9,747	721	719	672	777	75	100

See footnotes at end of table.

Table 3. Average Salaries: Establishments Employing 2,500 or More—Continued

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations<sup>1</sup> in establishments employing 2,500 workers or more,<sup>2</sup> United States except Alaska and Hawaii, February–March 1965, and comparison with levels in all establishments combined)

Occupation and class (See definitions in appendix C)	Number of employees <sup>3</sup>	Monthly salaries <sup>4</sup>				Levels in large establishments expressed as percent of those in all establishments combined	
		Mean	Median	Middle range <sup>5</sup>		Employment	Mean salaries
				First quartile	Third quartile		
<b>Draftsmen</b>							
Draftsmen I .....	6,983	\$ 494	\$ 489	\$ 428	\$ 554	36	109
Draftsmen II .....	13,176	605	591	528	665	39	106
Draftsmen III .....	9,506	692	676	608	763	50	103
Draftsmen-tracers .....	1,708	391	382	339	452	41	108
<b>Clerical</b>							
Clerks, accounting I .....	14,982	379	371	319	432	25	107
Clerks, accounting II .....	10,770	507	504	432	574	25	109
Clerks, file I .....	4,446	293	282	259	324	24	111
Clerks, file II .....	6,105	338	332	293	378	27	113
Clerks, file III .....	2,800	409	398	356	454	38	109
Keypunch operators I .....	11,902	358	348	304	411	31	109
Keypunch operators II .....	10,604	406	406	356	456	38	106
Office boys or girls .....	7,388	312	295	267	350	31	108
Stenographers, general .....	25,725	384	382	337	435	36	106
Stenographers, senior .....	20,992	435	439	393	474	43	106
Switchboard operators I .....	2,851	369	376	315	424	28	107
Switchboard operators II .....	3,011	425	428	380	474	38	107
Tabulating-machine operators I .....	2,962	361	352	311	406	35	106
Tabulating-machine operators II .....	6,871	431	428	378	487	40	102
Tabulating-machine operators III .....	3,667	529	528	471	587	41	104
Typists I .....	17,673	332	322	287	371	27	109
Typists II .....	15,503	382	376	335	430	41	106

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

<sup>2</sup> Includes data for a few establishments with fewer than 2,500 employees of 5 of the largest companies studied that provided companywide data unidentified by size of establishment. This applies only to data for occupations other than drafting and clerical.

<sup>3</sup> Occupational employment estimates relate to the total in all establishments within scope of the study and not to the number actually surveyed. For further explanation, see p. 33 of text.

<sup>4</sup> 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 and incentive earnings are included.

<sup>5</sup> 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<sup>1</sup> in selected professional and administrative occupations,<sup>2</sup> by average monthly salaries, United States except Alaska and Hawaii, February-March 1965)

Average monthly salaries	Accountants					Auditors				Chief accountants			
	I	II	III	IV	V	I	II	III	IV	I	II	III	IV
Under \$ 400 -----	1.9	-	-	-	-	1.4	-	-	-	-	-	-	-
\$ 400 and under \$ 425 -----	4.0	(1.0)	-	-	-	1.4	(0.5)	-	-	-	-	-	-
\$ 425 and under \$ 450 -----	5.8	2.2	-	-	-	9.6	1.2	-	-	-	-	-	-
\$ 450 and under \$ 475 -----	11.2	2.7	-	-	-	14.3	2.7	-	-	-	-	-	-
\$ 475 and under \$ 500 -----	10.2	5.1	(1.4)	-	-	15.1	4.4	(0.8)	-	-	-	-	-
\$ 500 and under \$ 525 -----	14.9	8.4	2.2	-	-	18.0	6.6	1.8	-	-	-	-	-
\$ 525 and under \$ 550 -----	13.9	11.1	2.8	-	-	13.5	9.4	3.1	-	-	-	-	-
\$ 550 and under \$ 575 -----	13.9	15.4	3.9	-	-	5.7	11.1	3.2	-	-	-	-	-
\$ 575 and under \$ 600 -----	8.6	13.4	6.8	(0.6)	-	5.1	9.3	4.3	-	-	-	-	-
\$ 600 and under \$ 625 -----	6.9	11.9	9.6	1.7	-	7.5	9.6	6.0	-	-	-	-	-
\$ 625 and under \$ 650 -----	4.0	8.3	10.2	2.1	-	2.2	8.3	5.3	(1.5)	-	-	-	-
\$ 650 and under \$ 675 -----	2.7	7.1	15.4	3.9	-	2.0	6.8	9.9	2.9	1.5	-	-	-
\$ 675 and under \$ 700 -----	1.2	4.5	10.7	4.5	-	2.0	8.2	6.2	2.7	6.3	2.2	-	-
\$ 700 and under \$ 725 -----	(.6)	2.8	11.5	8.2	(2.3)	1.6	7.8	12.7	3.3	5.7	-	-	-
\$ 725 and under \$ 750 -----	-	1.7	5.9	6.5	1.1	(.8)	2.9	6.9	3.7	1.7	-	-	-
\$ 750 and under \$ 775 -----	-	2.4	5.7	10.1	2.7	-	3.8	6.5	6.5	5.3	.8	-	-
\$ 775 and under \$ 800 -----	-	(1.9)	3.5	9.1	1.9	-	2.1	4.7	6.3	4.6	1.5	-	-
\$ 800 and under \$ 825 -----	-	-	2.8	9.9	3.4	-	2.0	4.6	5.4	10.1	6.0	-	-
\$ 825 and under \$ 850 -----	-	-	2.3	10.1	4.0	-	.7	6.9	8.8	9.3	3.6	-	2.5
\$ 850 and under \$ 875 -----	-	-	2.0	6.1	6.8	-	1.1	4.7	7.1	4.2	4.7	-	-
\$ 875 and under \$ 900 -----	-	-	1.0	5.0	6.8	-	1.0	4.4	7.4	8.6	2.2	(0.4)	-
\$ 900 and under \$ 925 -----	-	-	(2.3)	5.6	8.6	-	(.7)	1.9	8.7	7.4	2.2	1.1	-
\$ 925 and under \$ 950 -----	-	-	-	3.4	6.7	-	-	1.4	5.1	6.8	2.8	1.2	-
\$ 950 and under \$ 975 -----	-	-	-	3.7	5.2	-	-	1.1	4.0	3.0	4.7	4.4	-
\$ 975 and under \$ 1,000 -----	-	-	-	2.2	4.2	-	-	.7	3.5	4.4	1.4	.4	.8
\$ 1,000 and under \$ 1,050 -----	-	-	-	3.5	11.0	-	-	1.5	7.7	3.6	16.5	14.3	1.7
\$ 1,050 and under \$ 1,100 -----	-	-	-	2.5	11.6	-	-	1.1	6.6	7.4	17.4	7.2	2.3
\$ 1,100 and under \$ 1,150 -----	-	-	-	(1.5)	7.0	-	-	(.3)	3.0	1.9	6.2	13.6	4.2
\$ 1,150 and under \$ 1,200 -----	-	-	-	-	4.3	-	-	-	2.8	1.5	7.6	9.5	6.5
\$ 1,200 and under \$ 1,250 -----	-	-	-	-	3.7	-	-	-	.8	3.0	6.0	9.1	4.0
\$ 1,250 and under \$ 1,300 -----	-	-	-	-	3.4	-	-	-	1.1	-	4.8	7.4	4.2
\$ 1,300 and under \$ 1,350 -----	-	-	-	-	2.1	-	-	-	(1.2)	2.5	6.0	5.9	6.2
\$ 1,350 and under \$ 1,400 -----	-	-	-	-	1.4	-	-	-	-	(1.2)	1.2	2.5	8.8
\$ 1,400 and under \$ 1,450 -----	-	-	-	-	(1.5)	-	-	-	-	-	1.5	8.4	11.6
\$ 1,450 and under \$ 1,500 -----	-	-	-	-	-	-	-	-	-	-	(.8)	7.3	15.5
\$ 1,500 and under \$ 1,550 -----	-	-	-	-	-	-	-	-	-	-	-	2.1	9.6
\$ 1,550 and under \$ 1,600 -----	-	-	-	-	-	-	-	-	-	-	-	1.5	4.0
\$ 1,600 and under \$ 1,650 -----	-	-	-	-	-	-	-	-	-	-	-	1.1	2.5
\$ 1,650 and under \$ 1,700 -----	-	-	-	-	-	-	-	-	-	-	-	(2.5)	4.0
\$ 1,700 and under \$ 1,750 -----	-	-	-	-	-	-	-	-	-	-	-	-	3.1
\$ 1,750 and under \$ 1,800 -----	-	-	-	-	-	-	-	-	-	-	-	-	.6
\$ 1,800 and under \$ 1,850 -----	-	-	-	-	-	-	-	-	-	-	-	-	.8
\$ 1,850 and under \$ 1,900 -----	-	-	-	-	-	-	-	-	-	-	-	-	1.1
\$ 1,900 and under \$ 1,950 -----	-	-	-	-	-	-	-	-	-	-	-	-	2.9
\$ 1,950 and over -----	-	-	-	-	-	-	-	-	-	-	-	-	-
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees -----	4,811	9,202	21,877	15,955	6,247	510	1,969	3,781	2,425	474	1,373	726	354
Average monthly salaries -----	\$526	\$587	\$677	\$816	\$995	\$517	\$620	\$729	\$894	\$895	\$1,049	\$1,217	\$1,419

See footnotes at end of table.

