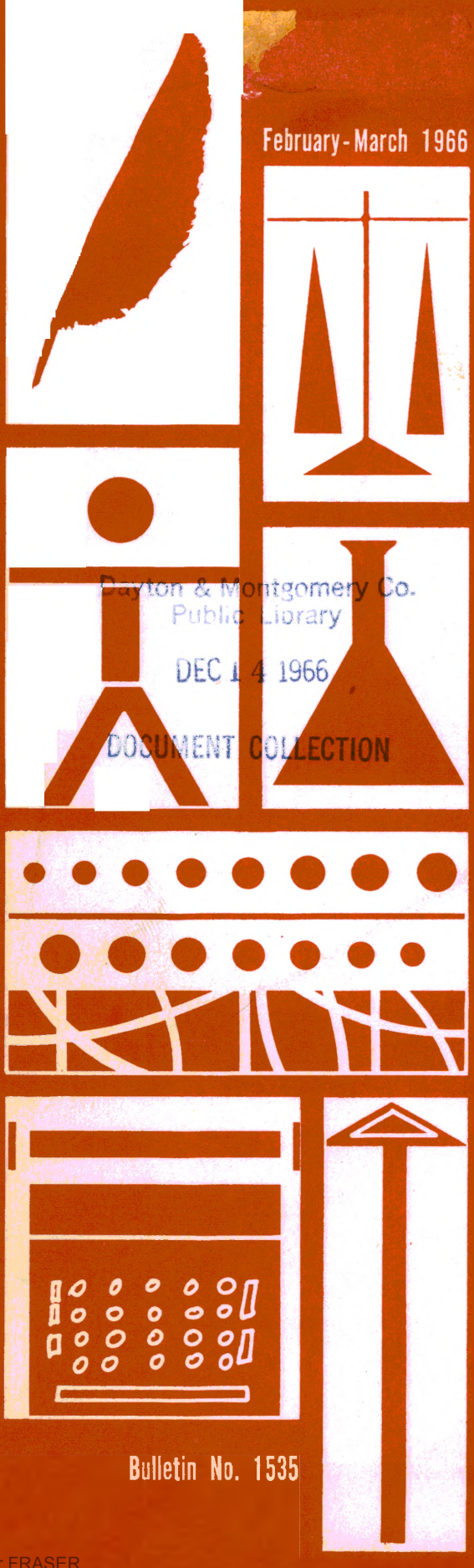

February-March 1966

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

UNITED STATES DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary

BUREAU OF LABOR STATISTICS
Arthur M. Ross, Commissioner

Bulletin No. 1535

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

February-March 1966

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

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Preface

The Bureau of Labor Statistics provides in this bulletin the results of the seventh 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 1966. (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, as in 1965, included establishments in nonmetropolitan counties in addition to those in metropolitan areas, to which earlier surveys in this series were limited. The 1965 survey, as well as earlier studies since 1961, included establishments employing 250 workers or more in all industries within scope of the survey, whereas the current survey was expanded to include establishments with fewer than 250 workers in all industries studied except manufacturing and retail trade. Comparability with the previous survey was maintained, however, in the year-to-year change comparisons by providing for tabulations on a comparable basis. (See appendix B for details of survey changes.)

Information on employer expenditures for major "fringe benefits" for white-collar employees is available from a separate survey report entitled, Supplementary Compensation for Nonproduction Workers, 1963 (BLS Bulletin 1470, 1965). Also, information on supplementary benefits, such as paid vacations and holidays, and health, insurance, and pension plans relating to nonsupervisory

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 Harry F. Zeman under the supervision of Louis E. Badenhoop. Field work for the survey was directed by the Bureau's Assistant Regional Directors for Wages and Industrial Relations.

Contents

National Survey of Professional, Administrative, Technical, and Clerical Pay, February—March 1966

Summary

Increases in salary levels (mean) during the year ending February—March 1966 ranged from 2.5 to 7.0 percent for nine-tenths of the professional and administrative occupation work levels and from 2.2 to 3.8 percent for all of the clerical levels surveyed by the Bureau of Labor Statistics.[1] Among the numerically more important occupations studied, increases during the year averaged 3.7 percent for engineers, 3.8 percent for accountants, 2.8 percent for engineering technicians, 1.5 percent for drafting occupations, and 3.0 percent for clerical employees, all levels combined. Over the 5-year period ending February—March 1966, the relative rise in average salaries was smaller for clerical levels than for the professional and administrative levels.

Among the 82 professional, administrative, technical, and clerical occupation work levels surveyed, average (mean) monthly salaries ranged from $266 for clerks engaged in routine filing to $2,153 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 $647 a month for recent college graduates in trainee positions to $1,803 for those in the highest among eight levels studied. Monthly salaries averaged $364 and $306, respectively, for general stenographers and typists I, the largest clerical groups represented in the survey. Average monthly salaries of engineering technicians ranged from $425 to $745 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 survey, the seventh in a series, relates to metropolitan areas and nonmetropolitan counties in the United States except Alaska and Hawaii. This is the same geographic coverage as that of the February—March 1965 survey.[2] In the current survey the minimum establishment size requirement, which was 250 employees or more in earlier surveys, was lowered in some industry divisions in order to equalize roughly the minimum employment size scope in terms of white-collar employment.[3] Hence, the minimum establishment size in the current survey was lowered to 50 employees in the finance, insurance, and real estate division, which is almost entirely composed of white-collar workers, and to 100 employees in transportation, communication, electric, gas, and sanitary services; wholesale trade; engineering and architectural services; and research, development, and testing laboratories operated on a commercial basis.

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[1] See the explanation of survey timing in appendix A.

[2] February—March 1964 and 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); February—March 1964 (BLS Bulletin 1422, 1964); and February—March 1965 (BLS Bulletin 1469, 1965).

[3] See appendix A for a detailed description of the scope and method of survey and appendix B for a detailed explanation of survey changes.

The 250-employee establishment size requirement was retained for the manufacturing and retail trade divisions. Nationwide estimates of salary levels and distributions are provided for 82 occupation work level categories surveyed in the industries identified above. In addition to these estimates based on the full scope of the survey, separate data are presented for metropolitan areas and for establishments employing 2,500 workers or more. Although the survey was conducted over a longer time period, the data generally are representative of the period February–March 1966.

Definitions for the occupations selected for study provide for classification of employees according to appropriate work levels (or classes). Within each 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. Buyers and freight rate clerks, as defined in appendix C, were added to the survey job list.

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 survey was designed to permit separate presentation of data for metropolitan areas. Coverage in metropolitan areas was extended to include the 221 Standard Metropolitan Statistical Areas in the United States except Alaska and Hawaii, as revised through March 1965 by the Bureau of the Budget, instead of the 218 areas represented in the previous survey. Slightly more than 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 1,300,000 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 335,000 employees, whereas, fewer than 4,500 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 personnal). (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 640,000 employees in those occupations studied. The selected drafting room occupations had aggregate employment of about 90,000 and the five engineering technician levels together accounted for about 83,000. The changes in minimum establishment size requirements introduced in the current survey had a greater effect on the number of employees classified in clerical than in professional, administrative, and technical occupations. Almost one-fifth of the employees in the 17 clerical levels, compared to about one-twentieth in all other survey occupations combined, were employed in establishments with fewer than 250 workers.

Although women accounted for more than 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 fifth 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 levels; those in which women accounted for as many as 10 but less than 25 percent of the employment were: Accountants I; managers, office services I; job analysts I and II; chemists I and II; freight rate clerks I; and buyers I.

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 1.5 to 5.4 percent during the year ending February–March 1966, among the 12 occupational groups studied in which comparisons could be made. Average pay rates for drafting occupations, engineering technicians, and for clerical occupations as a group rose 1.5, 2.8, and 3.0 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.[4]

Occupational group	Percent increases in average salaries					
	1965 to 1966	1964 to 1965	1963 to 1964	1962 to 1963	1961 to 1962	1961 to 1966
Accountants	3.8	3.5	2.8	3.3	2.8	17.3
Auditors	3.8	3.9	3.1	3.6	2.9	18.5
Chief accountants	3.3	3.9	4.8	2.8	2.6	18.6
Attorneys	4.0	4.2	3.3	4.6	3.2	20.8
Managers, office services	3.3	4.3	2.7	2.2	3.3	16.8
Job analysts	5.4	4.3	3.5	2.6	1.4	18.4
Directors of personnel	3.6	3.5	4.6	3.0	3.7	19.8
Chemists	4.8	3.9	3.3	3.8	3.9	21.3
Engineers	3.7	3.2	2.9	4.4	2.6	18.0
Engineering technicians	2.8	2.3	3.6	2.9	([1])	([1])
Drafting	1.5	([2])	2.6	3.6	3.8	([2])
Clerical	3.0	2.4	2.9	2.6	2.9	14.6

[1] Engineering technicians were not surveyed before 1962.

[2] Comparison over this period was not possible for draftsmen because of changes in defintions of work levels in 1965.

[4] 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. The increases from 1965 to 1966 relate to establishments in metropolitan areas and nonmetropolitan counties; all others relate to metropolitan areas only. Establishments with fewer than 250 workers are excluded in all periods. Changes over the 5-year period were obtained by linking together the year-to-year changes.

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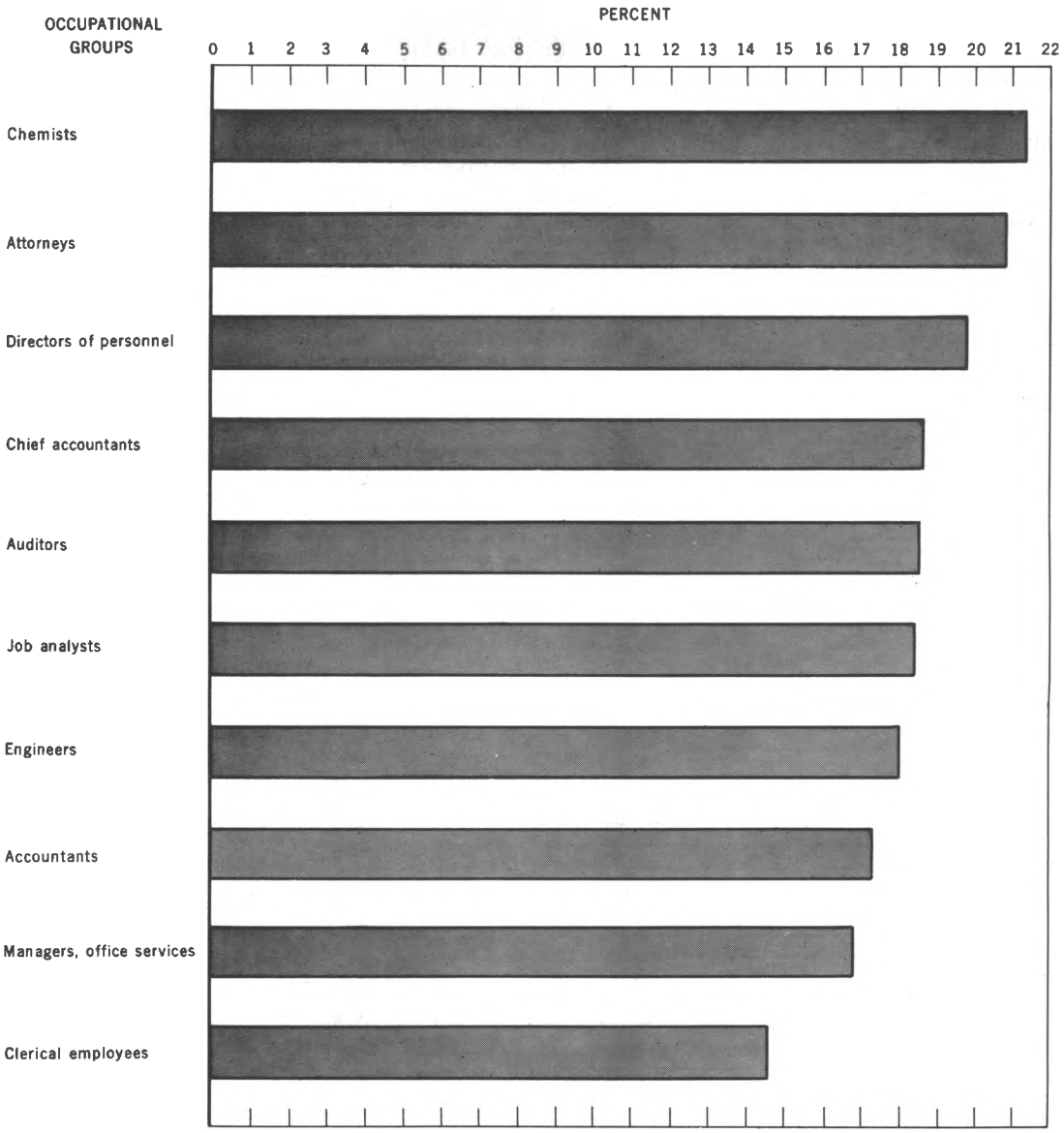
Chart 1. Rise in Average (Mean) Salaries for Selected Occupational Groups, 1961 to 1966



In both the 1964–65 and 1965–66 periods, a larger proportion of the increases exceeded 3 percent. Over the 5-year period (1961–66), increases ranged from 14.6 to 21.3 percent, as shown in the preceding tabulation and presented in chart 1.

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, four-fifths had salary increases from 2.5 to 5.8 percent, while all of the 17 clerical levels had salary increases from 2.2 to 3.8 percent (table 1).

In order to examine the relative rise in average salaries over the 5-year period (1961–66) 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	Median percent increase					
	1965 to 1966	1964 to 1965	1963 to 1964	1962 to 1963	1961 to 1962	1961 to 1966
Clerical and beginning technician levels	3.1	2.4	2.6	2.6	2.7	13.9
Entry and development professional levels, advanced technician levels, supervisors of non-professional levels	3.5	3.4	3.1	3.9	2.7	17.5
Fully experienced professional working levels, supervisors of professional levels, and program administrative levels	3.9	3.9	3.1	3.3	3.1	19.8

[1] The maximum number of comparable work levels that could be used in determining median increases varies among periods shown because of changes in some work level definitions. The increases from 1965 to 1966 relate to establishments in metropolitan areas and nonmetropolitan counties; all others relate to metropolitan areas only. Establishments with fewer than 250 workers are excluded in all periods.

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 1961–66 period, the median increase was 13.9 percent for the grouping representing primarily clerical levels, compared to 17.5 percent for the grouping of lower professional and administrative levels, and 19.8 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 1965–66 period, the increases were within 1 percentage point of the median in 18 of the 21 levels in the clerical grouping, compared to a range within 2 percentage points of the median for 26 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.[5]

Average Salaries, February–March 1966

Average (mean) monthly salaries among the 82 professional, administrative, technical, and clerical occupation work levels defined for the current survey ranged from $266 for file clerks I to $2,153 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.[6]

Among the five levels of **accountants** surveyed, average monthly salaries ranged from $548 for accountants I to $1,028 for accountants V. **Auditors** in the four levels defined for survey had average salaries ranging from $534 a month for auditors I to $933 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 $742 for auditors and $694 for accountants. Two-fifths of the relatively few auditors I and a fourth of those in the higher levels were employed in finance industries, whereas, four-fifths of the accountants at all levels were employed in manufacturing and public utilities industries together.[7] 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

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[5] These types of occupations also may be subject to greater sampling error, as explained in the last paragraph of appendix A.

[6] Classification of employees in the occupations and work levels surveyed was based on factors detailed in the definitions in appendix C.

[7] Establishments primarily engaged in providing accounting and auditing services were excluded from the survey.

accountants), averaged $900 a month. Chief accountants IV,[8] 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 $1,473 a month. Nearly three-fifths of the chief accountants who met the requirements of the definitions for these four levels were employed in manufacturing industries and almost one-fifth were in the finance, insurance, and real estate division.

Attorneys classified at level I averaged $639 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.[9] Attorneys VII, the highest level surveyed in this series, were paid monthly salaries averaging $2,153. 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. Finance, insurance, and real estate industries employed two-fifths of the attorneys; manufacturing industries employed three-tenths, and a high proportion of the remainder were employed in public utilities (19 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 $663 to $1,195. Manufacturing industries accounted for almost three-fifths of the employees in the four levels combined, and an additional fifth were employed in finance, insurance, and real estate industries.

