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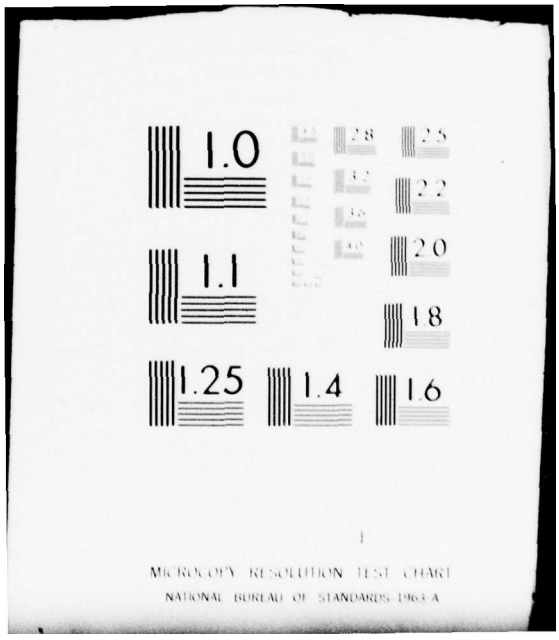
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NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

RETIREMENT ACCOUNTING

AND THE UNFUNDED LIABILITY

by

Albert T. Church, III

March 1979

Thesis Advisor: S. S. Liao

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Retirement Accounting and the Unfunded Liability

by

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Lieutenant Commander, United States Navy
B.S., United States Naval Academy, 1969

submitted in partial fulfillment of the
requirements for the degree of

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from the

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I. INTRODUCTION

A. GENERAL

Beginning with the Treasury Act of 1789, accounting in government has undergone many changes in evolving to its present state. Numerous legislative reforms and professional organizations have contributed to its development and increased level of sophistication. Yet many difficult and controversial issues remain in the field of government accounting. Municipal, state, and federal accounting and reporting systems differ widely. These in turn vary considerably from the principles practiced in the private sector. This paper attempts to trace briefly the history of accounting by the U.S. Government, and will focus on two current and on-going issues, those of accrual and full-cost accounting. With this background, the remainder of the paper deals with retirement costs in the private and public sectors, how they are accounted for and funded, and recommendations for future improvements. Emphasis is placed on military retirement costs, since they are totally unfunded and represent a significant financial liability to future taxpaying generations.

B. THE PROBLEM

The past several years have seen increased public awareness and media coverage of the escalating costs of military

manpower, and the expense and form of military compensation, both active and retired. Out of this have come numerous reports, surveys, and recommendations for wide-ranging reform of the services' pay/allowance and retirement systems. In response to this situation, the President established by Executive Order in June 1977 the President's Commission on Military Compensation. Tasked with reviewing the findings of all recent committees and submitting an encompassing recommendation for modernization, it reported out in April 1978.[Ref. 20] Specifically tasked was the development of a system that was both appropriate and equitable. The impetus behind these studies was very clearly another matter, however. It is the rising cost of an ever increasing retirement community that is the compelling force driving this reform movement. In 1978, for instance, outlays for retired military pay was $9.1 billion, representing roughly 8 percent of the defense budget. This figure is projected to reach $13.0 billion by 1982 (approaching 10 percent of total defense outlays). If the retirement costs of the six other federal retirement systems were added in as was done in Ref. 7, these figures would more than double. It is understandable with 1981 total federal retirement outlays approaching $25 billion and growing, that there would be considerable cause for concern. More alarming, however, is the fact that these seven retirement systems also reported liabilities exceeding $320 billion ($166 billion for the uniformed services), of which less than $44 billion had been set aside in federal trust funds. The difference between this accrued

prior service cost and the fund balance is referred to generally under the heading of the "unfunded retirement liability." The mere size of this accrued liability has serious financial, social, political and economic implications. This paper attempts to address many of these areas. Specifically, under accrual accounting concepts required by generally accepted accounting principles (GAAP), shouldn't the currently accruing retirement liability be recognized? If accounting procedures are implemented to recognize this liability, shouldn't this amount also be funded as representative of current costs for defense? Should the prior service costs be handled in a manner similar to the private sector and amortized over a designated period? Finally, what political and economic responses could be expected if all or some combination of these proposals were enacted?

