COMMITTEE ON POST OFFICE AND CIVIL SERVICE U.S. HOUSE OF REPRESENTATIVES

Study of Total Compensation in the Federal, State and Private Sectors

December 4, 1984

Prepared by
Hay/Huggins Company
and
Hay Management Consultants

Atlanta • Boston • Charlotte • Chicago • Cincinnati • Dallas • Houston • Kansas City • Los Angeles • Minneapolis • New York • Philadelphia • Phoenix • Pittsburgh • St. Louis • San Francisco • San Jose • Seattle • Stamford • Walnut Creek • Washington, D.C.

HAY

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I. SUMMARY OF REPORT AND FINDINGS

The Committee on Post Office and Civil Service of the United States House of Representatives has requested studies from The Hay Group and the Congressional support agencies to assist with its development of a new retirement system for Federal employees who are subject to the social security system. The series of reports were designed to provide a complete description of the key issues affecting the development of a new system. This report compares Federal total compensation practice to that of the private sector and State governments so that retirement can be considered as part of overall compensation policy.

It has been recognized that the Civil Service Retirement System (CSRS) provides benefits that, in some respects, are more valuable than those provided to employees covered by other retirement systems. However, much of the analysis of the CSRS and other retirement systems which has been presented to the public is based on a comparison of available sources which often are not consistent in their treatment of retirement costs. Further, these assessments seldom place the retirement benefits in the perspective of total compensation. This report applies rigorous and consistent survey and measurement methods that have long been used by The Hay Group for private sector employers to compare Federal with non-Federal compensation; including cash compensation, retirement and all fringe benefits.

The retirement systems analysis includes the total package of retirement benefits available to employees. While Federal employees rely entirely on CSRS for retirement benefits, private sector employees in comparable firms have social security as well as a basic retirement system and, in the majority of cases, additional deferred compensation plans which can be used to provide retirement income. Examination of all these sources of income shows that the retirement income available to the career employee in the private sector comes close to that available to Federal employees covered by

CSRS for a comparable career. However, since Federal employees can retire earlier on full benefits, and since benefits are generally indexed to the rate of inflation, CSRS is more valuable than private sector systems by 6.4% of pay. For State systems, which contain early retirement and indexing features closer to those of the Federal program, the CSRS advantage is only 2.5% of pay.

While retirement for Federal employees is more valuable than retirement for private sector employees, much of this difference disappears when other fringe benefits are also analyzed. Consideration of other fringe benefits reduces the difference between the Federal and private sector to 2.8% of pay, and the Federal and State difference to .5% of pay. This occurs for two reasons. First, private sector employers have disability and life insurance programs that provide protection which in the Federal government is largely provided through the Civil Service Retirement System. Second, other Federal benefit programs are often less valuable than those found in both the private sector and State governments. For instance, health benefits are worth 2.2% less, as a percentage of pay, for the Federal employee than for the average private sector employee.

Comparison of total cash compensation shows that General Schedule pay would have to be increased by 10.3% to match private sector pay levels for equivalent positions. The private sector advantage is observed at all pay levels, and a special analysis of Senior Executive Service (SES) positions shows that the equivalent private sector executive is earning 58.4% more than the SES incumbent. When compared to a sample of State government practices, Federal pay is ahead by 7.8%.

As a result of the cash compensation difference, the Federal fringe benefit advantage over the private sector disappears when all elements of compensation are combined. The total compensation of the Federal employee lags the private sector by 7.2%. Since the

Federal and State benefits are almost identical, the Federal total compensation advantage of 7.1% is close to the cash compensation difference.

In considering the retirement system to be developed for new Federal employees to supplement social security coverage, one key question is whether or not to provide benefits that cost approximately the same as the current CSRS. If only retirement systems are considered, and if comparability to other employers is the goal, it might be suggested that the new supplemental system should provide benefits that are less valuable than the current system. However, the total compensation perspective shows that it is only in the area of retirement that Federal employees are clearly ahead of their private sector counterparts. Consideration of other elements of compensation shows that, even with the current level of retirement benefits, the average Federal employee will have a total compensation package that lags the private sector.

Since compensation practices and levels change over time, it is important to bring data on all compensation practices to a single point in time. For this study, the date selected was March 1, 1984. Since the Committee will be developing a new retirement system in 1985, it will be useful to update the comparison in 1985 to provide a current total compensation background. Accordingly, Hay will update the analysis in 1985 to a date selected by the Committee. Among other considerations, the update will incorporate the upcoming Federal pay raise as well as the growth in private sector salaries after March 1, 1984. If the Federal employees receive a 3.5% pay increase, Hay anticipates that the difference between Federal and private sector total compensation will increase to 9% or more.

Summary of Sections

The report details the careful and consistent analytic approach applied by Hay. Section II explains the basis for the total compensation comparison. The selection of the data bases and the methods used parallel Hay's total compensation analyses for major employers in the United States. The approach is founded on the thesis that meaningful findings must be based on the comparison of "like things". Section II, therefore, presents the basis for the comparison, noting that the Federal government's use of a single national compensation system for the bulk of its civilian employees, the size of its workforce and the variety of its activities make it similar to a large and diverse corporation. While a significant number of medium size employers (those with 100 to 1,000 employees) are included in the data bases and the comparisons, it was not considered appropriate to include small independent corporations which have neither national compensation systems nor a similar diversity of employment. This section also includes a discussion of the data bases which are further detailed in the Appendices.

Section III presents the method of compensation and benefits comparison. All significant elements of compensation (direct cash and benefits) were reviewed in order to determine the total compensation package available to private sector and State employees as well as to Federal government employees. The section further details the methods applied in this project, which have been used extensively in the analysis of private sector compensation practices.

The results of the retirement plan analysis are presented in Section IV. This section includes analysis of all retirement programs available to employees, including defined benefit pension plans and capital accumulation plans as well as social security. This section demonstrates that while the replacement income at retirement for a typical private sector retirement system is close to that of the CSRS, there are features in the Federal system that

make it more expensive. When all elements are considered, the Civil Service Retirement System is worth 24.7% of pay compared to 18.3% for the average private sector retirement system and 22.2% for the average State system.

Section V analyzes each of the other fringe benefits. These include death benefits, disability income protection, health care plans, holidays and vacations, and executive perquisites. While executive perquisites are generally not available to Federal employees, they comprise a significant part of the compensation provided to private sector employees, particularly at higher pay levels. Because many of the packages available to private sector employees are not duplicated in the Federal government, and many of those which are duplicated are more valuable in the private sector, the total benefit package, exclusive of retirement, is worth 3.6% of salary more in the private sector and 2.0% more in State governments than in the Federal government. When combined with the advantage in the retirement system, Federal benefits, as a whole, are worth 2.8% of pay more than private sector employer benefits and .5% more than State government benefit programs.

Section VI presents the analysis of cash compensation. The significant finding is that Federal cash compensation would have to be increased by 10.3% in order to equal aggregate private sector average total cash compensation. The advantage of the private sector over the Federal government exists at all levels of pay within the General Schedule, ranging from 2% to 25%. When executive positions are considered, it is found that Federal total cash compensation would have to be increased 58.4% to equal aggregate private sector total cash compensation. On the other hand, State salaries lag behind Federal salaries by 7.8% of Federal pay.

Section VII combines the benefits and cash compensation into a total compensation comparison. Since cash compensation and fringe benefits other than retirement are more valuable in the private sector, the total compensation perspective shows that Federal employees' total compensation is 7.2% behind the private sector on average. As a result, even if a supplemental retirement system is linked with social security to produce benefits that are comparable to those available to Federal employees hired before January 1, 1984, the total compensation available to new Federal employees will also lag the private sector. Federal employees' total compensation is 7.1% ahead of the total compensation of State employees. When the two data bases are combined, the total compensation of Federal employees lags the total compensation of other employees by 6.2%. It is expect that the 1985 update of this analysis will increase the advantage of private sector total compensation to 9% or more.

II. BASIS FOR TOTAL COMPENSATION COMPARISON

The purpose of this study is to support the design of a new Civil Service Retirement System (CSRS) by providing a total compensation perspective. The Federal government is treated as if it were a large private sector employer, and the same methods of quality assurance, analysis, and comparison Hay has successfully employed during its forty years of consulting to major American employers are applied.

This approach is founded on the thesis that meaningful findings must be based on comparisons of "like things". And as later discussed in detail, the Federal government's use of a single national compensation system for the bulk of its civilian employees (the General Schedule), the size of its workforce, and the variety of activities undertaken, make it most similar to a large and diverse corporation. Hence, it is treated as such and compared to primarily medium size (100 to 1,000 employees) and large (over 1,000 employees), diverse corporations to ensure the most relevant study findings. In addition to private sector comparisons, Federal government compensation is also compared to that of a sample of State governments.

The critical features of this study are as follows:

- Total compensation perspective;
- Analytic and comparative methodology;
- Federal data base;
- Private sector data bases; and
- State data base.

Each of these features is discussed below.

A. Total Compensation Perspective

The operative thesis of this study is comparability of total compensation: specifically, the premise is that an equitable compensation system will provide the same levels of total compensation for positions of similar difficulty.

Total compensation is defined as the sum of base salary, supplemental cash compensation, and the monetary value of benefits; i.e., the value of all compensation, regardless of how provided.

Position difficulty, or content, is measured in terms of the requirements of the specific position. Position requirements are expressed in terms of factors which (1) are common to all positions; and (2) exhaustively describe positions. The Hay Guide Chart-Profile Method of Job Evaluation is used to measure position difficulty. Section III provides a more detailed description of the elements of total compensation and the Hay Method of Job Evaluation.

B. Analytic and Comparative Methodology Used

The approach taken throughout this study is the same as that employed by Hay for major American companies which regularly compare their overall compensation practices to those of other, comparable organizations nationwide. In particular, the analyses are formulated in terms of overall organizational compensation practices, which describe relationships between compensation and evaluated job difficulty. This approach allows organizations to compare their compensation practices despite variations in employee populations.

The analyses therefore consist of determining the overall compensation practice of each included organization. This in turn requires that, at a minimum, a representative sample of positions is selected, that each is accurately described, and that each is then properly evaluated in terms of its content (difficulty).

Thereafter, the resulting set of combinations of job difficulty score and compensation developed for each position must be analyzed to develop an accurate representation of the organization's overall compensation practice.

The client organization's practice is then compared to the practices of other relevant organizations, each similarly constructed. In this study, the Federal government compensation practice is compared to those extant in the aggregate private sector, as represented by the Hay compensation data bases. Comparisons are provided for four types of compensation: (1) base salary; (2) total cash compensation (base salary plus supplemental cash compensation); (3) benefits value; and (4) total compensation. Auxiliary comparisons to a sample of State governments and to subsets of the private sector data base are included.

Section III presents a detailed description of the analytic and comparative methodologies employed. The remainder of this section discusses the nature of the data bases used for analytic and comparative purposes. The relationships between this study and the Federal government's annual Professional, Administrative, Technical and Clerical Survey (PATC Survey) are discussed in Section VI, Cash Compensation.

C. Federal Data Base

The Civil Service Retirement System covers three large categories of employee: (1) General Schedule and equivalent;* (2) Wage Grade; and (3) Postal Service. However, the U.S. Congress directly controls cash compensation only for the first group. Wage

*Six other pay schedules are equivalent to the General Schedule, according to OPM: each typically was designed to respond to a specific need (e.g., employees in the Panama Canal Zone).

Grade compensation is based upon locally prevailing rates, while Postal Service compensation is determined through collective bargaining. Therefore, it is appropriate to exclude Postal Service and Wage Grade employees from this total compensation comparability study because of the fundamental and structurally distinct ways in which their base salaries are established.

An additional reason for focusing on General Schedule positions is to use comparable, homogeneous groups. The study focuses on the white collar compensation practices of the Federal government and of medium and large size employers in the United States. To maintain this homogeneity, the study does not include pension plans available to specific population groups in the private sector (such as multiple-employer collective bargaining plans), specific categories in State government, (such as teachers, police, and state police), and Federal employees subject to special retirement provisions (such as law enforcement officers and air traffic controllers). It is assumed that Congress will first determine a CSRS system which best fits the needs of the majority of Federal employees and then deal with each divergent type of group individually. In that instance, it might be appropriate to examine the total compensation packages of some of the larger of these groups before extending retirement policy in general.

The resulting group, General Schedule (GS) and equivalent employees, numbered 1,442,510 full-time, permanent, civilian members, as of January 2, 1984, and accounted for half of all employees covered by the CSRS.* A sound study of Federal total compensation requires that the compensation practice for this group of GS and equivalent employees be comprehensively and accurately represented. To this end, the study is based on a sample of 392 such positions which are covered by the CSRS.

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*Members of the Senior Executive Service, although not on the General Schedule or an equivalent, are also covered by CSRS.

The Federal sample satisfies the criteria entailed by this total compensation comparability study: a comprehensive and representative sample of positions from which to determine an accurate representation of the Federal compensation practice for the most relevant employee population.

The 392 positions are drawn from each grade level with at least 2.5% of the employee population, and constitute the most populous positions in each grade level selected. At each selected grade level the positions selected encompassed the majority of incumbents; typically, over two-thirds of all employees at a grade are accounted for by the positions selected.

While SES positions are not on the General Schedule, they were analyzed as an additional self-standing category since these positions have effectively replaced GS grades 16, 17 and 18. The range of SES compensation is relatively narrow, while the span of job difficulty is rather large. Hence, a sample of the most difficult SES positions, paid at the highest (ES-6) level, is included for illustrative purposes only, and not in any calculations used to perform compensation comparisons.

The uniform benefit package extended to General Schedule employees was used to develop cash equivalent values for the employee benefit plans. In the health care area, where employees may choose from among a number of options, the plan most frequently chosen by enrollees was selected for the analysis. The programs considered in the analysis included:

- Civil Service Retirement System;
- Federal Employees Group Life Insurance Program (FEGLI);
- Federal Employees Health Benefits Program (FEHBP);
- Annual leave and scheduled holidays;

- Sick leave; and

- Statutory programs such as Medicare, Worker's Compensation and Unemployment Compensation.

Section III describes the Federal sampling methodology and results in greater detail.

D. Private Sector Data Bases

Hay's extensive private sector data bases permit comparisons of Federal base salary and total cash compensation to private sector data. The Hay/Huggins Benefits Comparison (HHBC) allows comparison of benefit values and practices followed by a broad spectrum of the employer community. The combination of data on firms included in the Hay cash and benefits data bases allows Hay to construct a consistent, comprehensive data set for total compensation analysis purposes.

The Hay cash data bases include information on exempt* jobs from 1,249 medium and large size companies in the U.S. The Hay/Huggins benefits data base contains data on 854 such organizations.

The comparison of Federal compensation to that of primarily medium and large private sector employers is particularly appropriate because of inherent, fundamental characteristics which distinguish small companies from large employers, including the Federal government: (1) the nature of the organization's processes and structure; and (2) the nature of the labor market in which the organization competes for exempt employees.

*By exempt, Hay specifically refers to those jobs which are exempt from the overtime provisions of the Fair Labor Standards Act.

Medium and large organizations are fundamentally different from small independent ones, typically, in terms of their processes and structures, e.g., in the emphasis on formal rules, regulations and procedures; number of hierarchical levels of review and approval required; and internal culture. Each of these factors significantly affects the nature of jobs within an organization, and therefore the comparability of compensation provided by an organization.

Further, small, independent companies tend to compete in local or regional labor markets, and their compensation practices reflect such tendencies. On the other hand, large companies reflect national practices for exempt positions, which provide more appropriate comparisons in view of the Federal government's use of a single national compensation system for GS and equivalent positions and its recruitment of personnel on a nationwide basis.

However, some small and medium-sized companies install the Hay system and participate in the Hay compensation surveys. For example, nearly 30% of the 854 companies participating in the Hay/Huggins Benefits Comparison in 1983 employ less than 1,000 employees, as indicated in Table II-1 below.

Table II-1

Size Distribution of Participants
in Hay's 1983 Benefits Comparison

Size Category	Number	Percent*
Under 100 employees	28	3.5%
100-499 employees	105	13.1%
500-999 employees	104	13.0%
1000+ employees	564	70.4%
Unreported	53	--
Total	854	100.0%

*Percent of the 801 reporting employment.

The Hay data bases therefore comprise a group of employers which are comparable to the Federal government. Data on exempt positions, which are analogous to the median evaluated job difficulty at grade 7 and above, were derived from the Hay data bases. Hay traditionally supplements its exempt data bases by using data from the Bureau of Labor Statistics (BLS) Area Wage Surveys. Hay applies its standard position evaluation methodology to the data collected by BLS for selected nonexempt positions. Hay has applied the same approach to develop aggregate (national) results for the purposes of this study, which are relevant to the grades below 7.

It should be noted that the number of companies included in the Hay data base is not directly comparable to a number of establishments, as defined by the BLS. Specifically, an establishment may be viewed as a physical location where a commercial activity is performed. Therefore, a company may in fact (and often does) consist of numerous establishments. In the case of the Hay Cash Compensation Comparison surveys, each company represents a voluntary survey participant which has autonomous control over its compensation system: such firms may legally be owned or controlled by others; and each probably comprises numerous establishments. Appendix A presents the 1,249 companies participating, by subsector. Appendix B presents the 854 companies in the Hay/Huggins Benefits Comparison.

E. State Government Data Bases

No comparable data bases on State government compensation and benefit practices existed; hence, Hay conducted a special survey of thirteen key States. The sample of States was drawn as follows. The eight States included in a recent General Accounting Office (GAO) report* on retirement systems was adopted as an initial reference point, on the premise that comparable information would be

*Federal Employee Demographics and Integration of State Retirement Plans with Social Security (GAO/FPCD-83-38), July 27, 1983.

particularly valuable. Hawaii, however, was excluded from consideration because of its unique organization (the State provides a great many services not provided by other State governments). The resulting sample of seven States was considered too small to be representative; therefore, an additional six States were included in order to provide enriched geographic coverage, to reflect varying regional practices and economic conditions within the context of selecting large states most comparable to the Federal government. Table II-2 presents the total list of thirteen States that participated in the survey.

Table II-2

States that Participated in the Hay Survey of Compensation and Benefits

California	New Jersey
Connecticut	New York
Florida	North Carolina
Maryland	Oregon
Massachusetts	Pennsylvania
Michigan	Texas
Nebraska	

The State survey was founded upon the development of a generic model representative of State government employment patterns by job type, and the collection of the compensation and benefits data relevant to each position included. Section III presents a detailed discussion of the methodology employed.

III. METHOD OF COMPENSATION AND BENEFITS COMPARISON

This section describes the methodology employed in the study. The first segment deals with cash compensation comparisons, the second with benefits comparisons.

A. Cash Compensation Comparison

In order to document the approach taken during each stage of the analytical process, the following elements are presented in sequence:

- Components of Cash Compensation
- Method
- Data Collection
- Data Preparation
- Presentation

1. Components

Two types of cash compensation are analyzed in this study, as appropriate: base salary, and total annual cash compensation. The definitions used are identical to those employed throughout all of Hay's private sector cash compensation surveys, as follows.

- Base Salary is the straight-time annualized amount (usually based on monthly payroll) paid for work performed. It excludes performance bonus payments of all kinds and differentials. It includes a year-end bonus of a uniform percentage if it doesn't exceed two weeks pay and is distributed to all personnel regardless of performance.

- Total Annual Cash Compensation combines the base salary and supplemental cash compensation reported. Supplemental cash compensation includes bonus, incentive, commission, etc. paid in cash or with the unlimited option to be taken in cash, earned over the past year and based on individual, unit, or company performance. More specifically:

- Bonus compensation plans are based on accomplishment, the award being determined after the fact and/or on a discretionary basis.

- Incentive compensation plans are based on pre-established objectives with awards based on attainment of the objectives.

- Cash-equivalent compensation is included, if provided in lieu of direct cash compensation (stock bonus plans). Stock options, performance shares, and like programs are included under benefits.

- Deferred compensation is included in the year earned regardless of when paid. For example, if a person at $30,000 base salary were awarded a bonus of $10,000 for the current year, payable $4,000 now and $6,000 deferred over the next two years, the report would show $30,000 base salary, plus $10,000 bonus, for a total annual cash compensation of $40,000. Compensation deferred for or until retirement without unlimited current option is included in the benefits analysis.

Supplemental cash compensation is generally not provided to Federal employees on the General Schedule (GS) or equivalent pay systems. In aggregate, incumbents of Merit Pay positions receive annual increases in base salary equal to the general and step-in-grade increases received by GS or equivalent employees, although the increase for any individual is related to job performance (merit). There is provision for a cash award system which operates like the bonus compensation plans discussed earlier; however, such awards constitute a relatively small sum in comparison to base salary, and a minute proportion of the total GS and equivalent pay system payrolls. Therefore, the GS and equivalent

pay systems are essentially base salary systems without significant supplemental cash compensation features.

Supplemental cash compensation does become an increasingly greater proportion of total potential private sector cash compensation as a position's level of responsibility increases. Hence, the most accurate and relevant comparison of cash compensation is that between Federal base salary (essentially identical to Federal total cash compensation) and private sector total cash compensation. Comparisons to private sector base salaries are provided only to indicate the relative importance of supplemental cash compensation in the private sector at relevant levels of job difficulty.

2. Method

Comparisons of cash compensation are valid only to the extent that they control for differences between jobs. The most valid comparison is based upon using the compensation for identical jobs. Three methods are commonly applied in order to control for variations among jobs: (1) title matching; (2) job content matching; and (3) point-factor evaluation. Each is briefly described below.

The title matching method, as its name implies, merely attempts to control for variation among jobs by comparing only jobs which are similarly titled. As such, it is a rather imprecise and unreliable approach because it provides only the most superficial level of control. Common sense as well as empirical research clearly indicate the substantial amount of variance among jobs which identical titles often obscure. Further, different titles may hide the fact that two jobs are in fact the same. While the approach may be somewhat defensible in application to the simplest of positions, or to industry-specific jobs where the nature of the position is dictated by technology and/or process, it cannot reliably be used as a general methodology for numerous types of positions which vary

significantly by subject matter, activities, and responsibility. It may too often result in invalid comparisons.

Job content matching (job matching) improves upon title matching by striving to consider the nature of the position. It is, however, a subjective and rather limiting process. Its subjectivity derives from the need to develop and implement the concept of a match. Typically, similarity of activity, by type of activity and subject matter, is selected as a joint criterion. Subjectivity enters into the process at several points: arbitrary decisions about the similarity of activity and subject matter; and whether the degree of similarity is sufficient to warrant defining the job as a match. The process is fundamentally restrictive due to the inherent approach of considering only matches, however defined.

Point-factor evaluation systems take an entirely different approach by applying a different type of yardstick to determine job similarity. Rather than apply measures which depend upon the specific nature of the position (e.g., title, subject matter, type of activity), point-factor evaluation methods measure factors which are common to all jobs. Such methods are based upon the assignment of a point score to a factor (such as level of knowledge required to perform the job competently) which is independent of the subject matter of such knowledge (e.g. computer science, law). They are therefore relatively precise, in that point scores are used to distinguish degrees of difficulty, and universal in that the dimensions (factors) are common to all jobs. The latter aspect eliminates the problem of restrictiveness inherent in the other approaches -- but with no sacrifice in control for similarity.

The Hay Method assigns points which indicate the relative difficulty of jobs on three primary factors: the knowledge required; the difficulty of the problems requiring solution; and the level of responsibility involved. The sum of the points assigned to each primary factor constitutes the job evaluation score -- the job's relative difficulty or content.

Each primary factor consists of at least two dimensions. The knowledge required is a three-dimensional factor, consisting of the level of technical knowledge needed, the supervisory or managerial skill to be exercised, and the required human relations skills. The problem-solving factor is evaluated along two interactive dimensions: the degree of challenge posed and the degree to which the environment constrains the thought process involved. The level of responsibility -- accountability -- is measured along three dimensions: the freedom to act: the job's impact on its most important goal, and the magnitude of the goal. Appendix C contains a more detailed description of the system.

This study therefore provides comparisons of cash compensation for positions of the same overall difficulty, or content, regardless of the nature of the position. It thus applies a precise, quantified, valid basis for comparison which is not restrictive. In fact, the issue of restrictiveness is significant. Clearly, the Hay Method does not limit the amount of comparative data that can be collected for any given position of interest. It does not constrain the nature of the job which is to be compared. In other words, the fact that an organization may have specific positions which are rare (or even nonexistent) in other organizations is unimportant. Hence an accurate comparison can readily be performed even in such cases, due to the application of the Hay Method.

The nature of the process used to assign a reliable and valid set of Hay job evaluation point scores (Hay Points, or HP, or points) to positions is presented in subsection 3, below.

Development of Compensation Practices

Given the existence of a set of positions representative of an organization's employee population, its compensation practice at a point in time can be depicted as the relationship between the total points for each job and the average compensation for that job at that time. Plotting compensation on the vertical (y) axis and

points on the horizontal (x) axis creates a scattergram, a pictorial representation of the relationship. To the extent that cash compensation is commensurate with job content, as would be expected, the scattergram should indicate the existence of a pattern of dots which displays consistently increasing compensation as job content (HP) increases.

The pattern can be summarized in a linear fashion by calculating the weighted linear regression line which best fits the data. The statistics for such a regression indicate the degree to which a linear pattern exists and the expected deviation about the line as well as the formula of the line itself. To the extent that the line fits the data well (i.e., the measurement points all fall on or near the line), the line represents the organization's practice relative to paying for job content.

Chart III-1 depicts a scattergram and a weighted regression line reflecting the compensation practice evidence.