Buyers, a new series in the current survey, averaged $554 a month at level I, which included those who purchased "off-the-shelf" and readily available items and services from local sources. Buyers IV,[10] who purchased large amounts of highly complex and technical items, materials, or services were paid monthly salaries averaging $938. Manufacturing industries accounted for 86 percent of the buyers in the four levels.

Freight rate clerks, defined in four levels, were also added to the current survey job list. The levels were based on such factors as the extent of the geographic area in which shipments are made, diversity of destinations, and variety of freight classifications. Average monthly salaries were $487, $552, $588, and $580 for levels I through IV, respectively. The lower average for level IV, as compared with level III, reflected generally lower salaries for such workers in common carriers as compared to those in other industries, particularly manufacturing. Approximately three-fifths of the freight rate clerks IV were employed in common carrier establishments. In contrast, more than seven-tenths of those classified in levels I through III were in manufacturing industries.

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[8] 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.

[9] Establishments primarily engaged in offering legal advice or legal services were excluded from the survey.

[10] Although level V of buyers was surveyed, as defined in appendix C, too few employees met requirements for this level to warrant presentation of salary figures.

In the personnel management field, four work levels each of **job analysts** and **directors of personnel** were studied.[11] Job analysts I, defined to include trainees under immediate supervision, averaged $590 compared with $945 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 $833 for level I to $1,517 for level IV. Manufacturing industries accounted for 78 percent of the job analysts and 73 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 11 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.[12] Average monthly salaries ranged from $647 for engineers I to $1,803 for engineers VIII, and from $592 for chemists I to $1,942 for chemists VIII. Although, at level I, the average salaries of engineers exceeded those for chemists by 9 percent, at level IV the difference narrowed to 3 percent, and at level VIII the average salaries of chemists exceeded those for engineers by 8 percent. Level IV, the largest group in each series, included professional employees who were fully competent in all technical aspects of their assignments, worked with considerable independence, and, in some cases, supervised a few professional and technical workers. Manufacturing industries accounted for 80 percent of all engineers and 91 percent of all chemists; public utilities, 9 and less than 2 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 $425. Engineering technicians V, the highest level surveyed, averaged $745 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

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[11] 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.

[12] 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.

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 $582 and $659, respectively. As might be expected, nearly all of the technicians as defined were employed in manufacturing (79 percent) and in the scientific services industries studied (16 percent). Although the ratio of such technicians to engineers studied was about 1 to 4, respectively, in all manufacturing industries, higher ratios of almost 1 to 3 were found in establishments manufacturing mechanical and electrical equipment, and 1 to 2 in research, development, and testing laboratories.

In the **drafting field,** the definitions used in the survey covered four levels of work—draftsmen-tracers, and draftsmen I, II, and III. Monthly salaries averaged $368 for draftsmen-tracers and ranged from $462 to $688 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 ranged 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 77 percent in manufacturing, 7 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 $266 for file clerks I to $522 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 $301 through $406 a month were recorded for 11 of the other 15 work levels; typists I, the largest group of clerical employees studied, averaged $306. Generally, average salaries for the clerical work levels were highest in public utilities and manufacturing industries and lowest in the finance, insurance, and real estate, and retail trade divisions. Employment in manufacturing exceeded that in any of the five nonmanufacturing industry divisions within scope of the survey in 10 of the 17 clerical work levels; highest employment totals in the other 7 levels were in the finance, insurance, and real estate division. In only three instances, however, did manufacturing account for half or more of the employees in a clerical work level (senior stenographers, switchboard operators II, and tabulating-machine operators III); more than half of the file clerks at levels I and II were employed in the finance, insurance, and real estate division. Women accounted for nine-tenths or more of the employees in 11 of the clerical work levels, and men accounted for half or more in 4 (tabulating-machine operators I, II, and III, and office boys or girls).

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 53 of the 82 work levels and as much as 2 but less than 3 percent in 19 additional levels. The weighted average salaries exceeded the medians by 4 to 6 percent for directors of personnel I and IV, attorneys I and III, and freight rate clerks I and IV.

Lowering the minimum establishment size requirement in industry divisions other than manufacturing and retail trade had greatest impact on the employment and average salaries reported for the clerical occupations. Whereas 95 percent of the employees in the professional, administrative, and technical occupations surveyed were in establishments with 250 workers or more (the minimum establishment size in the previous survey), only slightly more than 80 percent of the clerical employees were in such establishments. Lower average salaries for all of the clerical work levels and a majority of the professional, administrative, and technical levels were reported for all establishments studied, as compared to averages based on data from establishments with 250 workers or more. For all but 2 of the 17 clerical levels, average salaries in the full survey were at least 1 percent below the averages for establishments with at least 250 workers; among the other 65 work levels, 17 had the same averages, 37 were lower, and 11 were higher (but within 1.1 percent of the averages for establishments with 250 workers or more). Nine occupations for which averages were 2 percent or more lower in the full survey coverage were as follows:

Percent full survey average salaries were below the average in establishments with 250 workers or more	Occupation and level
2.0 to 2.5	Switchboard operators I, attorneys VI, file clerks I, typists I, and attorneys V
2.6 to 3.0	File clerks II and III
3.1 to 5.0	Auditors I and chief accountants II

More than a fifth of the workers in each of these clerical levels and chief accountants were employed in establishments with fewer than 250 workers.

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 nonmetropolitan 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 82 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 nonmetropolitan counties, in those work levels in which nearly all of the employment was in metropolitan areas, nonmetropolitan counties could have little effect upon the averages for all establishments combined. Only in 11 of the 82 work levels studied were average salaries more than 1 (but not more than 2.8) percent higher in metropolitan areas than in all areas combined; in all but one of these cases the proportion of the total employment within nonmetropolitan counties was 10 percent or more.

Increases in average salaries in metropolitan area establishments during the year ending February–March 1966 were within a half percentage point of increases reported for all areas studied in 69 of the 74 levels. The year-to-year increases in metropolitan areas compared with all areas were larger for 35, smaller for 33 levels, and the same for 6.

Salary Levels in Large Establishments

It was possible to present separate data for 71 of the 82 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 nearly 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 71 occupation work levels shown in table 3, the percent of total employment in the large establishments varied from 15 to 78 percent (file clerks I and job analysts IV, 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, auditor, attorney, job analyst, and engineering technician series, and managers of office services III) to 120 for directors of personnel III. As shown in the following tabulation, salary averages for large establishments exceeded the all-establishment averages by 5 percent or more in 16 of 17 clerical jobs and in 15 of 54 nonclerical jobs.

Pay levels as percent of all establishment average	Number of job categories: Professional, administrative, and technical	Number of job categories: Clerical
Total	54	17
97-100	8	-
101-104	31	1
105-109	13	10
110 and over	2	6

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 15 to 38 percent for clerical jobs; in almost 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.[13] Within nearly all of the 82 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.

[13] Technical considerations dictated the summarization of employee distributions by weekly salaries in the case of the drafting and clerical jobs.

235-555 O - 66 - 3

Chart 2. Salaries in Professional and Technical Occupations, February-March 1966

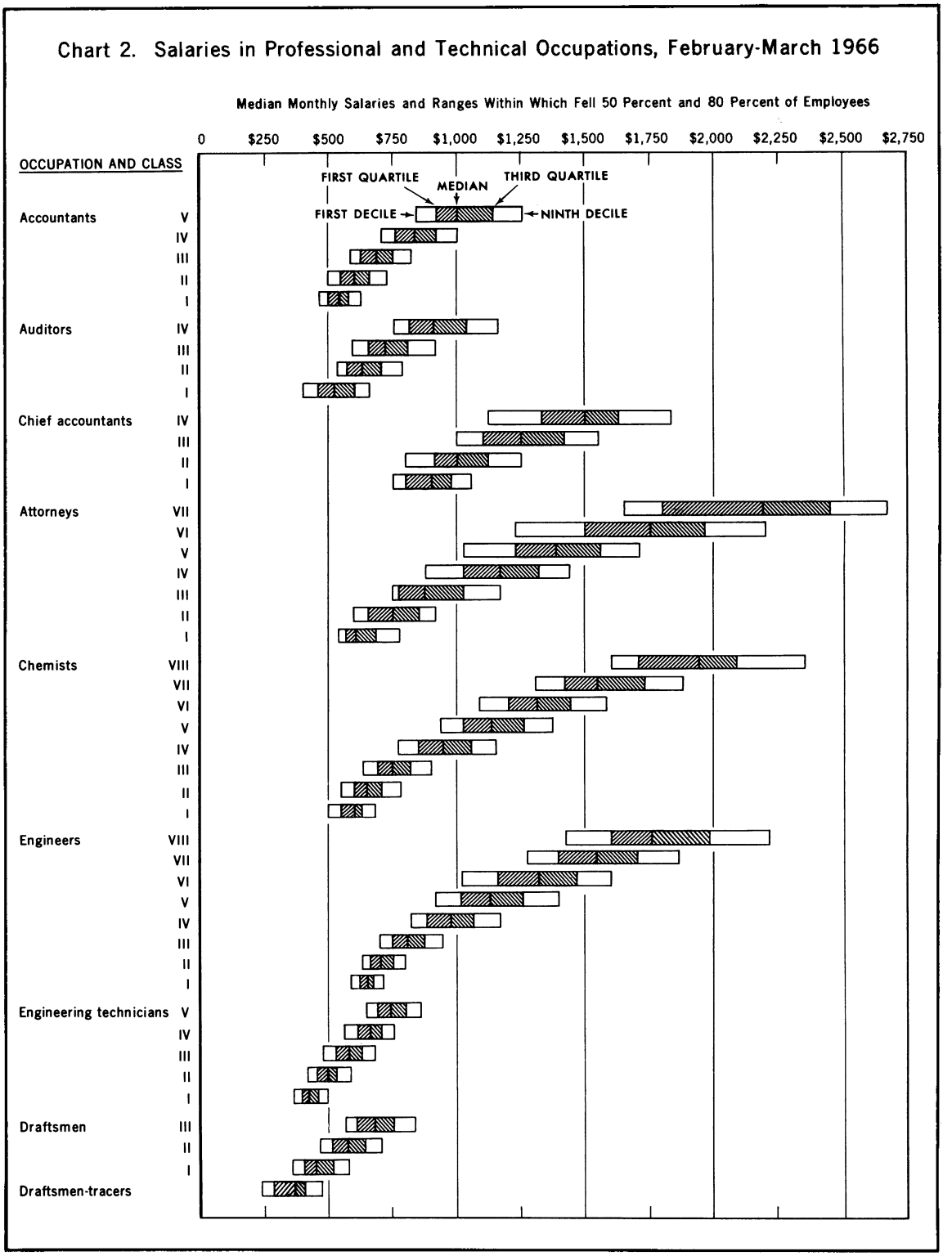
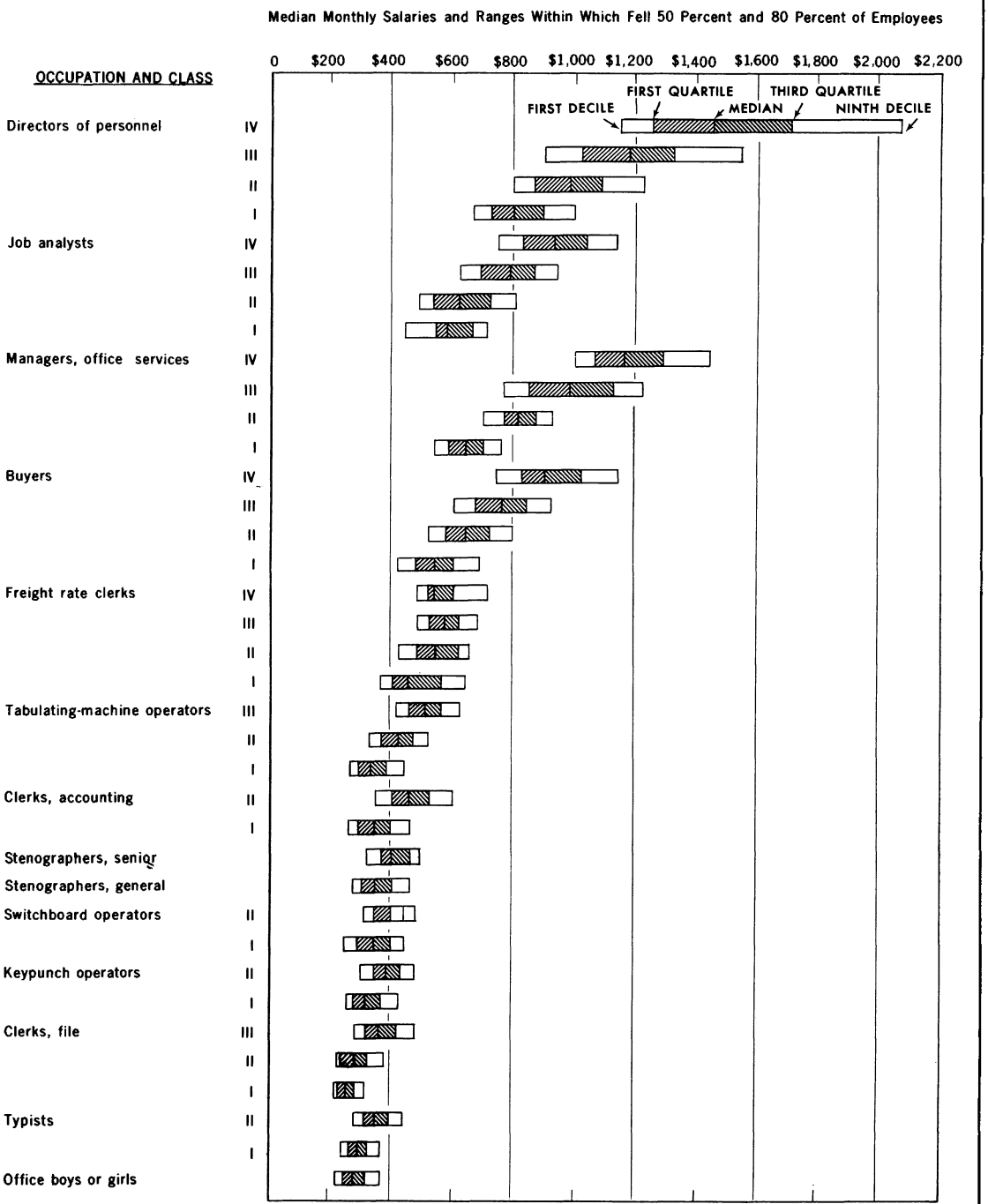


Chart 3. Salaries in Administrative and Clerical Occupations, February-March 1966



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.