Table 4. Employment Distribution by Salary: Professional and Administrative Occupations—Continued

(Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations,<sup>2</sup> by average monthly salaries, United States except Alaska and Hawaii, February–March 1965)

Average monthly salaries	Attorneys						
	I	II	III	IV	V	VI	VII
Under \$450	3.2	-	-	-	-	-	-
\$450 and under \$475	2.2	-	-	-	-	-	-
\$475 and under \$500	-	-	-	-	-	-	-
\$500 and under \$525	4.9	3.4	-	-	-	-	-
\$525 and under \$550	9.3	1.7	-	-	-	-	-
\$550 and under \$575	13.1	2.5	-	-	-	-	-
\$575 and under \$600	8.7	5.9	-	-	-	-	-
\$600 and under \$625	9.3	2.9	(1.2)	-	-	-	-
\$625 and under \$650	7.1	4.2	2.6	-	-	-	-
\$650 and under \$675	23.5	7.6	6.1	-	-	-	-
\$675 and under \$700	.5	3.4	1.9	-	-	-	-
\$700 and under \$725	7.1	7.0	6.3	-	-	-	-
\$725 and under \$750	3.8	7.8	2.6	-	-	-	-
\$750 and under \$775	3.8	13.1	12.2	(0.5)	-	-	-
\$775 and under \$800	1.1	6.5	6.2	1.1	-	-	-
\$800 and under \$825	.5	12.0	4.1	4.7	-	-	-
\$825 and under \$850	-	5.5	4.5	3.1	-	-	-
\$850 and under \$875	1.1	4.0	6.4	1.8	-	-	-
\$875 and under \$900	.5	2.5	5.7	2.2	-	-	-
\$900 and under \$925	-	2.5	7.3	3.3	(1.0)	-	-
\$925 and under \$950	-	.6	3.6	1.6	1.3	-	-
\$950 and under \$975	-	1.9	5.3	3.6	1.0	-	-
\$975 and under \$1,000	-	2.3	1.9	3.2	.3	-	-
\$1,000 and under \$1,050	-	1.1	4.9	11.3	4.0	-	-
\$1,050 and under \$1,100	-	(1.6)	4.4	8.2	5.3	1.6	-
\$1,100 and under \$1,150	-	-	4.8	10.4	3.3	.7	-
\$1,150 and under \$1,200	-	-	3.0	9.2	7.0	.2	-
\$1,200 and under \$1,250	-	-	2.0	6.6	5.9	1.4	-
\$1,250 and under \$1,300	-	-	(2.7)	6.4	7.5	7.7	-
\$1,300 and under \$1,350	-	-	-	5.1	9.8	4.5	(2.1)
\$1,350 and under \$1,400	-	-	-	7.4	8.9	2.2	3.0
\$1,400 and under \$1,450	-	-	-	3.1	7.8	5.2	.4
\$1,450 and under \$1,500	-	-	-	1.6	5.2	8.1	.7
\$1,500 and under \$1,550	-	-	-	2.7	9.3	7.3	4.3
\$1,550 and under \$1,600	-	-	-	.7	5.9	5.9	1.3
\$1,600 and under \$1,650	-	-	-	1.2	4.4	3.2	2.2
\$1,650 and under \$1,700	-	-	-	(1.1)	3.0	9.3	8.3
\$1,700 and under \$1,750	-	-	-	-	3.3	3.9	2.8
\$1,750 and under \$1,800	-	-	-	-	2.8	3.9	6.7
\$1,800 and under \$1,850	-	-	-	-	(3.0)	6.3	4.1
\$1,850 and under \$1,900	-	-	-	-	-	1.3	2.8
\$1,900 and under \$1,950	-	-	-	-	-	4.3	3.0
\$1,950 and under \$2,000	-	-	-	-	-	6.1	3.9
\$2,000 and under \$2,050	-	-	-	-	-	5.7	7.2
\$2,050 and under \$2,100	-	-	-	-	-	4.1	4.3
\$2,100 and under \$2,150	-	-	-	-	-	2.7	1.3
\$2,150 and under \$2,200	-	-	-	-	-	.5	3.7
\$2,200 and under \$2,250	-	-	-	-	-	.9	5.2
\$2,250 and under \$2,300	-	-	-	-	-	1.1	6.7
\$2,300 and under \$2,350	-	-	-	-	-	(1.9)	5.7
\$2,350 and under \$2,400	-	-	-	-	-	-	1.3
\$2,400 and under \$2,450	-	-	-	-	-	-	.9
\$2,450 and under \$2,500	-	-	-	-	-	-	.4
\$2,500 and under \$2,550	-	-	-	-	-	-	5.2
\$2,550 and under \$2,600	-	-	-	-	-	-	2.0
\$2,600 and under \$2,650	-	-	-	-	-	-	1.5
\$2,650 and under \$2,700	-	-	-	-	-	-	.2
\$2,700 and under \$2,750	-	-	-	-	-	-	1.3
\$2,750 and over	-	-	-	-	-	-	7.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	183	525	1,184	1,310	1,116	558	460
Average monthly salaries	\$614	\$745	\$876	\$1,137	\$1,375	\$1,670	\$2,067

See footnotes at end of table.

Table 4. Employment Distribution by Salary: Professional and Administrative Occupations—Continued

(Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations,<sup>2</sup> by average monthly salaries, United States except Alaska and Hawaii, February–March 1965)

Average monthly salaries	Managers, office services				Job analysts				Directors of personnel			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Under \$400 -----	-	-	-	-	2.9	1.0	-	-	-	-	-	-
\$400 and under \$425 -----	-	-	-	-	7.3	2.2	-	-	-	-	-	-
\$425 and under \$450 -----	(0.5)	-	-	-	6.6	5.1	-	-	-	-	-	-
\$450 and under \$475 -----	4.1	-	-	-	4.4	1.6	-	-	-	-	-	-
\$475 and under \$500 -----	1.4	-	-	-	16.1	1.6	-	-	-	-	-	-
\$500 and under \$525 -----	4.3	-	-	-	10.2	3.2	(1.5)	-	1.3	-	-	-
\$525 and under \$550 -----	3.3	-	-	-	4.4	10.5	1.2	-	1.1	-	-	-
\$550 and under \$575 -----	3.8	1.4	-	-	2.9	7.9	2.9	-	2.3	-	-	-
\$575 and under \$600 -----	12.4	.3	-	-	3.6	5.4	2.2	-	1.0	-	-	-
\$600 and under \$625 -----	12.7	2.8	-	-	10.2	6.3	3.3	-	5.6	-	-	-
\$625 and under \$650 -----	16.0	2.5	-	-	10.9	7.6	5.8	(1.0)	.6	-	-	-
\$650 and under \$675 -----	8.4	2.5	(2.4)	-	5.1	12.4	10.7	1.7	6.9	(0.9)	-	-
\$675 and under \$700 -----	4.8	1.5	1.2	-	6.6	7.0	8.5	3.1	4.0	1.2	-	-
\$700 and under \$725 -----	10.3	6.8	1.2	-	5.8	5.7	13.2	3.5	12.0	.9	-	-
\$725 and under \$750 -----	3.8	4.2	-	-	1.5	5.7	7.4	6.4	5.8	5.7	-	-
\$750 and under \$775 -----	2.4	17.9	3.9	-	1.5	2.2	9.1	6.8	9.9	7.4	-	-
\$775 and under \$800 -----	3.3	16.9	2.7	-	-	3.5	6.3	6.6	2.9	2.5	-	-
\$800 and under \$825 -----	-	5.7	6.6	3.8	-	.6	5.6	4.7	5.8	8.3	(0.8)	-
\$825 and under \$850 -----	2.4	6.4	6.6	1.3	-	2.5	6.1	7.5	4.0	5.5	2.2	1.0
\$850 and under \$875 -----	2.6	8.9	12.1	1.3	-	3.5	4.2	5.0	2.5	4.1	1.2	-
\$875 and under \$900 -----	1.0	6.7	7.3	-	-	-	3.5	7.8	9.7	4.8	.7	1.2
\$900 and under \$925 -----	1.2	6.0	9.1	2.5	-	1.9	2.7	8.8	4.8	9.2	7.7	-
\$925 and under \$950 -----	-	1.0	3.3	-	-	-	1.6	4.5	6.5	5.1	1.1	1.2
\$950 and under \$975 -----	.2	2.8	2.4	6.3	-	1.9	1.1	4.2	2.4	8.5	2.1	2.6
\$975 and under \$1,000 -----	-	1.0	3.6	2.5	-	.6	.8	5.4	.7	4.3	2.3	-
\$1,000 and under \$1,050 -----	1.0	2.0	6.9	10.1	-	-	2.0	10.9	4.3	5.6	10.2	4.1
\$1,050 and under \$1,100 -----	-	2.1	10.9	12.7	-	-	(.3)	4.9	1.6	9.8	7.3	6.9
\$1,100 and under \$1,150 -----	-	(.7)	7.3	5.1	-	-	-	4.5	3.8	3.0	6.4	4.5
\$1,150 and under \$1,200 -----	-	-	7.3	15.2	-	-	-	2.1	(.5)	3.4	7.1	1.9
\$1,200 and under \$1,250 -----	-	-	1.2	6.3	-	-	-	(.7)	-	3.8	9.7	8.4
\$1,250 and under \$1,300 -----	-	-	2.7	19.0	-	-	-	-	-	1.1	10.0	14.4
\$1,300 and under \$1,350 -----	-	-	(1.2)	-	-	-	-	-	-	1.7	9.9	4.3
\$1,350 and under \$1,400 -----	-	-	-	5.1	-	-	-	-	-	1.7	2.5	5.7
\$1,400 and under \$1,450 -----	-	-	-	-	-	-	-	-	-	(1.3)	2.1	4.1
\$1,450 and under \$1,500 -----	-	-	-	5.1	-	-	-	-	-	-	1.2	2.2
\$1,500 and under \$1,550 -----	-	-	-	-	-	-	-	-	-	-	4.3	5.3
\$1,550 and under \$1,600 -----	-	-	-	-	-	-	-	-	-	-	2.6	4.1
\$1,600 and under \$1,650 -----	-	-	-	1.3	-	-	-	-	-	-	1.8	1.4
\$1,650 and under \$1,700 -----	-	-	-	2.5	-	-	-	-	-	-	5.0	5.0
\$1,700 and under \$1,750 -----	-	-	-	-	-	-	-	-	-	-	(2.0)	3.6
\$1,750 and under \$1,800 -----	-	-	-	-	-	-	-	-	-	-	-	3.3
\$1,800 and under \$1,850 -----	-	-	-	-	-	-	-	-	-	-	-	4.8
\$1,850 and under \$1,900 -----	-	-	-	-	-	-	-	-	-	-	-	1.4
\$1,900 and under \$1,950 -----	-	-	-	-	-	-	-	-	-	-	-	1.0
\$1,950 and under \$2,000 -----	-	-	-	-	-	-	-	-	-	-	-	1.7
\$2,000 and over -----	-	-	-	-	-	-	-	-	-	-	-	6.0
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees -----	418	717	331	79	137	315	857	577	1,078	1,689	1,070	418
Average monthly salaries -----	\$646	\$802	\$951	\$1,152	\$553	\$639	\$741	\$889	\$798	\$946	\$1,210	\$1,413

See footnotes at end of table.