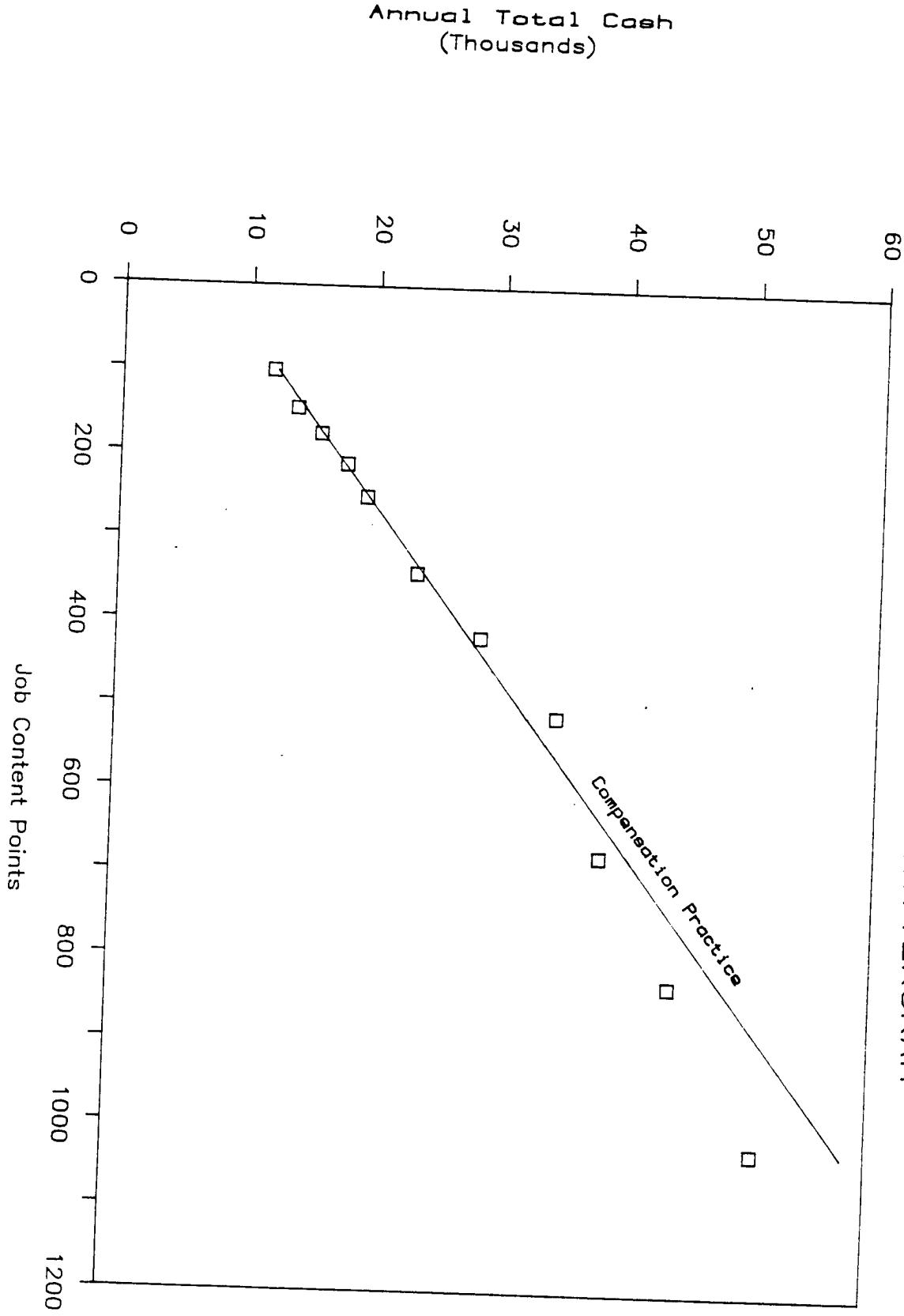
Comparison of Compensation Practices

One organization's pay practice may therefore be compared to another's by means of the regression lines computed for each, which constitutes one comparative method. In addition, an overall summary comparison may be performed by calculating the percentage difference between cash compensation at selected HP values, and computing a measure of central tendency (e.g., an average, or the median) for such differences.

Both types of comparisons are provided in this study. There are graphic presentations comparing the regression lines calculated for the Federal sample -- GS and equivalent positions -- to the equal-weighted average (and selected percentiles) of the regression lines for the comparator sample (e.g., 1,249 private sector firms) calculated at relevant HP values. Numerical comparisons are presented in tables which are based upon the difference between the

Chart III-1

ILLUSTRATIVE SCATTERGRAM



equal-weighted averages for the comparator lines and the actual weighted average compensation for the Federal sample at that HP level. The HP levels used in the tabular comparisons correspond to the median HP for all incumbents in all sample positions in a specific grade (e.g., GS-5 and equivalent). The overall summary numerical comparison consists of the average of such differences, weighted by the total Federal employee population in each grade included. Such comparisons are presented for both base salary and total cash, as appropriate. The details of the process are presented in the next sections.

3. Data Collection

The cash compensation comparison-related data collection activities conducted specifically for this study encompassed only the Federal sample and the State sample. The private sector data were already available by virtue of the existence of comprehensive annual Hay survey data bases. Since each study element is significant to the outcome of this activity, this section describes the data collection procedures relevant to the Federal sample, the private sector sample, and the sample of States.

Federal Sample Data Collection Procedures

The development of a comprehensive, accurate representation of the General Schedule and equivalent compensation practice is a cornerstone of this study. Therefore, the sample must satisfy a number of criteria:

- Represent the bulk of the Federal employee population to ensure that the results constitute an accurate representation of the overall compensation practice.

- Represent the employee population in terms of apparent, pragmatically significant variation in overall job difficulty (i.e., by grade level).

- Represent the employee population in terms of variation in the substantive content of positions (i.e., by position type within grade level).

- Provide reliable measures of job difficulty and average compensation at key levels in order to facilitate development of an overall summary measure of the differences between the resultant practice and other compensation practices.

These criteria were applied within a conceptual framework consisting of a three-dimensional hierarchical matrix: (1) a structure of 18 GS and equivalent grades; (2) a set of positions classified at each grade; and (3) a group of incumbents in each position at a grade level. The criteria were implemented as follows to develop the Federal job sample:

1. Select each GS and equivalent grade level which has a significant proportion of employees in jobs assigned at that grade relative to the total population -- to reflect apparent variation in overall job difficulty.

2. Within each selected grade level select the most populous positions in sequence and select enough positions to represent the majority of incumbents in each grade -- to represent substantive variation among positions and to represent the bulk of the Federal employee population.

The first stage of this procedure was applied to the sampling universe defined in Table III-1.

Table III-1

Distribution of GS and Equivalent Employee Population by Grade Level 1-18*

Grade Level	Population	% of Total Population
1	2,858	0.19%
2	15,462	1.04
3	82,329	5.56
4	171,185	11.56
5	198,685	13.42
6	92,329	6.23
7	136,107	9.19
8	31,400	2.12
9	162,560	10.98
10	28,911	1.95
11	170,224	11.49
12	173,026	11.68
13	115,603	7.81
14	61,401	4.15
15	37,803	2.55
16-18	1,165	0.08
Total	1,481,048	100.00%

*Data derived from Occupations of Federal White-Collar and Blue-Collar Workers, U.S. Office of Personnel Management, October 31, 1981, Table D-1 (Full-Time Civilian White Collar Employment by Occupation, General Schedule and Equivalent Grade, Median Grade, and Average Grade, All Areas, October 31, 1981). This was the most recent data set available at the time the sample was drawn.

Inspection of this data revealed that selection of eleven grades, which each contained at least 2.5% of the population, would allow thorough coverage of the entire structure in terms of the presumed relationship between job difficulty and grade level, for the majority of the Federal employee population. Specifically, the table indicates that a very small proportion of employees hold jobs at grades 1, 2, 8, 10, 16, 17 and 18. Therefore, the Federal compensation practice can be comprehensively represented by analysis of eleven grades, which cover 94.6% of the entire population at grades 1-18, as shown in Table III-2 below.

Table III-2

Distribution of GS and Equivalent Employee Population by Selected Grade Level

Selected Grade Level	Population	% of Total Population
3	82,329	5.56%
4	171,185	11.56
5	198,685	13.42
6	92,329	6.23
7	136,107	9.19
9	162,560	10.98
11	170,224	11.49
12	173,026	11.68
13	115,603	7.81
14	61,401	4.15
15	37,803	2.55
Total	1,401,252	94.62%

The second stage of the sampling process consisted of selecting the most populous positions in each grade level sufficient to represent the bulk of the population at each grade level. The resultant sample was selected, as noted earlier, from all positions covered by the general formula of the Civil Service Retirement System and the OPM series of classification and qualification standards for General Schedule and equivalent positions. Due to the differential degree to which the employee population was concentrated in specific positions at each grade, the final sample includes different numbers of positions at each grade, and provides different levels of coverage.

The final sample of 392 positions selected covers nearly 71% of the population in the eleven grades selected, and over 67% of the total population (all 18 grades): it provides coverage of almost one million Federal employees. Further, enough positions were selected at each grade included to cover the majority of incumbents in the grade (see Table III-3 following).

Appendix D contains a complete list of the 392 positions included in the sample, by grade and occupational series.

In addition to the 392 positions selected at the eleven GS and equivalent grade levels, a sample of Senior Executive Service (SES) positions was also drawn. Although SES positions are not compensated on the GS or equivalent pay schedules, such positions are covered by the CSRS and were formerly classified at GS and equivalent grades 16-18, accounting for the relatively low population total in those grades currently. Therefore, for illustrative purposes only (in order to estimate comparability for the most difficult jobs) a sample of SES positions was included.

Table III-3

Sample Coverage of Employee Population
By GS and Equivalent Grade Level

Grade Level	Population	Grade Included In the Sample	Number of Positions Included In the Sample	Population Included In the Sample	Percent of Population in the Grade Covered by the Sample
1	2,858	No	--	--	--
2	15,462	No	--	--	--
3	82,329	Yes	19	69,989	85.0%
4	171,185	Yes	33	146,324	85.5
5	198,685	Yes	36	147,225	74.1
6	92,329	Yes	26	69,993	75.8
7	136,107	Yes	43	87,758	64.5
8	31,400	No	--	--	--
9	162,560	Yes	42	103,691	63.8
10	28,911	No	--	--	--
11	170,224	Yes	50	116,119	68.2
12	173,026	Yes	64	126,503	73.1
13	115,603	Yes	35	70,854	61.3
14	61,401	Yes	24	33,210	54.1
15	37,803	Yes	20	22,691	60.0
16-18	1,165	No	--	--	--
	1,481,048		392	994,357	67.1%

Declassified and Approved For Release 2012/11/21 : CIA-RDP89-00066R000800210002-2

In order to develop estimates of the job content and comparable compensation levels for the most difficult SES positions, eleven of the largest Federal agencies were requested to select 3 or 4 of their most difficult positions at the highest SES level (level 6, denoted as ES-6) and to provide position descriptions for each. Appendix E contains a list of the 38 positions evaluated.

Federal Sample Position Evaluation Process

Published Office of Personnel Management classification standards constituted the information base for the evaluation of the relative difficulty of the 392 GS and equivalent grade 1-15 positions selected. Specific job descriptions (as contrasted with standards) were intentionally not evaluated in order to provide a consistent, accurate and unbiased basis. This approach was founded, in part, upon Hay's knowledge of and experience in the process used by OPM to produce such standards, and in part on Hay's similarly extensive familiarity with the use of individual job descriptions in the Federal and private sector contexts.

Classification standards are more appropriate for use in this study because of the care with which they are generally developed by OPM:

- Extensive background research is conducted;
- A large number of actual job descriptions is collected;
- A series of interviews (as well as other data collection procedures) are conducted in order to gather voluminous information about the jobs from supervisors, incumbents and personnel specialists;
- The data is then analyzed by an objective third party (an OPM employee) in order to distill the essence of the work done and the job requirements;
- A tentative standard is published in order to allow interested parties to comment; and
- A revised standard is ultimately published for operational use.

This process therefore provides, in essence, a meticulously prepared generic job description. It eliminates possible problems (which may be severe) in the use of certain specific job descriptions due to the age of the description, its relative atypicality, or potential inaccuracies. In view of the intent to apply the evaluation results to all incumbents of a position, use of the OPM classification standards is particularly appropriate.

However, this is not the case regarding the SES positions in the sample. At the SES level, and especially at ES-6, there exist few if any multiple-incumbent positions. Rather, each position is unique, and specific job descriptions must be used.

The Hay Guide Chart-Profile Method of Job Evaluation was applied to all 430 positions* by two senior Hay consultants assigned to the task in view of their extensive experience in evaluating both public and private sector positions. Each consultant independently analyzed and evaluated each position. The consultants then jointly reviewed their evaluations, and resolved the few differences between them. This phase of the process ensured that a reliable evaluation was assigned to each position on an internally consistent basis, and in the same way that private sector positions are evaluated.

Thereafter, an additional quality control process was applied by a third Hay consultant, independent of the initial evaluation process. As is the case for all Hay evaluation work, evaluations are not considered final until reviewed by specialists in Hay's centralized Job Measurement Quality Assurance (JMQA) group. The members of this group are senior consultants with demonstrated expertise in job evaluation. Their task is to review evaluations performed by Hay consultants in order to ensure consistent application of the measurement instruments (the Guide Charts). This review process led to the development of a set of final evaluations

*392 GS and equivalent positions plus 38 SES positions.

which are internally consistent and valid, and consistent with the intent of the Guide Charts. The latter attribute ensures the validity of subsequent compensation comparisons on the basis of evaluated job difficulty, since it ensures that all evaluations are directly comparable.

State Sample Data Collection Procedures

The sampling and data collection approach appropriate to the State government survey necessarily differs from that applied to the Federal sample for two reasons: (1) many States cannot easily provide data required for sampling purposes in a timely and/or readily usable fashion; and (2) the nature of the classification standards used by each State vary considerably. It was therefore not possible to attempt to implement the same approach as used for the Federal sample.

The State sample data is based on an empirically-based conceptual model of a State government organization because State governments are similar in terms of the services provided, and hence the nature of their positions. The model is designed to satisfy two criteria: represent the spectrum of positions by job difficulty; and represent the employee population. The conceptual model was founded on two data sets: (1) Hay knowledge of State government organization, processes and structure, derived from numerous applications of the Hay Method of job evaluation in the State government context; and (2) the data submissions the sample of States provided relevant to the development of representative samples (i.e., provision of data on the distribution of employees by job and grade).

This information led Hay to develop a generic model of the types of jobs, and levels, typically found in a State government, for positions relevant to the Federal sample. The result is a series of job structures for the various areas of activity common to State government (e.g., auditing, clerical, personnel).

The survey itself consisted of a series of 104 synthesized job descriptions. The States were requested to provide compensation data for each State position which matched a survey position. The job descriptions were designed to balance the need for specificity so as to distinguish between job levels and difficulty, and generality so as to ensure the development of a sufficiently large data base. Additional compensation-related data were collected so as to allow date adjustments to be made, as described below.

Each of the 104 synthesized job descriptions was evaluated using the same process and procedures as were applied to the Federal job data. Therefore, the resulting job evaluations are internally consistent, and externally consistent with the Federal and private sector job data bases.

As an additional element of quality control, each State was asked to submit a sample of at least ten (10) actual classification standards for jobs matched in the survey. These standards were reviewed by Hay consultants to assess the reliability and validity of the matching process. This review indicated that the process was reliable and valid: in no case did a participant appear to yield an error rate greater than 10%. Because each State was able to reliably and validly match 77% to 98% of the 104 jobs surveyed, (the overall average is 90%), the ultimate results are representative.*

Private Sector Sample Data Collection Procedures

Hay meticulously conducts annual surveys of the cash compensation provided by U.S. private sector firms in the industrial, financial and service subsectors. This study utilizes data from 1,249 such firms collected as of May 1, 1983. The data

*The 104 jobs include law enforcement positions in order to allow development of useful participant feedback reports. However, all such positions, which typically are covered by special retirement programs, are excluded from the comparisons presented in this report.

submitted by each voluntary participant virtually excludes non-exempt positions. Moreover, the data submissions are not included unless the firm's data meets Hay's multiple quality assurance, review and control requirements. The existence of the Hay data base on private sector cash compensation eliminates the need to collect such data for positions exempt from the Fair Labor Standards Act.

One of the major strengths of these data bases is the meticulous attention paid to quality control and validity: the processes used assure clients that compensation comparisons are meaningful and valid because the underlying job evaluations are consistent and comparable. The validity of the Hay data bases derives from two sources: the process initially used to develop job evaluations for an organization; and the continuous quality review and assurance applied to them subsequently.

Typically, the initial Hay job evaluation process is conducted as follows. Position descriptions are prepared and approved by incumbents as well as their supervisors. Then, a committee of client organization employees is trained in the Hay Method of job evaluation. The committee consists of individuals who rank higher than the incumbents of the jobs to be evaluated, and who collectively represent a broad sample of different activity areas within the organization. A Hay consultant guides this committee in evaluating each position. The nature of the committee's constitution facilitates its development of evaluations which represent relative difficulty in that organization within the confines of proper application of the measurement technology. At the end of the process, all evaluations are reviewed by the committee and revisions made as necessary to ensure that the methodology has been consistently applied. Thereafter, the results are reviewed by a member of Hay's JMQA staff, and additional revisions are made as needed.

The JMQA staff also provides an additional level of quality control as part of its ongoing review activities. A client organization must have had its evaluations reviewed and approved by a JMQA staff member within the preceding three years in order to have its data entered into a Hay data base. These activities thus ensure that the data base contains only reliable information.

Hay relies on raw data collected by the Bureau of Labor Statistics (BLS) in order to augment its data base for positions not exempt from the overtime provisions of the Fair Labor Standards Act. Hay evaluates all 24 white collar positions selected from the jobs included in the Area Wage Surveys, and uses the BLS-collected compensation data.

4. Data Preparation

Federal Cash Compensation Data Preparation

All compensation data were date-adjusted to March 1, 1984 in order to provide a consistent basis for comparisons. Different but consistent procedures were applied in preparing the Federal, private sector, and State data, and these are next discussed.

The appropriate requirement to develop cash compensation comparisons on a grade level basis dictated the following process. The OPM maintains readily-available compensation data for Federal employees in the form of current grade and step-in-grade. Therefore, Hay obtained data on the weighted average step-in-grade for all positions in each of the eleven selected grades, excluding positions not covered by the CSRS.

According to OPM, there are six (6) other pay systems which are equivalent to the General Schedule (GS): CZ (for Canal Area GS type positions); GG (for grades similar to the GS); GH (for GG employees converted to a merit pay plan system); GM (for Merit Pay system employees; GW (for student trainees classified under and paid at a

GS rate); and LG (Liquidation Graded, for FDIC employees). The weighted average step-in-grade for all relevant employees in each of the seven relevant pay systems as of the first pay period in January, 1984 was used to compute, by linear interpolation, the weighted average compensation by grade. The following table presents those results.

Table III-4

Weighted Average Step-In-Grade
and Interpolated Base Salary for Selected GS
and Equivalent Grades as of 1/2/84
(Including the 3.5% General Increase)

Selected Grade Level	Weighted Average Step in Grade	Interpolated Base Salary
3	3.00	$ 11,751
4	4.18	13,677
5	4.82	15,598
6	5.45	17,710
7	4.79	19,302
9	4.48	23,398
11	4.70	28,496
12	5.17	34,626
13	2.78	38,297
14	1.86	43,947
15	1.32	50,788

In order to adjust the base salary figures to 3/1/84, two factors were applied. The first adjustment factor derived from the need to reflect the step-in-grade movement that occurs on a regular basis. OPM-provided data were used to estimate an overall annual average movement of approximately 0.098 steps, at an average rate of increase of 3% per step. The base salary data was thus adjusted to include two months of increase at this annual rate. The second factor derived from the retroactive 0.5% increase granted in April,

1984. Compounded together, these factors resulted in a 0.549% upward adjustment to the interpolated base salary data, the results of which are presented in the following table.

Table III-5

Weighted Average GS and Equivalent
Base Salaries Adjusted to 3/1/84

Selected Grade Level	Adjusted Base Salary
3	$11,816
4	13,752
5	15,684
6	17,807
7	19,408
9	23,527
11	28,653
12	34,816
13	38,507
14	44,188
15	51,067

These figures are used throughout this report.

The SES schedule does not provide steps, and hence only the 0.5% retroactive increase was applied to the salary data to adjust it to 3/1/84. The resultant base salary figure at the ES-6 level is $69,900. For total cash compensation purposes, OPM data on the average size of an SES bonus was used to estimate a value of 2.9% of base salary, resulting in a figure of $71,927.

Private Sector Cash Compensation Data Preparation and Analysis

The two elements of the private sector data base (data collected and analyzed by Hay; and data on non-exempt positions collected by BLS but modified and analyzed by Hay) are described in turn.

The most recently available annual Hay Cash Compensation survey collected data effective May 1, 1983. In order to provide clients interim information, Hay also conducts a mid-year update survey every November to determine actual increases granted since the preceding May 1, and projections to May 1 of the following year. This survey collects data on both base salaries and total cash compensation separately for the three major annual Hay surveys of industrial firms, financial firms, and service firms. Over 300 firms responded to the 1983 update survey.

The results of this survey were used to date adjust the Hay data for the ten months intervening between May 1, 1983 and March 1, 1984. The base salary adjustment rates varied from about 5-7%, while the total cash compensation adjustment rates varied from about 8-14%. The annual rate appropriate to each type of firm and compensation element was applied to the sub-sectoral results to adjust them on a pro-rated basis.

The Hay cash compensation data used in this study are produced separately for base salary and total cash compensation, as follows. Each firm's data submission is inspected for reasonableness, and questions are clarified. Then the data submitted, which typically cover the entire exempt employee population, are subjected to a weighted linear regression analysis. Piecewise linear curves are developed as necessary in order to ensure that the resultant representation of the organization's compensation practice relative to evaluated job content is accurate.

Then, separately for each subgroup of firms of interest (i.e., Industrial, Financial, Service) and overall, the data are aggregated to develop summary statistics at selected point values. Each firm in a group is weighted equally in the aggregation process, so that the results indicate, for example, how much employers pay, on average, for a job of a certain difficulty -- not the average pay of incumbents in jobs of a certain difficulty. This approach therefore vitiates the impact that extreme results for specific jobs, or very large firms, may have on the overall results, and provides each employer with the information on organizational compensation practices required to administer its own overall practice.

The actual process computes, at each selected point value (e.g., 100 points), the summary statistics for the set of compensation values derived from the set of participant compensation practice lines on an equal-weighted basis, including percentile as well as average figures. The charts presented in Section VI are then prepared by connecting the relevant data points. Linear interpolation is used to compute compensation values between adjacent selected point values. The size of the data base, together with the linearity of the underlying regression results, ensures that interpolated results are almost identical to exact calculations, as Hay's empirical research has demonstrated.

The Bureau of Labor Statistics collects compensation data in over 65 geographic areas throughout the United States (Area Wage Surveys). These surveys focus on positions which are not exempt from the overtime provisions of the Fair Labor Standards Act. Because the surveys collect data on more routine types of positions, the matching process employed by BLS is reliable, and Hay has used the BLS data as a base from which to select data in order to develop the series of area pay surveys it has published for the last 10 years. Consistent with the focus of this study, Hay publishes results based on twenty-four white collar positions (see Appendix F for a list of the twenty-four positions covered).

Each of the positions is evaluated using the Hay Method, and then compensation practice lines are developed for each area. The results are then aggregated on the same basis as the other Hay data to produce an aggregate nation-wide result.

The data were updated to March 1, 1984, by area for this study. This was necessary because the BLS surveys are not conducted simultaneously as of March 1. The Hay approach to updating the BLS data is to collect information on national rates of movement from a variety of sources, and to adjust the results for local conditions by using available data on recent labor contract settlements, historical rates of movement, and economic conditions for each area in the decision process. These adjustments have typically shown error rates of not more than a few tenths of a percent.

State Cash Compensation Data Preparation and Analysis

None of the thirteen participating States provides supplemental cash compensation to incumbents of positions relevant to this study. Hence, all analyses were performed in terms of base salary.

The State data were collected prior to March 1, 1984; moreover, the effective dates of the data varied by State. Therefore, a telephone survey was undertaken during August 1984 to collect the information needed to adjust the data to March 1. As in the Federal context, it was necessary to consider two types of adjustments: one for general increases; and the other for merit increases (step-in-grade movements). Such data was collected for every State, and the salary data provided initially were accordingly adjusted pro-rata to reflect the best possible estimates as of March 1, 1984.

The specific process used to prepare and analyze the State data paralleled that used for the private sector. Initial data submissions were reviewed for apparent accuracy and reasonableness, and clarifications were obtained as needed. Similarly, the ten or more actual classification standards submitted by each State were

reviewed for accuracy in terms of similar job content; and additional information was gathered as needed. Where potential matching problems were identified, further discussions were undertaken with the State representatives. Several questionable matches were deleted. Appendix G presents a detailed listing of the number of matches included, by State and overall.

After the data for each State were thus prepared, the compensation data were adjusted to March 1, 1984. Thereafter, the results were analyzed in the same fashion as the Hay private sector data base. A weighted regression-based piecewise linear curve was developed to represent each State's compensation practice as a function of evaluated job content. At each relevant point value, the compensation provided by the States (using the practice lines) was averaged to produce an average state practice line. The average value at each evaluation point level representing a GS and equivalent grade was then used in the subsequent comparisons.

5. Presentation

Section VI presents findings relative to the Hay evaluations of the Federal sample of positions, as well as the compensation comparisons. The evaluation findings present an analysis of the GS and equivalent classification structures in terms of job difficulty. As the basis for all relevant comparisons, they constitute a significant element of the entire study.