C. NEED FOR RESEARCH

It is apparent that this unfunded retirement liability, now greater than $280 billion, represents a significant tax burden for successive generations. If recognized, the accumulated national deficit would soar well above a trillion dollars with attendant economic and social repercussions. A great deal of research concerning how to handle these costs is presently being undertaken. Contributing agencies include the Office of Management and Budget (OMB), the General Accounting Office (GAO), the Department of Defense (DOD), the Congressional Budget Office (CBO), congressional subcommittees and numerous public accountants, economists and

educators. Using accrual accounting concepts as a point of departure, a number of issues, as addressed in paragraph B above, still remain unanswered. There are opposing views on many points. In some instances experts may agree in principle with proposed changes while dismissing any real action. The thrust of this paper is to bring together the current arguments surrounding federal retirement costs, reach some general conclusions and comment on some of the proposals for future change.

D. METHODOLOGY

The information needed to address these issues was obtained through library research and analysis of many technical papers published recently on the subjects of accrual accounting in government and federal retirement systems. Development of the subject begins with a brief history of government accounting, emphasizing major legislative reforms and the development and implementation of accrual accounting. Chapter III discusses the Arthur Andersen papers, which prepared representative consolidated financial statements for the government on an accrual basis. Following this, accounting and funding procedures for pension plans in the private sector are presented, under the guidelines of GAAP and the Employee Retirement Income Security Act (ERISA). These procedures are then compared with several retirement and transfer payment plans in the public sector. Finally, military retirement costs and the associated unfunded liability are addresses in specific. A number of revised accounting

and funding proposals have recently been introduced, and these are discussed. Chapter V then offers some observations and conclusions based on the issues developed throughout the paper.

II. ISSUES IN GOVERNMENT ACCOUNTING

A. BRIEF HISTORY OF GOVERNMENT ACCOUNTING

For nearly 200 years the United States has strengthened its constitutional checks and balances and has incorporated into this structure the concept of accountability. To achieve accountability, effective accounting controls and sound financial reporting are essential. This section of the paper summarizes the major efforts of the federal government to improve the usefulness of its accounting, budgeting and financial reporting systems. This, in turn, leads to a discussion of accrual accounting in government, adoption of which underlies the recognition of retirement cost liabilities. Major reforms in this area are highlighted in Table I.

The first important legislation dealing with the fiscal authority of Congress was the Treasury Act of 1789. As implied, this act created the Treasury Department and delegated it authority for management of the revenues and the estimating of public receipts and expenditures. The act established an auditor and controller within the Treasury Department, and required an annual report to Congress detailing the receipts and disbursements of public monies made during the fiscal year.

A major reform was the Budget and Accounting Act of 1921, which instituted a number of important changes in the financial management of government. Two of the more important

of these were the establishment of the General Accounting Office (GAO) and the Bureau of the Budget (BuBud). GAO was created independent of the Executive Branch and had final review authority as to the propriety and legality of all government expenditures and transactions. As such it became essentially the auditing arm of the Congress. It was set up primarily as a large bookkeeping agency responsible for maintaining the appropriation records for all government agencies. BuBud was established within the Treasury Department and charged with aiding the President in developing the annual budget to be sent to the Congress. This was the first attempt to budget resources and identify them to actual program requirements. Initial budgetary efforts, however, left much to be desired. They were implemented on a cash basis and provided no means for expenditure control. In 1939 BuBud was transferred to the Executive Office of the President.

As a result of a 1937 Brookings Institution report, the Legislative Reorganization Act of 1946 was passed into law. This study had noted a number of weaknesses in government accounting, among them the fact that existing systems still failed to give Congress complete control over collecting and disbursement of public funds, and there was no existing control over the preparation of government financial statements. The Senate Committee on Government Operations, established by this act, began the Joint Program for Improving Accounting in the Federal Government (JPIAFG). This evolved the following year into the Joint Financial Management Improvement Program (JFMIP). This program still exists today and is chaired by

TABLE I

SUMMARY OF MAJOR LEGISLATION AND EVENTS DESIGNED TO ESTABLISH EFFECTIVE FISCAL MANAGEMENT IN GOVERNMENT

1789 - Treasury Act

1906 - Anti-Deficiency Act (R.S. 3679)

1921 - Budget and Accounting Act

1933 - Securities Act

1939 - Bureau of Budget Transferred from the Treasury to the Executive Office of the President

1946 - Legislative Reform Act - Joint Program for Improving Accounting in the Federal Government (JPIAFG)

