

White-collar pay determination under range-of-rate systems

Medium-size and large employers use ranges of rates to determine salaries for workers having similar job duties but different levels of performance or tenure; ranges are generally designed to control labor costs, attract qualified candidates, and reward valued employees

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Administrators of company pay policy face three fundamental issues: (1) setting their companies' overall pay levels in relation to those of other companies; (2) evaluating individual company jobs and determining pay relationships among them; and (3) determining pay relationships among individual workers within the same job. The last of these functions—and the subject of this article—is often accomplished by establishing minimum and maximum pay rates for a given job or grouping of comparable jobs, and providing for adjustments of individual workers' pay within this range of rates based on performance, seniority, or both.

Special tabulations developed from the Bureau of Labor Statistics 1983 and 1984 national surveys of professional, administrative, technical, and clerical pay (PATC), which cover white-collar employees in medium and large establishments,¹ show that:

- Most white-collar workers are under rate range systems providing for periodic merit (performance) reviews of their pay.
- Sizable rate ranges are often established for individual company jobs, especially at the higher professional and administrative levels.

- In practice, however, differences between the highest and the lowest rates actually paid are generally much smaller than differences between the maximum and the minimum rates specified for a range.

The data base

Information for this article comes from (1) internal worksheets prepared by BLS field staff in the 1983 survey to record job titles, formal rate ranges, duties, and responsibilities of company positions matching surveyed occupations² and (2) answers to questions on pay plan characteristics from the 1984 survey. Approximately 3,100 establishments were studied in the 1983 PATC survey. For some 1,400 establishments providing rate range data, the internal worksheets contained the minimum and maximum pay rates for individual company jobs matching one of the 101 occupational work levels in the survey.

Each of these work levels, ranging from entry-level to managerial positions, is covered by a written job description. Where several work levels are surveyed within a single occupation, they are identified by Roman numerals—the higher the numeral, the greater the duties and responsibilities.³ Each of the narrowly defined work levels represents fairly homogeneous work duties and responsibilities. Thus, classification of employees in accordance with these descriptions permits summary and analysis of rate range char-

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acteristics for employees performing similar work, regardless of company job title or grade.

Exhibit 1 provides a hypothetical example of this job matching process in a large headquarters establishment. In most cases, a one-to-one relationship exists between a company job and a PATC survey work level; for example, only the company's project engineer has duties comparable to those in the PATC survey engineer V definition. Less frequently, one company job spans two PATC survey levels; some engineering associates better match PATC survey engineer I, while others generally perform engineer II duties. Also, two company jobs at different grade levels may at times equate to one PATC survey level, as in the case of the engineer and the nuclear engineer positions in the example, which both match engineer III. For purposes of this study, matches similar to the engineer III illustration were excluded because they spanned more than one company rate range. These excluded situations accounted for fewer than 10 percent of the 22,000 matches in establishments reporting rate ranges.

The study focused on the width of company rate ranges—that is, the spread between minimum and maximum rates—and the relationship of actual salaries to points within the ranges. In exhibit 1, the maximum rate is 50 percent above the minimum rate in company grades 2 through 8, and slightly higher in grades 11 through 17. Such patterns, as found in surveyed establishments, will be discussed later in the article.

Respondents to the 1984 PATC survey answered the following questions separately for the professional-administrative and the technical-clerical worker groups: (1) What

types of pay plans cover employees in white-collar jobs? and (2) if workers are covered by rate ranges, what boundaries are specified for the ranges; how frequently are rate ranges adjusted; what formal provisions, if any, cover normal hiring rates within rate ranges; and what point within the rate range equates to a job's market value? Following is a description of the general characteristics of rate ranges as revealed by the answers to these questions.

Rate range profiles

Formal salary payment plans incorporating a range of rates for each job classification applied to about four-fifths of the white-collar workers covered by the 1984 PATC survey.⁴ (See table 1.) In contrast, single rates for a given job—an important formal system for setting blue-collar pay⁵—were virtually nonexistent for white-collar workers. Informal systems, which base salaries primarily on an individual's qualifications, accounted for almost all of the remaining white-collar workers. Informal plans covered about 5 percent of such workers in the largest establishments (those employing at least 2,500 employees), compared with about one-fourth of those in establishments with fewer workers.