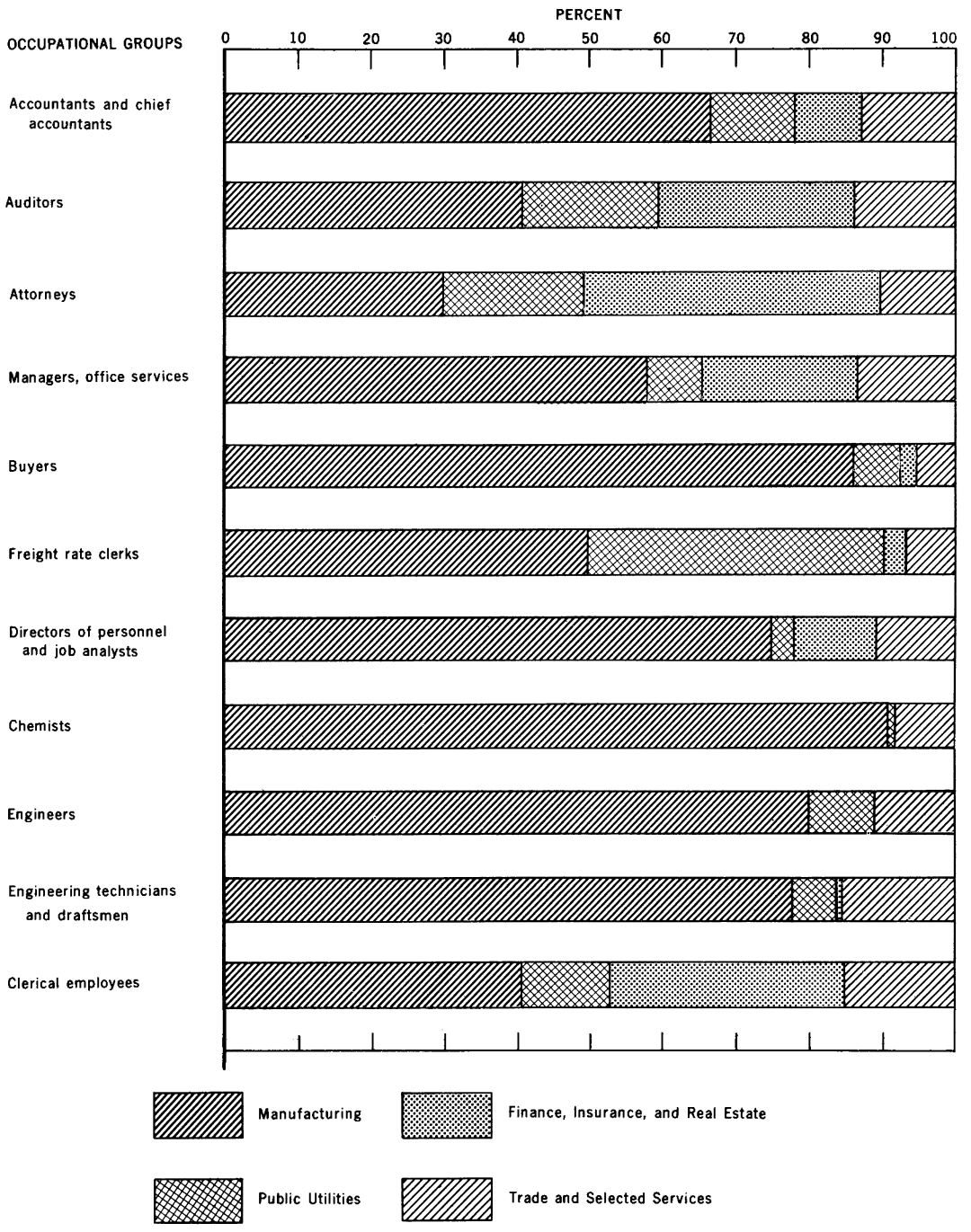
Occupational group	Total	Distribution of work levels by degree of dispersion (salary range of middle 50 percent of employees expressed as a percent of median salary)				
		Under 15	15 and under 20	20 and under 25	25 and under 30	30 and over
All levels	82	6	22	34	17	3
Accountants	5	1	3	1		
Auditors	4			3	1	
Chief accountants	4		2	1	1	
Attorneys	7		1	1	5	
Managers, office services	4		2		1	
Buyers	4			4		
Freight rate clerks	4		2	1		
Job analysts	4			3	1	
Directors of personnel	4			2		
Chemists	8	1	4	3		
Engineers	8	2	3	3		
Engineering technicians	5	1	4			
Drafting	4			3	1	
Clerical	17		1	9	6	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 two exceptions (31 percent for switchboard operators I and 19 percent for file clerks 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.[14] For the professional and administrative occupations, the

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

Chart 4. Relative Employment in Selected Occupational Groups by Industry Division, February-March 1966



job field tends to be national in scope. Office clerical employees, on the other hand, are usually recruited locally.[15] 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 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.

The lower minimum establishment size coverage introduced in the current survey for industries other than manufacturing and retail trade resulted in changes in the distribution of occupational employment (table 7) and in the relative salary levels by industry division (table 8). Compared with the previous survey, manufacturing industries had a smaller proportion of the employment in each occupation and had higher relative salary levels for almost all of the clerical and a few of the professional and administrative occupations. These differences reflected primarily the addition of employment in nonmanufacturing industries, particularly finance, insurance, and real estate, which resulted from lowering the minimum establishment size requirement. (See the last paragraph in the section on "Average Salaries, February–March 1966" for more detail on the effect of lowering the minimum establishment size requirement.)

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. 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, 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. For example, relative pay levels for file clerks of 111 percent in manufacturing and 120 percent in public utilities reflect the influence of lower salaries for the high proportion (57 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.

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[15] For an analysis of interarea pay differentials in clerical salaries, see Wages and Related Benefits: Metropolitan Areas, United States and Regional Summaries, 1964–65 (BLS Bulletin 1430-83, 1966, Pt. II).

The relative salary levels for most of the 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 some of 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 98 for the selected services.

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. 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.[16]

[16] 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, ibid.

Table 1. Average Salaries: United States

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry,[1] United States except Alaska and Hawaii, February–March 1966, and percent increase in mean salaries during the year[2])

Occupation and class (See definitions in appendix C)	Number of employees[3]	Monthly salaries[4]				Annual salaries[4]				Percent increase in mean salaries[6]
		Mean	Median	Middle range[5]		Mean	Median	Middle range[5]		
				First quartile	Third quartile			First quartile	Third quartile	
Accountants and auditors										
Accountants I	4,500	$548	$550	$504	$585	$6,576	$6,600	$6,048	$7,020	4.4
Accountants II	8,692	609	602	550	662	7,308	7,224	6,600	7,944	5.1
Accountants III	23,518	694	686	625	750	8,328	8,232	7,500	9,000	3.4
Accountants IV	16,299	843	829	760	915	10,116	9,948	9,120	10,980	3.8
Accountants V	6,336	1,028	1,000	915	1,133	12,336	12,000	10,980	13,596	3.5
Auditors I	715	534	525	458	600	6,408	6,300	5,496	7,200	6.8
Auditors II	1,879	645	632	573	702	7,740	7,584	6,876	8,424	4.8
Auditors III	3,854	742	721	656	810	8,904	8,652	7,872	9,720	3.3
Auditors IV	2,557	933	911	816	1,041	11,196	10,932	9,792	12,492	3.2
Chief accountants I	767	900	900	800	975	10,800	10,800	9,600	11,700	2.5
Chief accountants II	1,851	1,024	1,000	916	1,125	12,288	12,000	10,992	13,500	2.8
Chief accountants III	735	1,262	1,250	1,100	1,416	15,144	15,000	13,200	16,992	3.5
Chief accountants IV	424	1,473	1,500	1,332	1,627	17,676	18,000	15,984	19,524	5.4
Attorneys										
Attorneys I	199	639	606	564	683	7,668	7,272	6,768	8,196	4.1
Attorneys II	589	760	750	656	850	9,120	9,000	7,872	10,200	2.6
Attorneys III	1,241	915	875	775	1,025	10,980	10,500	9,300	12,300	5.0
Attorneys IV	1,424	1,171	1,166	1,025	1,317	14,052	13,992	12,300	15,804	2.6
Attorneys V	1,131	1,394	1,386	1,225	1,561	16,728	16,632	14,700	18,732	3.8
Attorneys VI	620	1,729	1,750	1,500	1,958	20,748	21,000	18,000	23,496	5.8
Attorneys VII	401	2,153	2,186	1,791	2,445	25,836	26,232	21,492	29,340	4.2
Office services										
Managers, office services I	392	663	650	587	716	7,956	7,800	7,044	8,592	2.9
Managers, office services II	664	825	820	773	879	9,900	9,840	9,276	10,548	2.9
Managers, office services III	355	990	982	855	1,130	11,880	11,784	10,260	13,560	4.1
Managers, office services IV	71	1,195	1,166	1,070	1,300	14,340	13,992	12,840	15,600	3.7
Buyers										
Buyers I	1,801	554	550	483	608	6,648	6,600	5,796	7,296	([7])
Buyers II	7,271	660	650	585	725	7,920	7,800	7,020	8,700	([7])
Buyers III	11,297	771	763	680	850	9,252	9,156	8,160	10,200	([7])
Buyers IV	3,971	938	916	833	1,025	11,256	10,992	9,996	12,300	([7])
Freight rate clerks										
Freight rate clerks I	427	487	460	417	573	5,844	5,520	5,004	6,876	([7])
Freight rate clerks II	837	552	558	491	623	6,624	6,696	5,892	7,476	([7])
Freight rate clerks III	1,737	588	580	534	625	7,056	6,960	6,408	7,500	([7])
Freight rate clerks IV	3,399	580	552	522	617	6,960	6,624	6,264	7,404	([7])
Personnel management										
Job analysts I	132	590	587	548	668	7,080	7,044	6,576	8,016	6.7
Job analysts II	308	646	630	550	733	7,752	7,560	6,600	8,796	1.1
Job analysts III	747	786	790	700	870	9,432	9,480	8,400	10,440	6.1
Job analysts IV	546	945	937	838	1,042	11,340	11,244	10,056	12,504	6.3
Directors of personnel I	1,086	833	800	725	900	9,996	9,600	8,700	10,800	3.9
Directors of personnel II	1,839	990	982	869	1,082	11,880	11,784	10,428	12,984	5.1
Directors of personnel III	1,055	1,212	1,184	1,030	1,336	14,544	14,208	12,360	16,032	0
Directors of personnel IV	342	1,517	1,456	1,250	1,707	18,204	17,472	15,000	20,484	7.4
Chemists and engineers										
Chemists I	2,184	592	600	550	630	7,104	7,200	6,600	7,560	8.0
Chemists II	4,930	657	650	600	705	7,884	7,800	7,200	8,460	4.4
Chemists III	9,995	759	750	688	820	9,108	9,000	8,256	9,840	3.7
Chemists IV	11,156	954	940	847	1,060	11,448	11,280	10,164	12,720	4.5
Chemists V	8,053	1,145	1,132	1,024	1,260	13,740	13,584	12,288	15,120	5.2
Chemists VI	4,073	1,328	1,311	1,200	1,440	15,936	15,732	14,400	17,280	5.1
Chemists VII	1,621	1,575	1,541	1,416	1,725	18,900	18,492	16,992	20,700	5.5
Chemists VIII	450	1,942	1,937	1,700	2,082	23,304	23,244	20,400	24,984	4.9

See footnotes at end of table.

Table 1. Average Salaries: United States—Continued

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry,[1] United States except Alaska and Hawaii, February–March 1966, and percent increase in mean salaries during the year[2])

Occupation and class (See definitions in appendix C)	Number of employees[3]	Monthly salaries[4]				Annual salaries[4]				Percent increase in mean salaries[6]
		Mean	Median	Middle range[5]		Mean	Median	Middle range[5]		
				First quartile	Third quartile			First quartile	Third quartile	
Chemists and engineers—Continued										
Engineers I	9,942	$647	$650	$622	$675	$7,764	$7,800	$7,464	$8,100	3.5
Engineers II	29,538	708	700	660	750	8,496	8,400	7,920	9,000	2.6
Engineers III	78,411	815	810	750	875	9,780	9,720	9,000	10,500	3.5
Engineers IV	104,725	982	972	880	1,068	11,784	11,664	10,560	12,816	3.8
Engineers V	64,632	1,149	1,131	1,015	1,260	13,788	13,572	12,180	15,120	4.1
Engineers VI	33,582	1,319	1,320	1,160	1,465	15,828	15,840	13,920	17,580	3.4
Engineers VII	11,418	1,556	1,542	1,391	1,695	18,672	18,504	16,692	20,340	3.7
Engineers VIII	3,033	1,803	1,759	1,600	1,985	21,636	21,108	19,200	23,820	2.4
Engineering technicians										
Engineering technicians I	4,724	425	420	388	462	5,100	5,040	4,656	5,544	3.6
Engineering technicians II	13,441	500	495	456	535	6,000	5,940	5,472	6,420	2.0
Engineering technicians III	24,423	582	580	529	628	6,984	6,960	6,348	7,536	2.3
Engineering technicians IV	26,888	659	656	610	702	7,908	7,872	7,320	8,424	3.1
Engineering technicians V	13,739	745	738	683	800	8,940	8,856	8,196	9,600	3.0
Draftsmen										
Draftsmen I	22,635	462	452	400	520	5,549	5,423	4,799	6,239	1.6
Draftsmen II	37,464	581	575	516	641	6,973	6,899	6,194	7,696	.7
Draftsmen III	23,187	688	677	610	755	8,261	8,122	7,320	9,058	2.6
Draftsmen-tracers	6,230	368	361	322	404	4,411	4,328	3,858	4,849	1.7
Clerical										
Clerks, accounting I	74,355	357	348	300	400	4,281	4,171	3,598	4,799	2.9
Clerks, accounting II	52,351	474	465	404	536	5,685	5,579	4,849	6,430	3.1
Clerks, file I	27,122	266	260	235	285	3,189	3,120	2,819	3,419	2.6
Clerks, file II	30,677	301	289	260	330	3,610	3,474	3,120	3,959	3.1
Clerks, file III	9,487	377	369	320	422	4,529	4,432	3,839	5,068	3.1
Keypunch operators I	50,728	336	325	285	375	4,033	3,899	3,419	4,499	3.8
Keypunch operators II	33,303	391	387	343	439	4,691	4,640	4,115	5,264	3.7
Office boys or girls	29,511	294	282	254	322	3,522	3,389	3,045	3,858	2.8
Stenographers, general	80,385	364	356	311	409	4,365	4,271	3,733	4,907	2.6
Stenographers, senior	56,541	421	417	370	470	5,051	5,005	4,439	5,642	3.2
Switchboard operators I	13,528	347	343	295	400	4,163	4,115	3,539	4,799	2.7
Switchboard operators II	9,846	406	404	358	451	4,876	4,849	4,302	5,418	3.3
Tabulating-machine operators I	9,010	350	340	300	390	4,200	4,079	3,599	4,677	3.5
Tabulating-machine operators II	18,062	432	426	376	480	5,178	5,110	4,510	5,756	3.2
Tabulating-machine operators III	8,966	522	519	464	575	6,266	6,226	5,567	6,899	3.1
Typists I	88,720	306	300	265	336	3,678	3,599	3,181	4,035	2.9
Typists II	45,836	365	357	320	400	4,376	4,283	3,839	4,799	2.2

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

[2] For limitations of percent increase in average salaries as a measure of change in salary scales, see p. 5 of text.

[3] Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed. For further explanation, see p. 37 of appendix A.

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

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

[6] For year-to-year comparisons, average salaries for 1966 were adjusted by excluding data for establishments employing fewer than 250 workers to correspond as to scope of survey with the 1965 survey.

[7] Not surveyed before 1966.