1947 - First Hoover Commission

1949 - National Security Act Amendments

1950 - Budget and Accounting Procedures Act

1955 - Second Hoover Commission

1956 - P.L. 84-863

1965 - Planning-Programming-Budgeting System (PPBS)

1967 - President's Commission on Budget Concepts

1968 - Revenue and Expenditure Control Act

1970 - Legislative Reorganization Act

1974 - Congressional Budget and Impoundment Act

1976 - Zero-Base Budgeting (ZBB)

the Comptroller General, Secretary of the Treasury, Director of OMB, Chairman of the Civil Service Commission (CSC), and head of the General Services Administration (GSA). As stated by the Comptroller, the purposes of the JFMIP were:

> "to develop sound accounting within each agency, as a working arm of management, in terms of financial information and control...integrate patterned accounting and financial reporting for the government as a whole, responsible to executive and legislative needs...elimination of overlapping operations and paperwork...further application of efficient methods and techniques in accounting operation throughout the government."[Ref. 13, p. 38]

This program was considered necessary because accounting processes had failed to keep up with the increase in the number of government activities and with changes in the management structure. This management structure had changed from a centralized to a decentralized operation resulting from the vast number of activities created during two world wars. While the JFMIP did not have any legal force, it led utimately to the Budget and Accounting Procedures Act of 1950.

Also, in 1947 the Commission on Organization of the Executive Branch (commonly called the "Hoover Commission") was formed in an attempt to streamline the federal accounting system which it found outmoded, cumbersome and inadequate. Its findings included a recommendation to develop a complete and integrated accounting system tied to a performance or program budget. It also gave implicit approval to the concept of accrual accounting in government.

In 1947 the National Security Act Amendments created DOD and departmental comptrollers and authorized the establishment of working capital funds. This was followed in 1950 by the Budget and Accounting Procedures Act, an incorporation of many of the recommendations of the first Hoover Commission. As suggested by the title, many accounting changes were subsequently instituted. The Act gave the establishment and maintenance of accounting systems to the individual government agencies, thus removing the bookkeeping function from the GAO. GAO maintained authority, however, to prescribe accounting principles and standards for agencies and, additionally, was given the responsibility to approve all new accounting systems before implementation. One standard prescribed by the Comptroller General (GAO) was the required use of accrual accounting to supplement the obligation basis. Finally, this act considerably strengthened the audit role of the GAO.

The next significant development in government accounting resulted from the findings of the second Hoover Commission formed in 1953. Their conclusions criticized the obligational basis of accounting, in that Congress did not know under the system when an obligation would be paid, and consequently lost control of appropriations. In other words, under this "open-end" situation, end of year "unexpended appropriations" were neither identified nor controlled. Their conclusion, much like the first commission, was that there was insufficient control over expenditures either by the Executive

Branch or by Congress. In the area of accounting their report stated:

> "Through the Budget and Accounting Act of 1950, Congress imposed on the Bureau of the Budget, the Treasury Department, and the Comptroller General, the legal responsibility for the development of accounting methods designed to provide operating information. Up to the present, however, only a few steps have been taken for the implementation of these programs, and these steps have not accomplished much."[Ref. 17, p. 58]

Three other areas received particular attention by the Commission: budgeting based on costs, appropriations based on estimated annual accrued expenditures, and accrual accounting.

The impetus given by the Second Hoover Commission to accounting and financial management practices in government led to more hearings and committee reports. These led ultimately to the passage in 1956 of Public Law 84-863 which incorporated into law most of the recommendations of the Commission, excepting the accrued expenditures concept for appropriations. This law, which amended the Budget and Accounting Act of 1921, had as its main features the following:

1. The requests of the department and establishment for appropriations shall, in such manner and at such times as determined by the President, be developed from cost-based budgets and
2. As soon as practicable after the date of enactment of this subsection, the head of each executive agency shall, in accordance with principles and standards

prescribed by the Comptroller General, cause the accounts of such agency to be maintained on an accrual basis....

A copy of P.L. 84-863 is found in Appendix A.