The cash compensation comparisons presented are two-fold in nature. Graphic presentations using the regression line for the Federal government are provided for illustrative purposes. However, the tabular comparisons and all comparative calculations are based on the exact Federal average compensation values presented previously. As an illustration, the actual average Federal

compensation figure at GS-13 and equivalent is used in the table and all comparative calculations, although the regression analysis, by its very nature, would predict a somewhat different value.*

The cash compensation practice for the Federal sample is founded on the grade levels used. Specifically, it is necessary to develop a point estimate for each relevant grade level in order to calculate differences by grade, and overall. The method for developing a cash compensation figure has already been presented. The estimate of Hay evaluation points at each grade is the median value for all incumbents (not jobs) in the Federal sample. Due to the highly variable distribution of employee population by job type (and, therefore, evaluation points) at a grade, an incumbent-based approach is required to represent the entire employee population. A median rather than a weighted average was used in order to conservatively estimate evaluation points per grade, since medians are less sensitive to skewing caused by extreme results.

The visual cash compensation comparisons are therefore based, for the Federal sample, on the calculation of a linear regression line on eleven points (one for each of the selected grade levels). The median evaluation points for each of the grades were used as the values at which to calculate the average of the State practice lines, and at which to interpolate the private sector results. However, the exact Federal compensation averages are presented in the tabular analyses which underlie the calculation of differences, rather than results derived from the Federal regression analysis.

*Specifically, the regression analysis constitutes an approximation which, as discussed in Section VI, is somewhat misleading at grades 13-15. Hence, the exact grade-based Federal compensation values are used for all comparative calculations.

B. Benefits Comparisons

1. Components

The Hay/Huggins analysis focuses on benefits that meet three general criteria:

- Benefits that are offered by a majority of employers;
- Benefits that employees have come to rely on the work environment to provide; and
- Benefits that represent a substantial dollar obligation to the employer.

The benefits that satisfy these criteria are retirement systems, life insurance, disability income protection, health care plans, time-off-with-pay, and executive perquisites.

Employers who want to be competitive in both recruiting and retaining talented personnel recognize that protection in each of these key areas must be a part of the benefits package offered. An individual choosing between two job alternatives that are otherwise similar will be influenced by the extent of the employer-provided benefits. Additionally, employers must be sensitive to the objectives of organized labor. Starting with the era of wage freezes as early as the 1940's, organized labor has worked steadily for extension of the type of employee benefits plans and/or enhancements to those already existing. Therefore, competition and labor-management relations both have encouraged employers to offer coverage in each of these areas.

As employers have come to offer benefit plans in each of these areas, employees have grown to depend on the work environment for their provision. For example, in the area of health insurance, employees rely on the employment relationship to provide group

protection to not only the worker but dependent family members as well. Thus, by virtue of the employer-provided group plan, the employee is insulated against the financial hazard that unforeseen medical expenses can generate.

In addition to the dual pressures of the marketplace and employee reliance that demand an employer's attention to benefits, there is a third compelling factor, namely cost. Employers cannot afford to ignore the sizeable portion of the total compensation budget that benefits represent. The 1983 Hay/Huggins Benefits Comparison showed that the value of the overall benefits package ranges from one-third to one-half of salary.

2. Method

Direct comparison of the cost of employee benefit programs considers the dollar amount or percentage of payroll that each employer pays for such benefits. This method is misleading because of the substantial differences in the specific demographics of each workforce as well as the economic environment and funding procedures used by individual employers. For instance, identical retirement plans that provide exactly the same level of benefits could cost one employer more than another employer as a result of any or all of the following factors:

- A lower level of past funding patterns;
- More stringent actuarial methods used in determining future funding patterns;
- Less favorable assumed future economic conditions;
- Less favorable assumed future mortality, rates of retirement, and other decrements;

- Higher ratio of males to females in the organization; and

- Older age or longer service characteristics of the employees.

Hay/Huggins applies a standard yardstick to measure the cost of all benefit systems. This method, first developed 15 years ago, has been modified each year since to reflect changing conditions and technology. By assigning a standard value to each important element of the benefits package, equal benefit programs will have the same value. For instance, if one employer provides a pension plan formula of 1% times pay times service as a retirement benefit and a second employer provides 2% times pay times service, the second employer's plan will be valued at twice the first employer's plan if all other elements of the pension plan package are identical.

The Hay/Huggins method is a computerized system called the Benefit Value Comparison (BVC). Each key element of cost is assigned a relative value based on the provision itself as well as its' relation to other provisions. For instance, in the pension plan area, a 2% accrual rate is assigned an initial value of two times a 1% accrual rate. Then the rate is adjusted for any other factor that adds value such as vested, early retirement, disability, and survivor benefits. The base plan factors are increased to reflect the practice of the employer in providing post-retirement increases.

Hay/Huggins applied this procedure to the Federal government's benefit program, the systems of the 854 private sector employers in the 1983 Benefits Comparison, and the benefits provided by the thirteen selected States.

To make the retirement plan comparison most relevant to the development of a new supplementary Civil Service Retirement plan, the BVC method was calibrated to the demographic experience and actuarial method used by the Office of Personnel Management for the

Civil Service Retirement System. Further, the standard set of assumptions that is being used by the Congressional Research Service throughout their analysis of CSRS was used to predict the future costs in the BVC retirement model. This set of assumptions is the 1984 social security II-B set of economic assumptions and future longevity improvements coupled with the underlying behavior patterns of Federal employees.

Similar analyses were performed in each other area of benefits. For instance, the life insurance and health insurance costs were developed based on the current cost of the FEGLI and FEHB programs. Benefit items not available to Federal employees, such as provision of executive retirement systems, were evaluated using standard Hay/Huggins methodology.

3. Data Collection

To augment its existing data base on private sector benefit practices, Hay/Huggins collected information on benefits from both the Federal government and selected State governments.

To ensure that the public sector data analysis would be comparable with that from the private sector, the same data collection process used to develop the Hay/Huggins Benefits Comparison of private sector firms was applied for the Federal and State information. Public sector participants were asked to submit booklets descriptive of the various benefit packages they offered that covered the majority of their white-collar workforce. For the Federal government, the benefit programs covering the General Schedule employees were used. For State governments, the set of benefits covering the bulk of their professional, technical and administrative staffs was identified and analyzed.

In addition to descriptive plan documents, the participants completed questionnaires that addressed issues generally not included in summary plan descriptions, e.g., the method of funding a given benefit plan.

Once the data were received, experienced analysts reviewed the submissions, clarified unclear issues with the responsible benefit managers, and processed the verified data through the Hay/Huggins Benefits Value Comparison model to derive cash equivalent values for the benefit packages.

4. Presentation

The Federal government's benefits have been analyzed by use of the Hay/Huggins actuarial model which develops a cash equivalent value for each benefit at varying salary levels. The value of the Federal government's benefit plans are compared with similarly constructed values of plans offered by private sector employers and States. The private sector and State practices are displayed at the following brackets:

10th Percentile (P10):	90% of all employers offer plans that are more valuable than this line.
Mean:	the average practice line.
90th Percentile (P90):	only 10% of all employers offer plans that are more valuable than this line.

By contrasting the value of the Federal government's benefit plan against this backdrop, it can be determined whether the government practices are more or less liberal than the average employer in the comparison group as well as the relative position within the range.

To complement the benefit-specific value charts we have included in Appendix H a tabular summary of the benefit practices reported by the 13 State governments surveyed and by the 854 employers in the 1983 Hay/Huggins Benefits Comparison. The benefit practices are displayed by major benefit category and by specific provisions within those categories. The Federal government practices are also indicated.

IV. COMPARISONS OF RETIREMENT SYSTEMS

This section presents the findings of the retirement system analysis and compares the current Civil Service Retirement System (CSRS) to the retirement systems of employers in the private sector and State data bases.

While CSRS is the sole source of retirement income for Federal employees, the non-Federal employers rely on a set of plans to provide benefits. These include:

- Social security;
- Defined benefit pension plans;
- Defined contribution pension plans;
- Capital accumulation plans.

The Civil Service Retirement System provides about the same level of replacement income at retirement as do the total retirement systems of private sector employers and State governments. However, CSRS has features which cause it to be more expensive than the systems in the private sector. The primary reasons for the cost difference are that the employee can retire at age 55 with 30 years of service, or age 60 with 20 years of service, while typical private sector employees must wait until 62 or 65 to retire on full benefits. CSRS also includes more valuable survivor and disability benefits then are typically found in systems provided by private sector employers. However, many of these benefits are provided in the private sector through insurance plans so that this part of the retirement system is not strictly comparable.

The most important reason for the difference between CSRS and the private sector is the fact that CSRS benefits are indexed to the rate of inflation. A large part of the private sector employees'

package, social security, is also fully indexed and the rest of the package is often indexed on an ad hoc basis but the full indexing of the CSRS system makes a substantial difference in the value of benefits.

When all of these elements are considered the Civil Service Retirement System is worth 24.7% of pay compared to 18.3% for the average private sector retirement system. However, the most valuable plans provided by private sector employers are at least as valuable as the CSRS. For instance, the top 10% of employer plans in the private sector are worth 25.1% of pay or more.

State retirement systems contain features that are more comparable to CSRS. State pension systems are often indexed to at least a part of inflation and permit early retirement. As a result, the average State plan system is worth more than the average private sector system. The average plan in the thirteen State sample is worth 22.2% of pay compared to 24.7% of pay for the Federal plan.

A. Cost Analysis

The economic and demographic assumptions described in Section III have been used by the Congressional Research Service, with the assistance of Hay/Huggins, to determine that the normal cost of the Civil Service Retirement System is 32.2% of payroll or an employer cost of 25.2% after removing the 7% employee contribution. For this report, the cost was adjusted by removing .05% of the payroll for administrative costs and .42% of payroll for benefits payable to categories of members of the Civil Service Retirement System who are eligible for special benefits. The administrative costs were removed because the Hay/Huggins model measures the value of benefits of other systems without the administrative costs. The cost of the benefits of special groups was removed to provide a comparison of only the benefits available under CSRS to the employees who are not entitled to a special benefit formula or special eligibility conditions. This adjustment produced a total cost of 31.7% of

payroll. After removing the 7% employee contribution, the employer-provided cost of the Civil Service Retirement System for the standard level of benefits was determined to be 24.7% of payroll.

The 1983 actuarial report of the Office of Personnel Management shows the normal cost of a Civil Service Retirement System to be 36.5% of payroll. Most of the difference between the OPM figure and the Hay/Huggins analysis is explained by the fact that the OPM figure is the total cost of the system and the Hay's analysis deals appropriately with the employer cost of the system. With this adjustment the OPM cost is 29.5% of pay (36.5% less the 7% employee contribution). However, there is still a significant remaining difference that is attributable to different actuarial assumptions.

The major factor in the actuarial evaluation of retirement systems is the use of appropriate economic assumptions. These assumptions reflect the actuaries' judgment as to the future rate of inflation, salary growth, and return on investment. Particularly in systems such as CSRS, that are indexed to inflation, all three of these assumptions have a strong effect on final value. For instance, a change of one percent in the interest rate can change the actuarial cost by 25%. A change in 1% in either of the other two assumptions can change the actuarial cost by 10% to 15%.

The set of actuarial assumptions in the BVC analysis was developed by the Congressional Research Service with the assistance of Hay/Huggins. The comparison of the economic assumptions used in the BVC analysis to those in the current Office of Personnel Management valuation is as follows:

	Hay/Huggins	OPM
Interest return	6.1%	6.0%
Salary Growth	5.5	5.5
Inflation	4.0	5.0

While these factors may appear to be similar, the leverage effect of the small relative differences on the actuarial cost is significant. For instance, the real interest rate for the OPM set of assumptions, 1%, is only half of that of the CRS set of assumptions, 2.1%. Other than the changes in the economic assumptions, the key differences were to assume that mortality will continue to improve in the future as it has in the past and that the internal rate of salary growth will not be as high as in the OPM valuation.

Both the OPM and Hay/Huggins sets of assumptions are supported by actuarial analysis; Hay/Huggins is not suggesting that one set is more appropriate than another. However, the OPM Board of Actuaries set of assumptions were set seven years ago for the specific purpose of financing the Civil Service Retirement System within current law. Not only have actuarial assumptions and trends changed in the last seven years but also the new system will require coordination with social security. Therefore, for this comparison, it appears to be more appropriate to use the most recent set of social security assumptions as the basis.

Hay/Huggins understands that the Board of Actuaries is currently reviewing recent experience and that they will select a new set of assumptions for their 1984 report. It is expected that some of the changes in the new set may bring the OPM results closer to an employer cost of 24.7% of payroll.

B. Comparison of Private Sector Systems and CSRS

Chart IV-1 compares the value of the Civil Service Retirement System to the retirement systems of the 854 HHBC firms. Appendix I summarizes the characteristics of these firms which are largely corporations with white collar workforces similar to the General Schedule workforce of the Federal government. The HHBC employers are drawn from all geographic regions, industry categories and workforce sizes.

The BVC system calculates the value of the employer-paid portion of the retirement system. Employees contribute to social security and are permitted, increasingly so under the recent 401(k) provision of the Internal Revenue Service code, to contribute substantial amounts to deferred compensation systems. However, the concern of this analysis is the cost to the Federal government as an employer, and, therefore, the amount the taxpayer must pay for the retirement system. Employee contributions, whether voluntary or mandatory, are reasonably treated as savings that the employees contribute toward their individual retirement income and, thus, are not included in the BVC retirement plan values.

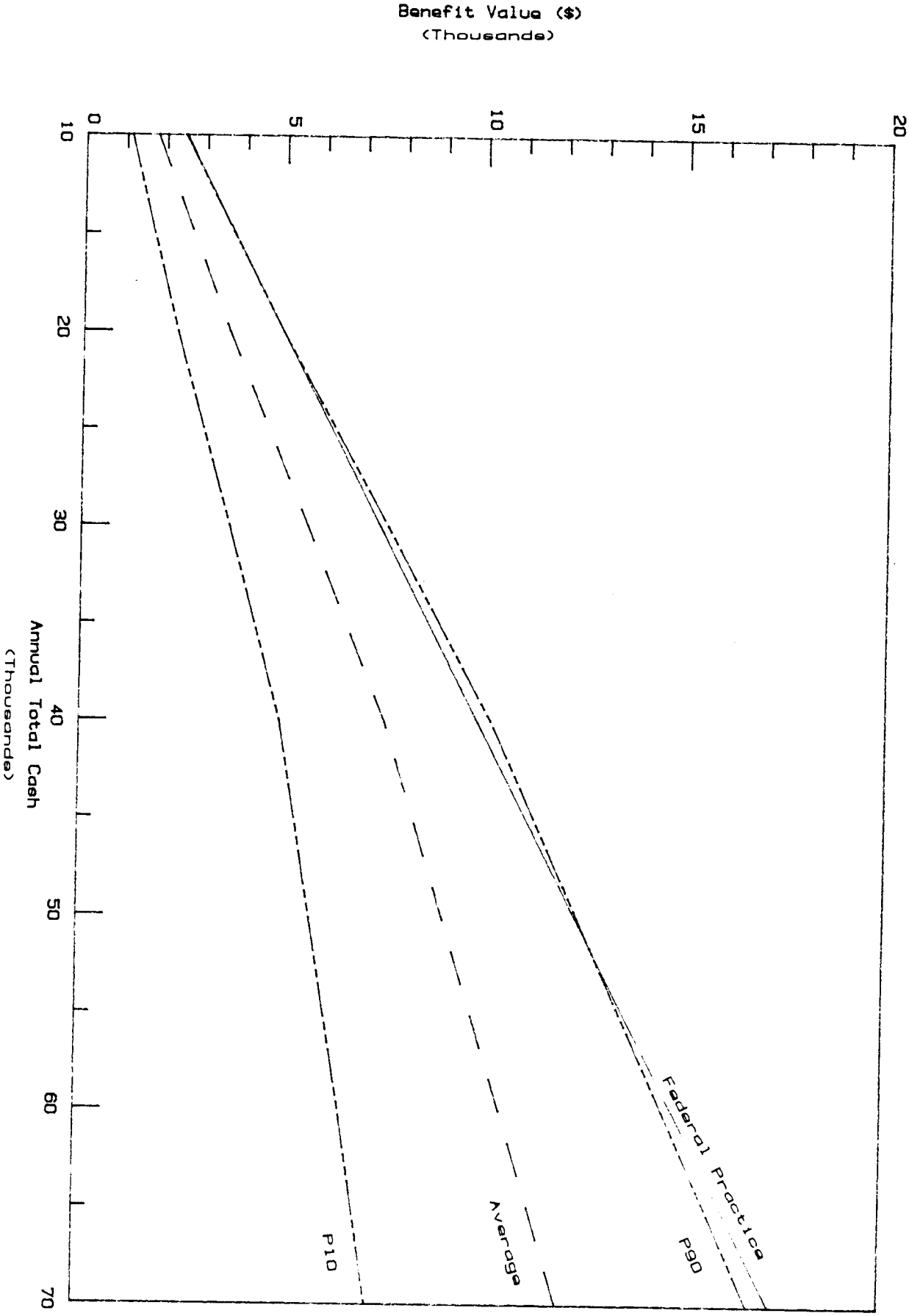
Employer retirement systems include all plans that can be used to produce retirement income. In the private sector this includes (1) the employer-paid cost of a pension plan, (2) the employer contribution to a capital accumulation plan, and (3) the employer cost of social security.

Chart IV-1 shows the values of the Civil Service Retirement System against the range of the Hay/Huggins survey private sector systems at $10,000 current salary increments. For instance, for employees at $30,000 current salary, the average private sector retirement system has a relative value of $5,617 compared to the CSRS value of $7,422. At the extremes of the distribution, ten percent of the employers provide retirement systems valued at $7,616 or more and ten percent provide a value of $3,670 or less.

When measured on this basis, the Civil Service Retirement System is 32% more valuable than the average private sector system for employees at $30,000 pay but 3% less valuable than the benefits provided by any of the top 10% of companies in the HHBC survey. When expressed as a percentage of payroll, the CSRS is 6.0% more valuable than the average private sector plan at $30,000. The difference varies slightly at other salary levels primarily because of the interaction of private sector plans with social security.

Chart IV-1

RETIREMENT BENEFITS COMPARISON
FEDERAL TO PRIVATE SECTOR



The preceding chart illustrated the average benefit at various salary levels. Table IV-1 summarizes the dollar value of each of the plans displayed in the chart. This type of comparison is instructive because plans outside of the Federal government, and proposed plans that the Congress will be dealing with, reflect the tilt in benefits from the social security system and provide different provisions at different levels of pay. By contrast the current Civil Service Retirement System provides the same percentage of pay at all levels.

Table IV-1

Relative Value of Retirement System Benefits

	Current Salary		
	$10,000	$30,000	$50,000
Civil Service Retirement System	$2,474	$7,422	$12,370
Hay/Huggins Benefits Comparison:			
90th Percentile	$2,426	$7,616	$12,415
Mean	1,751	5,617	9,059
10th Percentile	1,101	3,670	5,757

To provide one comparable figure, the spread of values by salary were weighted by the number of employees at each pay level and aggregated to provide an average cost. The resulting average values across all pay levels are:

Civil Service Retirement System	24.7% of pay
HHBC Plans:	
Highest 10%	25.1% of pay
Average	18.3
Lowest 10%	11.9

C. Comparison of State Government Systems and CSRS

Chart IV-2 shows the values of the Civil Service Retirement System against the average of the thirteen State retirement systems at $10,000 current salary increments. For instance, for employees at $30,000 current salary, the average State retirement system has a relative value of $6,849 compared to the CSRS value of $7,422. When measured on this basis, the Civil Service Retirement System is 8% more valuable than the average State system for employees at $30,000 pay. As a percentage of payroll the CSRS is 1.9% more valuable than the average State plan at $30,000. The difference varies slightly at other salary levels primarily because of the interaction of most State plans with social security. Only one of the thirteen States, Massachusetts, is not covered by social security.

When weighted by the number of employees at each General Schedule pay level, the resulting average values across all pay levels are:

Civil Service Retirement System	24.7% of pay
State retirement systems	22.2% of pay

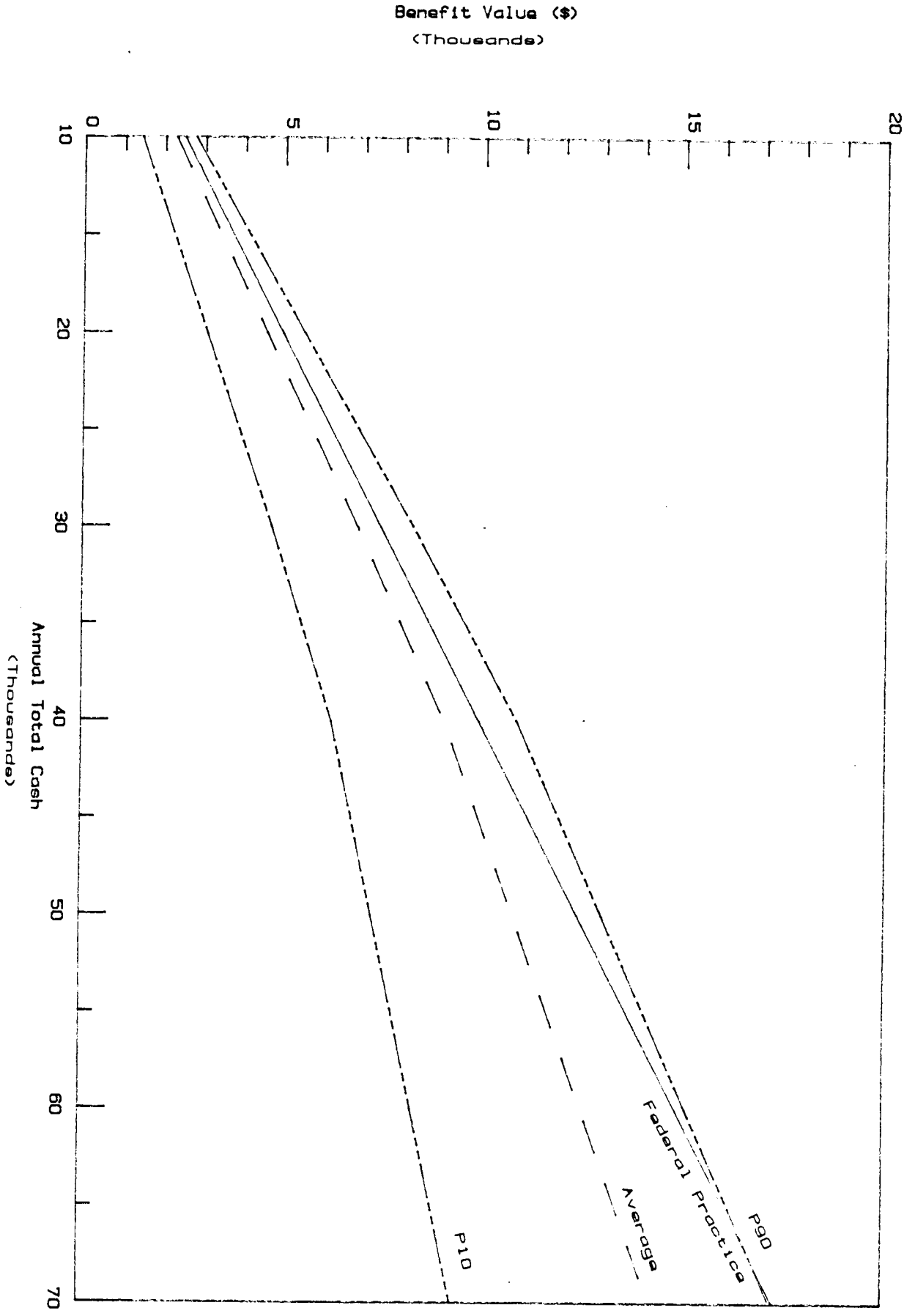
D. Reasons for Difference

The Civil Service Retirement System benefits are more valuable than the benefits provided in the private sector through the combination of social security, pension plans, and capital accumulation plans. This difference occurs not because full career Federal employees receive a higher annuity to begin with than their counterparts in the private sector but because of the more liberal types of benefits provided and the indexing after retirement.

Charts IV-3 through IV-6 illustrate the replacement income earned by retirees under the Civil Service Retirement System and private sector systems who have served a full career and retired at

Chart IV-2

RETIREMENT BENEFITS COMPARISON
FEDERAL TO SELECTED STATES



62 or 65. The charts show retirees with both 20 and 40 years of service to illustrate the range of difference. These charts include only the social security and defined benefit retirement systems. Nevertheless, at age 65 the average private sector system provides replacement income that is 18% higher than CSRS for 20 years service and 3% lower at 40 years of service.

As in CSRS, private sector plans usually permit retirement after age 55. However, the benefit is typically reduced below age 62 or 65. CSRS employees can retire on unreduced retirement benefits at age 55 with 30 years of service or age 62 with 20 years of service. This provision therefore adds substantial value to the CSRS system.

Employees who become disabled before full retirement age (usually age 62 or 65) can receive disability benefits from most employer pension plans and these are almost always supplemented by insurance benefits. However, CSRS disability benefits are substantially more valuable because of a more liberal definition of disability.

The survivor benefits provided by CSRS are more liberal than those provided by private sector plans alone. However, the generous survivor benefits under social security, plus the retiree family benefits, increase the combined value of survivor and family benefits close to the CSRS value.

The value of the vested benefits of the Civil Service Retirement System is lower than for the private sector. Not only are private sector employees entitled to social security, which is fully portable, but CSRS employees often lose their vested rights by taking a refund of contributions.