235-555 O - 66 - 4

Table 2. Average Salaries: Metropolitan Areas

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry, metropolitan areas, [1] February–March 1966)

Occupation and class (See definitions in appendix C)	Number of employees [2]	Monthly salaries [3]				Annual salaries [3]			
		Mean	Median	Middle range [4]		Mean	Median	Middle range [4]	
				First quartile	Third quartile			First quartile	Third quartile
Accountants and auditors									
Accountants I	4,135	$550	$550	$508	$586	$6,600	$6,600	$6,096	$7,032
Accountants II	7,969	611	608	550	666	7,332	7,296	6,600	7,992
Accountants III	20,749	698	691	630	750	8,376	8,292	7,560	9,000
Accountants IV	14,465	847	833	765	917	10,164	9,996	9,180	11,004
Accountants V	5,715	1,031	1,001	915	1,134	12,372	12,012	10,980	13,608
Auditors I	697	534	525	458	600	6,408	6,300	5,496	7,200
Auditors II	1,793	647	638	574	709	7,764	7,656	6,888	8,508
Auditors III	3,625	745	720	659	820	8,940	8,640	7,908	9,840
Auditors IV	2,445	937	915	816	1,042	11,244	10,980	9,792	12,504
Chief accountants I	604	902	900	800	975	10,824	10,800	9,600	11,700
Chief accountants II	1,474	1,036	1,008	916	1,132	12,432	12,096	10,992	13,584
Chief accountants III	626	1,281	1,275	1,136	1,416	15,372	15,300	13,632	16,992
Chief accountants IV	402	1,474	1,499	1,332	1,650	17,688	17,988	15,984	19,800
Attorneys									
Attorneys I	196	637	606	563	682	7,644	7,272	6,756	8,184
Attorneys II	581	760	750	656	850	9,120	9,000	7,872	10,200
Attorneys III	1,215	917	875	779	1,028	11,004	10,500	9,348	12,336
Attorneys IV	1,375	1,176	1,175	1,028	1,329	14,112	14,100	12,336	15,948
Attorneys V	1,104	1,394	1,386	1,225	1,561	16,728	16,632	14,700	18,732
Attorneys VI	612	1,733	1,749	1,500	1,981	20,796	20,988	18,000	23,772
Attorneys VII	400	2,152	2,179	1,791	2,445	25,824	26,148	21,492	29,340
Office services									
Managers, office services I	339	668	658	599	716	8,016	7,896	7,188	8,592
Managers, office services II	582	827	820	775	879	9,924	9,840	9,300	10,548
Managers, office services III	348	990	981	858	1,130	11,880	11,772	10,296	13,560
Managers, office services IV	69	1,200	1,166	1,070	1,300	14,400	13,992	12,840	15,600
Buyers									
Buyers I	1,605	560	551	495	615	6,720	6,612	5,940	7,380
Buyers II	6,090	667	655	590	735	8,004	7,860	7,080	8,820
Buyers III	9,429	777	770	687	851	9,324	9,240	8,244	10,212
Buyers IV	3,600	942	925	835	1,030	11,304	11,100	10,020	12,360
Freight rate clerks									
Freight rate clerks I	353	497	476	425	577	5,964	5,712	5,100	6,924
Freight rate clerks II	701	552	559	491	615	6,624	6,708	5,892	7,380
Freight rate clerks III	1,545	590	580	538	625	7,080	6,960	6,456	7,500
Freight rate clerks IV	3,283	581	552	525	623	6,972	6,624	6,300	7,476
Personnel management									
Job analysts I	129	591	585	550	675	7,092	7,020	6,600	8,100
Job analysts II	295	647	645	548	740	7,764	7,740	6,576	8,880
Job analysts III	665	791	790	700	870	9,492	9,480	8,400	10,440
Job analysts IV	502	943	935	834	1,043	11,316	11,220	10,008	12,516
Directors of personnel I	724	856	830	749	949	10,272	9,960	8,988	11,388
Directors of personnel II	1,491	1,002	990	900	1,086	12,024	11,880	10,800	13,032
Directors of personnel III	869	1,221	1,199	1,030	1,374	14,652	14,388	12,360	16,488
Directors of personnel IV	301	1,527	1,499	1,249	1,707	18,324	17,988	14,988	20,484
Chemists and engineers									
Chemists I	1,806	595	600	550	633	7,140	7,200	6,600	7,596
Chemists II	4,241	659	650	599	710	7,908	7,800	7,188	8,520
Chemists III	8,120	768	755	695	830	9,216	9,060	8,340	9,960
Chemists IV	9,598	961	952	850	1,065	11,532	11,424	10,200	12,780
Chemists V	6,716	1,155	1,149	1,041	1,275	13,860	13,788	12,492	15,300
Chemists VI	3,555	1,336	1,325	1,203	1,450	16,032	15,900	14,436	17,400
Chemists VII	1,387	1,589	1,550	1,425	1,742	19,068	18,600	17,100	20,904
Chemists VIII	417	1,945	1,940	1,700	2,084	23,340	23,280	20,400	25,008

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, [1] February–March 1966)

Occupation and class (See definitions in appendix C)	Number of employees [2]	Monthly salaries [3]				Annual salaries [3]			
		Mean	Median	Middle range [4]		Mean	Median	Middle range [4]	
				First quartile	Third quartile			First quartile	Third quartile
Chemists and engineers—Continued									
Engineers I	8,858	$646	$646	$622	$675	$7,752	$7,752	$7,464	$8,100
Engineers II	26,656	710	703	661	750	8,520	8,436	7,932	9,000
Engineers III	69,867	819	814	750	880	9,828	9,768	9,000	10,560
Engineers IV	95,688	987	975	885	1,075	11,844	11,700	10,620	12,900
Engineers V	58,168	1,156	1,140	1,020	1,268	13,872	13,680	12,240	15,216
Engineers VI	30,608	1,323	1,325	1,164	1,468	15,876	15,900	13,968	17,616
Engineers VII	10,172	1,562	1,550	1,400	1,700	18,744	18,600	16,800	20,400
Engineers VIII	2,864	1,799	1,755	1,600	1,975	21,588	21,060	19,200	23,700
Engineering technicians									
Engineering technicians I	4,029	428	425	390	468	5,136	5,100	4,680	5,616
Engineering technicians II	11,425	501	498	456	538	6,012	5,976	5,472	6,456
Engineering technicians III	21,159	584	582	530	630	7,008	6,984	6,360	7,560
Engineering technicians IV	24,434	661	656	612	702	7,932	7,872	7,344	8,424
Engineering technicians V	12,660	746	738	683	801	8,952	8,856	8,196	9,612
Draftsmen									
Draftsmen I	19,927	469	459	404	521	5,622	5,507	4,847	6,257
Draftsmen II	33,523	588	582	521	650	7,052	6,987	6,257	7,799
Draftsmen III	21,242	695	685	619	765	8,341	8,218	7,426	9,177
Draftsmen-tracers	5,588	371	365	325	408	4,454	4,380	3,899	4,901
Clerical									
Clerks, accounting I	67,847	360	348	300	402	4,317	4,171	3,599	4,824
Clerks, accounting II	46,793	477	468	408	539	5,722	5,622	4,901	6,473
Clerks, file I	24,643	267	260	238	287	3,209	3,123	2,857	3,441
Clerks, file II	29,022	302	290	261	330	3,624	3,479	3,128	3,963
Clerks, file III	9,037	378	369	320	425	4,540	4,432	3,839	5,105
Keypunch operators I	45,779	340	326	287	380	4,077	3,911	3,450	4,559
Keypunch operators II	30,190	395	390	348	441	4,738	4,679	4,171	5,297
Office boys or girls	28,116	294	282	255	322	3,526	3,389	3,055	3,858
Stenographers, general	73,565	366	360	315	413	4,397	4,319	3,779	4,953
Stenographers, senior	51,747	423	420	374	474	5,077	5,039	4,484	5,684
Switchboard operators I	12,517	350	347	297	402	4,194	4,161	3,566	4,823
Switchboard operators II	9,150	409	407	364	454	4,904	4,883	4,367	5,453
Tabulating-machine operators I	8,191	352	343	300	391	4,221	4,119	3,598	4,693
Tabulating-machine operators II	16,613	433	426	378	480	5,192	5,112	4,536	5,761
Tabulating-machine operators III	8,374	523	520	465	576	6,276	6,239	5,579	6,909
Typists I	81,428	307	300	265	338	3,690	3,599	3,184	4,056
Typists II	42,705	366	360	322	402	4,396	4,319	3,858	4,823

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

[2] Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed. For further explanation, see p. 37 of appendix A.

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

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

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

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry[1] in establishments employing 2,500 workers or more,[2] United States except Alaska and Hawaii, February–March 1966, percent increase in mean salaries during the year,[3] and comparison with levels in all establishments combined)

Occupation and class (See definitions in appendix C)	Number of employees[4]	Monthly salaries[5]				Percent increase in mean salaries	Levels in large establishments expressed as percent of those in all establishments combined	
		Mean	Median	Middle range[6]			Employment	Mean salaries
				First quartile	Third quartile			
Accountants and auditors								
Accountants I	1,699	$564	$565	$521	$595	1.3	38	103
Accountants II	3,578	645	634	585	700	5.4	41	106
Accountants III	7,767	725	712	660	774	3.1	33	104
Accountants IV	4,878	858	844	778	920	2.9	30	102
Accountants V	2,416	1,016	992	900	1,115	3.4	38	99
Auditors II	765	662	658	584	740	3.9	41	103
Auditors III	1,479	772	750	682	851	3.1	38	104
Auditors IV	1,092	920	908	819	1,002	3.3	43	99
Chief accountants III	175	1,358	1,391	1,181	1,485	3.5	24	108
Chief accountants IV	98	1,480	1,477	1,289	1,662	5.9	23	100
Attorneys	[f]							
Attorneys II	206	819	803	724	875	4.1	35	108
Attorneys III	350	992	999	855	1,083	3.0	28	108
Attorneys IV	381	1,233	1,200	1,085	1,374	4.4	27	105
Attorneys V	392	1,430	1,454	1,269	1,582	3.9	35	103
Attorneys VI	223	1,786	1,811	1,572	2,032	3.7	36	103
Attorneys VII	174	2,096	2,082	1,832	2,353	4.7	43	97
Office services								
Managers, office services III	168	980	975	862	1,118	2.7	47	99
Buyers								
Buyers I	421	615	596	524	692	[7]	23	111
Buyers II	2,377	696	692	621	758	[7]	33	105
Buyers III	4,382	801	799	715	884	[7]	39	104
Buyers IV	2,140	945	934	850	1,025	[7]	54	101
Freight rate clerks								
Freight rate clerks II	287	569	562	511	615	[7]	34	103
Freight rate clerks III	560	604	603	550	645	[7]	32	103
Freight rate clerks IV	1,697	606	585	531	679	[7]	50	104
Personnel management								
Job analysts II	197	695	693	611	773	3.7	64	108
Job analysts III	521	800	795	709	882	4.7	70	102
Job analysts IV	425	936	930	834	1,040	5.2	78	99
Directors of personnel III	177	1,449	1,500	1,207	1,666	8.8	17	120
Directors of personnel IV	108	1,621	1,600	1,375	1,847	3.3	32	107
Chemists and engineers								
Chemists I	593	626	618	575	670	4.2	27	106
Chemists II	1,760	706	695	645	762	5.4	36	107
Chemists III	3,462	804	794	725	882	4.1	35	106
Chemists IV	3,698	990	990	880	1,090	5.1	33	104
Chemists V	2,936	1,181	1,172	1,060	1,300	7.7	36	103
Chemists VI	1,460	1,344	1,320	1,200	1,474	5.2	36	101
Chemists VII	605	1,586	1,567	1,445	1,700	2.3	37	101
Chemists VIII	194	1,937	1,917	1,688	2,160	2.6	43	100
Engineers I	5,616	661	656	630	690	3.6	56	102
Engineers II	18,395	714	707	666	750	2.7	62	101
Engineers III	47,362	834	830	769	895	3.6	60	102
Engineers IV	65,390	1,003	999	900	1,086	3.0	62	102
Engineers V	37,891	1,169	1,165	1,049	1,280	3.2	59	102
Engineers VI	20,890	1,342	1,346	1,190	1,486	3.1	62	102
Engineers VII	6,882	1,590	1,585	1,430	1,730	2.1	60	102
Engineers VIII	1,748	1,837	1,781	1,625	2,016	1.2	58	102
Engineering technicians								
Engineering technicians I	2,439	429	425	390	464	3.1	52	101
Engineering technicians II	6,723	506	499	459	542	1.2	50	101
Engineering technicians III	13,620	593	590	543	645	1.9	56	102
Engineering technicians IV	16,799	664	660	618	703	2.6	62	101
Engineering technicians V	10,493	740	738	686	795	2.6	76	99

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 in private industry[1] in establishments employing 2,500 workers or more,[2] United States except Alaska and Hawaii, February–March 1966, percent increase in mean salaries during the year,[3] and comparison with levels in all establishments combined)

Occupation and class (See definitions in appendix C)	Number of employees[4]	Monthly salaries[5]				Percent increase in mean salaries	Levels in large establishments expressed as percent of those in all establishments combined	
		Mean	Median	Middle range[6]			Employment	Mean salaries
				First quartile	Third quartile			
Draftsmen								
Draftsmen I	7,219	$499	$496	$429	$555	1.0	32	108
Draftsmen II	13,213	602	601	539	660	–.5	35	104
Draftsmen III	10,474	717	700	627	796	3.6	45	104
Draftsmen-tracers	2,130	392	387	339	451	.3	34	107
Clerical								
Clerks, accounting I	15,026	389	384	326	441	2.6	20	109
Clerks, accounting II	11,085	522	516	439	593	3.0	21	110
Clerks, file I	4,085	302	290	261	326	3.1	15	114
Clerks, file II	5,897	348	339	298	393	3.0	19	116
Clerks, file III	2,718	428	417	369	478	4.6	29	114
Keypunch operators I	13,352	378	369	319	438	5.6	26	113
Keypunch operators II	10,692	423	424	371	472	4.2	32	108
Office boys or girls	7,487	320	302	274	352	2.6	25	109
Stenographers, general	24,742	393	389	343	443	2.3	31	108
Stenographers, senior	21,450	449	453	405	495	3.2	38	107
Switchboard operators I	2,840	379	382	322	435	2.7	21	109
Switchboard operators II	3,236	438	440	389	490	3.1	33	108
Tabulating-machine operators I	2,585	377	369	324	424	4.4	29	108
Tabulating-machine operators II	6,360	444	441	387	498	3.0	35	103
Tabulating-machine operators III	3,348	549	549	493	605	3.8	37	105
Typists I	18,784	341	327	295	375	2.7	21	111
Typists II	15,338	390	383	339	439	2.1	33	107

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

[2] For limitations of percent increase in average salaries as a measure of change in salary scales, see p. 5 of text.

[3] Includes data for a few establishments with less 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.

[4] 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. 37 of appendix A.

[5] 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.

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

[7] Not surveyed before 1966.

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

(Percent distribution of employees[1] in selected professional and administrative occupations,[2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Accountants					Auditors				Chief accountants			
	I	II	III	IV	V	I	II	III	IV	I	II	III	IV
Under $400	1.7	-	-	-	-	9.9	-	-	-	-	-	-	
$400 and under $425	1.9	(0.6)	-	-	-	2.7	-	-	-	-	-	-	-
$425 and under $450	2.2	1.2	-	-	-	5.2	(0.5)	-	-	-	-	-	-
$450 and under $475	4.7	3.6	-	-	-	11.5	2.8	-	-	-	-	-	-
$475 and under $500	9.0	2.3	(0.5)	-	-	5.5	2.6	(0.2)	-	-	-	-	-
$500 and under $525	13.2	7.1	1.6	-	-	9.7	2.9	1.7	-	-	-	-	-
$525 and under $550	16.5	9.0	2.0	-	-	14.8	4.0	2.1	-	-	-	-	-
$550 and under $575	17.5	11.9	3.4	-	-	7.7	12.3	2.5	-	-	-	-	-
$575 and under $600	15.9	10.3	5.5	-	-	5.3	9.9	4.1	-	-	-	-	-
$600 and under $625	6.2	12.3	9.5	(0.9)	-	10.5	9.6	3.4	(0.3)	2.6	-	-	-
$625 and under $650	3.7	9.8	9.3	1.4	-	4.1	11.0	7.3	1.4	-	-	-	-
$650 and under $675	3.0	10.2	12.3	3.1	-	4.3	6.2	10.3	.4	-	-	-	-
$675 and under $700	1.1	5.7	10.1	3.3	-	2.5	11.7	8.0	1.2	-	-	-	-
$700 and under $725	1.1	5.9	10.3	4.3	-	2.7	5.5	10.7	2.2	-	-	-	-
$725 and under $750	1.2	2.8	9.1	5.4	(2.1)	1.1	5.3	6.8	2.0	6.1	(0.3)	-	-
$750 and under $775	(1.1)	2.8	8.1	11.0	1.3	1.4	4.6	7.7	5.3	9.5	6.7	-	-
$775 and under $800	-	2.1	4.6	8.0	2.6	(1.3)	2.7	6.5	5.0	3.5	1.6	-	-
$800 and under $825	-	1.1	4.2	9.6	1.8	-	2.7	5.3	8.3	7.3	2.3	-	-
$825 and under $850	-	(1.3)	2.9	10.8	3.5	-	1.2	4.3	7.5	8.7	.3	2.0	-
$850 and under $875	-	-	1.8	9.0	[illegible].0	-	1.1	4.1	8.4	2.5	3.4	.4	-
$875 and under $900	-	-	2.0	5.0	[illegible].9	-	.9	3.6	5.1	4.4	3.8	.7	-
$900 and under $925	-	-	1.0	5.3	10.1	-	1.6	2.4	6.1	19.0	9.1	1.2	-
$925 and under $950	-	-	(1.9)	3.9	5.3	-	(.8)	2.2	5.0	3.5	7.1	.8	-
$950 and under $975	-	-	-	4.2	7.1	-	-	1.8	4.6	6.0	6.4	2.6	-
$975 and under $1,000	-	-	-	2.5	3.8	-	-	.6	3.8	5.0	3.8	.1	-
$1,000 and under $1,050	-	-	-	6.4	12.7	-	-	2.0	9.4	8.6	14.8	9.5	(1.2)
$1,050 and under $1,100	-	-	-	3.0	9.8	-	-	(2.2)	5.5	6.9	10.4	7.5	6.1
$1,100 and under $1,150	-	-	-	1.4	8.3	-	-	-	7.7	1.7	7.5	4.9	4.2
$1,150 and under $1,200	-	-	-	(1.4)	8.2	-	-	-	5.1	1.2	5.7	6.0	3.3
$1,200 and under $1,250	-	-	-	-	3.8	-	-	-	2.0	-	4.5	7.9	.5
$1,250 and under $1,300	-	-	-	-	4.2	-	-	-	1.8	2.6	6.2	15.0	6.1
$1,300 and under $1,350	-	-	-	-	1.9	-	-	-	(1.7)	(.8)	2.8	8.3	18.9
$1,350 and under $1,400	-	-	-	-	2.4	-	-	-	-	-	1.9	4.6	1.7
$1,400 and under $1,450	-	-	-	-	(2.5)	-	-	-	-	-	(1.3)	8.6	2.8
$1,450 and under $1,500	-	-	-	-	-	-	-	-	-	-	-	7.9	3.3
$1,500 and under $1,550	-	-	-	-	-	-	-	-	-	-	-	1.4	24.1
$1,550 and under $1,600	-	-	-	-	-	-	-	-	-	-	-	5.2	1.7
$1,600 and under $1,650	-	-	-	-	-	-	-	-	-	-	-	2.6	1.4
$1,650 and under $1,700	-	-	-	-	-	-	-	-	-	-	-	1.4	8.0
$1,700 and under $1,750	-	-	-	-	-	-	-	-	-	-	-	(1.5)	3.1
$1,750 and under $1,800	-	-	-	-	-	-	-	-	-	-	-	-	.5
$1,800 and under $1,850	-	-	-	-	-	-	-	-	-	-	-	-	7.1
$1,850 and under $1,900	-	-	-	-	-	-	-	-	-	-	-	-	.5
$1,900 and under $1,950	-	-	-	-	-	-	-	-	-	-	-	-	.2
$1,950 and under $2,000	-	-	-	-	-	-	-	-	-	-	-	-	.7
$2,000 and over	-	-	-	-	-	-	-	-	-	-	-	-	4.7
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	4,500	8,692	23,518	16,299	6,336	715	1,879	3,854	2,557	767	1,851	735	424
Average monthly salaries	$548	$609	$694	$843	$1,028	$534	$645	$742	$933	$900	$1,024	$1,262	$1,473