With few exceptions, a minimum and maximum were specified for each rate range reported. Within the range, an individual's pay increases typically were based on periodic merit (performance) reviews. This approach covered more than four-fifths of the professional and administrative workers and two-thirds of the technical-clerical group who were under rate ranges. Pay progression for the remaining workers under rate ranges either was automatic, determined by

Exhibit 1. Hypothetical example of the salary structure and rate ranges in a large headquarters establishment

Company grade and job title	PATC survey work level	Company rate range			Company grade and job title	PATC survey work level	Company rate range		
		Minimum	Mid-point	Maximum			Minimum	Mid-point	Maximum
Grade 2 Junior accountant Buyer B	Accountant I Buyer I	\$20,000	\$25,000	\$30,000	Grade 11 ¹ Cost accounting manager Project engineer Counsel	Accountant V Engineer V Attorney III	\$37,360	\$46,700	\$58,375
Grade 4 Engineering associate Cost accountant Buyer A Financial analyst	Engineer I, II Accountant II Buyer II Not in PATC survey	23,040	28,800	34,560	Grade 13 Engineering project manager Senior counsel Division director of human resources	Engineer VI Attorney IV Director of personnel III	42,960	53,700	67,125
Grade 6 General accountant Engineer Senior buyer	Accountant III Engineer III Buyer III	26,480	33,100	39,720	Grade 15 Engineering division director Division counsel Assistant comptroller	Engineer VII Attorney V Chief accountant IV	49,400	61,750	77,200
Grade 7 Nuclear engineer	Engineer III	28,480	35,600	42,720	Grade 17 Director of engineering Associate general counsel Corporate manager of human resources Comptroller	Engineer VIII Attorney VI Director of personnel V Not in PATC survey	56,800	71,000	88,750
Grade 8 Staff accountant Senior engineer Associate counsel Purchasing manager	Accountant IV Engineer IV Attorney II Not in PATC survey	30,480	38,100	45,720					

¹It is not uncommon to skip grades in moving from nonsupervisory to supervisory/managerial levels.

NOTE: Company jobs and PATC survey work levels are compared using actual duties and responsibilities rather than job titles. Occupational definitions of PATC work levels, based in part on Federal Government personnel standards, appear in *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1983*, BLS Bulletin 2181, 1983.

Table 1. Percent of white-collar employees, by method of wage payment and rate range characteristics, March 1984 PATC survey

Method of salary payment and rate range characteristics	Professional and administrative employees	Technical and clerical employees
Method of salary payment		
All employees	100	100
Formal plans	81	79
Range of rates	81	77
Merit review	68	53
Length of service	1	11
Combination	11	14
Single rate	(¹)	2
Individual determination	18	20
Other type of plan	1	(¹)
Selected characteristics		
Employees under rate ranges	100	100
Minimum and maximum rate specified	98	95
Minimum is specified, no set maximum	2	4
Maximum is specified, no set minimum	1	(¹)
Rate range is typically adjusted:		
More than once a year	3	5
Once a year	81	78
Less than once a year	5	5
No formal provision	11	11
Information not available	1	(¹)
Normal hiring rate within rate range at:		
Minimum of range	25	42
Lower fourth of range	25	21
Lower half of range	21	14
Other part of range	9	6
No formal provision	19	16
Information not available	1	1
Location of job's market value:		
Midpoint of range	62	59
Maximum of range	2	5
Minimum to midpoint of range	4	5
Midpoint to maximum of range	13	9
No established concept	17	20
Information not available	1	2

¹Less than 0.5 percent.
NOTE: Because of rounding, sums of individual items may not equal 100.

their length of service in the job, or depended on a combination of job tenure and merit ratings.