The main reason that the Civil Service Retirement System is more valuable than the private sector is the full indexing of benefits. In the private sector, social security is fully indexed but the pension plans themselves are only about 30% indexed. Further, the

Chart IV-3

REPLACEMENT RATE COMPARISON
FEDERAL TO PRIVATE SECTOR
AGE 62 - 20 YEARS SERVICE

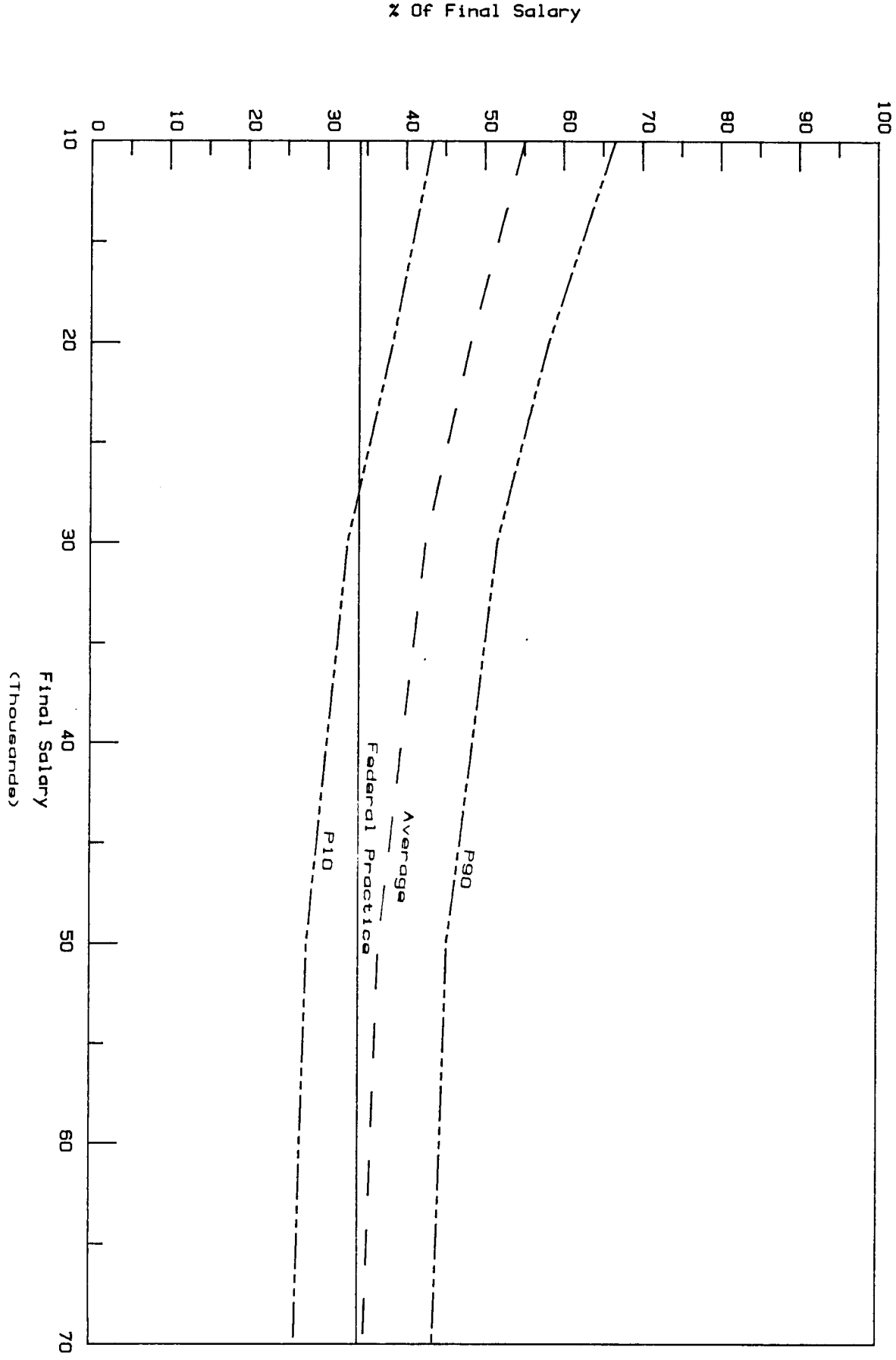


Chart IV-4

REPLACEMENT RATE COMPARISON
FEDERAL TO PRIVATE SECTOR
AGE 62 - 40 YEARS SERVICE

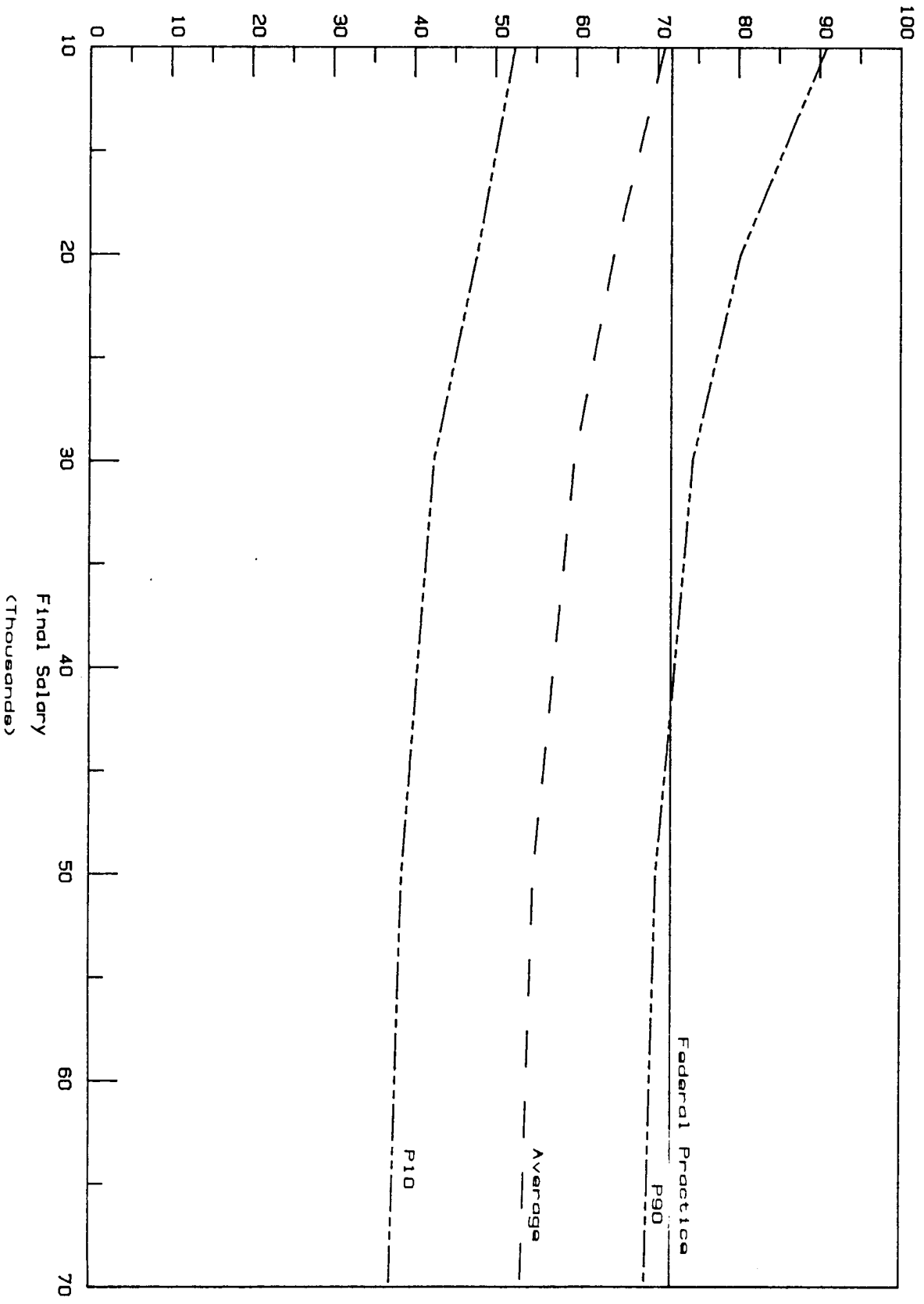


Chart IV-5

REPLACEMENT RATE COMPARISON
FEDERAL TO PRIVATE SECTOR
AGE 65 - 20 YEARS SERVICE

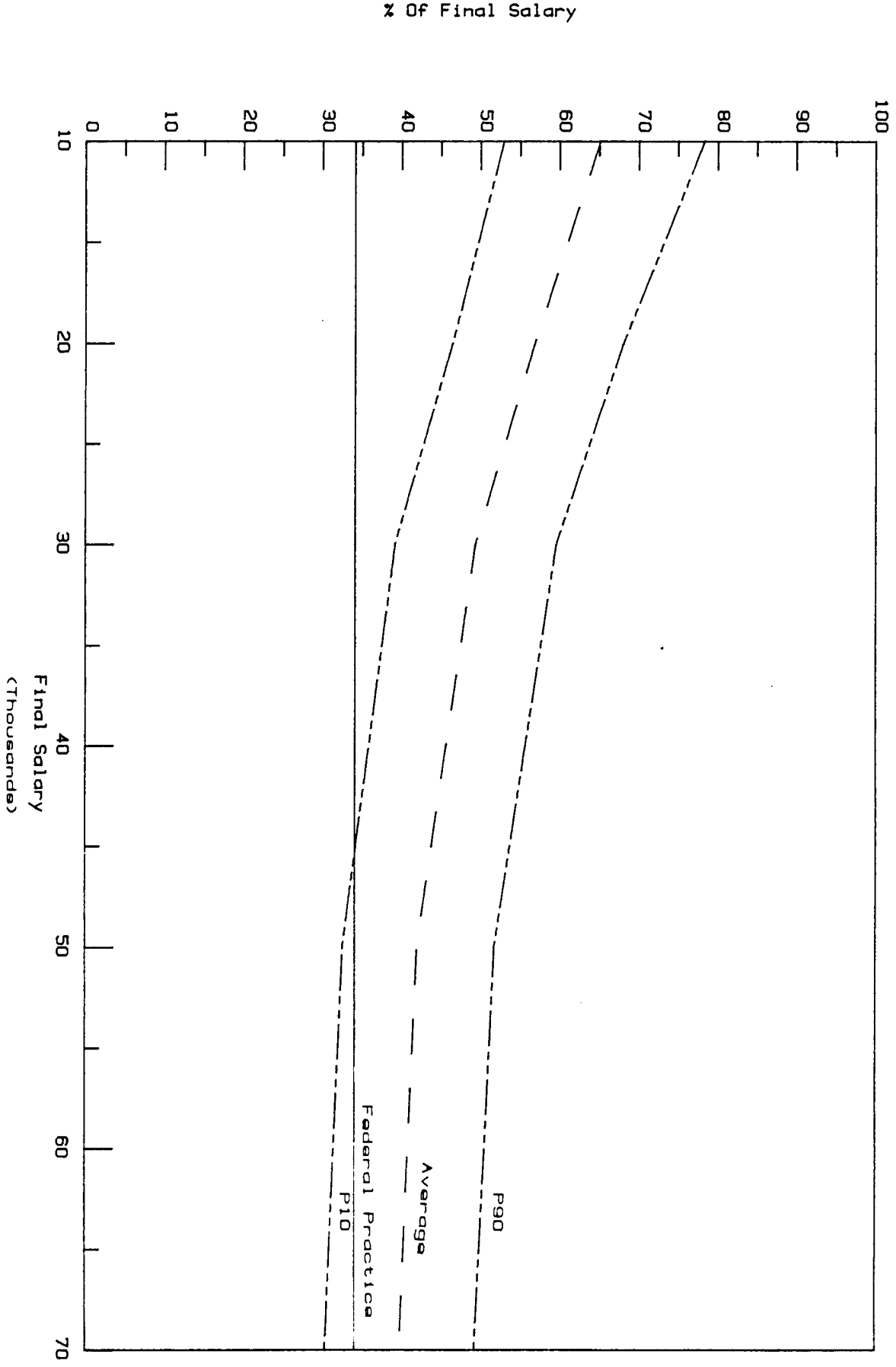
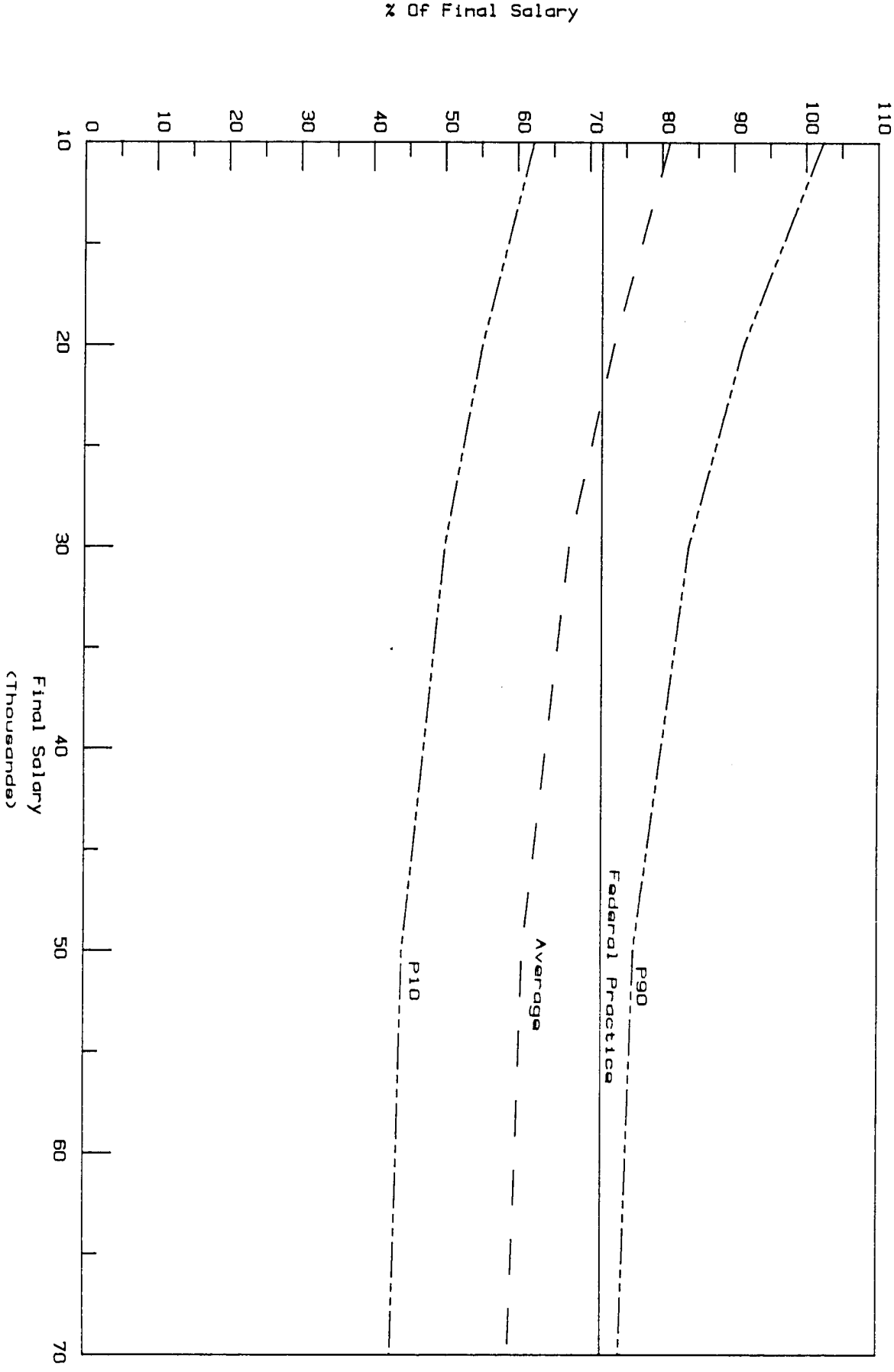


Chart IV-6

REPLACEMENT RATE COMPARISON
FEDERAL TO PRIVATE SECTOR
AGE 65 - 40 YEARS SERVICE



indexing in the Civil Service Retirement System is relatively more expensive than in social security because the benefit is typically paid from an earlier age so the indexing operates over a longer period.

The employee contribution under CSRS is somewhat higher than the private sector employee's contribution to social security. Almost all private sector pension plans are non-contributory but voluntary contributions are needed to take advantage of the capital accumulation plan.

The value of the average State retirement system is closer to that of CSRS than are the private sector systems because the early retirement and indexing features of the State systems are similar to those of CSRS. Also, disability and survivor benefits are closer to CSRS practice. However, State employees tend to contribute to their retirement system, as well as to social security, so the employer paid value is lower, relative to the total benefit, than in CSRS or the private sector.

V. FRINGE BENEFITS OTHER THAN RETIREMENT

To be able to evaluate the entire compensation package an employer provides for a firm's workforce, it is essential to examine each major element that makes up that package from both a cash and benefits perspective. Section IV addresses the important area of retirement plans; Section VI analyzes the salary components of total compensation. This section deals with benefit elements other than the retirement system, namely death benefits, disability income protection, health care plans, holidays and vacations, and executive perquisites.

The Federal government provides a non-retirement benefit package that is 3.6% of salary less valuable than the average package offered by the private sector employer represented in the Hay/Huggins data base. The average non-retirement State benefit package is 2.0% more valuable than the Federal government's offering. When added to the retirement system value, the Federal benefits are worth 2.8% of pay more than private sector plans and .5% more than State plans.

The summary of findings in Table V-1 reflects the difference between the value of the current Federal plans and the average value of plans provided by private sector employers and States. The differences are expressed as a percent of salary.

This section contrasts the value of the benefits now offered to Federal employees with those offered by private sector employers and State governments. Each major benefit segment is analyzed separately and is annotated with charts that show Federal plan values against the practices of public and private sector employers. Appendix H is a tabular summary of benefit practices reported by the States surveyed, by the private sector firms in the

Table V-1

Differences between
Federal Benefit Plans and Average
Private Sector and State Benefit Plans
as a Percent of Pay

Benefit Area	Federal vs. Average Private Sector Percent Difference	Federal vs. Average State Percent Difference
Death Benefits	- .3%	.5%
Disability Income Replacement	- .7%	-.2%
Health Benefits	-2.2%	-2.2%
Holidays and Vacations	.8%	-.3%
Executive Perquisites	-1.2%	0
Statutory other than Social Security	0	.2%
Sub Total	-3.6%	-2.0%
Retirement Plan	6.4%	2.5%
Total Fringe Benefits	2.8%	.5%

Hay/Huggins data base, and by the Federal government. The prevalence of benefits practice table permits a comparison of approaches to benefits used by each sector. The Appendix is broken down into major benefit categories and provisions within those categories.

A. Life Insurance

The value of the Federal Employees Group Life Insurance (FEGLI) Program falls below the average value of the private sector employer plans but above the State plan average value (see charts V-1 and V-2).

Under the FEGLI Program, employees may elect basic coverage in amounts that vary with age. The basic coverage amount is one times annual basic pay, rounded to the next thousand dollars, plus $2,000. Depending on the age of the employee, varying multiples of the basic coverage amount are payable:

Age	Multiple of Basic Coverage Amount
35 or younger	2.0
36	1.9
37	1.8
38	1.7
39	1.6
40	1.5
41	1.4
42	1.3
43	1.2
44	1.1
45 or older	1.0

Chart V-1

DEATH BENEFITS COMPARISON
FEDERAL TO PRIVATE SECTOR

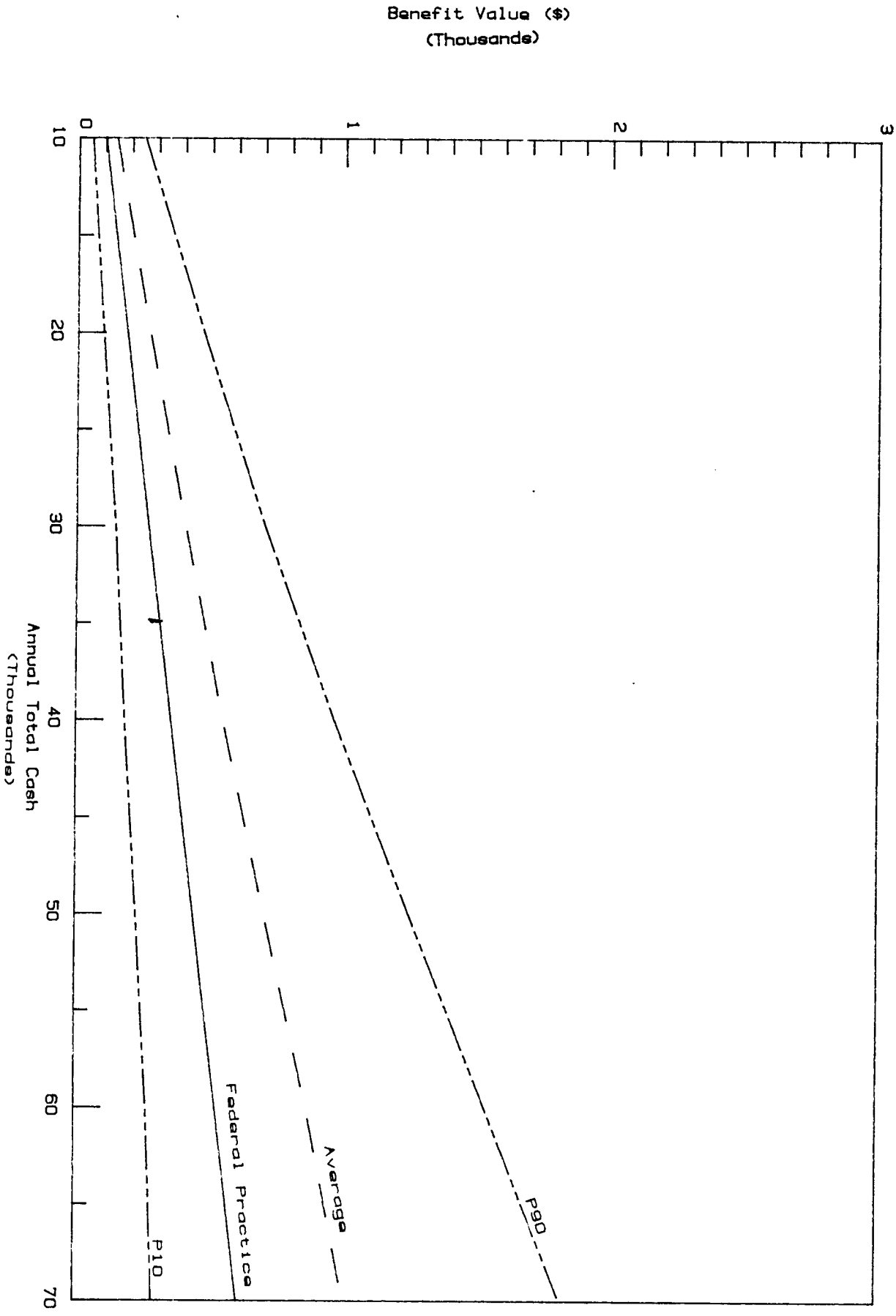
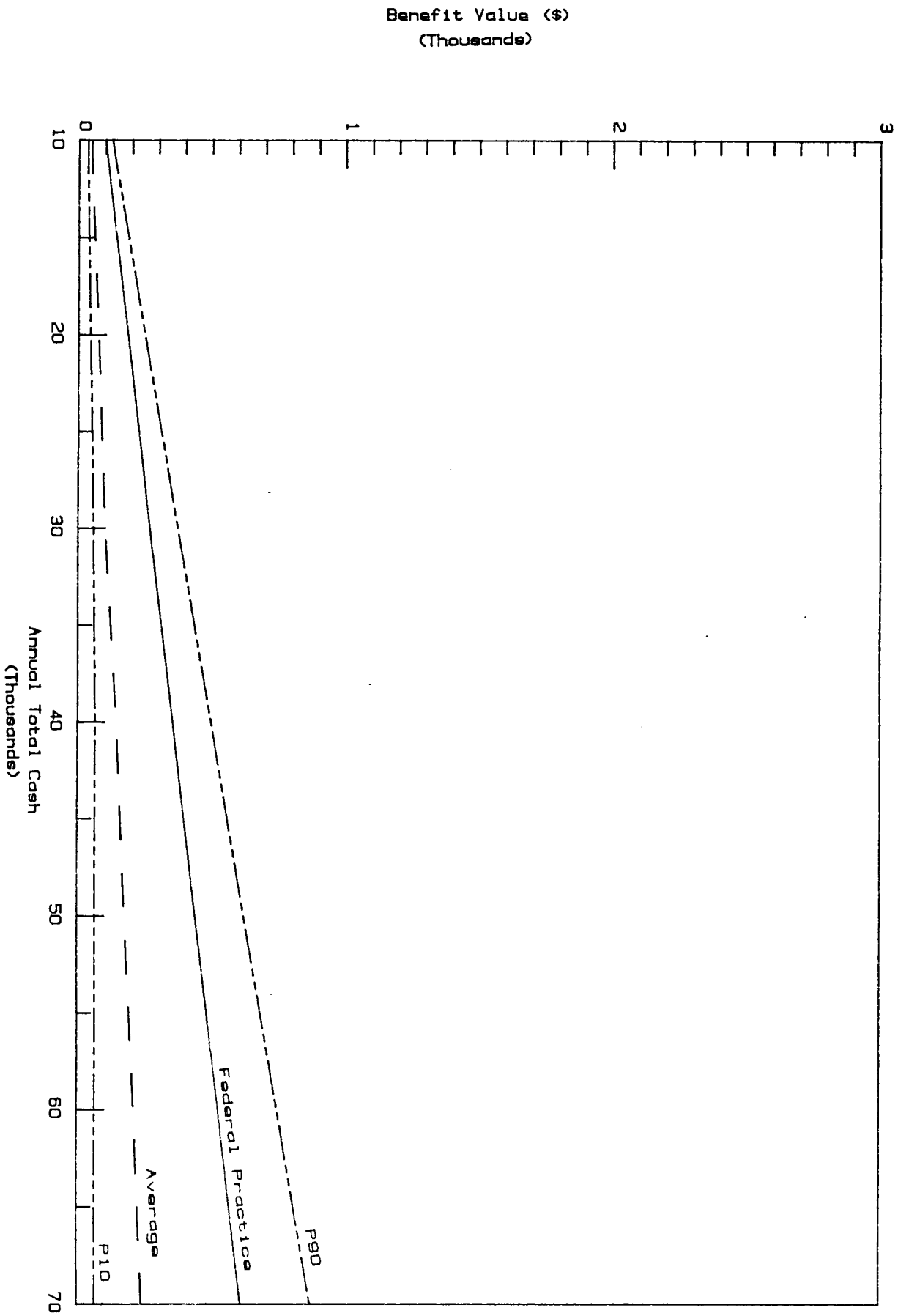


Chart V-2

DEATH BENEFITS COMPARISON
FEDERAL TO SELECTED STATES



The cost of the basic coverage is shared with the government paying one-third and the employee paying two-thirds. The premium reflects the cost of both current coverage as well as the cost of extending coverage to retirees. This feature approximately doubles the premium amount otherwise necessary.