The decade of the sixties saw continued reform in the areas of cost-based budgeting and congressional attempts to get an accurate handle on the national purse strings. Implemented in 1965, the Planning-Programming-Budgeting System (PPBS) was an effort towards expressing the budget on a program or performance basis. These endeavors were endorsed by the President's Commission on Budget Concepts in 1967, along with a recommendation that the budget be expressed on an accrual basis to provide a better measure of the impact of government activities on the economy. The Revenue and Expenditure Control Act of 1968 placed limitations on overall disbursements and obligations that could be made in the twelve-month period. This was modified somewhat in 1969 by the Second Supplemental Appropriations Act which placed a continuously moving ceiling on expenditures.

Sweeping reform came the following year with passage of the Legislative Reform Act of 1970. This act directed BuBud, now the Office of Management and Budget (OMB), with the Treasury, to standardize and modernize the budgets and fiscal management of government agencies through the development of a vast EDP system. In 1963, the responsibility of accounting and financial reporting for plant and property was shifted from OMB to GSA. Appropriately, the director of the GSA was made a member of the JFMIP. Finally in 1974

the Congressional Budget and Impoundment Act was passed. This legislation created separate budget committees in both houses of Congress, and a new agency, the Congressional Budget Office (CBO), was created to coordinate and assist the work of the two budget committees.

Having traced the chronological history of major innovations in governmental accounting and financial management, it is worthwhile to review the structure and responsibilities of the agencies entrusted with the operation of these systems.

1. General Accounting Office (GAO)

The Comptroller General is head of the GAO and is appointed to that position by the President for a period of 15 years. It is independent of the Executive Branch by design, and the long tenure of the Comptroller General compliments this independence. It has a number of responsibilities, the majority of which can be summarized into three general areas as follows:

a. Recommending ways and means for improving financial management, prescribing accounting principles and standards, and assisting agencies in improving financial management systems.

b. Auditing or reviewing agency financial and management systems, the efficiency of management use of resources, and the effectiveness of agency programs in achieving the objectives of Congress.

c. Assisting the Congress and its committees by conducting special audits, surveys, and investigations of governmental programs and providing financial and technical advice.

Thus, in addition to a strong audit and investigative role, GAO is responsible for prescribing the standards, principles and related requirements to be observed by each executive agency in the development of its accounting system. It approves all new accounting systems prior to implementation, an effort at standardizing accounting and financial reporting systems. In the course of prescribing standards the GAO publishes considerable information, an example of which is The GAO Policy and Procedures Manual for Guidance of Federal Agencies.

2. Treasury Department

This is the oldest of the central agencies, headed by the Secretary of the Treasury who is appointed by the President for an indefinite term of office. Although its functions have changed dramatically over the years, its primary responsibility remains to receive, keep, and disburse monies of the United States and to account for them. The Secretary of the Treasury is also responsible for the preparation of "such reports for the information of the President, the Congress, and the public as will present the results of financial operations of the Government."[Ref. 14, p. 474] In this capacity, he consolidates and reports the status of funds and other accounting statistics as submitted by the individual agencies.

3. OMB

This office was established in 1970 as part of the Executive Branch and successor to the former Bureau of the Budget. As in the past, its main function is to assist the President in the preparation of the annual budget, but with greater emphasis placed on management and fiscal analysis. As such, contributing responsibilities include planning and developing information systems to provide program performance data, and planning and conducting evaluation efforts to assess agency program objectives, performance and efficiency. These duties all fall within the scope of the PPBS system. OMB also oversees budget execution through the apportionment process, wherein all agencies must receive approval prior to obligating or spending appropriated funds. The primary thrust of this office is budget formulation, policy, and procedures.

4. GSA

The General Services Administration was established in 1949 as an independent agency in the Executive Branch. Its responsibilities include the management of buildings, property, vehicles and related government records of same. Additionally it provides for the construction and operation of buildings, procurement and distribution of supplies, and stockpiling of strategic materials. In 1973 it inherited a number of functions previously required of OMB, including financial management systems development and automatic data

processing management. Accordingly, the GSA has become increasingly active in prescribing financial management policy and procedures for federal agencies.

The heads of these agencies constitute the principals of the Joint Financial Management Improvement Program. While they each have statutorially different responsibilities with respect to budgeting, accounting and reporting, they work together for the purpose of updating and modernizing financial management practices and systems throughout the government. The Budget and Accounting Act of 1921, as now amended, makes the head of each federal department and agency responsible for, and required to comply in, four areas of financial management: [Ref. 25, p. 13]

(1) Preparing requests for regular, supplemental, or deficiency appropriations and submitting such requests to the Office of Management and Budget.