Rate ranges are typically adjusted once a year—a practice covering about four-fifths of each worker group studied. Less commonly, provisions call for range changes at some other interval or on an ad hoc basis. After an upward adjustment in the rate range, some workers' rates fall below the new minimum. Employers reported that such "subminimum" rates are usually raised at the employee's next performance review or anniversary date.

Most establishments pay new employees at a specified point or within a specified portion of the range. The 1984 PATC survey found wide use of three distinct approaches, whereby new hires were paid at the range minimum, at some point between the minimum and the lower fourth, or between the lower fourth and the middle of the range. Each approach covered 20 to 25 percent of the professional-administrative worker group. For the technical-clerical group, hiring at the minimum of the range pertained to 42 percent of the workers, and was at least twice as common as the other two hiring approaches. (See table 1.)

The pace of advancement within a rate range is influenced in part by an employer's perception of the market value of

a job when fully and competently performed. Three-fifths of the white-collar workers were employed by establishments that regarded the midpoint of the rate range as representative of a job's market value. These employers used the midpoint for controlling salary costs, that is, by filtering through that point only highly rated employees or the most experienced employees. About 15 percent of the workers were in establishments in which advancement would be expected to be faster because the midpoint was set below the market value of a job. (It should be noted that another 15 to 20 percent of the workers were in establishments that did not recognize this concept of a job's market value.)

Range width

As mentioned earlier, rate ranges make it possible for individuals in the same job and establishment to be paid at different rates. The 1983 PATC survey looked at the potential for such differences in the approximately 1,400 establishments reporting rate range information. Although these establishments are not statistically representative of the full PATC survey scope, they do span all of its covered industries and varying work force size groups. Furthermore, the results are consistent with findings from earlier Federal studies of salary structure characteristics in the private sector.⁶

Employers generally agree on the basic rationale for rate ranges, but commonly vary the percent by which the maximum salary rate exceeds the minimum salary rate in a range (its width). Ideally, rate minimums should attract qualified job candidates while rate maximums should be set to reward and retain high achievers. In practice, however, employers see these as flexible boundaries that at times allow for rates below the specified minimum, for hiring above the minimum rate, and for progression beyond the maximum rate in the range. Thus, the prescribed width of the range may differ from the spread in rates actually paid.

Among the PATC respondents, the maximum of a rate range most commonly exceeded the minimum by 50 percent, as shown in table 2. Nevertheless, many establishments had wider or narrower ranges. For the 89 survey work levels compared, the average spread ranged from 37 percent for stenographers II to 57 percent for accountants V and attorneys V. In general, rate spreads for professional-administrative jobs exceeded those for technical-clerical occupations.

Few employers maintained a constant range width for all their white-collar jobs. Among the 1,338 establishments reporting two or more rate ranges, more than four-fifths varied their range widths by at least 5 percentage points, and differences of 20 percent or more were common. This largely reflects the tendency of companies to establish separate salary schedules for major groups of white-collar jobs, such as professional-administrative and technical-clerical occupations. As shown in table 3, the proportion of establishments with uniform range widths (a zero or 1-percentage-point difference between the widest and narrowest widths)

Table 2. Width¹ of rate ranges for workers in PATC survey establishments reporting rate ranges, March 1983