Federal employees who elect basic coverage are also eligible for three optional programs:

- Option A which provides a $10,000 life insurance amount and a $10,000 accidental death and dismemberment benefit;

- Option B under which an employee may elect from one to five times annual basic pay; and

- Option C which provides a $5,000 spouse benefit and a $2,500 child's benefit.

Optional coverage is fully employee paid.

At retirement, the basic coverage continues at no cost to the retiree. At age 65, the coverage reduces 2 percent per month to a minimum of 25 percent of the basic insurance amount. Retirees can opt to purchase, at their own expense, either coverage that does not reduce or that reduces only in part. In any case, accidental death and dismemberment coverage stops at retirement.

Optional coverage continues at retirement. The retiree pays full premium to age 65. At age 65 premiums are no longer payable and coverage begins to reduce. Option A coverage reduces until it reaches 25 percent of its face value; Options B and C reduce at 2 percent per month until coverage ends.

Private sector employers universally provide basic group life insurance that typically is expressed as a multiple of earnings. Most commonly this benefit is fully employer paid and is two times

annual salary with a maximum ranging from $100,000 to $300,000. Two-thirds of private sector firms continue coverage at retirement in full or at a reduced amount at no cost to the retiree.

The basic benefit under State employer provided life insurance tends to be a low multiple of pay (1 to 1.25 times salary) or a modest uniform amount with one State reporting a $2,000 basic group life benefit. The basic coverage is fully employer paid in about one-half the cases; in the balance, the premium is either shared with the employee or the employee pays for the coverage in full. Over half of the States cancel coverage at retirement.

More than half of the private sector firms allow employees to purchase supplemental group life insurance. The coverage is generally an additional one or two times earnings. Three-quarters of the supplemental plans are fully employee paid; 20 percent of the employers share the cost of the coverage. Less than one-half of the States offer supplemental coverage; two-thirds of those that do pay nothing toward the premium.

Overall, the private sector's group life insurance coverage is worth an average .3% of salary more than FEGLI. The typical private sector plan offers a larger basic benefit at no cost to the employee. FEGLI is more valuable than the average State plan by .5% of salary because its basic benefit amount is larger than that of many of the States and because FEGLI allows employees to purchase supplemental coverage, a feature present in less than one-half of the States.

B. Disability Income Protection

Employers provide for salary continuance in the event of either short-term or long-term disability through a variety of methods. Generally, private sector employers use a combination of formal sick leave arrangements, accident and sickness insurance, and short-term disability plans to cover instances of occasional illnesses or

accidental injuries. State governments use short-term sick leave plans based on accumulation of days, similar to the Federal government's system. Chronic disability cases are covered under long-term disability (LTD) plans or pension plan provisions. The value of the Federal government's disability benefits is below the average value of plans offered by both State and private sector employers (see Charts V-3 and V-4).

Under the Federal government system employees accrue sick leave at the rate of 13 days per year; there is no ceiling on the number of hours of sick leave that an employee can accumulate. Once an employee's sick leave balance is exhausted, agencies have the discretionary authority to grant 30 days advance sick leave. While an employee is on sick leave, salary is continued at 100%. Once accrued and advance leave has been used, a disabled employee may either go on leave-without-pay or apply for a disability retirement.

The typical State government sick leave is based on an accumulation of days with no maximum on the number of days that may be accrued. One-third of the States' accrual rates are greater than the Federal government's. About one-half of the States report employees accrue from 13 to 15 days per year.

In the private sector employers generally grant 10 or 12 days of sick leave a year (28%) or provide either full or partial pay for a scheduled number of weeks that varies with length of service (48%). A well-designed employer plan based on accumulation of days, allows employees to accumulate sick leave to the extent of the exclusionary period imposed by the firm's LTD coverage, generally 90 or 180 days. Likewise, scheduled plans based on service generally express the benefit as a number of weeks at full pay and a number of weeks at partial pay up to a maximum of 26 weeks. The number of weeks at full and partial pay are a function of the number of years the employee has worked for the employer.

Chart V-3

DISABILITY INCOME COMPARISON
FEDERAL TO PRIVATE SECTOR

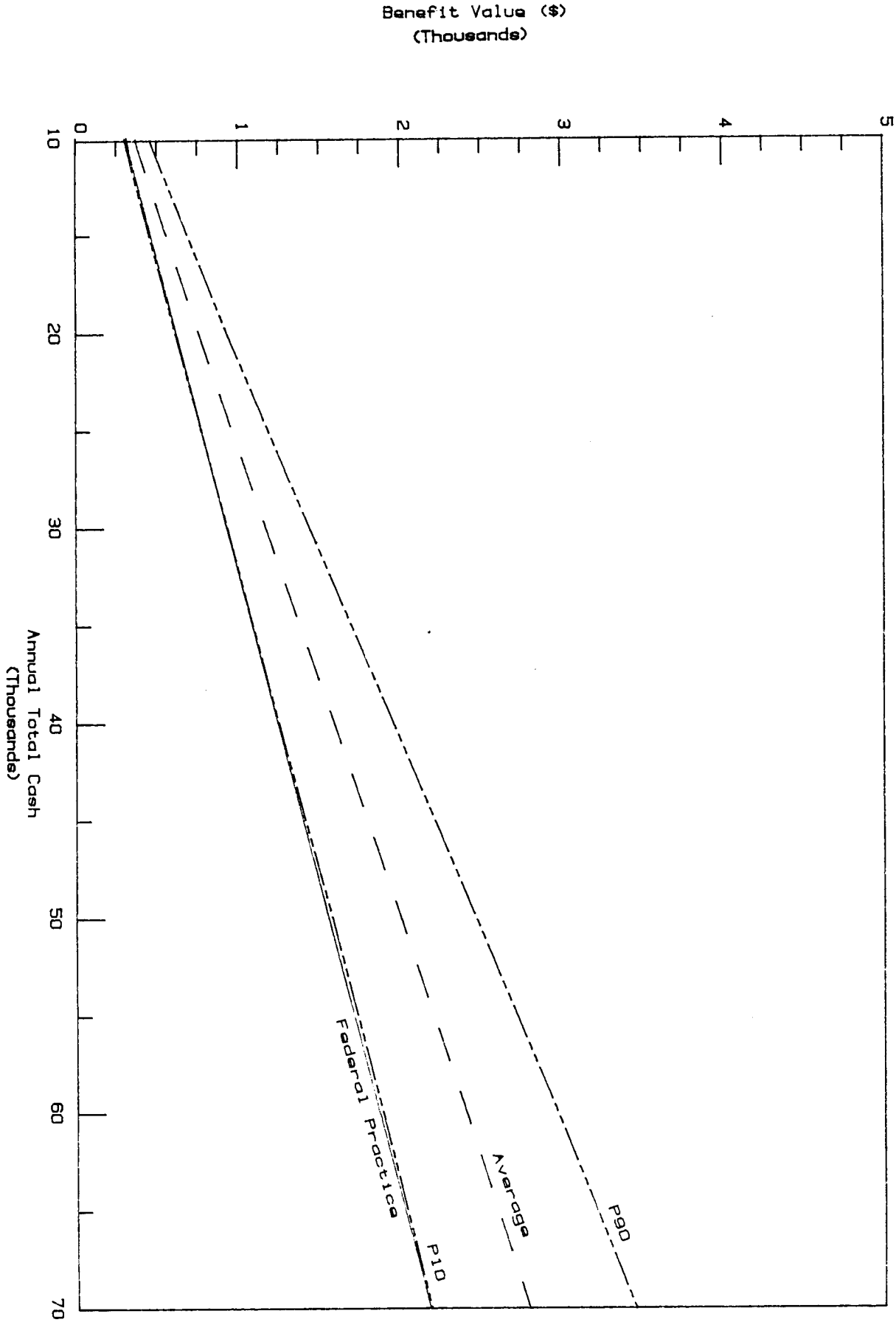
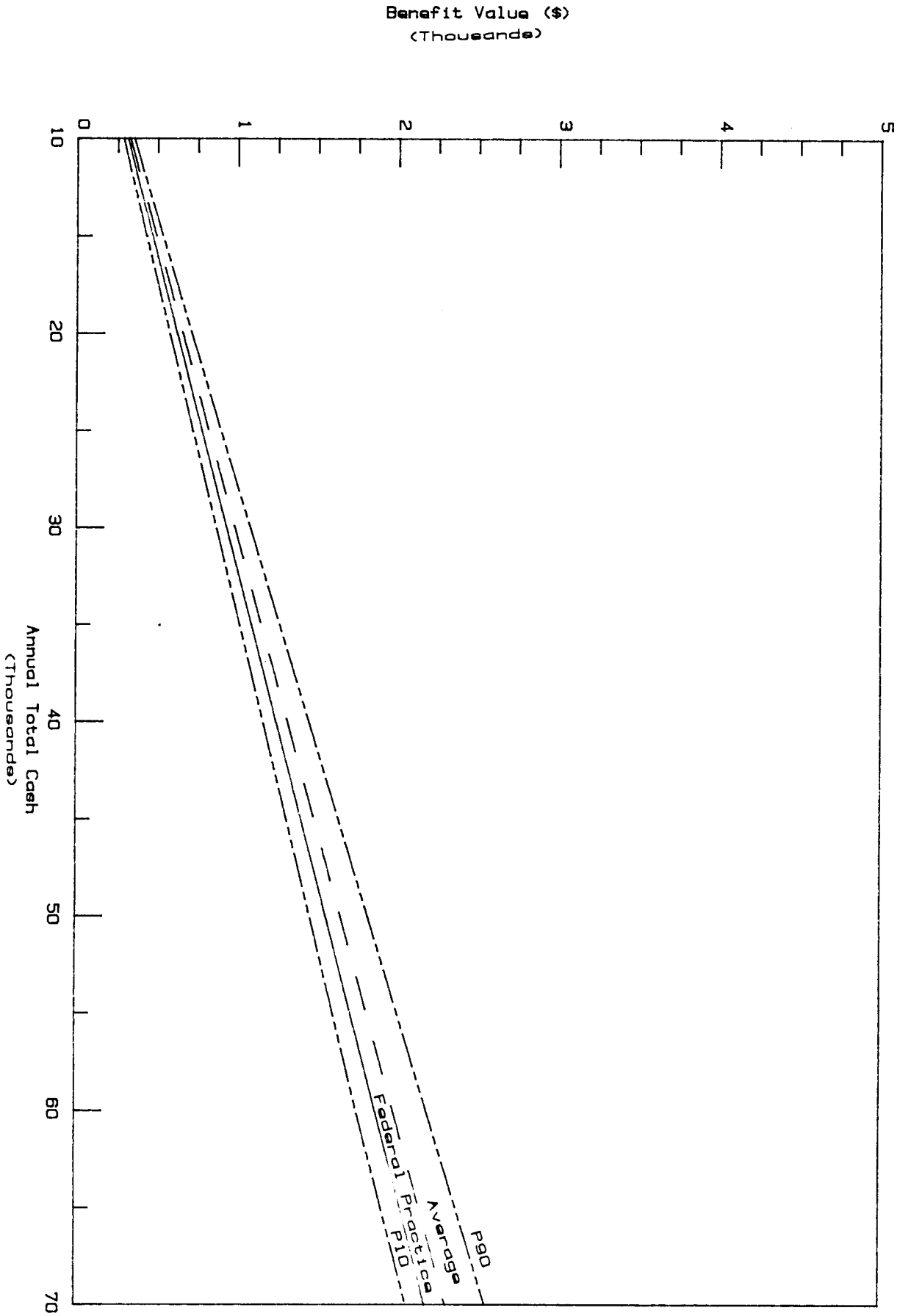


Chart V-4

DISABILITY INCOME COMPARISON
FEDERAL TO SELECTED STATES



A less common approach used by employers to provide a regular income to employees who are incapable of work on a short-term basis is the purchase of accident and sickness insurance. Generally, these plans are paid for fully by the employer and guarantee either a stated percentage of salary or a flat dollar amount per week. Typically, the maximum duration of benefits is 26 weeks. A well designed accident and sickness policy will coincide with the exclusionary period under the employer's LTD plan.

Federal employees have income protection in the event of a long-term disability through the retirement system only. Under the current Civil Service Retirement System (CSRS) employees are eligible at any age for disability retirement if they have completed 5 years of creditable service and are unable, because of disease or injury, to perform the duties of (1) their current position, or (2)/a vacant position at the same grade or pay level for which they are qualified for reassignment in the same agency and commuting area. The amount of the benefit is usually 40 percent of high-three average salary. Upon recovery the employee is eligible for re-employment, but is not guaranteed that a position will be available. The employee shares the cost of the coverage through the 7 percent contribution to the retirement system.

Typical of the private sector and one-third of the States surveyed are long-term disability plans. These are generally underwritten policies that provide 60 percent of a beneficiary's salary until the employee reaches the normal retirement age under the employer's pension plan. The amount of the benefit is directly offset by 100 percent of any benefit payable from both social security and any other employer sponsored plan. The majority of LTD plans use a definition of disability similar to that used under the current Civil Service Retirement System for the first two years of benefits. If benefits continue to be payable after two years, a beneficiary must satisfy a stricter disability definition that is similar to that used by the social security system, namely, the inability to engage in any substantive gainful activity. LTD

benefits generally become payable after either a three or six month exclusionary period.

Private sector LTD plans are generally coordinated with pension plans in one of two ways:

- Approximately two-thirds of private sector employers allow pension credits to accrue during a period of disability; under such an arrangement the eventual pension benefit payable at normal retirement age reflects full career service; and

- Approximately one-third of the employer community provides a disability retirement benefit upon expiration of the short-term disability coverage. Typically a fully-accrued benefit, unreduced for early retirement, is provided. If the employer also provides an LTD plan, which is a typical occurrence, a well designed package will offset the LTD benefit by the amount of the disability pension benefit.

State governments that offer LTD plans tend to use the latter approach in coordinating the benefits with pension plans.

About two-thirds of private sector employers pay the full cost of LTD coverage; one-fifth share the cost with the employee; and the balance look to the employee to pay the full premium. Among State governments with LTD coverage, it is typical for the employee to pay for the coverage either in part or fully. A recent change in the tax code which treats benefits arising from employee contributions much more favorably than those that are financed by employer contributions, will undoubtedly prompt more employers to shift LTD premiums to employees.

In the disability income area, the average private sector plan is .7 percent of pay ahead of the Federal government; the average State value is .2 percent of pay ahead of the Federal government.

This is largely due to the fact that the Federal government does not offer long-range disability income protection that is separate from the pension plan. Finally, the average value of the State plans is higher, in part, due to the higher average accrual rate under the sick leave plans.

C. Health Care Benefits

The provision of health care benefits is virtually universal among medium and large size employers in both the private sector and State setting. Federal employees may choose coverage from a variety of plans available under the Federal Employees Health Benefits Program. The choices range from nationwide insurance-type plans offered by major insurers or employee organizations to Health Maintenance Organizations available in specific geographic areas. For comparison purposes we used the plan elected by the most number of Federal employees, namely, the High Option Service Benefit Plan administered by Blue Cross/Blue Shield.

The value of the Federal government's provided health care plan is below the average of comparable plans offered by private sector and State employers (see Charts V-5 and V-6). Approximately three-quarters of the private sector and State plans are more liberal than the representative FEHBP plan.

The FEHBP plan covers the same type of hospital, medical and prescription drug expenses as does the average private sector and State plan. However, whereas nearly three-quarters of private sector employers and half of the State plans provide significant dental coverage, the FEHBP plan does not. Additionally, the amount of the calendar year deductible, a feature common to all plans, is twice as much under the FEHBP plan as under the typical private sector or State arrangement ($200 versus $100).

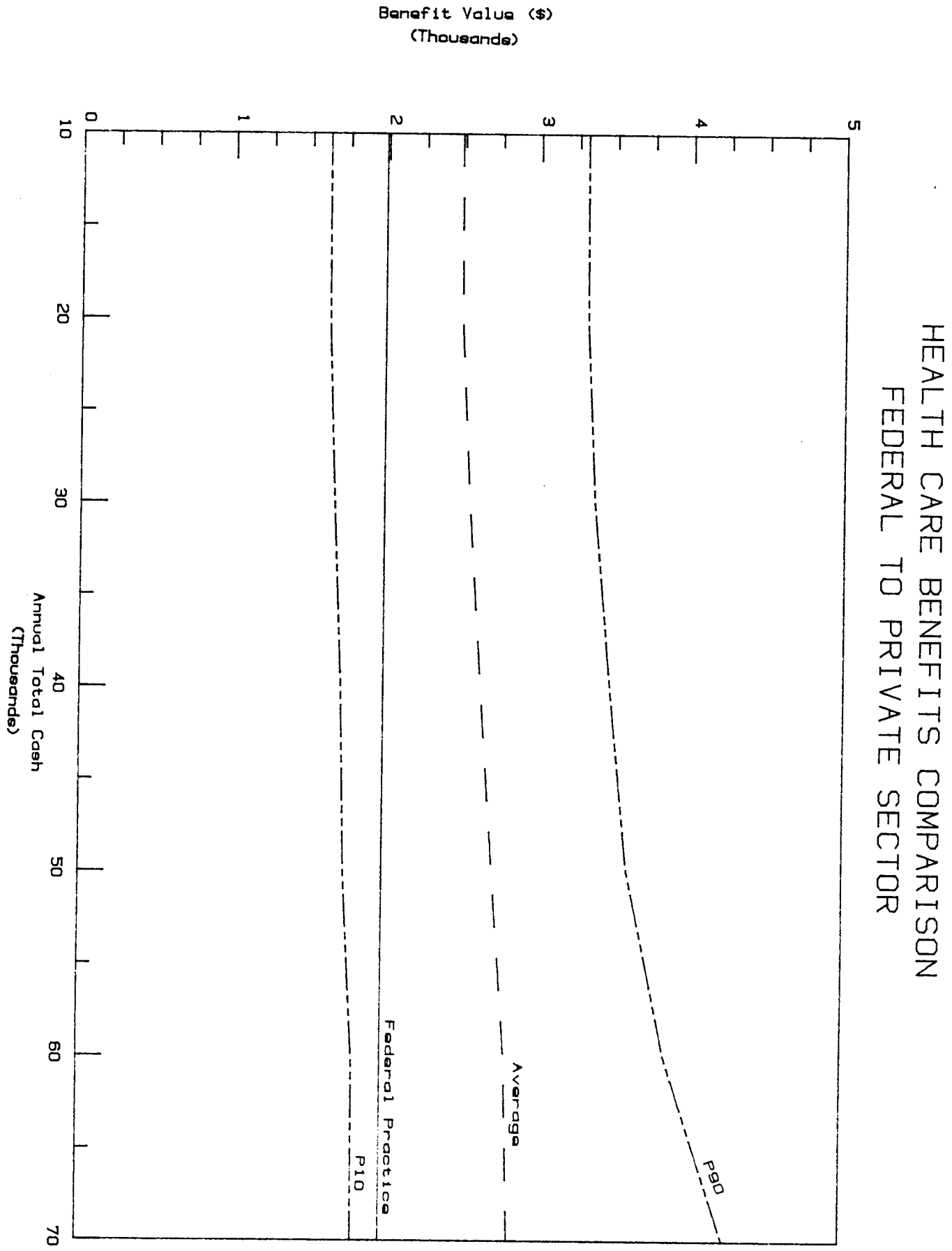
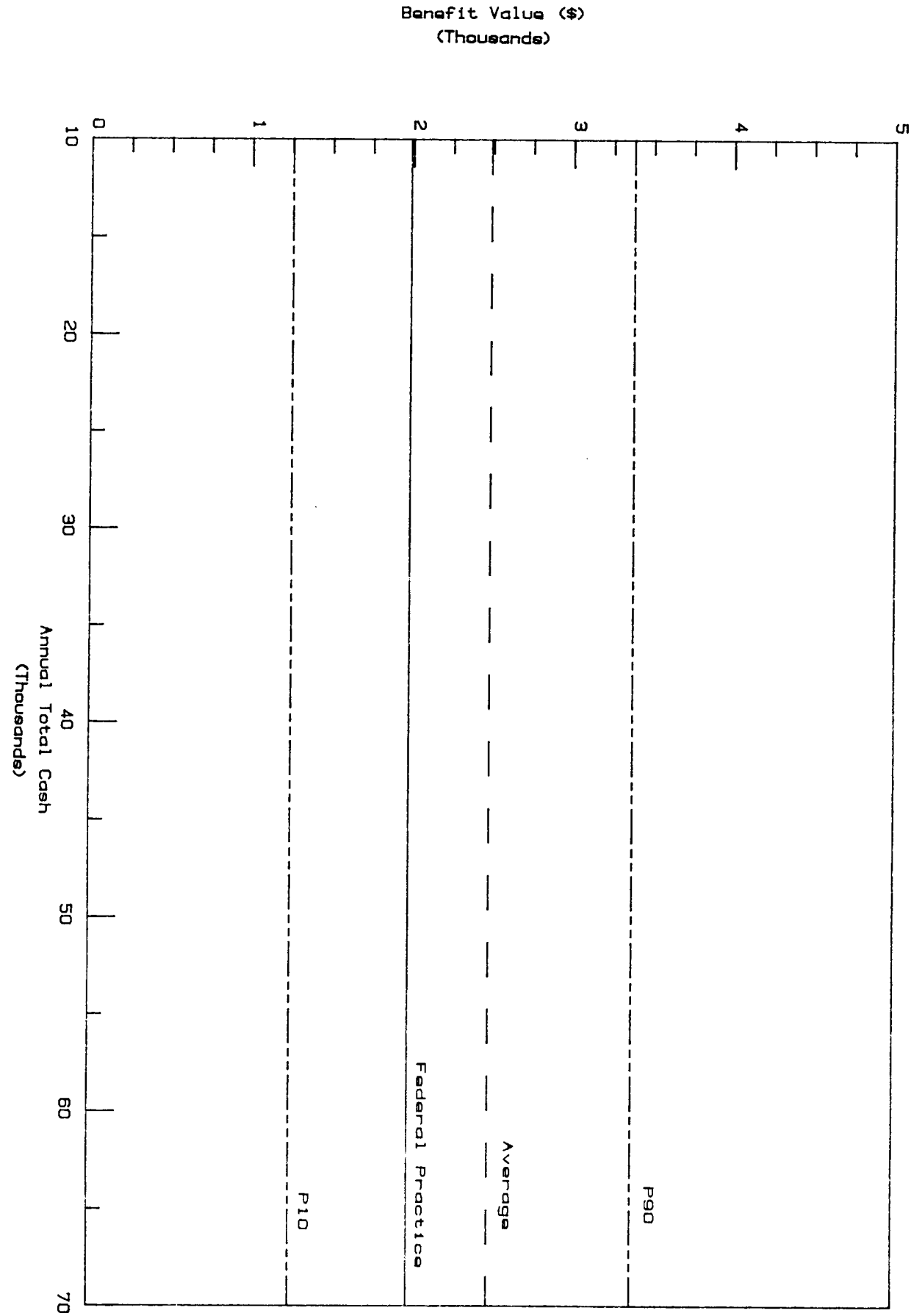


Chart V-6

HEALTH CARE BENEFITS COMPARISON
FEDERAL TO SELECTED STATES



The Federal government pays approximately 60% of the health care premium for both employees and dependents. In the private sector two-thirds of the employers pay for employee coverage in full and 39% pay for dependent coverage in full. Among the States surveyed, approximately one-half pay for employee coverage in full and one-quarter provide dependent coverage paid in full. The balance share the premium cost with the employee paying generally 25% or less of the cost.

Three factors -- dental coverage, deductible amounts, and cost-sharing -- result in the average private sector plan being worth about 2.2 percent of pay more than the representative Federal government plan. The average State plan is also worth about 2.2 percent of pay more than the most frequently chosen Federal alternative.

D. Holidays and Vacations

The value of the paid leave the Federal government provides its employees tracks with the practices of the more liberal segment of the private sector employer community and falls about on an average with that provided by the States (see charts V-7 and V-8).