Table 4. Employment Distribution by Salary: Professional and Administrative Occupations—Continued

(Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations,<sup>2</sup> by average monthly salaries, United States except Alaska and Hawaii, February–March 1965)

Average monthly salaries	Chemists							
	I	II	III	IV	V	VI	VII	VIII
\$ 400 and under \$ 425 -----	1.4	-	-	-	-	-	-	-
\$ 425 and under \$ 450 -----	4.6	-	-	-	-	-	-	-
\$ 450 and under \$ 475 -----	9.6	(0.1)	-	-	-	-	-	-
\$ 475 and under \$ 500 -----	3.5	2.5	-	-	-	-	-	-
\$ 500 and under \$ 525 -----	13.0	5.7	-	-	-	-	-	-
\$ 525 and under \$ 550 -----	12.4	4.9	(1.1)	-	-	-	-	-
\$ 550 and under \$ 575 -----	19.0	7.1	1.6	-	-	-	-	-
\$ 575 and under \$ 600 -----	11.5	12.7	2.6	-	-	-	-	-
\$ 600 and under \$ 625 -----	12.1	17.4	4.6	-	-	-	-	-
\$ 625 and under \$ 650 -----	5.7	11.4	6.5	-	-	-	-	-
\$ 650 and under \$ 675 -----	2.9	13.2	10.8	(1.6)	-	-	-	-
\$ 675 and under \$ 700 -----	2.2	6.8	10.0	2.0	-	-	-	-
\$ 700 and under \$ 725 -----	1.0	4.9	12.9	1.9	-	-	-	-
\$ 725 and under \$ 750 -----	(1.2)	4.3	11.1	3.4	-	-	-	-
\$ 750 and under \$ 775 -----	-	3.9	10.0	4.8	-	-	-	-
\$ 775 and under \$ 800 -----	-	1.4	6.6	6.6	-	-	-	-
\$ 800 and under \$ 825 -----	-	.9	6.7	6.2	(2.7)	-	-	-
\$ 825 and under \$ 850 -----	-	1.0	4.2	8.1	1.2	-	-	-
\$ 850 and under \$ 875 -----	-	(1.5)	2.7	7.8	2.1	-	-	-
\$ 875 and under \$ 900 -----	-	-	2.6	7.2	3.1	-	-	-
\$ 900 and under \$ 925 -----	-	-	1.9	7.9	4.1	(1.0)	-	-
\$ 925 and under \$ 950 -----	-	-	1.2	5.5	4.7	1.1	-	-
\$ 950 and under \$ 975 -----	-	-	.6	5.0	5.2	2.0	-	-
\$ 975 and under \$ 1,000 -----	-	-	.9	4.6	4.8	.8	-	-
\$ 1,000 and under \$ 1,050 -----	-	-	1.1	9.4	16.2	4.5	-	-
\$ 1,050 and under \$ 1,100 -----	-	-	(.6)	7.6	13.1	7.5	(0.8)	-
\$ 1,100 and under \$ 1,150 -----	-	-	-	4.6	9.9	10.1	2.0	-
\$ 1,150 and under \$ 1,200 -----	-	-	-	2.5	7.7	10.3	3.6	-
\$ 1,200 and under \$ 1,250 -----	-	-	-	1.5	9.0	13.6	4.5	-
\$ 1,250 and under \$ 1,300 -----	-	-	-	(1.7)	5.9	10.7	8.4	0.4
\$ 1,300 and under \$ 1,350 -----	-	-	-	-	4.7	10.3	6.5	1.0
\$ 1,350 and under \$ 1,400 -----	-	-	-	-	2.2	7.3	7.8	2.6
\$ 1,400 and under \$ 1,450 -----	-	-	-	-	1.4	5.4	10.2	2.0
\$ 1,450 and under \$ 1,500 -----	-	-	-	-	(2.2)	4.5	7.5	1.4
\$ 1,500 and under \$ 1,550 -----	-	-	-	-	-	3.3	14.0	5.4
\$ 1,550 and under \$ 1,600 -----	-	-	-	-	-	2.1	7.6	4.0
\$ 1,600 and under \$ 1,650 -----	-	-	-	-	-	1.8	6.8	7.6
\$ 1,650 and under \$ 1,700 -----	-	-	-	-	-	1.1	6.1	14.4
\$ 1,700 and under \$ 1,750 -----	-	-	-	-	-	(2.6)	3.1	8.4
\$ 1,750 and under \$ 1,800 -----	-	-	-	-	-	-	1.9	5.4
\$ 1,800 and under \$ 1,850 -----	-	-	-	-	-	-	.7	10.4
\$ 1,850 and under \$ 1,900 -----	-	-	-	-	-	-	2.6	1.8
\$ 1,900 and under \$ 1,950 -----	-	-	-	-	-	-	.7	3.8
\$ 1,950 and under \$ 2,000 -----	-	-	-	-	-	-	1.3	5.4
\$ 2,000 and under \$ 2,050 -----	-	-	-	-	-	-	.6	2.8
\$ 2,050 and under \$ 2,100 -----	-	-	-	-	-	-	1.1	3.8
\$ 2,100 and under \$ 2,150 -----	-	-	-	-	-	-	(2.0)	4.2
\$ 2,150 and under \$ 2,200 -----	-	-	-	-	-	-	-	1.4
\$ 2,200 and under \$ 2,250 -----	-	-	-	-	-	-	-	2.4
\$ 2,250 and under \$ 2,300 -----	-	-	-	-	-	-	-	2.2
\$ 2,300 and under \$ 2,350 -----	-	-	-	-	-	-	-	1.4
\$ 2,350 and under \$ 2,400 -----	-	-	-	-	-	-	-	2.0
\$ 2,400 and over -----	-	-	-	-	-	-	-	5.8
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees -----	2,307	5,531	9,187	10,786	7,318	4,345	1,662	500
Average monthly salaries -----	\$551	\$632	\$734	\$915	\$1,089	\$1,264	\$1,494	\$1,851

See footnotes at end of table.

Table 4. Employment Distribution by Salary: Professional and Administrative Occupations—Continued

(Percent distribution of employees<sup>1</sup> in selected professional and administrative occupations,<sup>2</sup> by average monthly salaries, United States except Alaska and Hawaii, February–March 1965)

Average monthly salaries	Engineers							
	I	II	III	IV	V	VI	VII	VIII
\$400 and under \$425 -----	-	-	-	-	-	-	-	-
\$425 and under \$450 -----	-	-	-	-	-	-	-	-
\$450 and under \$475 -----	-	-	-	-	-	-	-	-
\$475 and under \$500 -----	(1.1)	-	-	-	-	-	-	-
\$500 and under \$525 -----	2.5	-	-	-	-	-	-	-
\$525 and under \$550 -----	2.8	(1.2)	-	-	-	-	-	-
\$550 and under \$575 -----	6.1	1.5	-	-	-	-	-	-
\$575 and under \$600 -----	12.2	3.1	(0.7)	-	-	-	-	-
\$600 and under \$625 -----	25.0	8.2	1.4	-	-	-	-	-
\$625 and under \$650 -----	19.5	11.8	2.4	-	-	-	-	-
\$650 and under \$675 -----	15.1	18.1	5.2	-	-	-	-	-
\$675 and under \$700 -----	7.0	14.2	6.3	(1.1)	-	-	-	-
\$700 and under \$725 -----	4.0	13.3	8.8	1.4	-	-	-	-
\$725 and under \$750 -----	2.4	9.2	9.2	2.1	-	-	-	-
\$750 and under \$775 -----	1.2	8.4	11.1	3.4	-	-	-	-
\$775 and under \$800 -----	(1.2)	4.1	9.8	4.2	-	-	-	-
\$800 and under \$825 -----	-	2.9	9.8	5.6	(2.1)	-	-	-
\$825 and under \$850 -----	-	1.8	9.3	6.6	2.0	-	-	-
\$850 and under \$875 -----	-	1.0	8.4	7.1	4.5	-	-	-
\$875 and under \$900 -----	-	(1.3)	5.5	6.8	3.3	(1.6)	-	-
\$900 and under \$925 -----	-	-	4.2	7.8	4.5	1.9	-	-
\$925 and under \$950 -----	-	-	3.3	6.3	3.7	2.0	-	-
\$950 and under \$975 -----	-	-	2.1	7.1	4.5	1.9	-	-
\$975 and under \$1,000 -----	-	-	1.2	6.8	4.3	1.6	-	-
\$1,000 and under \$1,050 -----	-	-	(1.3)	11.5	11.5	4.8	-	-
\$1,050 and under \$1,100 -----	-	-	-	8.7	10.7	6.3	(1.9)	-
\$1,100 and under \$1,150 -----	-	-	-	5.3	10.8	7.1	1.7	-
\$1,150 and under \$1,200 -----	-	-	-	3.3	9.7	8.0	2.2	-
\$1,200 and under \$1,250 -----	-	-	-	2.4	8.2	9.0	4.9	(1.6)
\$1,250 and under \$1,300 -----	-	-	-	1.1	5.8	10.2	6.4	2.2
\$1,300 and under \$1,350 -----	-	-	-	(1.1)	4.6	10.0	7.3	1.6
\$1,350 and under \$1,400 -----	-	-	-	-	2.7	8.5	8.7	1.7
\$1,400 and under \$1,450 -----	-	-	-	-	2.5	7.2	9.5	3.2
\$1,450 and under \$1,500 -----	-	-	-	-	1.9	5.4	8.6	4.9
\$1,500 and under \$1,550 -----	-	-	-	-	1.4	4.6	10.5	8.6
\$1,550 and under \$1,600 -----	-	-	-	-	(1.4)	3.0	8.0	7.4
\$1,600 and under \$1,650 -----	-	-	-	-	-	2.1	7.3	6.6
\$1,650 and under \$1,700 -----	-	-	-	-	-	1.9	6.6	12.1
\$1,700 and under \$1,750 -----	-	-	-	-	-	1.1	3.4	4.4
\$1,750 and under \$1,800 -----	-	-	-	-	-	(1.8)	3.5	7.2
\$1,800 and under \$1,850 -----	-	-	-	-	-	-	3.0	5.5
\$1,850 and under \$1,900 -----	-	-	-	-	-	-	1.4	5.5
\$1,900 and under \$1,950 -----	-	-	-	-	-	-	1.5	3.8
\$1,950 and under \$2,000 -----	-	-	-	-	-	-	(3.7)	3.8
\$2,000 and under \$2,050 -----	-	-	-	-	-	-	-	3.7
\$2,050 and under \$2,100 -----	-	-	-	-	-	-	-	4.3
\$2,100 and under \$2,150 -----	-	-	-	-	-	-	-	1.6
\$2,150 and under \$2,200 -----	-	-	-	-	-	-	-	1.5
\$2,200 and under \$2,250 -----	-	-	-	-	-	-	-	2.2
\$2,250 and under \$2,300 -----	-	-	-	-	-	-	-	1.0
\$2,300 and under \$2,350 -----	-	-	-	-	-	-	-	1.0
\$2,350 and under \$2,400 -----	-	-	-	-	-	-	-	.6
\$2,400 and over -----	-	-	-	-	-	-	-	3.8
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees -----	10,455	29,428	79,551	102,899	62,922	32,992	11,005	2,678
Average monthly salaries -----	\$626	\$691	\$789	\$948	\$1,106	\$1,278	\$1,501	\$1,759