See footnotes at end of table.

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

(Percent distribution of employees[1] in selected professional and administrative occupations,[2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Attorneys						
	I	II	III	IV	V	VI	VII
$450 and under $475	0.5	-	-	-	-	-	-
$475 and under $500	2.0	-	-	-	-	-	-
$500 and under $525	-	-	-	-	-	-	
$525 and under $550	12.6	(1.0)	-	-	-	-	
$550 and under $575	10.6	2.4	-	-	-	-	
$575 and under $600	18.1	5.6	-	-	-	-	
$600 and under $625	11.6	4.6	-	-	-	-	
$625 and under $650	6.5	8.8	(1.6)	-	-	-	
$650 and under $675	8.0	10.4	1.5	-	-	-	
$675 and under $700	8.0	5.1	1.0	-	-	-	
$700 and under $725	3.5	6.3	3.3	-	-	-	
$725 and under $750	4.5	1.9	1.2	-	-	-	
$750 and under $775	3.5	5.4	16.1	(0.8)	-	-	
$775 and under $800	1.5	9.8	2.3	1.7	-	-	
$800 and under $825	1.5	8.7	6.6	2.8	-	-	
$825 and under $850	2.5	3.4	12.7	.7	-	-	
$850 and under $875	-	7.6	2.5	2.4	-	-	
$875 and under $900	-	4.1	5.0	2.4	-	-	
$900 and under $925	2.0	5.3	5.7	3.6	-	-	
$925 and under $950	-	1.5	1.9	.7	-	-	
$950 and under $975	1.0	2.2	3.1	3.6	-	-	
$975 and under $1,000	-	1.5	2.3	2.4	(2.0)	-	
$1,000 and under $1,050	2.0	2.7	10.2	8.8	9.5	-	
$1,050 and under $1,100	-	(1.7)	5.6	8.7	3.4	(0.8)	
$1,100 and under $1,150	-	-	3.9	6.8	4.9	7.6	
$1,150 and under $1,200	-	-	6.4	10.6	2.5	1.0	
$1,200 and under $1,250	-	-	1.5	6.7	3.8	1.0	
$1,250 and under $1,300	-	-	3.7	9.1	6.5	1.3	-
$1,300 and under $1,350	-	-	(1.6)	7.0	11.5	1.9	-
$1,350 and under $1,400	-	-	-	6.7	9.1	4.4	-
$1,400 and under $1,450	-	-	-	4.5	5.0	2.4	(2.5)
$1,450 and under $1,500	-	-	-	3.7	4.5	3.4	1.5
$1,500 and under $1,550	-	-	-	2.5	10.3	8.4	1.2
$1,550 and under $1,600	-	-	-	.5	7.8	5.5	2.0
$1,600 and under $1,650	-	-	-	1.3	3.8	5.0	3.2
$1,650 and under $1,700	-	-	-	(1.9)	4.0	5.2	4.2
$1,700 and under $1,750	-	-	-	-	3.2	1.5	1.0
$1,750 and under $1,800	-	-	-	-	2.6	8.2	10.0
$1,800 and under $1,850	-	-	-	-	.8	7.4	4.7
$1,850 and under $1,900	-	-	-	-	1.3	4.5	4.5
$1,900 and under $1,950	-	-	-	-	1.4	5.2	2.2
$1,950 and under $2,000	-	-	-	-	1.1	1.3	3.7
$2,000 and under $2,050	-	-	-	-	(1.2)	3.4	3.0
$2,050 and under $2,100	-	-	-	-	-	6.0	2.7
$2,100 and under $2,150	-	-	-	-	-	2.9	2.2
$2,150 and under $2,200	-	-	-	-	-	.5	1.5
$2,200 and under $2,250	-	-	-	-	-	3.2	5.0
$2,250 and under $2,300	-	-	-	-	-	2.6	4.7
$2,300 and under $2,350	-	-	-	-	-	2.1	6.7
$2,350 and under $2,400	-	-	-	-	-	.5	4.7
$2,400 and under $2,450	-	-	-	-	-	1.5	3.5
$2,450 and under $2,500	-	-	-	-	-	-	5.2
$2,500 and under $2,550	-	-	-	-	-	1.3	6.7
$2,550 and under $2,600	-	-	-	-	-	(.3)	1.2
$2,600 and under $2,650	-	-	-	-	-	-	1.2
$2,650 and under $2,700	-	-	-	-	-	-	2.0
$2,700 and under $2,750	-	-	-	-	-	-	1.7
$2,750 and over	-	-	-	-	-	-	6.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	199	589	1,241	1,424	1,131	620	401
Average monthly salaries	$639	$760	$915	$1,171	$1,394	$1,729	$2,153

See footnotes at end of table.

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

(Percent distribution of employees[1] in selected professional and administrative occupations,[2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Managers, office services				Buyers				Freight rate clerks			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Under $400	-		-	-	5.5	-	-	-	20.6	4.5	1.5	0.2
$400 and under $425	-	-	-	-	3.3	-	-	-	8.2	1.3	.4	1.0
$425 and under $450	-	-	-	-	5.0	(0.3)	-	-	11.0	6.3	1.2	1.9
$450 and under $475	(0.5)	-	-	-	8.7	1.3	-	-	12.2	5.0	2.5	2.2
$475 and under $500	2.0	-	-	-	6.6	1.9	-	-	9.1	10.8	3.8	4.6
$500 and under $525	1.0	-	-	-	10.9	5.4	(1.3)	-	6.6	8.2	8.3	16.1
$525 and under $550	3.6	0.8	-	-	8.6	5.9	1.5	-	4.4	11.6	13.1	20.1
$550 and under $575	8.9	2.1	-	-	10.7	6.7	1.4	(0.1)	2.8	9.8	11.3	15.7
$575 and under $600	10.7	1.2	1.7	-	13.7	7.9	2.3	1.0	7.5	7.6	15.7	8.9
$600 and under $625	13.3	.6	-	-	5.2	10.8	4.3	.1	3.7	9.8	13.6	4.7
$625 and under $650	4.8	1.1	1.4	-	1.4	7.6	4.4	.1	3.5	11.6	10.2	4.4
$650 and under $675	12.8	1.2	.6	-	8.6	11.0	8.0	.8	5.9	4.7	5.5	4.1
$675 and under $700	11.7	2.1	1.1	-	2.9	9.0	6.7	1.2	2.8	2.9	3.6	3.5
$700 and under $725	6.9	4.2	2.8	-	1.9	6.9	6.8	2.7	-	3.8	2.5	2.0
$725 and under $750	8.4	3.5	.3	-	1.4	5.0	7.0	2.3	1.6	1.8	2.1	3.5
$750 and under $775	5.6	8.4	3.1	-	1.1	6.0	9.0	4.7	-	(.2)	1.8	2.3
$775 and under $800	.8	9.0	5.1	-	2.8	2.8	7.1	2.9	-	-	(2.8)	1.9
$800 and under $825	-	16.7	2.0	-	1.1	3.3	7.4	6.4	-	-	-	1.3
$825 and under $850	4.1	12.3	5.1	-	(.6)	2.0	7.1	7.2	-	-	-	(1.5)
$850 and under $875	1.8	4.2	4.5	5.6	-	2.0	5.2	7.5	-	-	-	-
$875 and under $900	-	10.2	6.5	-	-	(4.2)	5.2	6.5	-	-	-	-
$900 and under $925	1.0	8.3	3.7	-	-	-	4.3	7.7	-	-	-	-
$925 and under $950	-	5.1	6.8	-	-	-	2.6	4.9	-	-	-	-
$950 and under $975	-	2.3	4.2	2.8	-	-	2.2	6.4	-	-	-	-
$975 and under $1,000	-	1.4	6.2	-	-	-	1.9	5.1	-	-	-	-
$1,000 and under $1,050	-	2.3	8.7	11.3	-	-	2.1	11.5	-	-	-	-
$1,050 and under $1,100	-	.6	6.2	7.0	-	-	1.0	7.0	-	-	-	-
$1,100 and under $1,150	2.0	.8	9.3	12.7	-	-	(1.2)	4.4	-	-	-	-
$1,150 and under $1,200	-	1.4	6.8	18.3	-	-	-	3.1	-	-	-	-
$1,200 and under $1,250	-	(.3)	5.1	8.5	-	-	-	2.4	-	-	-	-
$1,250 and under $1,300	-	-	3.1	4.2	-	-	-	1.1	-	-	-	-
$1,300 and under $1,350	-	-	1.4	14.1	-	-	-	1.3	-	-	-	-
$1,350 and under $1,400	-	-	4.2	2.8	-	-	-	(1.4)	-	-	-	-
$1,400 and under $1,450	-	-	.3	-	-	-	-	-	-	-	-	-
$1,450 and under $1,500	-	-	-	5.6	-	-	-	-	-	-	-	-
$1,500 and under $1,550	-	-	-	2.8	-	-	-	-	-	-	-	-
$1,550 and under $1,600	-	-	-	-	-	-	-	-	-	-	-	-
$1,600 and under $1,650	-	-	-	1.4	-	-	-	-	-	-	-	-
$1,650 and over	-	-	-	2.8	-	-	-	-	-	-	-	-
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	392	664	355	71	1,801	7,271	11,297	3,971	427	837	1,737	3,399
Average monthly salaries	$663	$825	$990	$1,195	$554	$660	$771	$938	$487	$552	$588	$580

See footnotes at end of table.

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

(Percent distribution of employees [1] in selected professional and administrative occupations, [2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Job analysts				Directors of personnel			
	I	II	III	IV	I	II	III	IV
Under $400	5.3							
$400 and under $425	.8	-	-	-	-	-	-	-
$425 and under $450	8.3	1.3	-	-	-	-	-	-
$450 and under $475	5.3	5.5	-	-	-	-	-	-
$475 and under $500	1.5	1.6	-	-	-	-	-	-
$500 and under $525	1.5	12.0	-	-	-	-	-	-
$525 and under $550	2.3	4.5	-	-	-	-	-	-
$550 and under $575	12.1	4.5	(2.3)	-	1.4	-	-	-
$575 and under $600	15.9	6.2	3.1	-	.2	-	-	-
$600 and under $625	6.8	11.0	4.1	-	-	-	-	-
$625 and under $650	11.4	4.2	4.0	-	.5	-	-	-
$650 and under $675	3.8	7.1	4.1	(1.1)	11.5	(0.2)	-	-
$675 and under $700	9.1	10.1	6.8	2.2	-	1.7	-	-
$700 and under $725	8.3	4.9	9.1	1.5	9.1	1.5	-	-
$725 and under $750	2.3	5.5	4.1	2.4	5.3	.9	-	-
$750 and under $775	3.0	5.5	8.4	5.3	8.4	2.8	-	-
$775 and under $800	1.5	4.5	7.2	5.7	6.8	2.7	(1.1)	-
$800 and under $825	(.8)	2.9	10.3	3.5	12.6	8.9	1.6	-
$825 and under $850	-	2.6	6.6	5.9	4.8	4.2	.9	-
$850 and under $875	-	1.6	5.6	6.6	2.8	3.6	.2	-
$875 and under $900	-	2.9	6.4	2.2	4.5	1.8	.3	-
$900 and under $925	-	-	5.2	6.6	9.1	10.6	6.2	-
$925 and under $950	-	1.3	2.7	9.3	2.9	4.1	2.2	-
$950 and under $975	-	-	2.1	6.4	4.8	4.4	5.8	-
$975 and under $1,000	-	-	2.0	4.0	2.1	8.4	3.1	1.2
$1,000 and under $1,050	-	-	3.1	14.1	6.3	14.6	6.2	2.0
$1,050 and under $1,100	-	-	1.9	7.1	1.5	8.2	9.3	6.4
$1,100 and under $1,150	-	-	(.7)	6.2	1.3	3.1	5.7	.3
$1,150 and under $1,200	-	-	-	4.4	3.1	6.2	9.1	4.7
$1,200 and under $1,250	-	-	-	4.0	(1.0)	3.0	7.3	1.5
$1,250 and under $1,300	-	-	-	1.1	-	2.8	10.3	13.7
$1,300 and under $1,350	-	-	-	.4	-	2.7	5.9	3.8
$1,350 and under $1,400	-	-	-	-	-	1.0	5.7	8.2
$1,400 and under $1,450	-	-	-	-	-	(2.6)	3.4	5.0
$1,450 and under $1,500	-	-	-	-	-	-	.5	5.6
$1,500 and under $1,550	-	-	-	-	-	-	4.6	6.7
$1,550 and under $1,600	-	-	-	-	-	-	1.7	8.2
$1,600 and under $1,650	-	-	-	-	-	-	2.2	4.4
$1,650 and under $1,700	-	-	-	-	-	-	2.7	1.8
$1,700 and under $1,750	-	-	-	-	-	-	1.0	3.5
$1,750 and under $1,800	-	-	-	-	-	-	.3	3.2
$1,800 and under $1.850	-	-	-	-	-	-	1.3	3.5
$1,850 and under $1,900	-	-	-	-	-	-	(1.3)	1.5
$1,900 and under $1,950	-	-	-	-	-	-	-	1.5
$1,950 and under $2,000	-	-	-	-	-	-	-	1.2
$2,000 and under $2,050	-	-	-	-	-	-	-	1.5
$2,050 and under $2,100	-	-	-	-	-	-	-	5.6
$2,100 and over	-	-	-	-	-	-	-	5.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	132	308	747	546	1,086	1,839	1,055	342
Average monthly salaries	$590	$646	$786	$945	$833	$990	$1,212	$1,517

See footnotes at end of table.