Occupational work level ²	Mean width of establishment rate range (in percent)	Percent of establishments with rate range of—								
		Less than 35 percent	35 and under 40 percent	40 and under 45 percent	45 and under 50 percent	50 percent	Over 50 but under 55 percent	55 and under 60 percent	60 and under 65 percent	65 percent and over
Professional-administrative										
Accountants I	51	7	6	8	10	36	7	9	6	11
Accountants II	52	6	2	11	7	39	8	9	6	12
Accountants III	53	6	4	6	10	38	8	9	5	13
Accountants IV	54	4	2	5	6	42	8	12	5	15
Accountants V	57	3	(³)	6	6	39	8	13	7	18
Accountants VI	56	2	—	5	6	35	18	10	6	18
Chief accountants II	54	4	4	4	6	40	11	13	2	15
Chief accountants III	54	3	2	6	5	41	11	10	5	17
Auditors I	52	7	—	5	9	38	12	12	9	8
Auditors II	53	4	4	6	6	46	10	8	5	13
Auditors III	53	5	1	4	9	44	8	12	5	14
Auditors IV	53	5	3	3	3	46	11	11	3	14
Attorneys I	53	6	4	1	5	47	13	11	2	11
Attorneys II	53	4	—	3	4	48	10	14	3	13
Attorneys III	55	3	2	4	4	41	11	11	8	17
Attorneys IV	56	2	1	3	6	34	11	10	10	22
Attorneys V	57	3	—	—	6	33	14	15	6	24
Buyers I	51	10	5	11	9	31	11	7	6	11
Buyers II	52	7	5	8	7	36	10	10	4	13
Buyers III	53	4	3	7	7	43	9	9	6	12
Buyers IV	54	6	4	7	6	33	9	13	2	20
Programmer/analysts I	50	7	8	14	7	31	11	7	4	11
Programmer/analysts II	51	8	5	9	10	34	9	9	6	11
Programmer/analysts III	52	6	3	9	7	39	9	9	7	11
Programmer/analysts IV	53	5	4	5	8	38	9	15	4	12
Programmer/analysts V	53	2	4	7	6	38	8	16	10	11
Job analysts II	56	2	2	2	6	35	15	11	8	20
Job analysts III	53	4	2	4	5	47	13	11	1	13
Job analysts IV	53	10	3	—	7	30	10	20	5	15
Directors of personnel I	51	6	—	9	11	45	8	11	2	8
Directors of personnel II	52	10	3	4	7	39	6	11	9	11
Directors of personnel III	56	5	2	3	3	38	8	16	5	20
Chemists I	51	10	10	7	7	37	7	7	5	12
Chemists II	53	6	5	6	6	42	8	10	6	13
Chemists III	51	6	7	9	6	37	9	9	6	11
Chemists IV	53	6	4	8	4	38	8	17	4	14
Chemists V	54	4	5	9	5	34	10	9	11	13
Chemists VI	54	7	—	12	2	37	5	12	12	14
Engineers I	52	8	4	8	8	31	9	12	7	13
Engineers II	52	8	4	7	7	39	9	8	7	10
Engineers III	53	7	2	8	8	37	11	10	5	12
Engineers IV	54	6	3	5	9	38	6	13	6	15
Engineers V	55	4	1	7	6	40	9	10	6	17
Engineers VI	56	6	—	6	6	31	10	11	7	23
Engineers VII	55	5	—	9	3	36	8	10	9	20
Engineers VIII	54	6	3	3	3	30	6	24	6	18
Technical-clerical										
Computer operators I	46	15	14	21	8	21	7	5	2	8
Computer operators II	47	18	13	15	8	21	5	5	5	10
Computer operators III	47	17	13	14	10	21	6	7	4	9
Computer operators IV	47	17	10	12	13	23	5	6	4	10
Computer operators V	49	15	4	8	15	24	7	9	8	11
Drafters I	41	38	16	3	7	17	3	2	3	10
Drafters II	45	26	14	13	9	15	5	4	7	7
Drafters III	43	25	15	14	11	16	4	6	4	7
Drafters IV	44	21	12	13	12	19	7	4	3	8
Drafters V	44	22	15	9	10	19	10	5	3	7
Engineering technicians I	42	33	16	6	13	14	1	6	5	6
Engineering technicians II	43	23	19	13	11	16	4	5	4	4
Engineering technicians III	44	22	11	18	9	19	3	6	5	6
Engineering technicians IV	45	19	12	12	13	19	9	2	6	7
Engineering technicians V	47	16	13	7	14	19	8	6	4	12
Photographers II	49	13	16	13	7	19	7	3	10	12
Photographers III	48	20	4	11	13	21	7	6	1	16
Photographers IV	52	10	5	5	15	30	7	10	2	15
Accounting clerks I	43	27	17	15	7	16	5	4	4	6
Accounting clerks II	44	22	16	16	8	15	5	5	3	9
Accounting clerks III	45	23	14	14	9	14	6	5	3	11
Accounting clerks IV	45	22	11	13	10	20	3	6	3	12

See footnotes at end of table.