<sup>1</sup> 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 most cases, in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses.

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

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

Table 5. Employment Distribution by Salary: Engineering Technicians

(Percent distribution of engineering technicians,<sup>1</sup> by average monthly salaries, United States except Alaska and Hawaii, February-March 1965)

Average monthly salaries	Engineering technicians				
	I	II	III	IV	V
\$275 and under \$300 -----	0.4	-	-	-	-
\$300 and under \$325 -----	1.6	-	-	-	-
\$325 and under \$350 -----	9.7	(0.9)	-	-	-
\$350 and under \$375 -----	16.1	2.5	-	-	-
\$375 and under \$400 -----	13.0	3.1	-	-	-
\$400 and under \$425 -----	19.3	6.6	(2.0)	-	-
\$425 and under \$450 -----	16.5	10.5	2.4	-	-
\$450 and under \$475 -----	12.2	15.8	3.7	(0.9)	-
\$475 and under \$500 -----	5.2	17.4	6.1	1.0	-
\$500 and under \$525 -----	3.6	16.2	11.3	3.2	-
\$525 and under \$550 -----	1.8	10.3	12.1	4.1	(1.4)
\$550 and under \$575 -----	(.7)	6.6	15.4	7.8	1.3
\$575 and under \$600 -----	-	4.0	14.1	10.4	2.0
\$600 and under \$625 -----	-	2.5	9.8	14.8	4.1
\$625 and under \$650 -----	-	2.0	10.4	16.0	6.0
\$650 and under \$675 -----	-	(1.6)	6.4	13.3	12.4
\$675 and under \$700 -----	-	-	3.3	9.5	13.9
\$700 and under \$725 -----	-	-	1.6	6.0	12.0
\$725 and under \$750 -----	-	-	(1.2)	5.4	10.5
\$750 and under \$775 -----	-	-	-	3.7	11.2
\$775 and under \$800 -----	-	-	-	1.4	8.9
\$800 and under \$825 -----	-	-	-	1.1	6.8
\$825 and under \$850 -----	-	-	-	(1.3)	3.9
\$850 and under \$875 -----	-	-	-	-	2.2
\$875 and under \$900 -----	-	-	-	-	.7
\$900 and under \$925 -----	-	-	-	-	.8
\$925 and over -----	-	-	-	-	1.9
Total -----	100.0	100.0	100.0	100.0	100.0
Number of employees -----	4,607	12,014	22,620	26,935	12,991
Average monthly salaries -----	\$411	\$491	\$569	\$640	\$723

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

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

Table 6. Employment Distribution by Salary: Drafting and Clerical Occupations

(Percent distribution of employees<sup>1</sup> in selected drafting and clerical occupations,<sup>2</sup> by average weekly salaries, United States except Alaska and Hawaii, February-March 1965)

Average weekly salaries	Draftsmen			Drafts- men- tracers	Clerks, accounting		Clerks, file			Key punch operators	
	I	II	III		I	II	I	II	III	I	II
Under \$50 .....	-	-	-	-	0.4	-	5.1	2.1	-	0.4	-
\$50 and under \$55 .....	-	-	-	0.5	2.9	-	24.5	9.0	0.7	4.1	0.5
\$55 and under \$60 .....	-	-	-	2.0	5.8	-	24.3	17.4	2.6	7.7	1.1
\$60 and under \$65 .....	(1.1)	-	-	7.0	9.4	(0.8)	18.9	16.7	5.8	13.2	3.3
\$65 and under \$70 .....	1.4	-	-	8.1	10.7	1.5	11.4	14.1	9.1	14.0	5.6
\$70 and under \$75 .....	3.3	-	-	13.2	11.4	2.9	6.7	12.3	10.7	14.9	9.9
\$75 and under \$80 .....	4.3	-	-	11.1	10.2	3.5	3.1	8.2	10.3	11.2	10.6
\$80 and under \$85 .....	7.3	-	-	16.1	10.5	6.1	2.8	6.5	11.7	9.2	12.9
\$85 and under \$90 .....	6.9	(1.0)	-	14.5	11.7	7.3	1.3	4.3	11.4	7.0	13.5
\$90 and under \$95 .....	9.9	1.3	-	6.4	6.5	9.8	1.0	3.3	9.1	5.7	10.3
\$95 and under \$100 .....	9.9	2.5	-	4.1	5.0	8.2	(1.0)	2.4	7.2	4.3	9.4
\$100 and under \$105 .....	11.3	4.2	-	6.0	4.3	9.0	-	1.3	5.1	3.9	8.4
\$105 and under \$110 .....	8.6	5.2	(1.0)	5.3	3.6	8.2	-	1.0	4.9	2.1	6.7
\$110 and under \$115 .....	8.5	7.2	1.6	3.1	2.4	7.8	-	(1.1)	4.3	(2.1)	3.6
\$115 and under \$120 .....	6.8	9.3	3.0	1.5	2.2	7.6	-	-	2.3	-	1.8
\$120 and under \$125 .....	5.8	11.1	4.1	(1.0)	1.4	5.8	-	-	2.0	-	1.3
\$125 and under \$130 .....	4.0	9.2	5.4	-	(1.8)	6.3	-	-	(2.8)	-	(.8)
\$130 and under \$135 .....	3.6	9.6	7.9	-	-	4.4	-	-	-	-	-
\$135 and under \$140 .....	1.7	8.6	7.3	-	-	3.9	-	-	-	-	-
\$140 and under \$145 .....	1.6	7.3	9.4	-	-	2.3	-	-	-	-	-
\$145 and under \$150 .....	1.4	5.0	8.1	-	-	1.3	-	-	-	-	-
\$150 and under \$160 .....	1.7	8.0	15.3	-	-	2.1	-	-	-	-	-
\$160 and under \$170 .....	(.8)	4.6	12.6	-	-	1.0	-	-	-	-	-
\$170 and under \$180 .....	-	2.5	9.1	-	-	(.3)	-	-	-	-	-
\$180 and under \$190 .....	-	1.2	6.5	-	-	-	-	-	-	-	-
\$190 and under \$200 .....	-	(2.4)	4.6	-	-	-	-	-	-	-	-
\$200 and under \$210 .....	-	-	1.5	-	-	-	-	-	-	-	-
\$210 and over .....	-	-	2.6	-	-	-	-	-	-	-	-
Total .....	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 .....	19,370	33,681	18,976	4,166	60,401	43,447	18,785	22,643	7,462	37,931	28,087
Average weekly salaries .....	\$104.00	\$132.00	\$154.00	\$83.50	\$31.00	\$107.00	\$61.00	\$69.00	\$86.50	\$75.50	\$88.00

See footnotes at end of table.