235-555 O - 66 - 5

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

(Percent distribution of employees[1] in selected professional and administrative occupations,[2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Chemists							
	I	II	III	IV	V	VI	VII	VIII
Under $450	2.3	-	-	-	-	-	-	-
$450 and under $475	4.3	(0.7)	-	-	-	-	-	-
$475 and under $500	2.5	2.7	-	-	-	-	-	
$500 and under $525	3.8	2.4	-	-	-	-	-	
$525 and under $550	9.6	3.5	(0.8)	-	-	-	-	
$550 and under $575	12.7	5.4	1.1	-	-	-	-	
$575 and under $600	13.0	8.8	1.3	-	-	-	-	
$600 and under $625	23.2	10.4	4.0	-	-	-	-	
$625 and under $650	12.3	14.0	4.8	-	-	-	-	
$650 and under $675	5.0	15.2	8.4	-	-	-	-	
$675 and under $700	3.5	9.2	8.1	(1.9)	-	-	-	
$700 and under $725	3.1	7.3	10.5	2.1	-	-	-	
$725 and under $750	2.0	5.1	9.5	2.4	-	-	-	
$750 and under $775	1.1	4.5	12.6	3.6	-	-	-	
$775 and under $800	(1.5)	3.0	7.9	4.0	-	-	-	
$800 and under $825	-	2.6	6.5	5.4	(1.8)	-	-	
$825 and under $850	-	2.1	5.7	6.1	1.3	-	-	
$850 and under $875	-	1.5	4.8	6.4	.9	-	-	
$875 and under $900	-	(1.7)	3.9	7.5	2.0	-	-	
$900 and under $925	-	-	3.0	6.9	3.1	-		
$925 and under $950	-	-	1.9	5.2	2.2	-		
$950 and under $975	-	-	1.5	5.0	3.4	(1.4)	-	
$975 and under $1,000	-	-	1.3	4.5	3.1	1.2	-	
$1,000 and under $1,050	-	-	1.1	12.0	11.6	4.1	-	
$1,050 and under $1,100	-	-	(1.3)	9.3	12.1	4.4	-	
$1,100 and under $1,150	-	-	-	7.6	11.3	7.2	(0.7)	
$1,150 and under $1,200	-	-	-	4.3	10.9	5.7	1.9	
$1,200 and under $1,250	-	-	-	2.7	8.5	11.3	2.8	-
$1,250 and under $1,300	-	-	-	1.6	7.3	12.3	4.1	-
$1,300 and under $1,350	-	-	-	(1.4)	7.9	9.0	4.4	0.2
$1,350 and under $1,400	-	-	-	-	5.0	9.3	8.6	1.8
$1,400 and under $1,450	-	-	-	-	3.5	9.6	6.3	.9
$1,450 and under $1,500	-	-	-	-	1.6	6.2	8.1	2.4
$1,500 and under $1,550	-	-	-	-	1.3	4.7	14.3	2.4
$1,550 and under $1,600	-	-	-	-	(1.2)	4.2	8.4	2.0
$1,600 and under $1,650	-	-	-	-	-	2.6	7.0	7.1
$1,650 and under $1,700	-	-	-	-	-	2.0	5.9	7.6
$1,700 and under $1,750	-	-	-	-	-	1.4	6.2	2.7
$1,750 and under $1,800	-	-	-	-	-	1.4	5.4	9.1
$1,800 and under $1,850	-	-	-	-	-	(1.8)	2.8	5.3
$1,850 and under $1,900	-	-	-	-	-	-	4.3	2.2
$1,900 and under $1,950	-	-	-	-	-	-	1.6	7.1
$1,950 and under $2,000	-	-	-	-	-	-	2.7	10.0
$2,000 and under $2,050	-	-	-	-	-	-	1.5	11.6
$2,050 and under $2,100	-	-	-	-	-	-	1.3	4.0
$2,100 and under $2,150	-	-	-	-	-	-	(1.9)	2.7
$2,150 and under $2,200	-	-	-	-	-	-	-	3.6
$2,200 and under $2,250	-	-	-	-	-	-	-	4.0
$2,250 and under $2,300	-	-	-	-	-	-	-	1.3
$2,300 and under $2,350	-	-	-	-	-	-	-	2.0
$2,350 and under $2,400	-	-	-	-	-	-	-	.4
$2,400 and under $2,450	-	-	-	-	-	-	-	-
$2,450 and under $2,500	-	-	-	-	-	-	-	1.8
$2,500 and under $2,550	-	-	-	-	-	-	-	2.7
$2,550 and over	-	-	-	-	-	-	-	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	2,184	4,930	9,995	11,156	8,053	4,073	1,621	450
Average monthly salaries	$592	$657	$759	$954	$1,145	$1,328	$1,575	$1,942

See footnotes at end of table.

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

(Percent distribution of employees[1] in selected professional and administrative occupations,[2] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Engineers							
	I	II	III	IV	V	VI	VII	VIII
Under $450	-	-	-	-	-	-	-	-
$450 and under $475	-	-	-	-	-	-	-	-
$475 and under $500	(0.6)	-	-	-	-	-	-	
$500 and under $525	1.8	-	-	-	-	-	-	
$525 and under $550	2.2	-	-	-	-	-	-	
$550 and under $575	3.6	(1.2)	-	-	-	-	-	
$575 and under $600	5.6	1.6	-	-	-	-	-	
$600 and under $625	11.4	4.5	(1.0)	-	-	-	-	
$625 and under $650	23.9	9.5	1.2	-	-	-	-	
$650 and under $675	24.2	15.9	2.6	-	-	-	-	
$675 and under $700	12.2	14.8	4.1	-	-	-	-	
$700 and under $725	7.3	16.3	7.2	-	-	-	-	
$725 and under $750	3.3	11.1	7.9	(2.2)	-	-	-	
$750 and under $775	1.9	9.5	10.8	2.1	-	-	-	
$775 and under $800	1.2	6.4	9.7	2.7	-	-	-	
$800 and under $825	(.7)	3.7	10.6	4.1	-	-	-	
$825 and under $850	-	2.5	9.9	5.1	(1.8)	-	-	
$850 and under $875	-	1.2	9.0	6.2	1.1	-	-	
$875 and under $900	-	(2.0)	6.7	7.4	3.8	(1.0)	-	
$900 and under $925	-	-	6.6	7.3	4.0	1.0	-	
$925 and under $950	-	-	3.8	6.2	2.9	1.6	-	
$950 and under $975	-	-	3.6	7.0	3.7	2.7	-	
$975 and under $1,000	-	-	2.3	6.0	3.2	1.7	-	
$1,000 and under $1,050	-	-	2.2	14.3	10.4	4.0	-	
$1,050 and under $1,100	-	-	(.8)	9.7	10.6	4.3	(1.8)	-
$1,100 and under $1,150	-	-	-	7.6	11.3	6.3	1.2	-
$1,150 and under $1,200	-	-	-	4.6	10.3	7.0	1.9	-
$1,200 and under $1,250	-	-	-	3.8	9.5	7.2	3.0	(3.0)
$1,250 and under $1,300	-	-	-	1.7	7.9	8.9	4.7	1.7
$1,300 and under $1,350	-	-	-	(1.9)	5.7	9.4	6.4	.8
$1,350 and under $1,400	-	-	-	-	3.7	8.3	6.5	1.9
$1,400 and under $1,450	-	-	-	-	3.1	8.9	8.4	3.5
$1,450 and under $1,500	-	-	-	-	2.0	6.8	8.0	2.9
$1,500 and under $1,550	-	-	-	-	1.9	6.1	8.6	5.9
$1,550 and under $1,600	-	-	-	-	1.6	4.5	7.7	4.8
$1,600 and under $1,650	-	-	-	-	(1.5)	2.9	8.6	6.8
$1,650 and under $1,700	-	-	-	-	-	2.6	8.4	9.9
$1,700 and under $1,750	-	-	-	-	-	1.7	5.0	6.0
$1,750 and under $1,800	-	-	-	-	-	1.4	4.7	6.8
$1,800 and under $1,850	-	-	-	-	-	(1.8)	4.5	7.0
$1,850 and under $1,900	-	-	-	-	-	-	2.5	5.8
$1,900 and under $1,950	-	-	-	-	-	-	2.3	5.6
$1,950 and under $2,000	-	-	-	-	-	-	1.2	3.2
$2,000 and under $2,050	-	-	-	-	-	-	1.6	5.3
$2,050 and under $2,100	-	-	-	-	-	-	1.3	3.9
$2,100 and under $2,150	-	-	-	-	-	-	(1.8)	2.7
$2,150 and under $2,200	-	-	-	-	-	-	-	2.2
$2,200 and under $2,250	-	-	-	-	-	-	-	1.0
$2,250 and under $2,300	-	-	-	-	-	-	-	2.1
$2,300 and under $2,350	-	-	-	-	-	-	-	1.8
$2,350 and under $2,400	-	-	-	-	-	-	-	.6
$2,400 and under $2,450	-	-	-	-	-	-	-	.5
$2,450 and under $2,500	-	-	-	-	-	-	-	.5
$2,500 and under $2,550	-	-	-	-	-	-	-	1.2
$2,550 and over	-	-	-	-	-	-	-	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of employees	9,942	29,538	78,411	104,725	64,632	33,582	11,418	3,033
Average monthly salaries	$647	$708	$815	$982	$1,149	$1,319	$1,556	$1,803

[1] 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.

[2] 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,[1] by average monthly salaries, United States except Alaska and Hawaii, February–March 1966)

Average monthly salaries	Engineering technicians				
	I	II	III	IV	V
Under $300	1.2				
$300 and under $325	1.7	-			
$325 and under $350	4.7	(0.7)			
$350 and under $375	11.5	1.0	-		
$375 and under $400	15.0	3.9	-		
$400 and under $425	17.2	5.3	(1.1)	-	
$425 and under $450	14.9	9.5	1.8	-	
$450 and under $475	13.1	13.1	4.9	(0.6)	
$475 and under $500	10.9	17.3	5.9	1.0	
$500 and under $525	5.2	17.1	8.4	2.0	-
$525 and under $550	2.2	12.8	11.1	3.5	-
$550 and under $575	1.9	7.5	13.7	5.7	(2.0)
$575 and under $600	(.3)	4.2	12.6	6.9	1.6
$600 and under $625	-	2.7	13.3	11.7	3.5
$625 and under $650	-	2.0	8.3	13.0	4.3
$650 and under $675		1.2	7.5	15.8	8.7
$675 and under $700		(1.6)	4.7	13.6	10.9
$700 and under $725		-	2.3	8.2	12.4
$725 and under $750		-	2.0	6.0	11.1
$750 and under $775		-	1.7	5.7	11.1
$775 and under $800			(.7)	2.1	9.0
$800 and under $825			-	1.3	8.4
$825 and under $850			-	1.2	5.9
$850 and under $875				(1.5)	3.8
$875 and under $900				-	2.1
$900 and under $925	-	-	-	-	1.1
$925 and under $950	-	-	-	-	.2
$950 and over	-	-	-	-	(3.8)
Total	100.0	100.0	100.0	100.0	100.0
Number of employees	4,724	13,441	24,423	26,888	13,739
Average monthly salaries	$425	$500	$582	$659	$745

[1] 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 [1] in selected drafting and clerical occupations, [2] by average weekly salaries, United States except Alaska and Hawaii, February–March 1966)

Average weekly salaries	Draftsmen			Drafts-men-tracers	Clerks, accounting		Clerks, file			Keypunch operators	
	I	II	III		I	II	I	II	III	I	II
Under $50	-	-	-	-	0.2	-	4.6	1.3	-	0.3	-
$50 and under $55	-	-	-	1.5	2.1	-	22.6	8.5	1.2	2.9	0.2
$55 and under $60	-	-	-	1.1	4.8	-	25.0	16.0	1.7	7.4	1.1
$60 and under $65	(0.4)	-	-	5.4	8.9	(0.6)	19.9	18.6	5.3	11.6	2.3
$65 and under $70	1.1	-	-	8.6	11.3	1.0	12.5	15.3	8.9	13.9	4.6
$70 and under $75	2.0	-	-	11.0	11.9	2.6	6.5	13.2	10.9	14.3	8.5
$75 and under $80	2.9	-	-	10.4	10.5	3.0	3.6	8.1	10.1	11.4	9.9
$80 and under $85	6.5	-	-	17.1	10.7	4.9	2.3	6.5	11.7	10.5	12.5
$85 and under $90	7.5	(0.5)	-	12.9	10.8	6.8	1.2	4.0	11.4	7.7	13.2
$90 and under $95	10.0	1.4	-	9.8	7.1	9.1	(1.8)	2.9	10.4	5.9	11.9
$95 and under $100	8.8	2.0	-	5.7	5.4	9.3	-	2.6	7.5	3.5	8.9
$100 and under $105	12.1	3.7	-	3.5	4.2	9.1	-	1.1	4.9	3.9	8.0
$105 and under $110	7.8	4.3	-	3.8	3.1	8.1	-	(2.1)	3.8	2.8	7.8
$110 and under $115	9.1	6.1	(1.8)	5.1	3.0	7.0	-	-	5.0	2.1	5.4
$115 and under $120	7.0	7.7	1.7	1.8	2.0	8.3	-	-	2.3	(1.9)	3.1
$120 and under $125	6.3	9.7	2.8	1.5	1.4	7.3	-	-	1.7	-	1.3
$125 and under $130	5.5	8.8	3.6	(.8)	1.0	5.3	-	-	1.3	-	(1.2)
$130 and under $135	4.2	9.6	6.5	-	(1.4)	4.8	-	-	(1.9)	-	-
$135 and under $140	2.3	8.4	7.1	-	-	3.6	-	-	-	-	-
$140 and under $145	1.9	9.2	7.9	-	-	3.0	-	-	-	-	-
$145 and under $150	1.3	6.0	8.2	-	-	2.1	-	-	-	-	-
$150 and under $160	2.2	9.8	16.7	-	-	2.5	-	-	-	-	-
$160 and under $170	(1.1)	6.0	14.7	-	-	1.0	-	-	-	-	-
$170 and under $180	-	4.0	9.9	-	-	(.6)	-	-	-	-	-
$180 and under $190	-	1.6	7.7	-	-	-	-	-	-	-	-
$190 and under $200	-	(.8)	5.1	-	-	-	-	-	-	-	-
$200 and under $210	-	-	3.2	-	-	-	-	-	-	-	-
$210 and under $220	-	-	1.5	-	-	-	-	-	-	-	-
$220 and over	-	-	(1.6)	-	-	-	-	-	-	-	-
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	22,635	37,464	23,187	6,230	74,355	52,351	27,122	30,677	9,487	50,728	33,303
Average weekly salaries	$106.50	$133.50	$158.50	$84.50	$82.00	$109.00	$61.00	$69.00	$87.00	$77.50	$90.00

See footnotes at end of table.

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

(Percent distribution of employees [1] in selected drafting and clerical occupations, [2] by average weekly salaries, United States except Alaska and Hawaii, February–March 1966)

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	1.7	-	-	1.0	-	0.1	-	-	0.8	-
$50 and under $55	11.6	(0.9)	-	4.5	-	1.0	-	-	6.2	0.2
$55 and under $60	16.7	3.1	-	6.2	(0.6)	2.9	-	-	13.2	2.3
$60 and under $65	19.8	6.8	(1.2)	8.4	1.8	8.9	(0.9)	-	15.6	4.9
$65 and under $70	16.5	9.7	2.3	8.7	3.5	14.3	2.6	-	17.7	8.7
$70 and under $75	11.5	12.1	4.5	12.4	5.5	13.1	3.9	-	15.2	12.7
$75 and under $80	6.5	10.9	6.1	10.7	7.7	13.3	5.1	(0.3)	10.8	13.4
$80 and under $85	4.6	12.4	9.4	9.7	10.2	12.0	7.7	1.1	8.1	14.2
$85 and under $90	3.1	11.4	11.4	8.8	12.6	9.9	10.2	2.4	4.6	13.2
$90 and under $95	2.7	8.7	12.1	8.0	11.6	6.9	10.7	4.3	2.7	9.7
$95 and under $100	2.9	6.5	10.6	7.5	11.6	5.7	12.1	5.6	1.4	5.9
$100 and under $105	1.2	5.4	10.9	6.9	11.8	3.8	10.1	8.2	1.4	5.1
$105 and under $110	(1.3)	4.7	9.0	4.4	7.0	2.5	10.2	8.7	1.5	3.5
$110 and under $115	-	4.1	9.3	1.4	7.8	2.7	7.9	8.9	(.9)	3.8
$115 and under $120	-	1.7	6.4	(1.3)	4.3	1.7	6.2	11.4	-	1.1
$120 and under $125	-	(1.5)	2.7	-	2.6	(1.0)	4.1	9.2	-	(1.3)
$125 and under $130	-	-	2.3	-	(1.4)	-	3.7	9.2	-	-
$130 and under $135	-	-	1.2	-	-	-	1.6	9.2	-	-
$135 and under $140	-	-	(.6)	-	-	-	1.5	7.5	-	-
$140 and under $145	-	-	-	-	-	-	(1.5)	4.6	-	-
$145 and under $150	-	-	-	-	-	-	-	3.0	-	-
$150 and under $160	-	-	-	-	-	-	-	3.5	-	-
$160 and under $170	-	-	-	-	-	-	-	1.8	-	-
$170 and under $180	-	-	-	-	-	-	-	(.9)	-	-
$180 and under $190	-	-	-	-	-	-	-	-	-	-
$190 and under $200	-	-	-	-	-	-	-	-	-	-
$200 and under $210	-	-	-	-	-	-	-	-	-	-
$210 and under $220	-	-	-	-	-	-	-	-	-	-
$220 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	29,511	80,385	56,541	13,528	9,846	9,010	18,062	8,966	88,720	45,836
Average weekly salaries	$67.50	$83.50	$97.00	$80.00	$93.50	$80.50	$99.50	$120.00	$70.50	$84.00

[1] 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.