Table 2. Continued—Width¹ of rate ranges for workers in PATC survey establishments reporting rate ranges, March 1983

Occupational work level ²	Mean width of establishment rate range (in percent)	Percent of establishments with rate range of—								
		Less than 35 percent	35 and under 40 percent	40 and under 45 percent	45 and under 50 percent	50 percent	Over 50 but under 55 percent	55 and under 60 percent	60 and under 65 percent	65 percent and over
File clerks I	42	29	16	15	7	15	6	5	3	4
File clerks II	44	23	17	13	9	16	9	2	5	6
File clerks III	47	21	13	15	10	13	3	9	4	12
Key entry operators I	44	24	17	15	8	13	7	3	4	9
Key entry operators II	44	24	14	13	8	15	7	5	3	9
Messengers	44	30	15	11	8	16	7	2	4	9
Secretaries I	45	20	20	12	11	16	6	4	2	8
Secretaries II	46	18	16	17	9	15	6	4	5	10
Secretaries III	46	19	15	14	9	17	6	6	4	9
Secretaries IV	47	15	12	12	11	24	4	8	3	11
Secretaries V	49	14	10	11	9	24	6	8	7	12
Stenographers I	48	31	11	13	4	6	6	5	4	20
Stenographers II	37	48	10	5	5	9	5	5	3	9
Typists I	45	23	15	14	12	14	6	4	3	9
Typists II	47	28	14	9	6	12	7	3	5	15
Personnel clerks I	44	22	16	18	9	17	6	6	1	6
Personnel clerks II	46	23	12	16	6	17	7	6	2	13
Personnel clerks III	44	24	10	14	6	21	6	6	3	9
Personnel clerks IV	48	10	9	18	14	22	7	4	9	7
Purchasing assistants I	41	31	14	11	11	13	9	4	2	4
Purchasing assistants II	44	20	18	15	13	12	6	7	2	7

¹Percent by which maximum rate exceeds minimum rate.

³Less than 0.5 percent.

²Excludes work levels studied for which fewer than 30 establishments reported rate ranges.

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

was much larger for similar types of jobs. Nevertheless, even within a grouping of professional-administrative or technical-clerical occupations, a majority of establishments had varying range widths.⁷

Actual salaries within rate ranges

How widely do actual salaries vary within rate ranges? Are there clusterings of salaries within ranges? To answer these questions, actual salaries were compared to several points in the corresponding rate ranges—the minimum, the midpoint, and the maximum—and to the spread between the minimum and maximum. These comparisons, it must be stressed, were limited to salaries of workers in company jobs matching PATC survey definitions; a company's rate range for a labor grade normally would cover a number of

jobs, some within, and some excluded from, survey coverage.

As might be expected, clustering at or near the minimum of the rate range was most pronounced at the lowest work levels—the “entry” levels—of an occupation, where job skills are developed in preparation for advancement to more responsible positions. The following tabulation illustrates this point by showing, for three occupations and two work levels, the percent of white-collar workers paid within 10 percent of their rate range minimums:

	Percent
Accountant I	46
Accountant III	26
Drafter I	44
Drafter III	27
Accounting clerk I	38
Accounting clerk III	21

Because workers do not remain in entry level positions for lengthy periods, they normally do not advance far into their rate ranges. Conversely, because fully experienced workers are less often promoted to higher work levels, they tend to be granted more within-grade wage adjustments.

Unlike the minimum rate, the midpoint of the rate range was typically an establishment's focal point for controlling overall salary levels of company jobs. One measure of cost control used by employers is the average salary of employees in a rate range expressed as a percent of the midpoint of the range. Values of about 100 or less indicate that, on average, salary costs do not exceed the employer's market value of the job.