Table 6. Employment Distribution by Salary: Drafting and Clerical Occupations—Continued

(Percent distribution of employees<sup>1</sup> in selected drafting and clerical occupations,<sup>2</sup> by average weekly salaries, United States except Alaska and Hawaii, February–March 1965)

Average weekly salaries	Office boys or girls	Stenographers, general	Stenographers, senior	Switchboard operators		Tabulating-machine operators			Typists	
				I	II	I	II	III	I	II
Under \$50-----	2.1	0.1	-	1.8	-	0.1	-	-	0.8	-
\$50 and under \$55-----	14.0	1.0	-	4.8	-	1.6	-	-	7.4	0.2
\$55 and under \$60-----	18.1	3.5	0.3	5.8	(1.3)	5.1	(0.6)	-	13.5	2.0
\$60 and under \$65-----	19.6	6.2	1.0	7.1	2.6	11.2	1.4	-	15.7	5.8
\$65 and under \$70-----	15.1	9.9	2.4	9.5	3.8	12.1	3.0	-	17.4	9.8
\$70 and under \$75-----	10.1	12.2	5.1	11.9	6.6	14.2	4.1	-	15.5	13.1
\$75 and under \$80-----	5.5	12.2	7.2	10.1	8.0	13.5	5.9	(0.9)	10.6	13.3
\$80 and under \$85-----	4.2	11.8	10.4	10.3	11.1	11.2	8.8	2.0	7.1	14.6
\$85 and under \$90-----	3.7	10.8	12.1	9.3	11.4	10.1	10.4	2.9	4.5	11.9
\$90 and under \$95-----	3.4	8.5	13.2	9.3	12.9	6.4	12.9	5.2	2.1	8.5
\$95 and under \$100-----	1.8	6.6	10.7	8.7	12.7	4.2	11.0	6.5	1.9	6.9
\$100 and under \$105-----	1.1	7.6	11.4	7.7	9.3	3.0	11.1	8.6	2.4	5.2
\$105 and under \$110-----	(1.2)	4.5	10.2	2.1	8.3	3.7	8.9	11.2	(1.0)	4.6
\$110 and under \$115-----	-	2.6	6.6	1.0	6.6	2.1	6.5	9.9	-	2.3
\$115 and under \$120-----	-	1.3	3.9	(.8)	3.1	1.0	5.5	10.3	-	1.2
\$120 and under \$125-----	-	(.9)	3.2	-	1.3	(.5)	4.7	9.8	-	(.7)
\$125 and under \$130-----	-	-	1.4	-	(1.1)	-	2.2	7.7	-	-
\$130 and under \$135-----	-	-	(.9)	-	-	-	2.0	8.6	-	-
\$135 and under \$140-----	-	-	-	-	-	-	(1.3)	5.9	-	-
\$140 and under \$145-----	-	-	-	-	-	-	-	3.3	-	-
\$145 and under \$150-----	-	-	-	-	-	-	-	2.4	-	-
\$150 and under \$160-----	-	-	-	-	-	-	-	3.2	-	-
\$160 and under \$170-----	-	-	-	-	-	-	-	1.3	-	-
\$170 and under \$180-----	-	-	-	-	-	-	-	(.3)	-	-
\$180 and under \$190-----	-	-	-	-	-	-	-	-	-	-
\$190 and under \$200-----	-	-	-	-	-	-	-	-	-	-
\$200 and under \$210-----	-	-	-	-	-	-	-	-	-	-
\$210 and over-----	-	-	-	-	-	-	-	-	-	-
Total-----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees-----	23,555	72,057	48,827	10,304	8,040	8,499	17,210	8,926	66,458	37,646
Average weekly salaries-----	\$66.50	\$83.00	\$95.00	\$79.50	\$91.50	\$78.50	\$97.00	\$117.00	\$70.00	\$83.00

<sup>1</sup> 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 most cases, in the interval above or below the extreme interval containing at least 1 percent. The percentages representing these employees are shown in parentheses.

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

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

Table 7. Occupational Employment Distribution: By Industry Division

(Percent distribution of employees in selected professional, administrative, technical, and clerical occupations,<sup>1</sup> by industry division,<sup>2</sup> United States except Alaska and Hawaii, February-March 1965)

Occupation	Manu- facturing	Public utilities <sup>3</sup>	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services <sup>4</sup>
<u>Professional and administrative</u>						
Accountants.....	73	12	5	( <sup>5</sup> )	5	( <sup>5</sup> )
Auditors.....	45	21	5	5	23	( <sup>5</sup> )
Chief accountants.....	73	7	5	6	7	( <sup>5</sup> )
Attorneys.....	33	22	7	( <sup>5</sup> )	33	( <sup>5</sup> )
Managers, office services.....	62	6	7	( <sup>5</sup> )	20	( <sup>5</sup> )
Job analysts.....	81	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	12	( <sup>5</sup> )
Directors of personnel.....	79	( <sup>5</sup> )	( <sup>5</sup> )	5	8	( <sup>5</sup> )
Chemists.....	93	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	5
Engineers.....	83	9	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	8
<u>Technical</u>						
Engineering technicians.....	82	5	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	13
Draftsmen.....	84	8	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	8
<u>Clerical</u>						
Clerks, accounting.....	48	20	6	12	13	( <sup>5</sup> )
Clerks, file.....	31	7	4	11	45	( <sup>5</sup> )
Keypunch operators.....	50	15	5	7	21	( <sup>5</sup> )
Office boys or girls.....	42	15	4	7	30	( <sup>5</sup> )
Stenographers.....	59	14	( <sup>5</sup> )	( <sup>5</sup> )	17	( <sup>5</sup> )
Switchboard operators.....	42	17	4	17	18	( <sup>5</sup> )
Tabulating-machine operators.....	47	21	5	5	22	( <sup>5</sup> )
Typists.....	49	8	( <sup>5</sup> )	6	32	( <sup>5</sup> )

<sup>1</sup> Each occupation includes the work levels, as defined for the survey, for which employment estimates in all industries within scope of the study are shown in table 1.<sup>2</sup> For scope of survey, see table in appendix A.<sup>3</sup> Transportation (limited to railroad, local and suburban passenger, deep sea water, and air transportation industries), communication, electric, gas, and sanitary services.<sup>4</sup> Engineering and architectural services; and commercially operated research, development, and testing laboratories only.<sup>5</sup> Less than 4 percent.

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

Table 8. Relative Salary Levels: Occupation by Industry Division

(Relative salary levels for selected professional, administrative, technical, and clerical occupations,<sup>1</sup> by industry division,<sup>2</sup> United States except Alaska and Hawaii, February-March 1965)

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

Occupation	Manu- facturing	Public utilities <sup>3</sup>	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services <sup>4</sup>
<u>Professional and administrative</u>						
Accountants-----	100	104	101	101	93	100
Auditors-----	103	102	99	101	92	( <sup>5</sup> )
Chief accountants-----	100	( <sup>5</sup> )	104	( <sup>5</sup> )	104	( <sup>5</sup> )
Attorneys-----	104	98	( <sup>5</sup> )	92	99	( <sup>5</sup> )
Managers, office services-----	101	102	( <sup>5</sup> )	98	96	( <sup>5</sup> )
Job analysts-----	102	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	86	( <sup>5</sup> )
Directors of personnel-----	100	107	103	97	101	( <sup>5</sup> )
Chemists-----	100	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	103
Engineers-----	100	97	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	99
<u>Technical</u>						
Engineering technicians-----	99	106	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	104
Draftsmen-----	100	100	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	101
<u>Clerical</u>						
Clerks, accounting-----	106	104	106	88	87	102
Clerks, file-----	108	119	100	89	93	109
Keypunch operators-----	102	109	103	92	91	105
Office boys or girls-----	103	112	99	93	92	98
Stenographers-----	102	107	104	90	88	100
Switchboard operators-----	104	112	106	82	93	103
Tabulating-machine operators-----	104	100	106	94	92	107
Typists-----	104	107	102	94	92	107

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

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

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

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

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

Table 9. Average Weekly Hours: Occupation by Industry Division

(Average weekly hours<sup>1</sup> for employees in selected professional, administrative, technical, and clerical occupations,<sup>2</sup> by industry division, United States except Alaska and Hawaii, February–March 1965)

Occupation	Manu- facturing	Public utilities <sup>3</sup>	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services <sup>4</sup>
<u>Professional and administrative</u>						
Accountants.....	39.5	39.5	39.5	39.5	38.0	39.5
Auditors.....	39.5	39.5	39.5	40.0	37.5	39.5
Chief accountants.....	39.5	( <sup>5</sup> )	40.0	( <sup>5</sup> )	38.5	40.0
Attorneys.....	38.5	39.5	( <sup>5</sup> )	40.0	37.5	( <sup>5</sup> )
Managers, office services.....	39.5	40.0	( <sup>5</sup> )	39.0	38.5	40.0
Job analysts.....	39.5	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	38.0	( <sup>5</sup> )
Directors of personnel.....	40.0	39.5	39.5	40.5	38.5	40.0
Chemists.....	39.5	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	39.5
Engineers.....	40.0	39.0	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	39.5
<u>Technical</u>						
Engineering technicians.....	40.0	39.5	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	39.5
Draftsmen.....	40.0	39.5	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	40.0
<u>Clerical</u>						
Clerks, accounting.....	39.5	38.5	39.0	39.0	38.0	39.5
Clerks, file.....	39.0	39.0	39.5	39.0	38.0	39.5
Keypunch operators.....	39.5	39.0	39.5	39.0	38.0	39.5
Office boys or girls.....	39.0	38.5	38.5	39.0	37.5	39.5
Stenographers.....	39.5	39.0	39.0	39.0	38.0	40.0
Switchboard operators.....	39.5	39.5	38.5	39.5	38.0	39.5
Tabulating-machine operators.....	39.5	38.5	39.5	39.0	37.5	39.5
Typists.....	39.5	39.0	39.0	39.0	38.0	39.5

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

<sup>2</sup> Each occupation includes the work levels, as defined for the survey, for which data are presented in table 1.

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

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

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



## Appendix A. Scope and Method of Survey

### Scope of Survey

This 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. Establishments with fewer than 250 workers at the time of reference of the universe data (in general, first quarter of 1964) were excluded.

The industrial coverage of previous surveys in this series was the same, but the geographic coverage was limited to establishments located in Standard Metropolitan Statistical Areas. Although the current survey was expanded to include establishments in both metropolitan and nonmetropolitan areas, provision was made in the survey design to permit separate presentation of data for the 218 Standard Metropolitan Statistical Areas (within the 48 States surveyed) as revised by the Bureau of the Budget in 1964.<sup>17</sup>

The estimated number of establishments and the total employment within the scope of this survey, and within the sample actually studied, are listed separately for each major industry division in the accompanying table. As indicated in the table and explained later in detail, the scope of the study was the same for all occupations; however, the 1965 survey consisted of the following three separate parts: One sample of establishments studied in metropolitan areas for the professional and administrative occupations;<sup>18</sup> another larger sample in metropolitan areas for drafting and clerical occupations; and a third sample of establishments in nonmetropolitan counties for all occupations.