The Federal government in 1984 offers nine paid holidays while the average private sector employer offers 10.2 days annually. The most commonly reported number of holidays by State governments is 13 or more per year. The greater number of holidays, particularly for State employees, increases the time-off-with-pay value for the private and State sectors vis-a-vis the Federal government. However, the private sector holiday advantage is offset by the annual leave accrual pattern for Federal employees which is more liberal for the short service employee than that provided by the typical employer. State employees' vacation schedules are more similar to that offered by the Federal government.

Chart V-7

HOLIDAYS AND VACATIONS COMPARISON
FEDERAL TO PRIVATE SECTOR

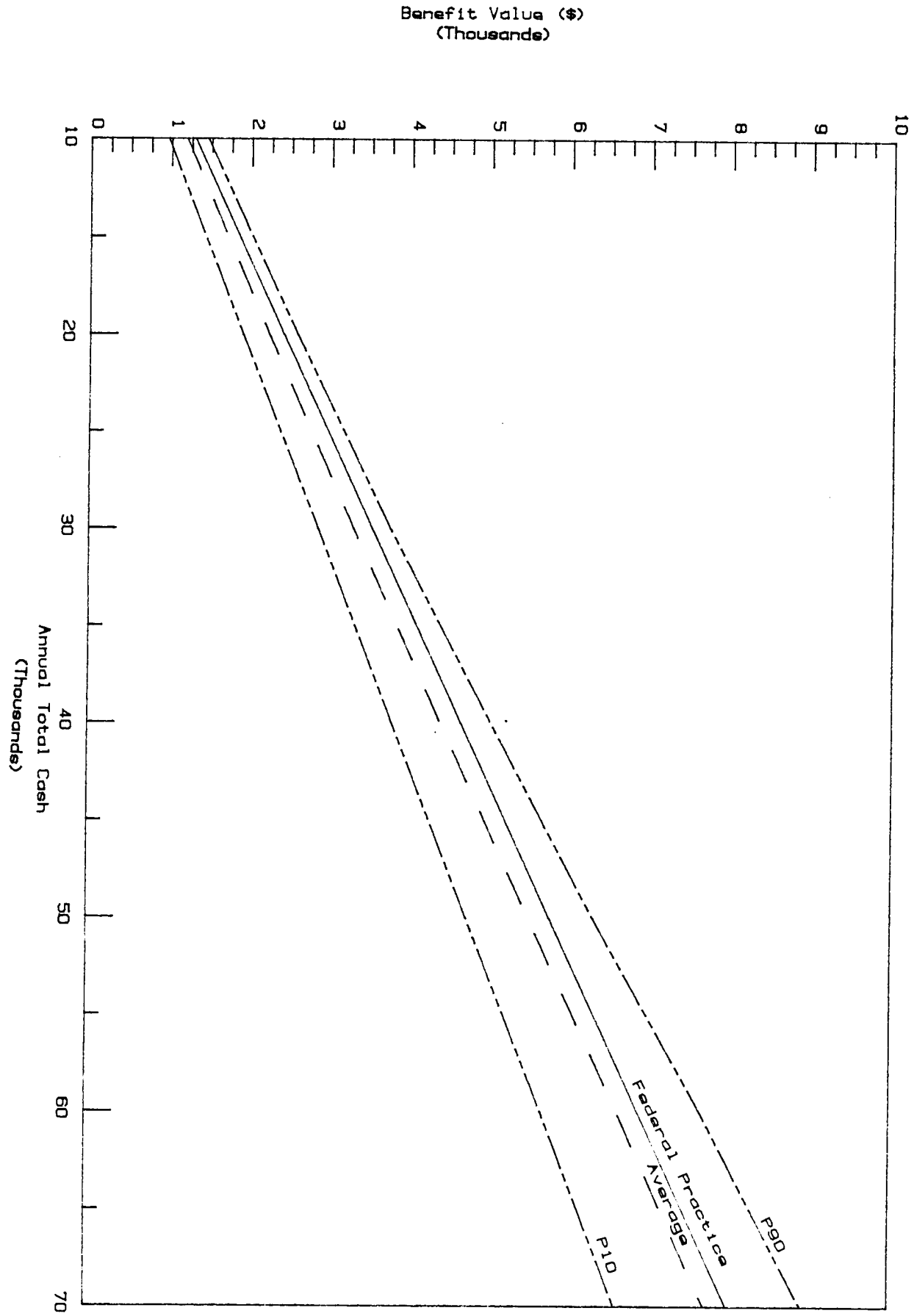
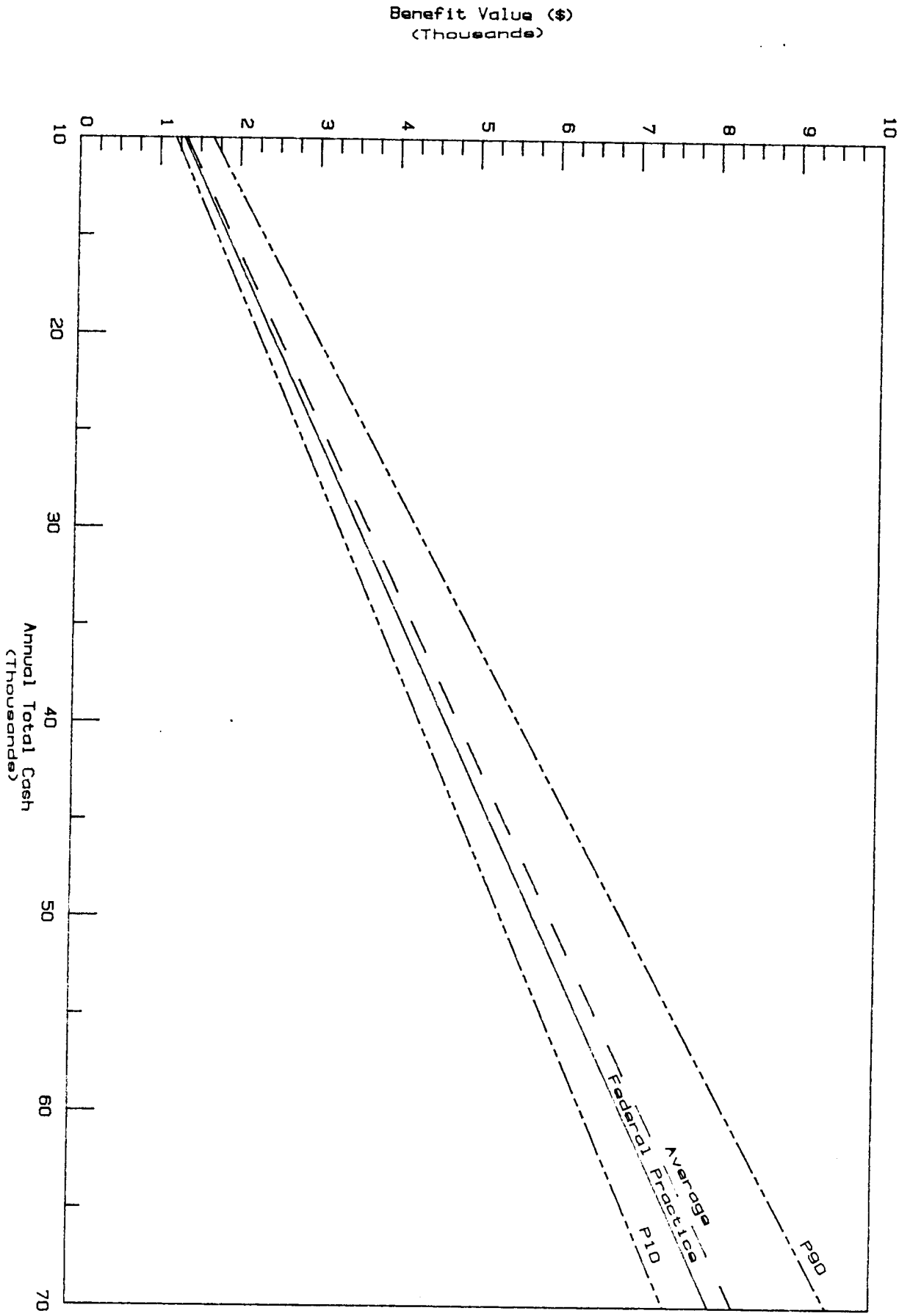


Chart V-8

HOLIDAYS AND VACATIONS COMPARISON
FEDERAL TO SELECTED STATES



The combination of factors results in the Federal government's leave plan being more valuable than the average private sector employer by .8 percent of pay and less valuable than the average State value by about .3 percent of pay.

E. Executive Perquisites

Private sector employers generally provide executive perquisites to officers and other highly compensated employees. Commonly, plan designs are geared either to improve benefits for executives within the firm or to facilitate the recruitment of mature executives who could suffer a loss in benefit expectation by making an employment change. Generally, the executive benefits fall into three categories:

- Executive benefit plans that are in addition to or parallel the basic benefits program (e.g., executive vacation schedules or executive group life insurance);

- Executive perquisites that provide key executives with tax-free or tax favorable benefits which they normally would be required to provide on their own with after tax dollars (e.g., personal financial counseling or special parking); and

- Long-term incentives that provide rewards for performance or a vehicle for long-term capital accumulation (e.g., a deferred compensation arrangement).

Employers tap a wide range of noncash avenues to add to executive compensation packages. The most frequently offered perquisites include employer-provided cars, special parking privileges, payment for club memberships, directors' and officers' liability insurance, and a variety of deferred compensation and stock arrangements.

Chart V-9 shows the value spread of perquisites offered by the private sector. Federal and state practice are not reflected since there are generally no comparable benefits. The Federal government trails the private sector by 1.2 percent of pay in this area.

F. Total Benefits

One of the difficulties in analyzing individual components of the benefit package is the fact that many benefits interact and often different types of benefits are used for the same purpose. In this report, two of the key interactions are between the life insurance and disability systems and the retirement systems. The Federal government relies on the retirement system to provide all of the long term disability income and substantial survivor income plans. Thus, the fact that the life insurance and disability plans of the Federal government lag behind those of the private sector is explained, at least in part, by the fact that a large part of such benefits are provided through the retirement system. Conversely, part of the reason that the Federal retirement plan is ahead of the private sector is that it includes substantial death and disability benefits that are not commonly found in private sector retirement systems.

If the private sector advantage in death benefits of .3% of pay and in disability benefits of .7% of pay is deducted from the 6.4% lag in retirement benefits, the difference is reduced to 5.4% of pay. When all benefits are combined the total Federal benefit package is 2.8% of pay ahead of the private sector and .5% of pay ahead of the State governments. The range of these comparisons are shown on Chart V-10 and Chart V-11.

Chart V-9

EXECUTIVE PERQUISITES
PRIVATE SECTOR

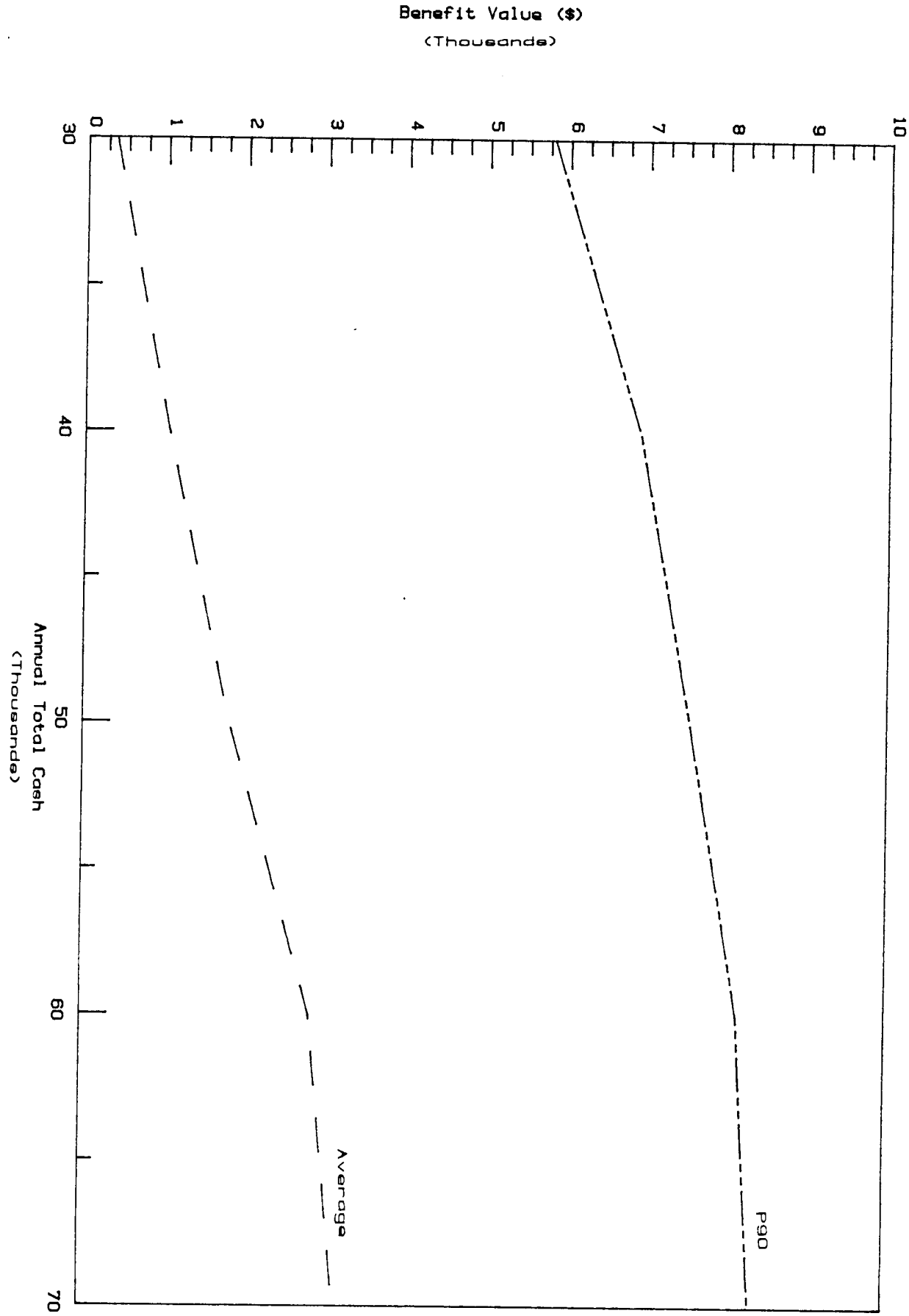


Chart V-10

TOTAL BENEFITS COMPARISON
FEDERAL TO PRIVATE SECTOR

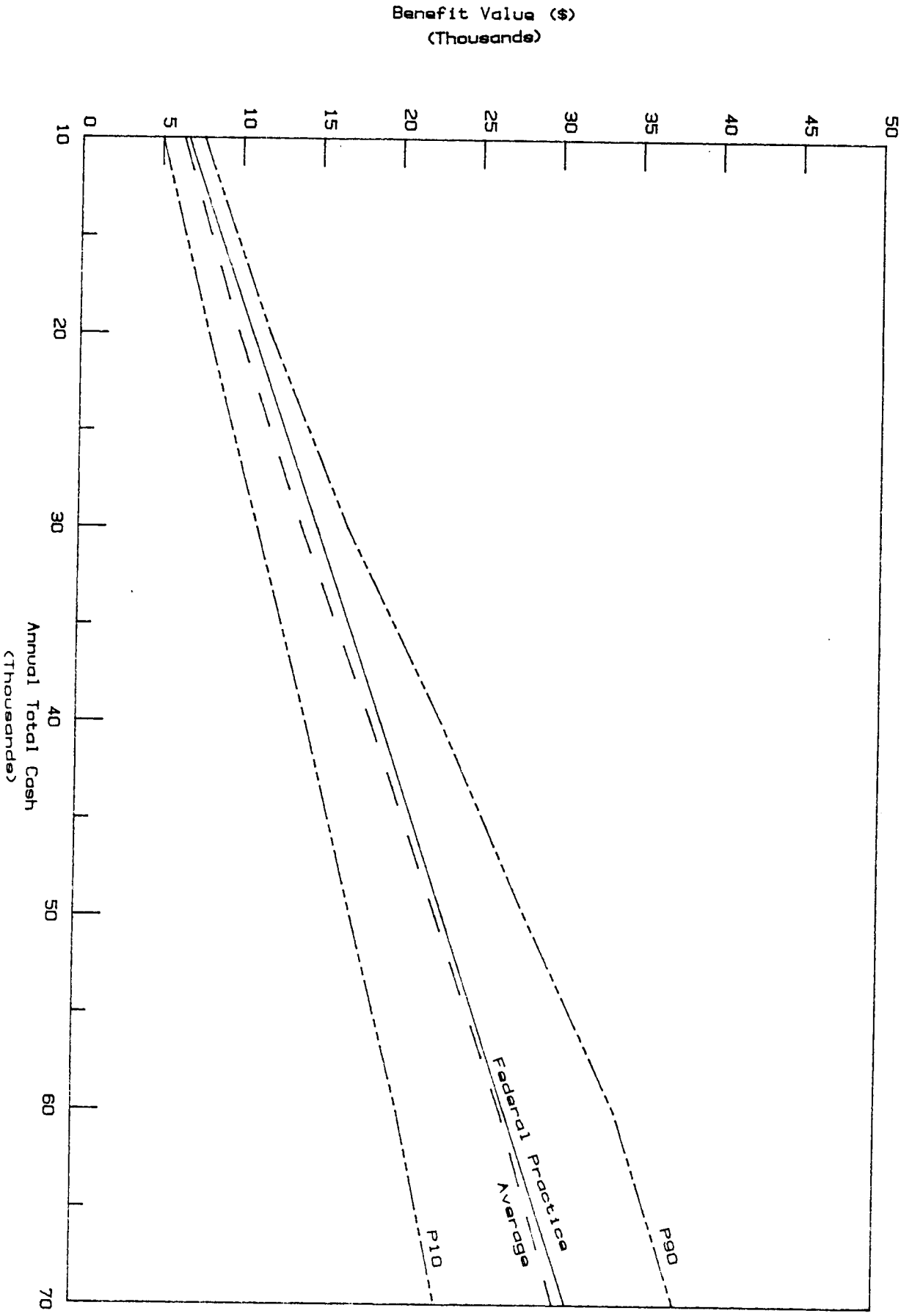
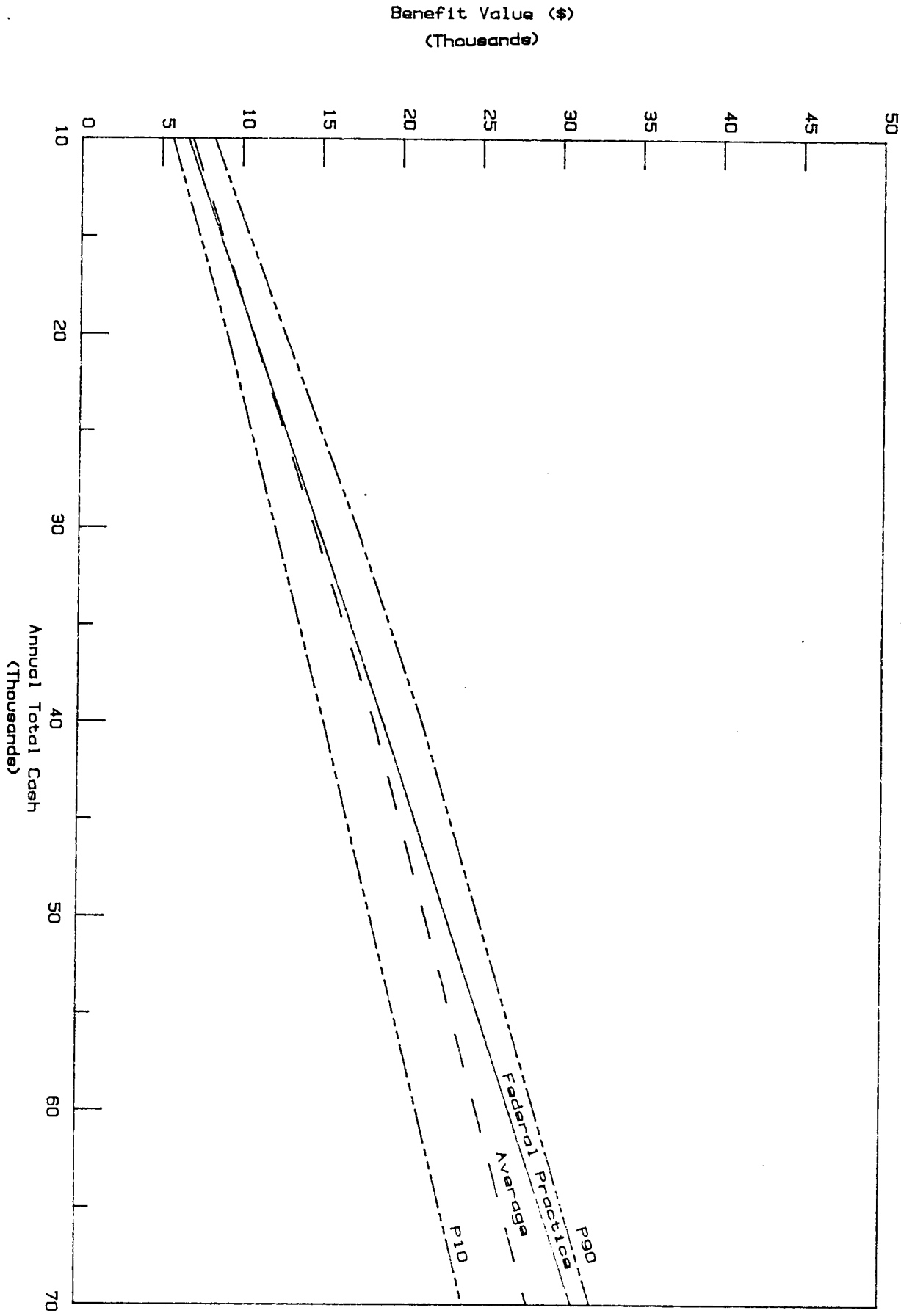


Chart V-11

TOTAL BENEFITS COMPARISON
FEDERAL TO SELECTED STATES



VI. CASH COMPENSATION

This section presents the evaluation results for the Federal sample, and comparisons of Federal compensation to private sector, and State compensation practices.

The major finding relative to compensation comparisons to private sector employers as of March 1, 1984 is that the General Schedule salaries would have to be increased by an average of 10.3% in order to equal aggregate private sector total cash compensation. By pay grade, average private sector total cash compensation exceeds that for the Federal government by 2 to 25%.

For the Senior Executive Service (SES), 38 ES-6 positions were included for illustrative purposes in order to depict results for the most difficult positions analogous to those found on the General Schedule. At the ES-6 level, Federal total cash compensation would have to be increased by 58.4% to equal aggregate private sector average total cash compensation for positions of the same level of difficulty.

The major finding in the comparison to State employers is that the General Schedule salaries exceed average State cash compensation by 7.8% of average Federal compensation. Average Federal cash compensation is below the State average at grades 3 and 4, but then uniformly exceeds the State cash compensation average by 2 to 20%. This finding is based on the cash compensation data provided by thirteen States.

A. Federal Sample Evaluation Results

Table VI-1 presents the evaluation results for the 392 non-SES positions included in the Federal sample. The following statistics are presented for each selected grade: (1) incumbent-based median evaluation (that evaluation level below which, and above which, 50%

of the incumbent population is expected to fall); (2) evaluation range; and (3) intergrade differential (the ratio of the median of one grade to the next lower grade).

The median provides the most conservative, representative measure of the central tendency of job content for a grade level because the median is less sensitive to skewing caused by extreme results. The evaluation point range indicates the relative variability of the evaluations in the grade. The position of the median in the point range for a grade indicates the degree to which the distribution of the employee population is skewed with respect to evaluated job difficulty. Specifically, if the median falls substantially toward the low or high end of the range, this indicates that half of the population encumbers jobs within a narrow range of difficulty (the range defined by the closer endpoint and the median) while the remainder of the population encumbers positions in a relatively wider band. The intergrade differential indicates the progression of job difficulty by grade level.

The results indicate that, in general, there is a logical progression in median evaluated job content as grade level increases. However, as the intergrade differential results show, there are relatively large jumps in median difficulty between grade levels 3 and 4 (44%) and grade levels 12 and 13 (32%). These factors may relate to the structure inherent in the classification standards because, for example, many occupational series do not have non-supervisory positions classified above GS-12.

The relationships between the median evaluation and the point range for the grade level indicate the existence of some skewing (i.e., there exist relatively low-population positions in a grade which deviate from the median by more than 7%). However, the skew is within the reasonably expected bound of plus or minus 10% except for grade 3, for which the median is at the end of the point range.

The histogram (Chart VI-1) on the page following Table VI-1 depicts the degree of skew for each grade, as well as overlap between the evaluations for each grade. In an ideal system, overlap does not exist. Nevertheless, the very strong relationship apparent between median job difficulty and grade level indicates that the median job evaluations can be used to accurately represent the overall GS and equivalent compensation practice. The tickmarks denote the placement of each median within the evaluation range depicted for each selected grade on the histogram.