Table 3. Percent of establishments reporting two or more rate ranges, by percentage-point difference between widest and narrowest ranges, March 1983 PATC survey

Percentage-point difference ¹	Percent of establishments		
	All white-collar jobs in study	Professional and administrative jobs	Technical and clerical jobs
0-1	12	40	27
2-4	6	8	13
5-9	11	13	17
10-19	29	19	21
20-29	15	8	11
30-39	10	5	4
40 or more	16	7	8

¹For each rate range in an establishment, the percent by which the maximum rate exceeded the minimum rate was calculated; then, the smallest of these percentages was subtracted from the largest.

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

Using this measure, 80 of the work levels came in at 102 or less, while the remaining 9 topped out at 108. The latter comprised experienced drafters, engineering technicians, photographers, secretaries, and stenographers—groups that include many long-service workers, some of whom were paid above the maximum of their rate ranges. Not unexpectedly, some establishments allowed average salaries to rise well beyond the midpoint of the range.

Most establishments, however, paid only salaries falling within the associated rate ranges.⁸ Moreover, it was com-

mon for substantial portions of these ranges to be unused at a given time, in part because of use of the midpoint as a salary control, or hiring at rates above the minimum, or both. To illustrate this point, the spread between the highest and the lowest salaries actually paid was computed as a percent of the rate range spread for the job. On average, these ratios, indicating the proportion of the rate range being used, fell between one-third and one-half for professional-administrative work levels studied, and between two-fifths and two-thirds for technical-clerical classifications. □

—FOOTNOTES—

¹The surveys' industrial coverage and minimum-size establishment were as follows: manufacturing, 100 or 250 employees; transportation, communications, and electric, gas, and sanitary services, 100 or 250 employees; mining and construction, 250 employees; wholesale trade, 100 employees; retail trade, 250 employees; finance, insurance, and real estate, 100 employees; and selected services, 50 or 100 employees.

²The internal worksheets are primarily used to verify job matching and occupational salary data reported by respondents.

³See *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1983*, Bulletin 2181 (Bureau of Labor Statistics, 1983), pp. 36–75, for descriptions of occupations surveyed. The 101 work levels span 24 occupations, with the number of work levels ranging from 1 for messenger to 8 for engineer. For professional occupations, the first two levels are entry and developmental positions; the next two are for experienced workers; and higher levels generally are for supervisory or managerial positions. This analysis excludes work levels for which fewer than 30 establishments reported rate ranges. Thus, the study is limited to 89 of the 101 work levels covered in the 1983 PATC survey.

⁴This proportion of workers reflects, in part, the greater frequency of formal rate ranges in larger employing units; roughly two-thirds of the surveyed establishments had such pay plans.

⁵In the 1968–70 period—the latest for which data are available—about one-third of the plant workers in metropolitan areas were paid under single

rate systems, one-third were under rate ranges, and the remainder were under informal rate structures. At the same time, seven-tenths of the office workers were under formal pay systems (almost always rate range plans) and about three-tenths were covered by informal rate structures. See John Howell Cox, "Time and incentive pay practices in urban areas," *Monthly Labor Review*, December 1971, p. 54.

⁶See *Salary Structure Characteristics in Large Firms, 1963*, Bulletin 1417 (Bureau of Labor Statistics, 1964); and *Survey of Compensation Practices, 1974* (U.S. Civil Service Commission, 1975). Textbooks that contain discussions of rate ranges, plus useful bibliographies, include Allen N. Nash and Stephen J. Carroll, Jr., *The Management of Compensation* (Monterey, Calif., Brooks/Cole Publishing Co., 1975); and David W. Belcher, *Compensation Administration* (Englewood Cliffs, N.J., Prentice-Hall, Inc., 1974).

⁷*Salary Structure*, pp. 4–5, comments on the tendency for rate range widths to widen at higher levels of company work, noting that the widening "was usually justified on the basis that greater intragrade developmental possibilities existed at the higher grades than at the lower grades." Another avenue for increasing compensation at the upper levels is through bonuses—a factor usually not considered in establishing rate ranges, according to the same study.

⁸The percentage of establishments in which all salaries were within rate ranges varied by occupational work levels, ranging from 60 to 94 percent among the 89 levels studied.