### Timing of Survey

The data reflect salaries in effect during the period February–March 1965,<sup>19</sup> although the survey was conducted over a longer period, on the average. The data for the professional, administrative, and engineering technician occupations were collected by personal visits to sample establishments, largely between February 1 and May 14, but with more than half the visits completed by the end of March. The most recent information available at the time of the visit was obtained. For the drafting and clerical occupations, the survey was designed to develop nationwide estimates from the data collected in the Bureau's occupational wage surveys in metropolitan areas, conducted between August 1964 and June 1965, and supplemented by data collected in the February–May 1965 period for establishments outside of metropolitan areas. Although some of the metropolitan areas were surveyed in 1964, those surveyed in the first half of 1965 (with the areas they represented in the nationwide estimates) accounted for well over half of the office employment within the scope of the survey. The average payroll reference month studied for these employees was February 1965.

### Method of Collection

Data were obtained by personal visits of Bureau field economists to representative establishments within the scope of the survey.<sup>20</sup> Employees were classified according to occupation and level, with the assistance of company officials, on the basis of uniform job definitions. In comparing actual duties and responsibilities of employees with those in the survey definitions, extensive use was made of company occupational descriptions, organization charts, and other personnel records. The occupational definitions used in classifying employees appear in appendix C.

<sup>17</sup> The 1963 and 1964 surveys relate to all 212 SMSA's in the United States as revised in 1961 by the Bureau of the Budget; earlier studies related to 188 SMSA's in the United States, except Honolulu, as revised through 1959 by the Bureau of the Budget.

<sup>18</sup> Engineering technicians also were included in this part of the survey.

<sup>19</sup> Beginning with the 1963 survey report, the reference period has been designated as "February–March," instead of "Winter," as in earlier bulletins in this series, to indicate more specifically the period represented by the data. The information for each of the six surveys in this series was collected during approximately the same time period.

<sup>20</sup> The surveys in metropolitan areas, used to develop nationwide estimates for the drafting and clerical occupations, provide for collection of data for some areas by a combination of mail and personal visits in alternate years. For establishments reporting by mail, the occupational classifications are based on those made during personal visits in the preceding year.

Number of Establishments and Workers Within Scope of Survey<sup>1</sup> and Number Studied  
 by Industry Division, February–March 1965

Industry division	Within scope of survey <sup>1</sup>			Studied for professional and administrative occupations		Studied for drafting and clerical occupations <sup>2</sup>	
	Number of establishments	Workers in establishments		Number of establishments	Workers in establishments	Number of establishments	Workers in establishments
		Total	Professional, administrative, supervisory, <sup>3</sup> and clerical				
United States—all industries <sup>3</sup> -----	16,551	15,260,000	5,338,000	2,325	5,373,184	5,667	7,845,472
Manufacturing-----	11,904	10,698,100	3,055,400	1,651	3,770,662	3,213	4,633,942
Nonmanufacturing:							
Transportation, <sup>4</sup> communication, electric, gas, and sanitary services-----	1,275	1,678,100	816,100	234	785,781	708	1,280,460
Wholesale trade-----	538	279,300	169,400	53	39,372	268	142,632
Retail trade-----	1,658	1,610,200	363,500	134	325,317	888	1,127,449
Finance, insurance, and real estate-----	1,043	837,600	829,700	193	344,317	518	558,859
Services:							
Engineering and architectural services; and commercially operated research, development, and testing laboratories only-----	133	156,700	103,900	60	107,735	72	102,130
Metropolitan areas—all industries <sup>5</sup> -----	12,368	12,606,200	4,861,900	1,867	4,860,482	5,209	7,332,770
Manufacturing-----	7,979	8,150,200	2,624,000	1,223	3,281,952	2,785	4,145,232
Nonmanufacturing:							
Transportation, <sup>4</sup> communication, electric, gas, and sanitary services-----	1,124	1,621,400	799,000	219	778,118	693	1,272,797
Wholesale trade-----	538	279,300	169,400	53	39,372	268	142,632
Retail trade-----	1,592	1,594,300	360,900	130	324,531	884	1,126,663
Finance, insurance, and real estate-----	1,014	824,600	816,800	187	340,872	512	555,414
Services:							
Engineering and architectural services; and commercially operated research, development, and testing laboratories only-----	121	136,400	91,800	55	95,637	67	90,032
Establishments employing 2,500 workers or more—all industries-----	1,039	5,580,200	2,115,700	577	3,764,344	637	3,832,823
Manufacturing-----	685	3,758,300	1,264,900	393	2,605,755	344	2,294,737

<sup>1</sup> The study relates to establishments in industries listed employing 250 workers or more in the United States except Alaska and Hawaii.

<sup>2</sup> The national estimates for the drafting and clerical occupations were developed from data collected in the Bureau's occupational wage surveys in metropolitan areas and data collected in a supplementary survey of establishments outside of these areas. Data were excluded for establishments covered in the occupational wage surveys that were not within the scope of the survey as determined for the study of professional and administrative occupations.

<sup>3</sup> Includes executive, administrative, professional, supervisory, and clerical employees, but excludes technicians and draftsmen, and sales personnel.

<sup>4</sup> Limited to railroad, local and suburban passenger, deep sea water (foreign and domestic), and air transportation industries as defined in the 1957 edition of the Standard Industrial Classification Manual.

<sup>5</sup> Standard Metropolitan Statistical Areas in the United States, except Alaska and Hawaii, as revised in 1964 by the Bureau of the Budget.

### Nature of Data Collected and Presented

The average salaries reported relate to the standard salaries that were paid for standard work schedules, i. e. to the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living bonuses and incentive earnings are included. The average salaries presented relate to full-time employees for whom salary data were available.

About 9 percent of all the establishments asked to supply data on professional, administrative, and technical occupations would not do so. These corresponded to an estimated total in the universe studied to about 823,000 workers, about 5.4 percent of 15,260,000. The noncooperating units in the sample were replaced by others in the same industry-size-location classes. Where no such substitutes were available, since all similar units were already in the sample, the weight of the included establishments was increased to take account of the missing units.

In the surveys of clerical workers, the same general procedure was followed to take account of the noncooperators. The refusal rate was considerably lower here, amounting to less than 3 percent.

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

Number of job categories	Percent of employees classified in professional and administrative occupations surveyed for whom salary data were not available
2 -----	10 percent or more Attorneys VII (12 percent) Directors of personnel IV (13 percent)
6 -----	5 to 9.9 percent Chief accountants I, III, and IV Directors of personnel III Engineers VII and VIII
9 -----	1 to 4.9 percent
31-----	Less than 1 percent

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

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.<sup>21</sup> 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 professional and administrative

<sup>21</sup> 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 the appropriate work levels. The occupations involved in these cases were accountants, chemists, engineers, and engineering technicians.

occupations were limited to employees meeting the specific criteria in each survey definition and were not intended to include all employees in each field of work.<sup>22</sup> For these reasons, and because of differences in occupational structure among establishments, the estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the occupations and levels as defined for the survey. These qualifications of the employment estimates do not materially affect the accuracy of the earnings data.

In the occupations surveyed, both men and women were classified and included in the occupational employment and earnings estimates. In the professional, administrative, and technical occupations, 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 occupational 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:

Women (percent)	Occupation and level
90 or more -----	All levels of file clerks; keypunch operators; stenographers; switchboard operators; typists
80-84 -----	Clerks, accounting I
55-59 -----	Clerks, accounting II
50-54 -----	Tabulating-machine operators I
40-44 -----	Office boys or girls
35-39 -----	Tabulating-machine operators II
20-24 -----	Chemists I; draftsmen-tracers
15-19 -----	Job analysts I; tabulating-machine operators III
10-14 -----	Accountants I; chemists II; job analysts II; engineering technicians I
5-9-----	Accountants II; chemists III; directors of personnel I; managers, office services I; engineering technicians II

### Sampling and Estimating Procedures

As indicated earlier, this survey relates to all establishments within the industrial scope in the United States except Alaska and Hawaii, although provision was made in the sampling design to permit publication of separate data for the 218 Standard Metropolitan Statistical Areas<sup>23</sup> within these States. The published estimates for the United States except Alaska and Hawaii were developed by combining the data for metropolitan areas with data from a supplementary survey covering nonmetropolitan counties. In addition to the separate sampling in nonmetropolitan counties, two distinct sampling methods were used in metropolitan areas, one for the professional and administrative occupations and another for the drafting and clerical occupations. Despite the difference in sampling methods, the estimates relate to the same population of geographical, industry, and size-of-establishment characteristics. The sampling procedure followed in each instance is explained below.

Metropolitan Area Data, Professional and Administrative Occupations. The sampling procedure called for the detailed stratification of all establishments within scope of the survey by location, industry, and establishment employment size.<sup>24</sup> From this universe,

<sup>22</sup> Engineers, for example, are defined to permit classification of employees engaged in engineering work within a band of eight levels, starting with inexperienced engineering graduates and excluding only those within certain fields of specialization or in positions above those covered by level VIII. By way of contrast, such occupations as chief accountants and directors of personnel are defined to include only those with responsibility for a specified program and with duties and responsibilities as indicated for each of the more limited number of work levels selected for study.

<sup>23</sup> Areas as revised by the Bureau of the Budget in 1964. The previous survey related to the 212 Standard Metropolitan Statistical Areas as revised in 1961 by the Bureau of the Budget.

<sup>24</sup> In earlier surveys in this series, the sample was confined largely to the 80 metropolitan areas in which the Bureau of Labor Statistics had been conducting surveys of clerical, drafting, maintenance, powerplant, custodial, and material movement jobs. Extension was made in 1962 to unsurveyed areas for larger establishments, and in 1965 the restriction to selected metropolitan areas was dropped.

a sample of about 1,875 establishments (not companies) was selected systematically so that each geographic unit was represented, on the average, proportionately within size-of-establishment and industry classes.<sup>25</sup>

Each industry was sampled separately, the sampling rates dependent on the importance of the industry as an employer having the survey jobs. Within each industry, a greater proportion of large than of small establishments was included. In combining the data, each establishment was weighted in accordance with its probability of selection, so that unbiased estimates were generated. To illustrate the process, where 1 establishment out of 4 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 like industry-size classification. Where the probability of selection was certainty for the original unit, the additional weight was assigned to existing sample members as nearly similar as possible to the missing unit.