Table VI-1

Evaluation Results for the Sample of 392 Federal Positions by Grade Level

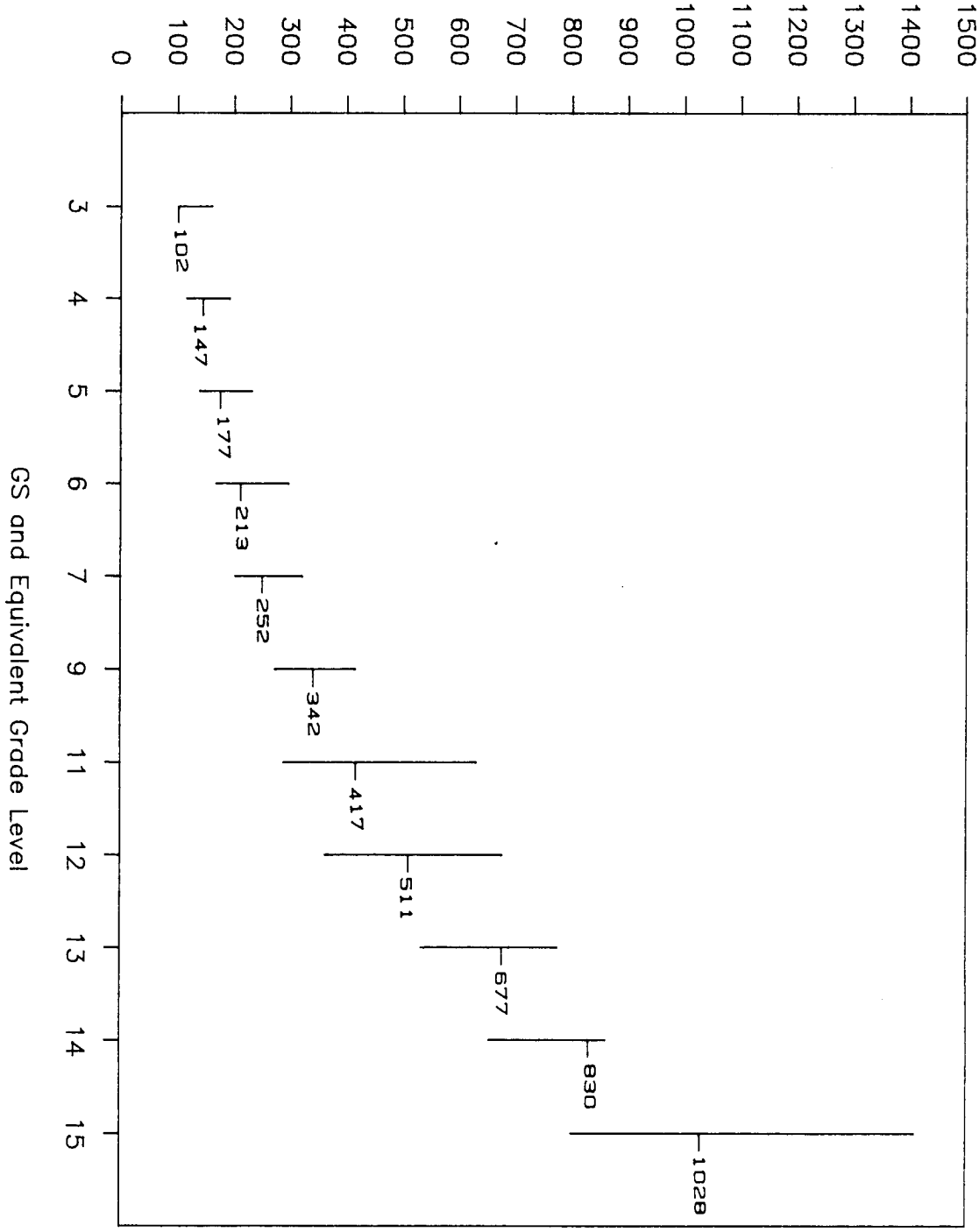
Selected Grade Level	Evaluation Point Median	Evaluation Point Range	Intergrade Differential
3	102	102-162	1.44 (grade 3-4)
4	147	117-194	1.20 (grade 4-5)
5	177	141-233	1.20 (grade 5-6)
6	213	169-298	1.18 (grade 6-7)
7	252	203-323	
9	342	275-417	
11	417	289-631	1.23 (grade 11-12)
12	511	363-677	1.32 (grade 12-13)
13	677	534-775	1.23 (grade 13-14)
14	830	654-860	1.24 (grade 14-15)
15	1028	800-1408	

At the ES-6 level, the median evaluated job content was 1868 points, and the range was 1142 to 3536 points.

Chart VI-1

DEPICTION OF EVALUATION RESULTS

GS AND EQUIVALENT GRADES 3-15



B. Federal Compensation Practice

Chart VI-2 on the following page illustrates the relationship between the median evaluation and the weighted average base salary at the selected grade levels. The straight line which appears is the weighted linear regression result, serving to summarize the relationship between job evaluation points and base salary which is indicated by the pattern of dots representing the result for each selected grade.

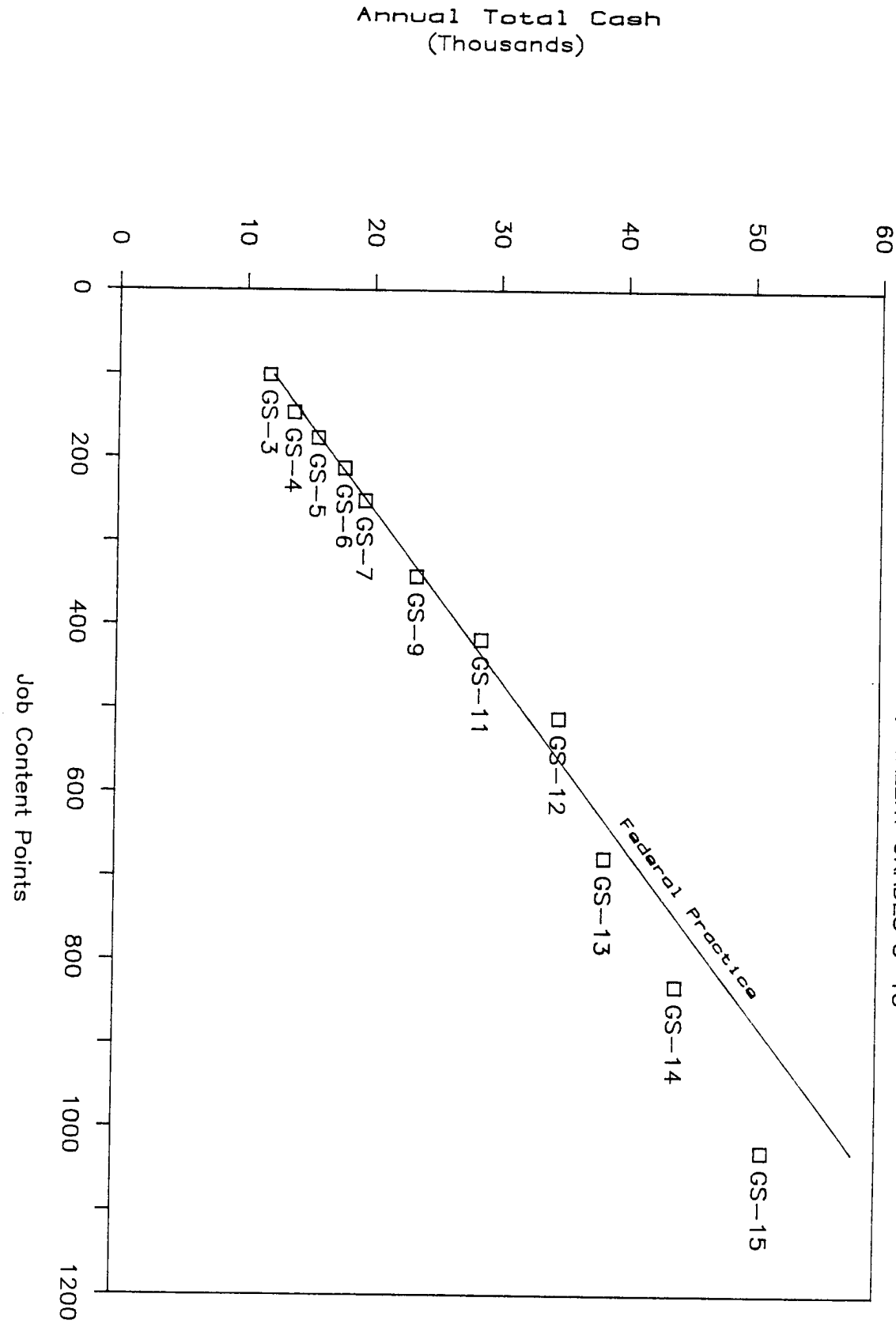
The regression statistics presented in Appendix J indicate that this line fits the data very well. Inspection of the chart reveals a tendency for the compensation at grades 13-15 to fall ever further below the line, i.e., it suggests the possibility of a nonlinear relationship (one where the line describing the relationship flattens out to better reflect the different relationship between evaluation points and compensation at grades 13-15). However, as the statistical results in Appendix J clearly indicate for the case of a quadratic representation of the data, very little explanatory power is contributed to the linear result by the quadratic term in points. This is attributable to the relatively low weight placed on the data for grades 13-15 due to their relatively low populations. Hence, the straight line represents the overall Federal compensation practice quite well. The tabular analyses presented below are based on the actual average Federal compensation values rather than values derived from the regression result. Therefore, any lack of fit in the regression is irrelevant to the ultimate findings.

The linearity of the result indicates that, except at grades 13-15, each unit of job content is rewarded at the same dollar rate per unit. At the 13-15 levels, the rate tends to decline, on an accelerating basis. A variety of factors may be responsible, including higher proportions of relatively shorter-tenure employees in those grades. Table III-4 indicates that the average step-in grade for grades 13-15 is substantially lower than at the other grades.

Chart VI-2

FEDERAL CASH COMPENSATION PRACTICE

GS AND EQUIVALENT GRADES 3-15



(DATA AS OF MARCH 1984)

Because SES level positions were included only for illustrative purposes, they were excluded from the foregoing analyses.

C. Comparison of Federal to Aggregate Private Sector Systems

Supplemental cash compensation provided in the private sector constitutes a significant element of total cash compensation. Therefore, in the context of a total compensation comparability study, total cash compensation is the basis to which benefit values should be added to develop total compensation. Hence, this section presents the results of total cash compensation comparisons for the aggregate private sector. Base salary results are contained in Appendix K. The industrial, financial and service subsector results are discussed in the next section.

A prefatory note concerning the relationship between private sector compensation practices for exempt versus nonexempt positions is required. A priori, there is no reason to assume that any organization will have the same practice for both groups. First, the local nature of the nonexempt labor market may be different from that of the national market for exempt positions, and compensation ranges for nonexempt positions are typically much narrower. Second, nonexempt positions are rarely eligible for supplemental cash compensation, and when eligible, such awards are a negligibly small percentage of total cash compensation. Therefore, in practice, base salary is total cash compensation for nonexempt employees. Third, employers vary in their desires to have their nonexempt and exempt practices on the same continuum. Therefore, it is quite possible that discontinuities between the two will be found, as is the case here. The comparative results will therefore be discussed for grades 3-6 analogous to the difficulty of nonexempt positions, separately from grades 7-15 before the overall average comparison is presented.

Chart VI-3, on the following page, presents the total cash compensation result for the aggregate private sector. One line represents the average compensation values. Above 240 points, two lines represent the tenth and ninetieth company percentiles: i.e., the compensation values below which only 10% of companies pay (the lower line) and the compensation values above which only 10% of companies pay (the upper line). These results are derived from the data that Hay collects and analyzes for exempt positions. Below 240 points, the results are based on Hay's use of data collected by BLS. In this case, the percentile lines represent the tenth and ninetieth compensation percentiles for the areas represented in the BLS surveys, rather than company compensation practices. The tenth and ninetieth percentile lines are labeled as P10 and P90, respectively.

As the chart indicates, the nature of the results for exempt positions does in fact differ from those for nonexempt positions. The variability in compensation practice across the 65 areas is much smaller than across the 1200-plus companies. Further, there is a slight discontinuity for average compensation at 240 points, with the value for the nonexempt positions being somewhat greater than the value for exempt positions. Table VI-2, below, summarizes the relationships at 240 points.

TABLE VI-2

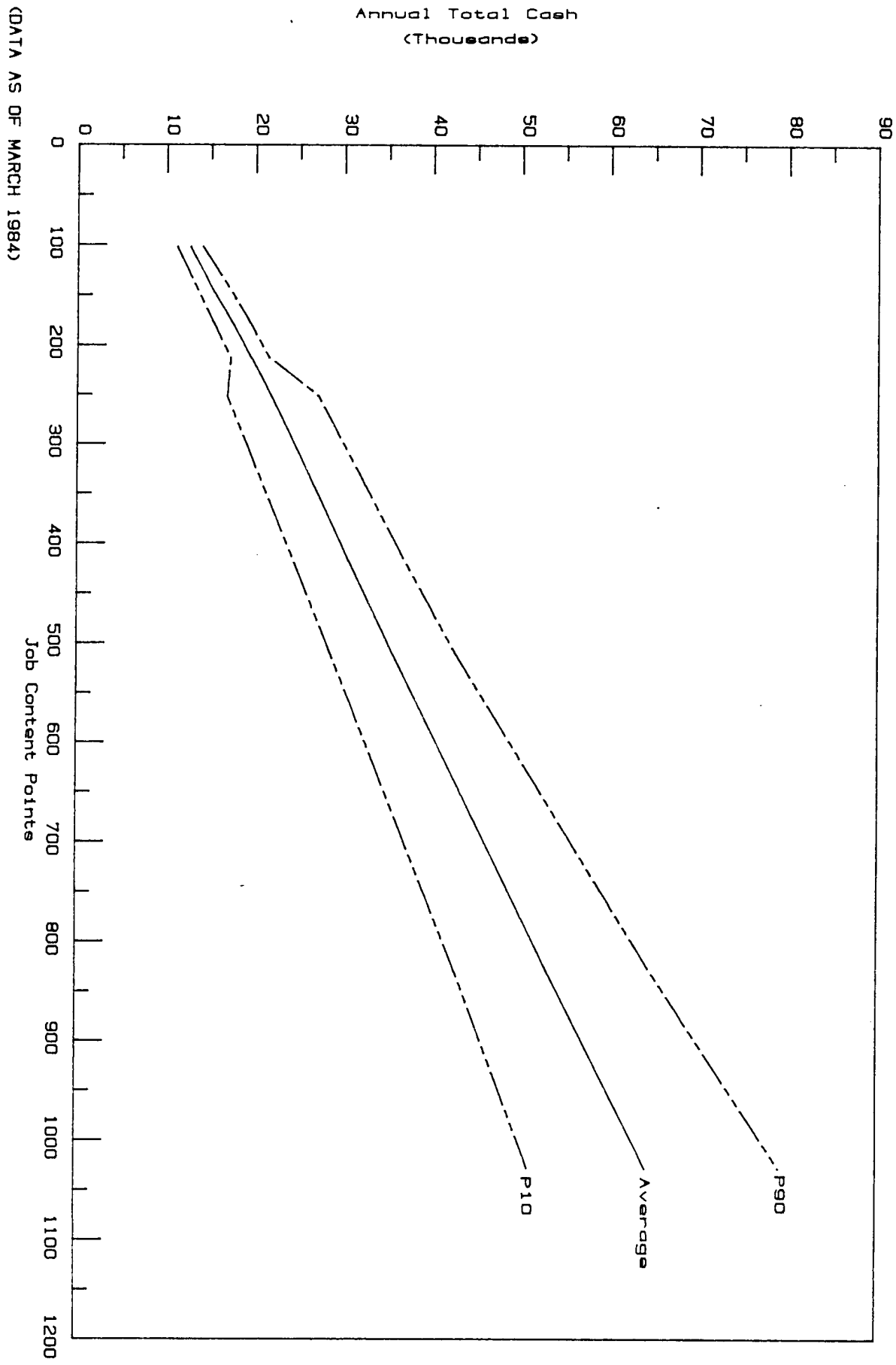
Aggregate U.S. Private Sector Average Total Cash Compensation Results at 240 Points, for Exempt and Nonexempt Positions

Cash Compensation Indicator	Average Total Cash Compensation Value		Ratio (Nonexempt to Exempt)
	Nonexempt	Exempt	
90th percentile	$23,800	$26,400	90.2%
Average	21,800	21,200	102.8
10th percentile	19,200	16,300	117.8

Chart VI-3

PRIVATE SECTOR TOTAL CASH COMPENSATION

GS AND EQUIVALENT GRADES 3-15



(DATA AS OF MARCH 1984)

Therefore, Chart VI-4 on the next page depicts the private sector comparison for the grades for which the median evaluation is below 240 points (grades 3, 4, 5 and 6). Federal compensation appears to approximate the average private sector compensation at grade 3, but then continues to fall ever further below the average, such that at grade 6, Federal pay is almost at the pay of the lowest paying 10% of the areas.

The following tabular results present the companion comparison of actual average Federal compensation by grade level to the average private sector compensation at the median job difficulty level for the grade.

Table VI-3

Comparison of Federal to Aggregate Private Sector Average Total Cash Compensation for Grades 3, 4, 5 and 6

Grade Level	Average Federal Compensation	Average Private Sector Compensation	Ratio (Private Sector to Federal)
3	$11,816	$12,577	106.4%
4	13,752	15,309	111.3
5	15,684	17,270	110.1
6	17,807	19,497	109.5

Chart VI-4

TOTAL CASH COMPENSATION COMPARISON
FEDERAL TO PRIVATE SECTOR
GS AND EQUIVALENT GRADES 3-6

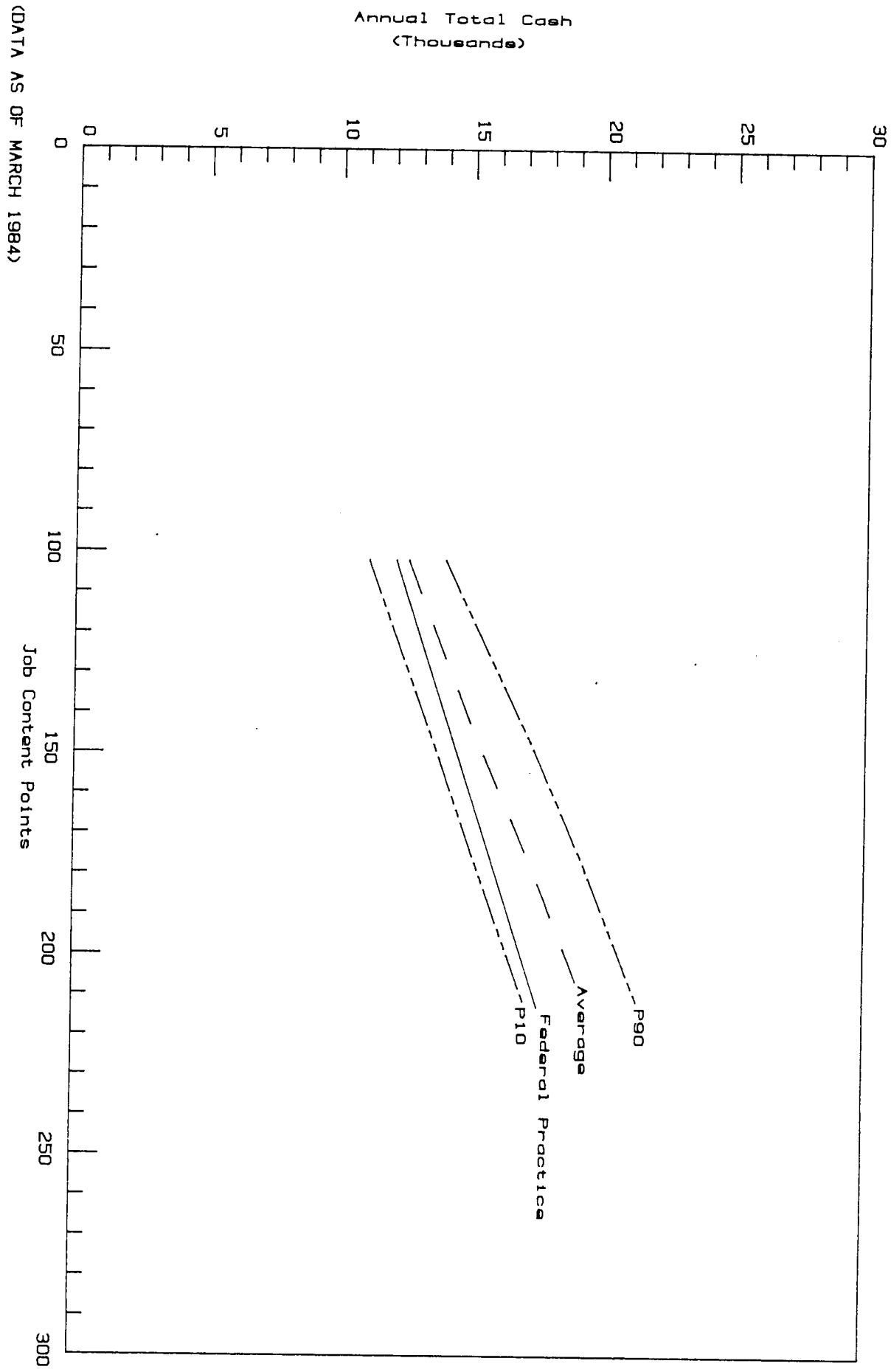


Chart VI-5, on the next page, illustrates the relationship between Federal cash compensation and aggregate private sector average total cash compensation for grades 7-15. Clearly, Federal pay is consistently below the average, and tends to fall further below the average as position difficulty increases. The following table provides the actual cash compensation comparisons.

TABLE VI-4

Comparison of Federal to Aggregate
Private Sector Average Total Cash Compensation for
Grades 7 - 15

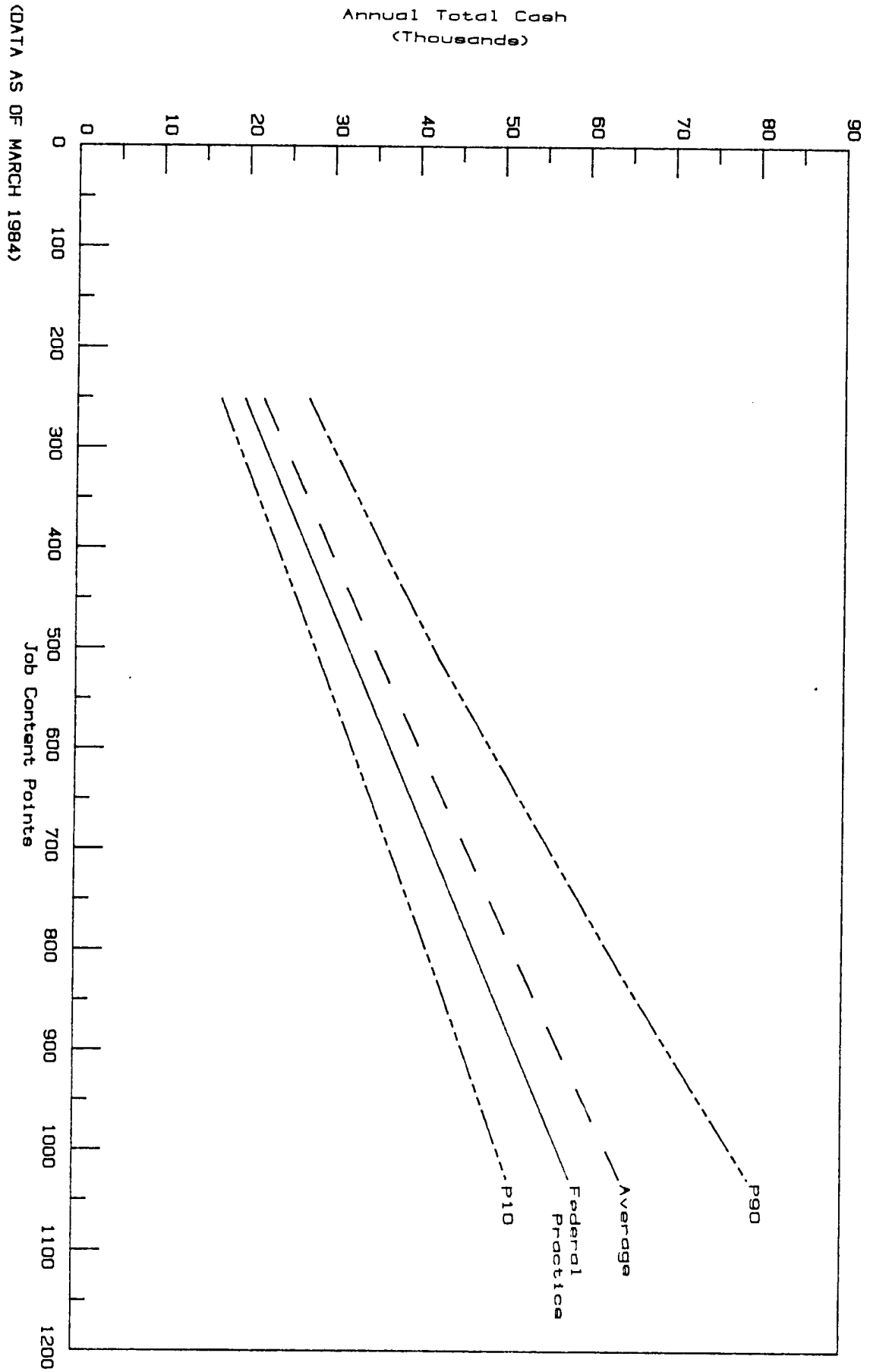
Grade Level	Average Federal Compensation	Average Private Sector Compensation	Ratio (Private Sector to Federal)
7	$19,408	$21,830	112.48%
9	23,527	26,618	113.14
11	28,653	30,524	106.53
12	34,816	35,510	101.99
13	38,507	44,583	115.78
14	44,188	52,999	119.94
15	51,067	64,102	125.53

The relatively large size of the disparities between Federal and private sector pay at the 13, 14 and 15 grade levels is due in part to the lower average step-in-grade of employees at the 13, 14, and 15 levels. If this were not the case (i.e., if the average step-in-grade at the 13, 14 and 15 levels were equal to the average of approximately 4-5 for grades 3-7, 9, 11 and 12), the ratios would be lower by six or more percent.