[2] 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, [1] by industry division, [2] United States except Alaska and Hawaii, February–March 1966)

Occupation	Manufacturing	Public utilities [3]	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services [4]
Professional and administrative						
Accountants	67	12	7	(5)	9	(5)
Auditors	41	19	8	5	27	(5)
Chief accountants	56	5	11	6	18	(5)
Attorneys	30	19	7	(5)	41	(5)
Managers, office services	58	7	8	(5)	21	4
Buyers	86	6	(5)	(5)	(5)	(5)
Freight rate clerks	50	41	5	(5)	(5)	(5)
Job analysts	78	(5)	(5)	(5)	12	4
Directors of personnel	73	(5)	5	6	11	(5)
Chemists	91	(5)	(5)	(5)	(5)	8
Engineers	80	9	(5)	(5)	(5)	11
Technical						
Engineering technicians	79	5	(5)	(5)	(5)	16
Draftsmen	77	7	(5)	(5)	(5)	14
Clerical						
Clerks, accounting	41	18	10	10	20	(5)
Clerks, file	22	6	7	7	57	(5)
Keypunch operators	43	12	10	7	28	(5)
Office boys or girls	35	12	7	5	38	(5)
Stenographers	52	13	6	(5)	24	(5)
Switchboard operators	34	15	7	13	30	(5)
Tabulating-machine operators	41	18	8	4	27	(5)
Typists	39	6	6	4	43	(5)

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

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

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

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

[5] Less than 4 percent.

Table 8. Relative Salary Levels: Occupation by Industry Division

(Relative salary levels for selected professional, administrative, technical, and clerical occupations [1] by industry division, [2] United States except Alaska and Hawaii, February–March 1966)

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

Occupation	Manufacturing	Public utilities [3]	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services [4]
Professional and administrative						
Accountants	100	103	101	97	93	101
Auditors	104	101	104	98	92	([5])
Chief accountants	103	100	97	([5])	94	([5])
Attorneys	110	99	([5])	([5])	93	([5])
Managers, office services	100	103	([5])	([5])	94	([5])
Buyers	100	100	([5])	([5])	94	100
Freight rate clerks	108	94	110	([5])	([5])	103
Job analysts	103	([5])	([5])	([5])	83	([5])
Directors of personnel	100	106	97	101	102	([5])
Chemists	100	([5])	([5])	([5])	([5])	99
Engineers	100	97	([5])	([5])	([5])	98
Technical						
Engineering technicians	99	109	([5])	([5])	([5])	103
Draftsmen	99	101	([5])	([5])	([5])	104
Clerical						
Clerks, accounting	105	105	104	89	88	104
Clerks, file	111	120	103	91	94	108
Keypunch operators	104	110	102	94	91	104
Office boys or girls	104	113	99	93	92	101
Stenographers	103	108	100	91	89	99
Switchboard operators	106	114	103	85	92	106
Tabulating-machine operators	105	100	103	95	93	104
Typists	106	109	103	97	93	106

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

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

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

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

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

Table 9. Average Weekly Hours: Occupation by Industry Division

(Average weekly hours [1] for employees in selected professional, administrative, technical, and clerical occupations [2] by industry division, [3] United States except Alaska and Hawaii, February–March 1966)

Occupation	Manufacturing	Public utilities [4]	Wholesale trade	Retail trade	Finance, insurance, and real estate	Selected services [5]
Professional and administrative						
Accountants	39.5	39.5	39.5	39.5	38.0	39.5
Auditors	39.0	39.0	39.5	39.5	38.0	39.5
Chief accountants	39.5	40.0	40.0	(6)	38.5	40.0
Attorneys	39.5	39.5	(6)	40.0	38.0	(6)
Managers, office services	39.5	39.5	(6)	(6)	38.0	40.0
Buyers	40.0	40.0	39.5	39.0	38.0	40.0
Freight rate clerks	39.5	39.5	39.0	(6)	(6)	(6)
Job analysts	39.5	(6)	(6)	(6)	38.0	39.5
Directors of personnel	40.0	40.0	39.5	40.5	39.0	40.0
Chemists	39.5	(6)	(6)	(6)	(6)	39.5
Engineers	40.0	39.0	(6)	(6)	(6)	39.5
Technical						
Engineering technicians	40.0	39.5	(6)	(6)	(6)	39.5
Draftsmen	40.0	39.5	39.0	38.0	38.0	39.5
Clerical						
Clerks, accounting	39.5	39.0	39.0	39.0	38.0	39.0
Clerks, file	39.5	39.0	39.0	39.0	38.0	39.0
Keypunch operators	40.0	39.0	39.5	39.5	38.0	39.5
Office boys or girls	39.0	38.5	39.0	39.0	37.5	39.0
Stenographers	39.5	39.5	39.0	38.5	38.0	39.0
Switchboard operators	39.0	39.5	39.0	39.0	38.0	39.0
Tabulating-machine operators	39.5	38.5	39.0	39.5	37.5	39.0
Typists	39.5	39.0	39.0	39.0	38.0	39.5

[1] 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.

[2] Each occupation includes the work levels, as defined for the survey, for which data are presented in table 1.

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

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

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

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

235-555 O - 66 - 6

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. Excluded are establishments employing fewer than the minimum number of workers, as indicated in the accompanying table for each industry division, at the time of reference of the universe data (generally, first quarter of 1965). In the 1965 survey, all establishments employing fewer than 250 workers were excluded. In the current survey, the variable minimum employment size was adopted to equalize more closely the minimum white-collar employment of establishments within scope of the survey among the several industry divisions.

The industrial and geographic coverage of this survey and the 1965 survey were the same, whereas earlier studies in this series were limited to establishments located in Standard Metropolitan Statistical Areas. Although the 1965 and 1966 surveys included establishments in both metropolitan and nonmetropolitan areas, provision was made in the survey design to permit separate presentation of data for SMSA's.[17]

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 1966 survey consisted of the following three separate parts: One sample of establishments studied in metropolitan areas for the professional and administrative occupations;[18] 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 1966,[19] 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 13, 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 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 1965 and June 1966, and supplemented by data collected in the November 1965–May 1966 period for establishments outside of metropolitan areas. Although some of the metropolitan areas were surveyed in 1965, those surveyed in the first half of 1966 (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 1966.

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[17] The metropolitan area data in the 1966 survey relate to all 221 SMSA's (within the 48 States surveyed) as revised through March 1965 by the Bureau of the Budget, and in the 1965 survey to all 218 SMSA's (within the 48 States surveyed) as revised in 1964. The 1963 and 1964 surveys relate to all 212 SMSA's in the United States as revised in 1961; earlier studies relate to 188 SMSA's in the United States, except Honolulu, as revised in 1959.

[18] Engineering technicians also were included in this part of the survey.

[19] 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 seven surveys in this series was collected during approximately the same time period.

Number of Establishments and Workers Within Scope of Survey[1] and Number Studied by Industry Division, February–March 1966

Industry division	Minimum employment in establishments in scope of survey	Within scope of survey[1]			Studied for professional and administrative occupations		Studied for drafting and clerical occupations[2]	
		Number of establishments	Workers in establishments: Total	Workers in establishments: Professional, administrative, supervisory, and clerical[3]	Number of establishments	Workers in establishments	Number of establishments	Workers in establishments
United States—all industries[1]		26,949	16,742,652	6,152,350	2,629	5,689,245	7,647	8,621,177
Manufacturing	250	11,867	10,901,635	3,025,026	1,695	3,986,103	3,386	4,990,019
Nonmanufacturing:								
Transportation,[4] communication, electric, gas, and sanitary services	100	2,544	1,915,530	888,276	267	815,230	997	1,348,692
Wholesale trade	100	2,968	622,964	307,983	114	44,647	758	227,250
Retail trade	250	1,729	1,618,582	372,024	137	351,907	946	1,209,961
Finance, insurance, and real estate	50	7,427	1,470,159	1,416,288	325	363,697	1,273	663,626
Services:								
Engineering and architectural services; and commercially operated research, development, and testing laboratories only	100	414	213,782	142,753	91	127,661	287	181,629
Metropolitan areas—all industries[5]		21,347	13,789,286	5,550,767	2,102	5,101,528	7,120	8,033,460
Manufacturing	250	7,928	8,222,495	2,568,158	1,235	3,428,914	2,926	4,432,830
Nonmanufacturing:								
Transportation,[4] communication, electric, gas, and sanitary services	100	1,919	1,788,711	844,341	239	805,433	969	1,338,895
Wholesale trade	100	2,804	596,734	304,181	110	43,892	754	226,495
Retail trade	250	1,651	1,598,447	367,854	132	350,618	941	1,208,672
Finance, insurance, and real estate	50	6,667	1,393,114	1,339,243	304	359,231	1,252	659,160
Services:								
Engineering and architectural services; and commercially operated research, development, and testing laboratories only	100	378	189,785	126,990	82	113,440	278	167,408
Establishments employing 2,500 workers or more—all industries		1,046	6,097,555	2,261,018	599	4,053,772	739	4,367,691
Manufacturing	-	693	4,233,984	1,385,099	414	2,832,777	431	2,747,094

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

[2] 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.

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

[4] Limited to railroad, local and surburban passenger, deep sea water (foreign and domestic), and air transportation industries as defined in the 1957 edition of the Standard Industrial Classification Manual.

[5] Standard Metropolitan Statistical Areas in the United States, except Alaska and Hawaii, as revised through March 1965 by the Bureau of the Budget.

Method of Collection

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

Nature of Data Collected and Presented

The average salaries reported relate to the standard salaries that were paid for standard work schedules, i.e., to the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. 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 7 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 approximately 1 million workers, about 6.2 percent of 16,740,000. 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
3	10 percent or more Engineers VIII (12 percent) Directors of personnel III (16 percent) Directors of personnel IV (21 percent)
6	5 to 9.9 percent Attorneys V and VII Chief accountants III and IV Engineers VII Managers, office services III
15	1 to 4.9 percent
32	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.

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[20] 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.

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.[21] 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 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.[22] 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 area wage survey reports compiled by metropolitan area. The occupations and work levels included in this study, and in which women accounted for 5 percent or more of the employment, were distributed according to the proportion of women employees, as follows:

Women (percent)	Occupation and level
90 or more	All levels of file clerks; keypunch operators; stenographers; switchboard operators; typists
85–89	Clerks, accounting I
55–59	Clerks, accounting II
45–49	Tabulating-machine operators I
40–44	Office boys or girls
30–34	Tabulating-machine operators II
20–24	Job analysts I; draftsmen-tracers
15–19	Buyers I; freight rate clerks I; tabulating-machine operators III
10–14	Chemists I and II; job analysts II; engineering technicians I; managers, office services I; accountants I
5–9	Directors of personnel I; engineering technicians II; chemists III; freight rate clerks IV

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 221 Standard Metropolitan Statistical Areas[23] 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

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[21] 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.

[22] 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.

[23] Areas as revised by the Bureau of the Budget through March 1965. The previous survey related to the 218 Standard Metropolitan Statistical Areas as revised in 1964 by the Bureau of the Budget.

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.[24] From this universe, a sample of about 2,100 establishments (not companies) was selected systematically so that each geographic unit was represented, on the average, proportionately within size-of-establishment and industry classes.[25]

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 84 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 84 areas surveyed, from which national estimates are developed, represent a systematic sampling of all metropolitan areas. The totality of 221 areas (as of March 1965) was divided into 84 strata, and one unit chosen from each to represent the whole stratum by appropriate weighting. 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 47 areas representing themselves and similar areas. The samples for the 84 areas combined consisted of 7,120 establishments.

Nonmetropolitan Area Data, All Occupations Studied. With the expansion of the survey in 1965 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 amount to 527 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

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[24] 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.

[25] 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.

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

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.

Method of Determining Median and Quartile Values

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

In earlier reports, median and quartile values were interpolated from broader intervals which varied as follows:

Draftsmen and clerical—$5 weekly salary class intervals for all occupations and levels. The values interpolated were multiplied by 4.345 to obtain monthly values and by 52.14 to obtain annual values.

Other than draftsmen and clerical—values below $1,000 a month were interpolated from $25 (per month) classes and values above $1,000 were interpolated from $50 classes. Annual values were obtained by multiplying monthly values by 12.

Estimates of Sampling Error

The survey procedure yields estimates with widely varying sampling errors, depending on the frequency with which the job occurs, and the dispersion of salaries. Thus for the professional and administrative occupation work levels, the relative standard errors of the average salaries were distributed as follows: 31 were under 2 percent; 10 were 2 and under 3 percent; 5 were 3 and under 4 percent; 3 were 4 and under 5 percent; and 7 were 5 percent and over.[26] 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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[26] The 5 percent and over group included attorneys I, II, and VII; job analysts II; directors of personnel IV; and freight rate clerks I and II.

Appendix B. Survey Changes in 1966

Changes in the February–March 1966 national survey of professional, administrative, technical, and clerical pay relate primarily to an expansion in the scope of the survey to include smaller establishments in some industry divisions and to an expansion of the occupational list to include several levels of buyers and freight rate clerks. Although the scope of the survey was expanded, it was possible to tabulate the data on a comparable basis with the February–March 1965 survey for year-to-year comparisons presented in table 1. Data presented separately for large establishments in table 3, however, are comparable with a similar tabulation presented in the 1965 report.

Changes in Scope of Survey

The February–March 1965 survey related to all establishments (within the industrial scope) employing 250 workers or more in the United States except Alaska and Hawaii. The minimum size of establishments represented in the February–March 1966 survey was lowered from 250 to 100 workers or more in transportation, communication, and other public utilities; wholesale trade; and service industries studied. In the finance, insurance, and real estate industries, the minimum was lowered to include establishments with 50 workers or more. The minimum employment size of 250 workers was unchanged in the manufacturing and retail trade industries. A variable minimum cut-off was adopted to equalize more closely the minimum white-collar employment of establishments within the scope of the survey among the several industry divisions.

Tabulations of data relating to metropolitan areas in this report include the 221 Standard Metropolitan Statistical Areas within the 48 States surveyed—United States, except Alaska and Hawaii—as revised through March 1965 by the Bureau of the Budget. Similar tabulations in the 1965 report related to the 218 SMSA's (within these 48 States) as revised in 1964.

Changes in Occupational Coverage

The 1966 survey covered all occupations also represented in the 1965 survey, with no changes in the definitions. In addition, the 1966 survey included five defined levels of buyers[27] and four defined levels of freight rate clerks.

Change in Method of Determining Median and Quartile Values

Median and quartile values presented in this report were derived from distributions of employees by salary using $1 class intervals; in earlier reports these values were interpolated from broader class intervals. For detailed explanation, see Method of Determining Median and Quartile Values in appendix A, page 42.

[27] Insufficient data were obtained for level V to warrant presentation of average salaries.