Metropolitan Area Data, Clerical and Drafting Occupations. The nationwide estimates are, in effect, a byproduct of the Bureau's surveys of these occupations in 80 metropolitan areas. The sampling of establishments within each survey area was designed to yield estimates for the area as a whole, and for major industry divisions within the area. As in the preceding section, the establishments were stratified by industry and employment size, and a sample member selected at random from each such stratum. The sampling was more intensive among the strata of large units, but units were weighted in accordance with their chance of selection, as described in the preceding section.

The 80 areas surveyed, from which national estimates are developed, represent a systematic sampling of all metropolitan areas. The totality of 188 areas (as of 1959) was divided into 80 strata, and one unit chosen from each to represent the whole stratum by appropriate weighting.<sup>26</sup> The criteria of constructing the area strata were region, size in terms of nonagricultural employment, and type of industrial activity, 37 of the largest areas representing themselves only and 43 areas representing themselves and similar areas. The samples for the 80 areas combined consisted of 5,667 establishments.

Nonmetropolitan Area Data, All Occupations Studied. With the expansion of the current survey to cover nonmetropolitan counties, the universe of all establishments located in such counties and satisfying the industry and size definitions were stratified by location, size, and industry, and the sample selected to represent all nonmetropolitan counties, using the same type of variable sampling ratios and weighting as described for professional and administrative occupations in metropolitan areas. The sample selected amounted to 458 establishments.

#### Conversion of Salary Rates

Salary information for the selected occupations was obtained in the form in which it was most readily available from the records, i. e., on a weekly, biweekly, semimonthly, monthly, or annual basis. Since average weekly salaries for the clerical and drafting occupations are first presented in separate area reports (see order form at the back of this bulletin), the salary data for these occupations are originally converted to a weekly basis, whereas the salary data for the professional and administrative occupations and for engineering technicians are converted initially to a monthly basis. The factors used to convert the data by machine for the two groups of occupations are as follows:

Time interval represented by salary	Salaries for clerical and drafting occupations to weekly basis	Salaries for professional and administrative occupations and for engineering technicians to monthly basis
Weekly -----	1.0000	4.3450
Biweekly -----	.5000	2.1725
Semimonthly -----	.4602	2.0000
Monthly -----	.2301	1.0000
Annual -----	.0192	.0833

<sup>25</sup> A few of the largest employers, together employing approximately a million, gave data on a companywide basis. These companies were eliminated from the universe to which the preceding procedure applied. The sample count includes the establishments of these companies within the scope of the survey.

<sup>26</sup> As the number of defined areas increased, the weighting pattern was modified accordingly.

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 the professional and administrative occupations and for engineering technicians are rounded to the nearest dollar; these average monthly salaries are then multiplied by 12 to obtain the average annual salaries presented.

#### 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 professional and administrative occupation work levels, the relative standard errors of the average salaries were distributed as follows: 27 were under 2 percent; 7 were 2 and under 3 percent; 6 were 3 and under 4 percent; 4 were 4 and under 5 percent; and 4 were 5 percent and over.<sup>27</sup> The nationwide estimates for the clerical and drafting room occupations, based on the much larger sample, are subject to smaller sampling error—less than 0.75 percent in all cases (except draftsmen-tracers) and in many cases less than 0.25 percent. 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 a sampling error of 4 percent, the chances are 19 out of 20 that the true average lies within the band from \$960 to \$1,040.

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<sup>27</sup> The 5 percent and over group included chief accountants I, attorneys VII, chemists VIII, and directors of personnel III.

## Appendix B. Survey Changes in 1965

Changes in the February–March 1965 national survey of professional, administrative, technical, and clerical pay related to an expansion in the scope of the survey and revisions in the level definitions for switchboard operators and draftsmen. Bookkeeping-machine operators, included previously, have been dropped from the survey. Although the scope of the survey was expanded, data could be tabulated on a comparable basis with the February–March 1964 survey for year-to-year comparisons. Changes from the previous survey are explained below.

### Changes in Scope of Survey

The February–March 1964 survey related to the 212 Standard Metropolitan Statistical Areas in the United States, as revised by the Bureau of the Budget in 1961. The geographic coverage of the February–March 1965 survey was expanded to represent all establishments (within the industrial scope) in the United States except Alaska and Hawaii. Provision was made in the survey design to permit separate tabulation of data relating to the 218 Standard Metropolitan Statistical Areas (within these States), as revised by the Bureau of the Budget in 1964. No changes were made in the industrial coverage and, in both survey periods, establishments employing 250 workers or more were included.

### Changes in Occupational Definitions

Draftsman. The definitions were revised to include four levels of draftsmen (draftsman-tracer; and draftsman I, II, and III). Data were presented in the previous report for three defined levels (tracer; and draftsman, junior, and draftsman, senior). The revised definitions describe the drafting requirements at each level more specifically and in greater detail, and explain the extent to which responsibilities for design may be involved. Because of the changes in the definition at each level, data are not comparable to those previously published.

Switchboard Operator. The previous definitions separated these employees into two levels—switchboard operator and switchboard operator, special. The level definitions were revised to clarify the requirements at each level as to types of calls handled and nature of information service provided. Because the level designation, switchboard operator, special, used previously was somewhat misleading, the revised levels were designated as switchboard operator I and switchboard operator II. Although the revised levels do not correspond with those previously surveyed, year-to-year changes in salaries could be compared by combining the data for the two levels surveyed in each period.





## 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 inter-establishment and interarea comparability of occupational content, the Bureau's occupational definitions may differ significantly from those in use in individual establishments or those prepared for other purposes. Also see note referring to the definitions for the drafting and clerical occupations on page 64.

### ACCOUNTANTS AND AUDITORS

#### ACCOUNTANT

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

#### Accountant I

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

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

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

Responsibility for direction of others. Usually none.

ACCOUNTANT—Continued

## Accountant II

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

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

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

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

## Accountant III

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

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

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

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

ACCOUNTANT—Continued

## Accountant IV

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

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

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

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

## Accountant V

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

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

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

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

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

AUDITOR

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

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

## Auditor I

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

## Auditor II

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

## Auditor III

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

AUDITOR—Continued

## Auditor IV

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

CHIEF ACCOUNTANT

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

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

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

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

Chief accountant jobs which meet the above definition are classified by level<sup>28</sup> of work in accordance with the following:

<sup>28</sup> Insufficient data were obtained for level V to warrant presentation of average salaries.

## CHIEF ACCOUNTANT—Continued

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

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

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

CHIEF ACCOUNTANT—Continued

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

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

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

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

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

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

## ATTORNEYS

ATTORNEY

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

## Attorney I

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

## Attorney II

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

## Attorney III

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

## Attorney IV

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



ATTORNEY—Continued

## Attorney V

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

## Attorney VI

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

## Attorney VII

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

## OFFICE SERVICES

MANAGER, OFFICE SERVICES

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

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

MANAGER, OFFICE SERVICES—Continued

## Manager, Office Services I

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

## Manager, Office Services II

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

OR

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

## Manager, Office Services III

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

OR

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

## Manager, Office Services IV

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

## PERSONNEL MANAGEMENT

JOB ANALYST

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

## Job Analyst I

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

## Job Analyst II

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

JOB ANALYST—Continued

## Job Analyst III

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

## Job Analyst IV

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

DIRECTOR OF PERSONNEL

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

(1) Administering a formal job evaluation system; i.e., a system in which there are established procedures by which jobs are analyzed and evaluated on the basis of their duties, responsibilities, and qualification requirements in order to provide a foundation for equitable compensation. Typically, such a system includes the use of one or more sets of job evaluation factors and the preparation of formal job descriptions. It may also include such related functions as wage and salary surveys or merit rating system administration. The job evaluation system(s) does not necessarily cover all jobs in the organization, but does cover a substantial portion of the organization.

(2) Employment and placement functions; i.e., recruiting actively for at least some kinds of workers through a variety of sources (e.g., schools or colleges, employment agencies, professional societies, etc.); evaluating applicants against demands of particular jobs by use of such techniques as job analysis to determine requirements, interviews, written tests of aptitude, knowledge, or skill, reference checks, experience evaluations, etc.; recommending selections and job placements to management, etc.

(3) Employee relations and services functions; i.e., functions designed to maintain employees' morale and productivity at a high level (for example, administering a formal or informal grievance procedure; identifying and recommending solutions for personnel problems such as absenteeism, high turnover, low productivity, etc.; administration of beneficial suggestions system, retirement, pension, or insurance plans, merit rating system, etc.; overseeing cafeteria operations, recreational programs, industrial health or safety programs, etc.).

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

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

DIRECTOR OF PERSONNEL—Continued

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

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

Directors of personnel jobs which meet the above definition are classified by level<sup>29</sup> of work in accordance with the following tabulation:

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

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

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

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

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

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

<sup>29</sup> Ibid.

## CHEMISTS AND ENGINEERS

CHEMIST

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

## Chemist I

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

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

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

Responsibility for the direction of others. None.

## Chemist II

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

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

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

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

## Chemist III

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

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

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

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

CHEMIST—Continued

## Chemist IV

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

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

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

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

## Chemist V

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

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

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

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

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

## Chemist VI

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

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

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

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

## Chemist VII

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

CHEMIST—Continued

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

Direction received. Under general administrative direction.

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

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

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

## Chemist VIII

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

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

Direction received. Receives general administrative direction.

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

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

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

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

ENGINEER

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

## Engineer I

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

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

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

Responsibility for the direction of others. None.

## Engineer II

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

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

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

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

## Engineer III

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

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

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

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



ENGINEER—Continued

## Engineer IV

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

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

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

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

## Engineer V

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

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

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

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

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

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

## Engineer VI

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

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

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

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

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

ENGINEER—Continued

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

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

## Engineer VII

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

Direction received. Receives general administrative direction.

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

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

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

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

## Engineer VIII

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

Direction received. Receives general administrative direction.