The preceding comparisons have indicated that private sector average total cash compensation uniformly exceeds Federal total cash compensation, by 2% to 25%. Further, the slope of the line representing the Federal cash compensation practice is smaller than the slope of the average private sector line, indicating that, on average, private sector employers pay more per unit of job content than does the Federal government.

Chart VI-5

TOTAL CASH COMPENSATION COMPARISON
FEDERAL TO PRIVATE SECTOR
GS AND EQUIVALENT GRADES 7-15



(DATA AS OF MARCH 1984)

The best single measure of the overall relationship between Federal and aggregate private sector average total cash compensation is one which weights the results by grade level in relation to the number of incumbents in each grade level. The resulting figure then indicates the percentage increase in the Federal payroll required to provide overall average compensation equal to that paid by the average of all employers in the data base.

Implementation of this procedure results in a weighted average difference of 10.3%. That is, on a weighted average basis, for the eleven grades selected, Federal pay would have to be increased by 10.3% in order to equal the total cash compensation paid on average in the private sector, as of March 1, 1984. This result constitutes a very reliable estimate of the overall relationship for the entire GS (and equivalent) pay system for the following reasons:

- The eleven grades selected to represent the GS and equivalent pay systems cover nearly 95% of all employees on the GS and equivalent pay systems;

- At each grade, the positions evaluated are encumbered by the majority of employees in jobs at the grade -- on average, over 67% of the incumbents;

- The private sector data used for comparative purposes are derived from the largest and most directly comparable data base extant;

- The methodology used to control for job differences constitutes a reliable, proven technique;

- The use of total cash compensation provides the most valid measure of cash comparability; and

- Multiple levels of quality control and quality assurance have been applied wherever applicable.

Table VI-5 on the next page provides the information from which the overall average difference of 10.3% is obtained.

For the ES-6 level positions: the following results are obtained.

Average ES-6 Total Cash Compensation	Average Aggregate Private Sector Total Cash Compensation	Ratio (Private to ES-6 Cash Compensation)
$71,927	$113,968	158.4%

As a supplementary analysis, Hay reviewed the average private sector total cash compensation for each of three subsectors constituting the aggregate reported on heretofore: industrial, financial and service. These analyses were based on inclusion of the nationwide private sector results at grades 3-6 for each subsector because no comparable data by subsector exists. The results are summarized below:

- Industrial subsector average total cash compensation uniformly exceeds that in the Federal government by 9% to 32% for grades 7-15. Except at grades 11 and 12, the industrial average exceeds the Federal average by more than 20%. Including the nationwide private sector results at grades 3-6, overall average Federal cash compensation should be increased 14.8% to equal that in the industrial subsector.

- Average financial subsector total cash compensation exceeds that in the Federal government by 5% to 19% at grades 13, 14 and 15; however, average Federal compensation is 5% to 11% greater at grades 7, 9, 11 and 12. Including the nationwide results for grades 3-6 results in the finding that an overall average increase in Federal pay of 1.9% would be required to equate it to financial subsector total cash compensation.

Table VI-5

Comparison of Federal to Aggregate
Private Sector Average Total Cash Compensation,
All Grades, and Computation of
Overall Average Difference

Grade Level	Employee Population[1]	Average Federal Compensation	Average Private Sector Compensation	Percentage that Private Exceeds Federal	Weighting Factor[2]	Weighted Difference[3]
3	70,146	$11,816	$12,577	6.44%	.0565	.36%
4	156,361	13,752	15,309	11.32	.1259	1.43
5	184,813	15,684	17,270	10.11	.1488	1.50
6	88,382	17,807	19,497	9.49	.0711	.67
7	127,096	19,408	21,830	12.48	.1023	1.28
9	137,396	23,527	26,618	13.14	.1106	1.45
11	142,112	28,653	30,524	6.53	.1144	.75
12	159,660	34,816	35,510	1.99	.1285	.26
13	100,798	38,507	44,583	15.78	.0811	1.28
14	50,410	44,188	52,999	19.94	.0406	.81
15	25,232	51,067	64,102	25.53	.0203	.52
Total	1,242,406				1.0001	10.31%

1/ Presents data obtained from OPM as of 1/2/84.

2/ Weighting Factor = total employees in the grade as a proportion of total employees in the eleven selected grades.

3/ Weighted Difference = Private Sector to Federal Compensation difference multiplied by the weighting factor.

- On an overall average basis, Federal pay should be increased by 4.1% to equate it to average total cash compensation in the service subsector. Federal pay exceeds average service firm pay at grades 11 and 12 (by 3% to 8%) but is 3% to 8% below at the other grades sampled in the 7-15 range.

D. Comparison of Federal to State Cash Compensation

The supplemental cash compensation practices of the thirteen States participating in the survey are similar to that for the Federal government -- no supplemental cash compensation is available for relevant positions. Hence, total cash compensation is identical to base salary, for each State, as it is for the Federal government.

Chart VI-6, on the following page, depicts the relationship between average Federal and average State total cash compensation. The State results exclude those types of positions which are typically covered by special retirement plans (i.e., prison and police positions) as is the case for the Federal government as well. Hence, the results are consistent for total cash and total compensation comparisons.

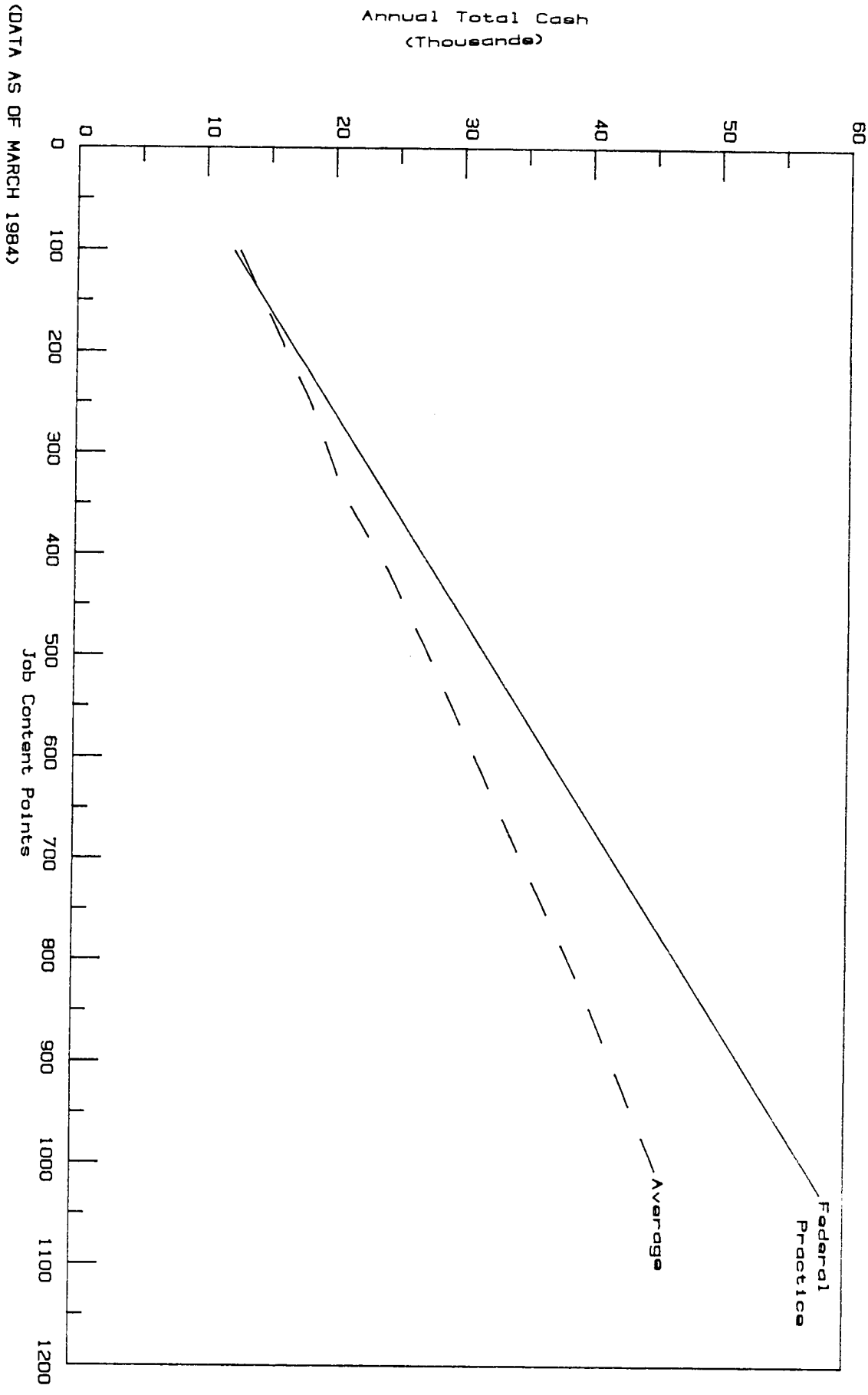
As Table VI-6 indicates, Federal pay exceeds average State total cash compensation, except at grades 3 and 4, by 2 to 20%. Overall, average Federal pay exceeds average State pay by 7.8% of Federal pay.

At the ES-6 level, average Federal exceeds average State total cash compensation by 36.0%. This is attributable to two elements: (1) the slope of the average State line is flatter than the Federal line; and (2) at some point near the median difficulty of grade 15 Federal positions, State compensation tends not to increase as job difficulty increases, in almost all of the States surveyed. Therefore, average State cash compensation is much lower than average Federal pay at the ES-6 level.

Chart VI-6

TOTAL CASH COMPENSATION COMPARISON
FEDERAL TO SELECTED STATES

GS AND EQUIVALENT GRADES 3-15



(DATA AS OF MARCH 1984)

Table VI-6

Comparison of Federal to Aggregate
State Average Total Cash Compensation,
All Grades, and Computation of
Overall Average Difference

Grade Level	Employee Population[1]	Average Federal Compensation	Average State Compensation	Percentage that State Exceeds Federal	Weighting Factor[2]	Weighted Difference[3]
3	70,146	11,816	12,597	6.61%	0.0565	0.37%
4	156,361	13,752	14,265	3.73	0.1259	0.47
5	184,813	15,684	15,377	-1.96	0.1488	-0.29
6	88,382	17,807	16,712	-6.15	0.0711	-0.44
7	127,096	19,408	18,157	-6.45	0.1023	-0.66
9	137,396	23,527	20,826	-11.48	0.1106	-1.27
11	142,112	28,653	24,273	-15.29	0.1144	-1.75
12	159,660	34,816	27,757	-20.28	0.1285	-2.61
13	100,798	38,507	33,910	-11.94	0.0811	-0.97
14	50,410	44,188	39,582	-10.42	0.0406	-0.42
15	25,232	51,067	46,062	-9.80	0.0203	-0.20
	1,242,406				1.0001	-7.76%

1/ Presents data obtained from OPM as of 1/2/84.

2/ Weighting Factor = total employees in the grade as a proportion of total employees in the eleven selected grades.

3/ Weighted Difference = Private Sector to Federal Compensation difference multiplied by the weighting factor.

The two cash compensation results were combined by weighting the overall results in each category in the survey by the number of employees in each category in the United States workforce as reported by the Department of Labor. Using these weights, the overall total compensation of the State and private sectors employees exceeds that of Federal employees by 9.0% of their cash compensation. A planned update in 1985 will consider movement in cash compensation through the Spring of 1985. If Federal employees receive a 3.5% salary adjustment, it is expected that the difference between Federal and non-Federal cash compensation will grow to 11% or more.

E. Comparison of the Results to the 1984 PATC Survey

The overall average Federal to private sector cash compensation difference derived from the 1984 PATC survey as of March 1 is 18.3%* in contrast to Hay's finding of 10.3%. However, the methodology employed in this study is markedly different from that employed in the PATC Survey. Hence, there is no a priori reason to expect similar results, and in fact different results should not be surprising. The PATC approach is more labor-market oriented, since it is couched in terms of average pay for incumbents of certain positions. The Hay approach is company-practice based.

The Hay analysis may be best considered as a separate approach to, not a replacement for, the PATC analysis. Because of the different perspective, population, and method, it would only be coincidental if both analyses produced an identical result. However, both analyses do lead to the same general conclusion -- Federal employees are paid less than their private sector counterparts and the difference is greater than the advantage that

*Comparability of the Federal Statutory Pay Systems with Private Enterprise Pay Rates, Annual Report of the President's Pay Agent, 1984.

Federal employees see in their fringe benefit package. The difference in the salary lag values - 10.3% versus 18.3% is best seen as bracketing the actual lag in Federal cash compensation.

In terms of analysis, the PATC Survey computes a weighted average compensation figure for each of the 105 sample positions, estimating the average pay for an incumbent of such a position. The Hay approach uses the data submitted by each participating company to develop a company compensation practice line which specifies the level of compensation paid, on average, for jobs of any difficulty in the range spanned by the data. The resultant practice lines are then equally weighted in order to develop an overall average practice line which indicates, on average, how much companies pay for jobs of a given content level, not how much incumbents of matched positions are paid. This approach vitiates the effect that a group of highly paid and highly populous positions has on the overall average results and the effect that a large company could have on the overall results.

The major elements upon which the surveys differ are discussed below in order to describe the factors which may account for the substantial differences found. The three major areas of difference are: (a) Federal data base; (b) private sector cash compensation data base; and (c) private sector data collection and analysis methodology.

The 1984 PATC Survey presents data on 105 positions which span GS and equivalent grades 1-15, excluding grade ten. According to PATC Survey documentation, the positions were selected with two criteria in mind: (1) that they provide a sample which can be matched in the private sector, and (2) that they provide a representative sampling of Federal positions. The number and nature of the positions included is constrained by the job matching methodology employed. In contrast, the Hay sample of 392 non-SES positions provides a wide representation of the Federal compensation

practice. The eleven grades selected for inclusion cover approximately 95% of all GS and equivalent employees and, on average, 67% of all incumbents at a selected grade.

PATC randomly selects a nationwide sample of establishments from which to collect cash compensation data. Mimimum sizes (in terms of number of employees) are set for different types of establishments, ranging from 50 to 250 (depending on industry type). Therefore, the smallest establishments are excluded. Approximately 3,200 establishments were surveyed for the 1984 report, and data for about two million employees was collected.

The Hay cash data bases for exempt positions consist of a self-selected non-random sample of 1,249 companies with independent compensation programs. Each Hay company typically comprises a number of establishments, some of which might be too small to be eligible for inclusion in the PATC survey: the Hay criterion is the existence of a uniform, independent compensation practice regardless of company size, number of physical locations, or legal ownership by another firm. Neither the Hay nor PATC data bases include information on the truly small, (e.g., 2-9 employees) and independent companies in the United States.

The Hay data bases cover the compensation practices applicable to over one million exempt employees, and the addition of the BLS data on nonexempt positions brings the total in line with the PATC population figure of approximately two million. Therefore, the Hay data bases contain a substantial amount of reliable information covering medium-size and even smaller establishments in the same way the PATC Survey does, although this is done from a large company perspective.

The PATC data collection approach is based upon the matching of position descriptions, including reliance upon information collected during discussions with personnel or other staff members of the

organization being surveyed. Ultimately, a match or no match decision must be made. This process restricts the comparison to positions similar to those in the Federal government sample. The Hay method of job evaluation does not require job matches to be found or considered.

Position descriptions reviewed and approved by supervisors are used by Hay as a basis for job evaluation. The actual evaluations are performed by a committee whose members are managers drawn from different areas of activity in the company. A Hay consultant guides the committee in properly applying the job evaluation measurement tools. The committee, due to its varied make-up, ensures that its consensus-based decisions accurately reflect the relative content of each job. At the end of the process, the committee reviews its work for consistency. Thereafter, the results are submitted for independent review by internal Hay experts in job evaluation quality control, and further revisions are made as necessary. Clients who have not submitted their evaluations for review within the preceeding three years are excluded from participation in Hay surveys.

The Hay methodology constitutes a very different philosophical approach from that implemented in the PATC Survey process, independent of specific details of the implementation thereof, such as coverage of the Federal population or use of medians rather than means. Given this fundamental distinction revolving about the appropriateness of a labor market (PATC) versus an organizational practice model (Hay), the two approaches should be considered to be alternatives lying near opposite extremes of a spectrum which indicate the range of results to be expected (and in fact found). On this basis, discussion of their relative merit, or accuracy, hinges upon debating which of the two models is more appropriate to the issue at hand.

VII. TOTAL COMPENSATION

This section combines the cash compensation evaluation results with the benefit comparison results to produce a comparison of Federal total compensation to that of the private sector and State employees. The primary finding is that Federal employees receive a total compensation package that would have to be increased by 7.2% to equal the value of the total compensation package for private sector employees. This is the expected result of combining the 10.3% cash compensation lag observed in Section VI with the 2.8% advantage in Federal benefits developed in Section V.

In earlier sections, it was noted that State cash compensation lags Federal by 7.8% and benefits for comparable salaries are .5% behind. When the two factors are combined, however, the gap is 7.1% of compensation.

The total compensation method, as with the cash and benefits comparison method, is that used by the Hay Group extensively in private sector analysis. Federal total compensation was calculated by combining the percentage of salary that is paid for benefits at each grade level with the total cash compensation.

The differences in total compensation are developed by correlating benefits and cash compensation level and dividing by a higher base. Thus, simple addition of cash and benefits differences does not necessarily match the total compensation differences.

A. Comparison of Federal to Private Sector Total Compensation

Table VII-1 summarizes the results of combining the benefits values and cash values in each Federal grade level. The cash compensation levels are those developed in Section VI. The benefits comparison levels were developed from comparable salaries in the Section IV and V analyses.

Chart VII-1 plots the difference between total compensation for the Federal government and the average private sector employee. In total, the cash compensation difference of 10.3% has been reduced to 7.2% since Federal benefits are a higher percentage of pay than are private sector benefits at all salary levels. The private sector advantage is observed at all grade levels with a range of .3% to 23.9% of total compensation.

The special analysis of SES positions shows that the Federal SES employee lags equivalent positions in the private sector by 54.2% of Federal total compensation.

Table VII-1

Comparison of Federal to Aggregate
Private Sector Average Total Compensation,
All Grades, and Computation of
Overall Average Difference

Grade Level	Employee Population[1]	Average Federal Compensation	Average Private Sector Compensation	Percentage Difference to Federal Base	Weighting Factor[2]	Weighted Difference
3	70,146	$19,360	$20,060	3.61%	0.0565	0.20%
4	156,361	22,202	23,848	7.41	0.1259	0.93
5	184,813	24,946	26,443	6.00	0.1488	0.89
6	88,382	27,854	29,262	5.06	0.0711	0.36
7	127,096	29,973	32,494	8.41	0.1023	0.86
9	137,396	35,821	39,239	9.54	0.1106	1.06
11	142,112	43,023	44,679	3.85	0.1144	0.44
12	159,660	51,716	51,889	0.33	0.1285	0.04
13	100,798	56,886	64,863	14.02	0.0811	1.14
14	50,410	64,856	76,769	18.37	0.0406	0.75
15	25,232	74,452	92,259	23.92	0.0203	0.49
	1,242,406				1.0001	7.16%

1/ Presents data obtained from OPM as of 1/2/84.

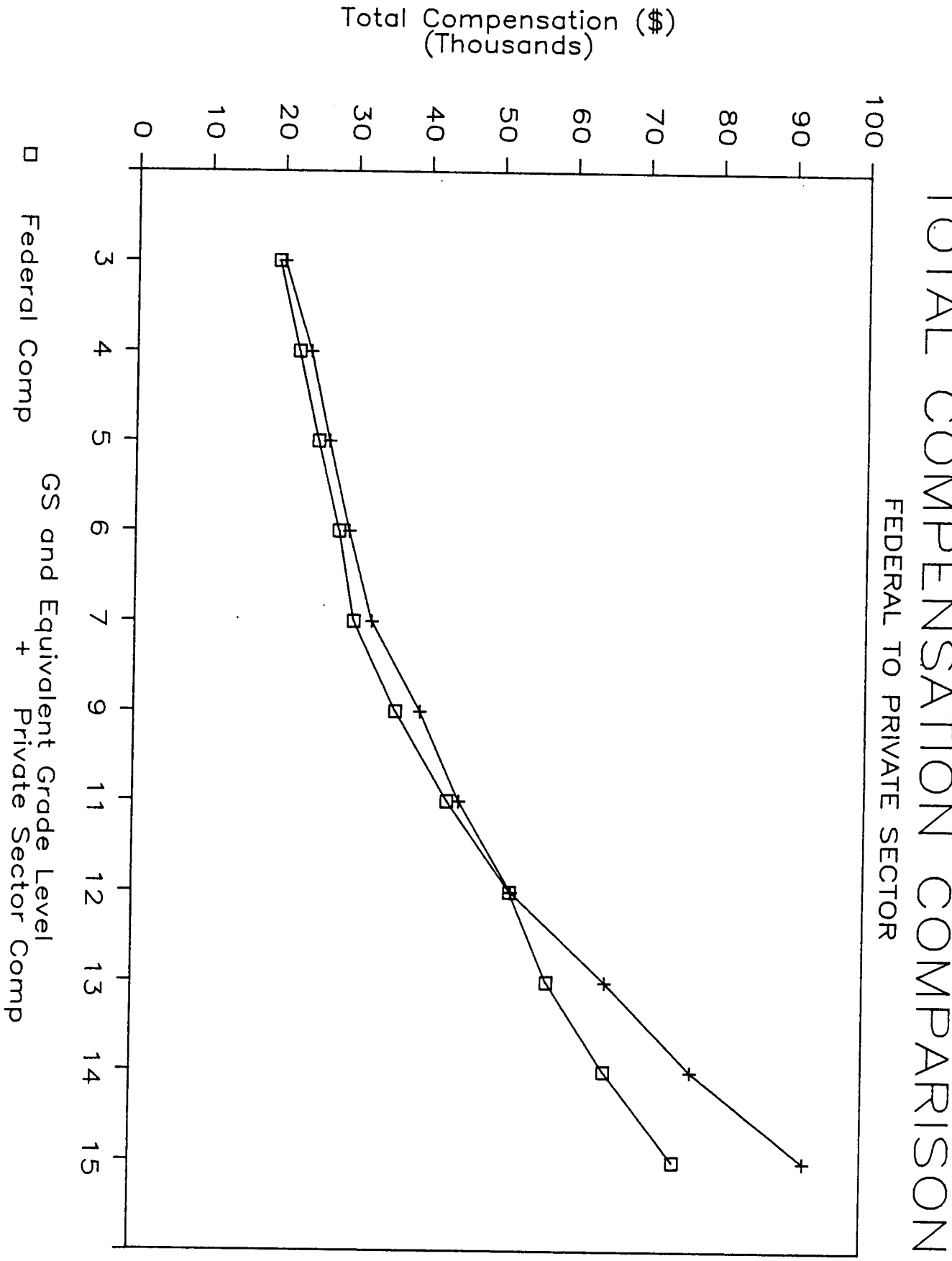
2/ Weighting Factor = total employees in the grade as a proportion of total employees in the eleven selected grades.

3/ Weighted Difference = Private Sector to Federal Compensation difference multiplied by the weighting factor.

Chart VII-1

TOTAL COMPENSATION COMPARISON

FEDERAL TO PRIVATE SECTOR



B. Comparison of Federal to State Total Compensation

Table VII-2 presents the comparison of Federal to State total compensation.

Table VII-2 compares Federal and State government total compensation and depicts that when the benefits are combined with cash compensation the total compensation difference is 7.1% on average. At grades 3 and 4, the values for State positions are above the Federal values but in grades 5 to 15 the Federal positions are ahead by 1% to 20%.

Even though benefits for comparable Federal salaries are slightly higher than for State employees, the combination of benefits and cash compensation reduces the cash compensation lag. This is primarily a result of the fact that benefits are proportionately higher at lower pay levels. Thus, the lower State salaries often have a higher percentage of pay as benefits then in the comparable Federal position.

When the private sector and State findings are weighted by the number of employees in each category in the United States labor force, the total compensation is 6.2% ahead of the total compensation of the Federal employees. If Federal employees receive a 3.5% salary increase in January 1985, it is expected that the difference will grow to 8% or more.

Table VII-2

Comparison of Federal to Aggregate
State Average Total Compensation,
All Grades, and Computation of
Overall Average Difference

Grade Level	Employee Population[1]	Average Federal Compensation	Average State Compensation	Percentage Difference to Federal Base	Weighting Factor [2]	Weighted Difference[3]
3	70,146	$19,360	$20,770	7.28%	0.0565	0.41%
4	156,361	22,202	23,161	4.32	0.1259	0.54
5	184,813	24,946	24,708	-0.95	0.1488	-0.14
6	88,382	27,854	26,516	-4.80	0.0711	-0.34
7	127,096	29,973	28,413	-5.20	0.1023	-0.53
9	137,396	35,821	31,925	-10.88	0.1106	-1.20
11	142,112	43,023	36,799	-14.47	0.1144	-1.66
12	159,660	51,716	41,607	-19.55	0.1285	-2.51
13	100,798	56,886	50,087	-11.95	0.0811	-0.97
14	50,410	64,856	57,836	-10.82	0.0406	-0.44
15	25,232	74,452	66,497	-10.69	0.0203	-0.22
	1,242,406				1.0000	-7.06%

1/ Presents data obtained from OPM as of 1/2/84.

2/ Weighting Factor = total employees in the grade as a proportion of total employees in the eleven selected grades.

3/ Weighted Difference = Private Sector to Federal Compensation difference multiplied by the weighting factor.

Chart VII-2

TOTAL COMPENSATION COMPARISON

FEDERAL TO SELECTED STATES