Appendix C. Occupational Definitions

The primary purpose of preparing job definitions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations, or levels within occupations, workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. To secure comparability of job content, some occupations and work levels are defined to include only those workers meeting specific criteria as to training, job functions, and responsibilities. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's occupational definitions may differ significantly from those in use in individual establishments or those prepared for other purposes. Also see note referring to the definitions for the drafting and clerical occupations on 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[28] of work in accordance with the following:

[28] Insufficient data were obtained for level V to warrant presentation of average salaries.

CHIEF ACCOUNTANT—Continued

Class	Authority and responsibility [1]	Technical complexity [1]	Subordinate staff of professional accountants in the system for which he is responsible.[2]
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.
	or		
	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.
	or		
	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.
	or		
	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.
	or		
	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.
	or		
	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.

[1] AR-1, 2, and 3 and TC-1, 2, and 3 are explained on the following page.

[2] 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).

BUYERS

BUYER

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

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

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

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

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

BUYER—Continued

Excluded are:

(a) Buyers of items for direct sale, either wholesale or retail;
(b) Persons whose major duties consist of ordering, reordering, or requisitioning from prescribed contractors to replenish depleted inventories or stocks;
(c) Positions that specifically require professional education and qualifications in a physical science or in engineering (e.g., chemist, mechanical engineer);
(d) Buyers whose principal responsibility is the supervision of other buyers or the management, direction, or supervision of a purchasing program;
(e) Brokers and dealers buying for clients or for investment purposes;
(f) Persons predominantly concerned with contract or subcontract administration;
(g) Positions restricted to clerical functions or to purchase expediting work.

Buyer I

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

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

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

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

Buyer II

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

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

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

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

Examples of items purchased include: Industrial types of handtools; electronic tube and component test instruments; standard electronic parts and components; electric motors; gasoline service station equipment; PBX or other specialized telephone services; and routine purchases of common raw materials such as standard grades and sizes of steel bars, rods, and angles.

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

Buyer III

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

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

BUYER—Continued

The quantities purchased of any item or service, while large, usually are not on a scale so great that the proposed purchase will, by itself, affect the overall market price for that type of merchandise.

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

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

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

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

Buyer IV

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

Transactions require dealing with manufacturers and often involve persuading potential vendors to undertake the manufacturing of custom designed items according to complex and rigid specifications.

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

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

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

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

Examples of items purchased include: Special purpose high cost machine tools and production facilities; raw materials of critically important characteristics or quality; parts, subassemblies, components, etc., specially designed and made to order (e.g., communications equipment for installation in aircraft being manufactured; component assemblies for missiles and rockets; and motor vehicle frames).

Buyer V [29]

Purchases items or materials, either technical or nontechnical, in such unusually large quantities that individual purchases can affect the overall market price of the commodity. (NOTE: Only the very largest organizations, e.g., those employing more than 10,000 persons, are able to buy in the quantities contemplated at this level. Even in the very large organizations this level of buying is often absent and even when present, is restricted to a very few buyers or is assigned, not to a buyer, but to some higher ranking official.)

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[29] Ibid.

BUYER—Continued

Alternatively, may purchase items of extraordinary technical complexity (e.g., missile guidance systems; items that involve the outermost limits of the physical sciences or engineering) or items of unusually high individual value (e.g., multiengine jet aircraft; large capacity computers; and high capacity turbine generators).

Usually is required to identify and consider all possible sources of supply.

The transactions are so large that they often affect a considerably portion of the industry or trade concerned, resulting in complex scheduling and difficulty in negotiating mutually acceptable arrangements.

Frequently is required to develop new sources of supply through persuasion of manufacturers or other concerns to expand or convert plants and facilities.

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

FREIGHT RATE CLERKS

FREIGHT RATE CLERK

Using a formal tariff file, determines the most economical and appropriate freight classification, rate, and route for shipment of raw materials and merchandise by rail, air, truck, or water common carrier. Analyzes the transportation characteristics of the commodities and the suitability of alternative routes, considering such factors as weather, season, availability of terminal and handling facilities, need for accessorial services, rates, time deadlines, etc.

Some positions are concerned with freight rate work in connection with impending shipments. Such work may consist of quoting, orally or otherwise, rate, route, and classification information to customers, buyers, etc., or it may consist of prescribing the rates, routes, and classification to be used for individual shipments or categories of shipments. Such positions may also include responsibility for tracing lost or delayed shipments and preparing manuals setting forth the rates, routes, and classifications applicable to commonly recurring shipments. Other positions are concerned with the examination of carriers' bills, analyzing the services rendered to assure the correctness of the rates, routes, and classifications used. Some positions may involve both types of work.

Some positions also are responsible for authorizing, scheduling, or controlling shipment of commodities by contract carrier or company-owned vehicles. (When this is the primary responsibility, the position is not in this occupation.)

The work is performed under very general supervision. Little or no detailed review is made of most individual rate, route, and classification decisions. Unusual problems are referred to a supervisor.

Freight rate work requires use of technical tariff, rate, and commodity classification documents. No position is included in this occupation unless a technical rate file is available and used.

Positions of freight rate clerks are located both in common carriers and in establishments that ship goods via common carrier.

Excluded from this occupation are positions concerned, for a significant portion of the time, with the preparation of various documents, applications, certificates, etc., and other related work involved in clearing shipments for export or import.

Also excluded are positions of traffic managers to whom are assigned a broader range of responsibilities for transportation than concern for the rates and routes used for individual shipments via common carriers.

FREIGHT RATE CLERK—Continued

Level of job	Area	Diversity of destination	Variety of modes	Variety of freight classification	Use of special services
I	Few States	Not more than one of these HIGH; balance LOW.			
	Nationwide	Limited to use of railway express or air express service only.			
II	Few States	Two or more of these HIGH; balance, if any, LOW.			
	Nationwide	All LOW.			
III	Nationwide	Any one or two (but not more) of these HIGH; balance LOW.			
IV	Nationwide	At least three are HIGH; balance, if any, LOW.			
	Worldwide	At least one, but not over three, of these HIGH; balance LOW.			
	Nationwide	HIGH	LOW	VERY HIGH	Either LOW or HIGH

NOTE: The terms "LOW, HIGH, and VERY HIGH" as these relate to each column in the above are explained in the material that follows. Also explained are the meanings of "few States, nationwide, and worldwide."

AREA refers to the extent of the geographic area in which shipments originate and terminate. It is used as a measure of the volume of tariffs with which the freight rate clerk must be familiar.

Few States means a small number of States, for example, the New England or the Southern States.

Nationwide means most or all of the 48 continental States. May also include destinations in Canada and Mexico and shipment to a domestic or foreign port (but not shipment via rail or motor beyond the port).

Worldwide means foreign destinations in a variety of countries (instead of or in addition to Canada and Mexico) when this necessitates the use of foreign tariffs (rail, motor, water, or air) for movement within such foreign countries.

DIVERSITY OF DESTINATIONS refers to the relative degree to which shipments either tend to recur between a rather limited number of points of origin and destination, or tend to involve many different points. This element is used to measure the effect on difficulty that results from the relative lack of repetition in the work.

LOW—Shipments are recurrent, involving a limited number of shipping points.

HIGH—Shipments are generally not recurrent and do not follow an established pattern between shipping points.

VARIETY OF MODES means the kinds of transportation utilized in making shipments—rail, motor, air freight, air express, water, railroad express, etc. This is used as a further measure of the volume of tariffs used. It also measures, in part, the variety of alternative rates and routes the freight rate clerk must consider.

FREIGHT RATE CLERK—Continued

LOW—Requires use of only one or two types of carrier (rail or truck predominant).

HIGH—Collectively, involves a variety of types of carriers, including rail and motor.

VARIETY OF FREIGHT CLASSIFICATION means the approximate number of freight classification categories that the freight rate clerk must utilize and apply. It measures the relative difficulty of classifying and rating commodities.

LOW—Usually involves, in all, fewer than approximately 25 different freight classification categories.

HIGH—Usually involves, in all, several dozen or more different freight classification categories.

VERY HIGH—Involves, in all, a great majority or most of the total number of freight classification categories available for use. (This variety of commodities is normally encountered only by freight rate clerks who work for common carriers.)

USE OF SPECIAL SERVICES refers to the extent to which shipments require use of such special services as refrigeration, heating, special size clearance, special loading or unloading facilities, in-transit processing, etc. This element measures the extent to which additional difficulty results from the use of these services.

LOW—Involves little or no use of special handling or accessorial services.

HIGH—Requires some use of special handling or accessorial services.

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[30] of work in accordance with the following tabulation:

Number of employees in work force serviced	Personnel program operations level[1]		Personnel program development level[2]	
	Organization serviced—type A[3]	Organization serviced—type B[4]	Organization serviced—type A[3]	Organization serviced—type B[4]
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	-

[1] 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.

[2] 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.

[3] 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.

[4] 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.

[30] 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 assignations 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, Administrative, Technical, and Clerical Pay	Occupational Wage Surveys in Metropolitan Areas
Draftsman	I	C
	II	B
	III	A
Clerk, accounting	I	B
	II	A
Clerk, file	I	C
	II	B
	III	A
Keypunch operator	I	B
	II	A
Switchboard operator	I	B
	II	A
Tabulating-machine operator	I	C
	II	B
	III	A
Typist	I	B
	II	A

Appendix D. Comparison of Average Annual Salaries in Private Industry, February—March 1966, 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,[1] February–March 1966, With Salary Rates in Federal Classification Act General Schedule[2]

Occupation and class surveyed by BLS[3]	Average annual salaries in private industry[4]	Salary rates in Federal Classification Act General Schedule[2]										
		Grade[5]	Per annum rates and steps[6]									
			1	2	3	4	5	6	7	8	9	10
Clerks, file I	$3,189	GS 1	$3,507	$3,626	$3,745	$3,864	$3,983	$4,102	$4,221	$4,340	$4,459	$4,578
Office boys or girls	3,522		3,609	3,731	3,853	3,975	4,097	4,219	4,341	4,463	4,585	4,707
Clerks, file II	3,610	GS 2	3,814	3,943	4,072	4,201	4,330	4,459	4,588	4,717	4,846	4,975
Keypunch operators I	4,033		3,925	4,058	4,191	4,324	4,457	4,590	4,723	4,856	4,989	5,122
Switchboard operators I	4,163											
Tabulating-machine operators I	4,200											
Typists I	3,678											
Clerks, accounting I	4,281	GS 3	4,149	4,289	4,429	4,569	4,709	4,849	4,989	5,129	5,269	5,409
Clerks, file III	4,529		4,269	4,413	4,557	4,701	4,845	4,989	5,133	5,277	5,421	5,565
Draftsmen-tracers	4,411											
Engineering technicians I	5,100											
Keypunch operators II	4,691											
Stenographers, general	4,365											
Switchboard operators II	4,876											
Tabulating-machine operators II	5,178											
Typists II	4,376											
Clerks, accounting II	5,685	GS 4	4,641	4,797	4,953	5,109	5,265	5,421	5,577	5,733	5,889	6,045
Draftsmen I	5,549		4,776	4,936	5,096	5,256	5,416	5,576	5,736	5,896	6,056	6,216
Engineering technicians II	6,000											
Stenographers, senior	5,051											
Tabulating-machine operators III	6,266											
Accountants I	6,576	GS 5	5,181	5,352	5,523	5,694	5,865	6,036	6,207	6,378	6,549	6,720
Auditors I	6,408		5,331	5,507	5,683	5,859	6,035	6,211	6,387	6,563	6,739	6,915
Buyers I	6,648											
Chemists I	7,104											
Draftsmen II	6,973											
Engineers I	7,764											
Engineering technicians III	6,984											
Freight rate clerks I	5,844											
Job analysts I	7,080											
Freight rate clerks II	6,624	GS 6	5,702	5,894	6,086	6,278	6,470	6,662	6,854	7,046	7,238	7,430
			5,867	6,065	6,263	6,461	6,659	6,857	7,055	7,253	7,451	7,649
Accountants II	7,308	GS 7	6,269	6,476	6,683	6,890	7,097	7,304	7,511	7,718	7,925	8,132
Auditors II	7,740		6,451	6,664	6,877	7,090	7,303	7,516	7,729	7,942	8,155	8,368
Attorneys I	7,668											
Buyers II	7,920											
Chemists II	7,884											
Draftsmen III	8,261											
Engineers II	8,496											
Engineering technicians IV	7,908											
Freight rate clerks III	7,056											
Job analysts II	7,752											
Freight rate clerks IV	6,960	GS 8	6,869	7,097	7,325	7,553	7,781	8,009	8,237	8,465	8,693	8,921
			7,068	7,303	7,538	7,773	8,008	8,243	8,478	8,713	8,948	9,183
Accountants III	8,328	GS 9	7,479	7,733	7,987	8,241	8,495	8,749	9,003	9,257	9,511	9,765
Auditors III	8,904		7,696	7,957	8,218	8,479	8,740	9,001	9,262	9,523	9,784	10,045
Attorneys II	9,120											
Buyers III	9,252											
Chemists III	9,108											
Engineers III	9,780											
Engineering technicians V	8,940											
Job analysts III	9,432											
Managers, office services I	7,956											
Managers, office services II	9,900	GS 10	8,184	8,464	8,744	9,024	9,304	9,584	9,864	10,144	10,424	10,704
			8,421	8,709	8,997	9,285	9,573	9,861	10,149	10,437	10,725	11,013

See footnotes at end of table.

Comparison of Average Annual Salaries in Private Industry,[1] February–March 1966, With Salary Rates in Federal Classification Act General Schedule[2]—Continued

Occupation and class surveyed by BLS[3]	Average annual salaries in private industry[4]	Salary rates in Federal Classification Act General Schedule[2]										
		Grade[5]	Per annum rates and steps[6]									
			1	2	3	4	5	6	7	8	9	10
Accountants IV	$10,116	GS 11	$8,961	$9,267	$9,573	$9,879	$10,185	$10,491	$10,797	$11,103	$11,409	$11,715
Auditors IV	11,196		9,221	9,536	9,851	10,166	10,481	10,796	11,111	11,426	11,741	12,056
Attorneys III	10,980											
Buyers IV	11,256											
Chemists IV	11,448											
Chief accountants I	10,800											
Directors of personnel I	9,996											
Engineers IV	11,784											
Job analysts IV	11,340											
Managers, office services III	11,880											
Accountants V	12,336	GS 12	10,619	10,987	11,355	11,723	12,091	12,454	12,827	13,195	13,563	13,931
Attorneys IV	14,052		10,927	11,306	11,685	12,064	12,443	12,882	13,201	13,580	13,959	14,338
Chemists V	13,740											
Chief accountants II	12,288											
Directors of personnel II	11,880											
Engineers V	13,788											
Managers, office services IV	14,340											
Attorneys V	16,728	GS 13	12,510	12,945	13,380	13,815	14,250	14,685	15,120	15,555	15,990	16,425
Chemists VI	15,936		12,873	13,321	13,769	14,217	14,665	15,113	15,561	16,009	16,457	16,905
Chief accountants III	15,144											
Directors of personnel III	14,544											
Engineers VI	15,828											
Attorneys VI	20,748	GS 14	14,680	15,188	15,696	16,204	16,712	17,220	17,728	18,236	18,744	19,252
Chemists VII	18,900		15,106	15,629	16,152	16,675	17,198	17,721	18,244	18,767	19,290	19,813
Chief accountants IV	17,676											
Directors of personnel IV	18,204											
Engineers VII	18,672											
Attorneys VII	25,836	GS 15	17,055	17,645	18,235	18,825	19,415	20,005	20,595	21,185	21,775	22,365
Chemists VIII	23,304		17,550	18,157	18,764	19,371	19,978	20,585	21,192	21,799	22,406	23,013
Engineers VIII	21,636											

[1] For scope of survey, see table in appendix A.

[2] Salary rates under the Federal Employees Salary Act of 1965 (first line), which were in effect in February–March 1965, the reference date for the BLS survey; and salary rates under the Federal Salary and Fringe Benefits Act of 1966 (second line), which became effective on the first day of the first pay period beginning on or after July 1, 1966.

[3] For definitions, see appendix C.

[4] Survey findings as summarized in table 1 of this report.

[5] Corresponding grades in the General Schedule were supplied by the U.S. Civil Service Commission.

[6] 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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