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

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

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

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

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

## ENGINEERING TECHNICIANS

ENGINEERING TECHNICIAN

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

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

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

## Engineering Technician I

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

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

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

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

## Engineering Technician II

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

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

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

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

## Engineering Technician III

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

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

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

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

ENGINEERING TECHNICIAN—Continued

## Engineering Technician IV

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

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

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

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

## Engineering Technician V

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

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

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

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

## DRAFTSMEN

## Draftsman-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 of components and convey needed information. Consolidates details from a number of sources and adjusts or transposes scale as required.

DRAFTSMEN—Continued

## 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

CLERK, ACCOUNTING

## Clerk, Accounting I

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

## Clerk, Accounting II

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

CLERK, FILE

## Clerk, File I

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

## Clerk, File 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—Continued

## Clerk, File III

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

KEYPUNCH OPERATOR

## Keypunch Operator I

Under close supervision or following specific procedures or instructions, transcribes data from source documents to punched cards. Operates a numerical and/or alphabetical or combination keypunch machine to keypunch tabulating cards. May verify cards. Working from various standardized source documents, follows specified sequences which have been coded or prescribed in detail and require little or no selecting, coding, or interpreting of data to be punched. Problems arising from erroneous items or codes, missing information, etc., are referred to supervisor.

## Keypunch Operator II

Operates a numerical and/or alphabetical or combination keypunch machine to transcribe data from various source documents to keypunch tabulating cards. Performs same tasks as lower level keypunch operator but in addition, work requires application of coding skills and the making of some determinations, for example, locates on the source document the items to be punched; extracts information from several documents; searches for and interprets information on the document to determine information to be punched. May train inexperienced operators.

OFFICE BOY OR GIRL

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

STENOGRAPHER, GENERAL

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

STENOGRAPHER, SENIOR

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

OR

Performs stenographic duties requiring significantly greater independence and responsibility than stenographer, general as evidenced by the following: Work requires high degree of stenographic speed and accuracy; a thorough working knowledge of general business and office procedure and of the specific business operations, organization, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining followup files; assembling material for reports, memorandums, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc. Does not include transcribing-machine work.

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

## SWITCHBOARD OPERATOR

### Switchboard Operator I

Operates a single- or multiple-position telephone switchboard handling incoming, outgoing, intraplant or office calls. May handle routine long distance calls and record tolls. May perform limited telephone information service. ("Limited" telephone information service occurs if the functions of the establishment serviced are readily understandable for telephone information purposes, or if the requests are routine, e.g., giving extension numbers when specific names are furnished, or if complex calls are referred to another operator.)

### Switchboard Operator II

Operates a single- or multiple-position telephone switchboard handling incoming, outgoing, intraplant or office calls. Performs full telephone information service or handles complex calls, such as conference, collect, overseas, or similar calls, either in addition to doing routine work as described for switchboard operator I, or as a full-time assignment. ("Full" telephone information service occurs when the establishment has varied functions that are not readily understandable for telephone information purposes, e.g., because of overlapping or interrelated functions, and consequently present frequent problems as to which extensions are appropriate for calls.)

## TABULATING-MACHINE OPERATOR

### Tabulating-Machine Operator I

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

### Tabulating-Machine Operator II

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

### Tabulating-Machine Operator III

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

TYPIST

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

## Typist I

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

## Typist II

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

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 in the order form at the back of this bulletin.) The level designations used in this bulletin, however, differ from those used in the area bulletins. The equivalent level designations for the occupations concerned are as follows:

Occupation	National Survey of Professional, Admini- strative, 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
Switchboard operator -----	I II	B A
Tabulating-machine operator -----	I II III	C B A
Typist -----	I II	B A



**Appendix D. Comparison of Average Annual Salaries in Private Industry,  
February—March 1965, with Corresponding Salary Rates  
in Federal Classification Act General Schedule**

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

Comparison of Average Annual Salaries in Private Industry,<sup>1</sup> February-March 1965, with Salary Rates in Federal Classification Act General Schedule<sup>2</sup>

Occupation and class surveyed by BLS <sup>3</sup>	Average annual salaries in private industry <sup>4</sup>	Salary rates in Federal Classification Act General Schedule <sup>2</sup>										
		Grade <sup>5</sup>	Per annum rates and steps <sup>6</sup>									
			1	2	3	4	5	6	7	8	9	10
Clerks, file I -----	\$ 3,176	GS 1	\$3,385	\$3,500	\$3,615	\$3,730	\$3,845	\$3,960	\$4,075	\$4,190	\$4,305	\$4,420
Office boys or girls -----	3,472											
Clerks, file II -----	3,599	GS 2	3,680	3,805	3,930	4,055	4,180	4,305	4,430	4,555	4,680	4,805
Keypunch operators I -----	3,947											
Switchboard operators I -----	4,140											
Tabulating-machine operators I -----	4,105											
Typists I -----	3,646											
Clerks, accounting I -----	4,235	GS 3	4,005	4,140	4,275	4,410	4,545	4,680	4,815	4,950	5,085	5,220
Clerks, file III -----	4,512											
Draftsmen-tracers -----	4,345											
Engineering technicians I -----	4,932											
Keypunch operators II -----	4,590											
Stenographers, general -----	4,338											
Switchboard operators II -----	4,774											
Tabulating-machine operators II -----	5,054											
Typists II -----	4,336											
Clerks, accounting II -----	5,589	GS 4	4,480	4,630	4,780	4,930	5,080	5,230	5,380	5,530	5,680	5,830
Draftsmen I -----	5,424											
Engineering technicians II -----	5,892											
Stenographers, senior -----	4,946											
Tabulating-machine operators III -----	6,097											
Accountants I -----	6,312	GS 5	5,000	5,165	5,330	5,495	5,660	5,825	5,990	6,155	6,320	6,485
Auditors I -----	6,204											
Chemists I -----	6,612											
Draftsmen II -----	6,875											
Engineers I -----	7,512											
Engineering technicians III -----	6,828											
Job analysts I -----	6,636											
Accountants II -----	7,044	GS 7	6,050	6,250	6,450	6,650	6,850	7,050	7,250	7,450	7,650	7,850
Auditors II -----	7,440											
Attorneys I -----	7,368											
Chemists II -----	7,584											
Draftsmen III -----	8,038											
Engineers II -----	8,292											
Engineering technicians IV -----	7,680											
Job analysts II -----	7,668											
Accountants III -----	8,124	GS 9	7,220	7,465	7,710	7,955	8,200	8,445	8,690	8,935	9,180	9,425
Auditors III -----	8,748											
Attorneys II -----	8,940											
Chemists III -----	8,808											
Engineers III -----	9,468											
Engineering technicians V -----	8,676											
Job analysts III -----	8,892											
Managers, office services I -----	7,752											
Managers, office services II -----	9,624	GS 10	7,900	8,170	8,440	8,710	8,980	9,250	9,520	9,790	10,060	10,330
Accountants IV -----	9,792	GS 11	8,650	8,945	9,240	9,535	9,830	10,125	10,420	10,715	11,010	11,305
Auditors IV -----	10,728											
Attorneys III -----	10,512											
Chemists IV -----	10,980											
Chief accountants I -----	10,740											
Directors of personnel I -----	9,576											
Engineers IV -----	11,376											
Job analysts IV -----	10,668											
Managers, office services III -----	11,412											

See footnotes at end of table.

Comparison of Average Annual Salaries in Private Industry,<sup>1</sup> February–March 1965, with Salary Rates in Federal Classification Act General Schedule<sup>2</sup>—Continued

Occupation and class surveyed by BLS <sup>3</sup>	Average annual salaries in private industry <sup>4</sup>	Salary rates in Federal Classification Act General Schedule <sup>2</sup>										
		Grade <sup>5</sup>	Per annum rates and steps <sup>6</sup>									
			1	2	3	4	5	6	7	8	9	10
Accountants V -----	\$11,940	GS 12	\$10,250	\$10,605	\$10,960	\$11,315	\$11,670	\$12,025	\$12,380	\$12,735	\$13,090	\$13,445
Attorneys IV -----	13,644											
Chemists V -----	13,068											
Chief accountants II -----	12,588											
Directors of personnel II -----	11,352											
Engineers V -----	13,272											
Managers, office services IV -----	13,824											
Attorneys V -----	16,500	GS 13	12,075	12,495	12,915	13,335	13,755	14,175	14,595	15,015	15,435	15,855
Chemists VI -----	15,168											
Chief accountants III -----	14,604											
Directors of personnel III -----	14,520											
Engineers VI -----	15,336											
Attorneys VI -----	20,040	GS 14	14,170	14,660	15,150	15,640	16,130	16,620	17,110	17,600	18,090	18,580
Chemists VII -----	17,928											
Chief accountants IV -----	17,028											
Directors of personnel IV -----	16,956											
Engineers VII -----	18,012											
Attorneys VII -----	24,804	GS 15	16,460	17,030	17,600	18,170	18,740	19,310	19,880	20,450	21,020	21,590
Chemists VIII -----	22,212											
Engineers VIII -----	21,108											

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

<sup>2</sup> Salary rates under the Federal Employees Salary Act of 1964, which became effective on the first day of the first pay period beginning on or after July 1, 1964, and were in effect in February–March 1965, the reference date for the BLS salary survey.

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

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

<sup>5</sup> Corresponding grades in the General Schedule were supplied by the U.S. Civil Service Commission.

<sup>6</sup> The Federal Salary Reform Act of 1962 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 department." For employees who meet this condition, the service requirements are 52 calendar weeks each for salary rates 1, 2, and 3; 104 weeks each for salary rates 4, 5, and 6; and 156 weeks each for salary rates 7, 8, and 9. 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 504 of the Federal Salary Reform Act of 1962 (Public Law 87-793, Pt. II), higher minimum rates (but not exceeding the seventh 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 salary rates in private industry are so substantially above the salary rates of the statutory pay schedules as to handicap significantly the Government's recruitment or retention of well-qualified persons. Such special pay scales have been established for specific grades or levels of certain occupations (including engineers and scientists). Information on the special higher pay scales currently in effect, and the occupations and areas to which they apply, may be obtained from the U.S. Civil Service Commission, Washington, D.C., 20415, or its regional offices.



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