(2) Using cost-based budgets for purposes of administration and operation and for the subdivision of appropriations.

(3) Taking action to achieve consistency in accounting and budget classifications, synchronization between these classifications and organization structures, and budget justification by information on performance and program costs for each organizational unit.

(4) Furnishing to the Comptroller General information regarding the powers, duties, activities, organizations, financial transactions, and methods of business as he may require from time to time.

It is apparent that great strides have been made in development of government financial management systems. There has been a gradual shift from simple cost and obligation-based budgeting and accounting systems to the establishment of integrated financial systems. Performance budgeting introduced in 1951 and PPBS in 1965 contributed significantly toward making budgets and their underlying accounts useful tools for managerial decision-making. Significant problems still remain, however. Each agency still is responsible for designing and maintaining its own separate accounting system to ensure that operations will be properly planned and carried out. Although there are organizations of government accountants and certain standards required by the GAO, these lack the thoroughness and wide adoption of the AICPA's "generally accepted accounting principles" in the private sector. The result is, simply, different accounting methods and reporting. While the Treasury consolidates submitted reports, there is no central accounting department in the federal government. Finally, attributing costs to many of the services generated by government create problems in both accounting and performance budgeting. For these reasons, government accounting remains essentially a cash-based system, not generally designed to summarize and report on operating results. Although P.L. 84-863, in existence since 1956, requires that government agencies prepare business-like, accrual-based financial reports, this law has been only partially implemented to date. Thus, despite recommendations from numerous commissions, a legal requirement, and endorsements

by several Presidents, the adoption of accrual accounting in government remains a major stumbling block to integrated financial systems and meaningful reporting by government agencies.

B. ACCRUAL ACCOUNTING

The shift to accrual accounting, however slow, is still generally regarded as one of the more important technical developments currently taking place in accounting in non-profit organizations. Accounting has been defined rather broadly as "...the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information."[Ref. 19, p. 1] Thus, an accounting system is a communications or feedback mechanism providing information, principally in financial tersm, on the status of an enterprise and the results of operations. It stands to reason that the usefulness of the system and the data it produces depends largely on how well and accurately it conveys a "true picture" of the object of interest. Financial accounting, as distinguished from managerial and cost accounting, is historical in perspective. It serves to collect, analyze and record data of a financial nature for the preparation of the periodic financial statements and reporting of the results of operations. Managerial accounting, however, is oriented towards aiding management in the administration of the enterprise. It involves the use of techniques such as (capital) budgeting, cost accounting, performance standards and variance analysis to assist

in managerial decision-making. Finally, cost accounting is commonly associated with factory-type accounting methods for the development of units costs, such as the familiar job order and process cost systems. Cost accounting serves primarily internal management by providing information useful in keeping costs under control.

Underlying the field of cost accounting is the concept of the flow of costs. Costs arise by virtue of a payment of cash, the incurrence of a liability, or the consumption of an asset. In the source of operations they flow from one form to another, e.g., from asset to expense, and accurate cost accounting requires that expenses of the period be separated from those costs that remain in the form of assets to be carried forward to the subsequent accounting period. Expenses of the period represent the costs of goods and services that have been consumed. The proper allocation of expenses to the period to which they apply is predicated on the use of an accrual basis of accounting.

Stated simply, accrual accounting means (1) that revenues should be recorded in the period in which service is given, although payment is received in a prior or subsequent period, and (2) that expenditures should be recorded in the period in which the benefit is received, although payment is made in a prior or subsequent period.[Ref. 14, p. 11] In business enterprise, the accrual basis is employed to obtain a matching of costs against the revenue flowing from those costs, thereby producing a more useful statement of profit or loss. In government where the profit motive and competition

are absent, accrual accounting enables the calculation of the cost of rendering services, as well as a better comparison between the actual revenues and expenditures and those authorized. A better understanding can be gained from a comparison with the "cash basis of accounting." On a cash basis, expense is equivalent to cash paid out and income is equivalent to cash received. Specifically, income and expenses are recognized only upon the receipt and disbursement of cash. This system overlooks expenses that may have been incurred but will not be paid until a subsequent accounting period, and it fails to recognize income that may have been earned though not yet collected. As such, the cash basis does not produce a true measure of operating results. Under the accrual basis, revenues and expenses may be defined as follows:

> The revenues of a business enterprise are the gross earnings during the period in question from the delivery of goods or the rendering of services to customers. Revenue is earned or realized at the time the goods or services are delivered to the customer regardless of the time when the order is received or when the cash is collected from the customer. Consequently, revenue earned is not the same thing as cash receipts or orders received.
>
> The expenses of a business enterprise are the costs of the goods and services consumed by the enterprise in the earning of revenue. As an enterprise carriers on its operations, various goods and services are purchased, paid for, and consumed. Cost occurs at the time goods or services are purchased or acquired. Expenses occur at the time goods or services are consumed. The actual payment for goods and services may take place at some other time, before or after purchase or consumption. Consequently, the expenses of a period are not the same as the cash payments or purchases of that period. [Ref. 13, p. 7]

It is apparent from the foregoing that accrual accounting differs from the cash basis in that it records revenue earned and expenses incurred instead of revenue collected and expenses paid. A distinction will be made later between accrual and obligation accounting.

Federal government accounting systems are designed to emphasize the following three aspects of management accountability:[Ref. 14, p. 477]

1. Fiscal accountability, which includes fiscal integrity, disclosure, and compliance with applicable laws and regulations.

2. Managerial accountability, which is concerned with the economic use of personnel and other resources.

3. Program accountability, which is designed to assess whether programs are achieving their intended objectives and whether the best program options have been selected to achieve these objectives from the standpoint of total costs and outputs.

As resources dwindle, attention in recent years has been on program accountability, sometimes referred to as program or performance budgeting. As such, in the benefit-cost era, increased emphasis has been placed on costs of all management levels--on cost determinations and on cost-based budgeting. Public Law 84-863, which required the use of accrual accounting in all federal agencies, also introduced the concept of cost-based budgeting wherever applicable. For program and performance budgets to have any meaning, they must be based on (accrued) costs, accurately determined.

A cost-based budget is one that is expressed in terms of the costs of goods and services used or consumed during the period in question, regardless of when the goods or services are ordered, received, or paid for. This is in striking contrast to the "cash-budget" already alluded to, and the "obligation-budget," which focuses on the value of goods or services ordered during a period without regard to whether they have yet been received or consumed. Determination of costs applicable to an accounting period for budgeting purposes, however, is often difficult and governed by the nature of the program. For example, OMB Circular A-11 on budget preparation defines costs for budget use as follows:

> ...For operating programs, costs will represent value of resources consumed or used. For procurement and manufacturing progress, costs will represent the value of material received or produced. For capital outlay programs, costs for public works will cover the value of work put in place and costs for loan activities will represent assets acquired. In the case of appropriations for programs which are essentially operating in nature, equipment will be included in costs when it is acquired (or when withdrawn from supply inventories and placed into use); if depreciation costs are provided in the accounting system, such costs will also be included in the program and financing schedules, and appropriate deductions made to avoid duplication in the schedule totals....

It should be remembered here that costs become expenses for the operating period being reported on.

Under accrual accounting concepts costs are recorded at the time these resources are consumed. Under obligation accounting, the cost is recorded at the time a contract to acquire resources is entered into. An illustrative example

shows this relationship and provides for clarification of some terms:

1. Issuing a purchase order for goods or services or placing a contract--recorded as an obligation (encumberance) in the period in which placed.

2. Receipt of goods or services--recorded as an accrued expenditure (liability) in the period received.

3. Goods or services consumed--recorded as an expense for the period (accrued cost).

4. Payment made--recorded as a disbursement in the period.

Thus, under the obligation basis, only steps 1 and 4 recognize costs. Under accrual accounting, much more (useful) information is acquired, particularly with regards to costs of goods and services received and consumed within an accounting period. This projects more accurately the true costs of doing business, reflects revenues and expenses accrued, matches costs accurately to programs and performance goals, and thereby fulfills the information and communication aspects of a truly operational accounting system. Obligation accounting, however, provides little cost information that can be compared to performance or operating programs. The incurrence of obligations seldom corresponds to the actual utilization of resources or receipt of goods and consequently inhibits good management information and control.

To briefly summarize, probably the most important benefit of accrual accounting is the greater control it permits over costs. In private industry, accrual techniques are

essential for accurate completion of financial statements and determination of net profit or loss for an accounting period. There is a regular need for matching revenues and expenses of a particular time frame. In government accounting, where profit and loss are not predominant goals, the emphasis is on a matching concept, but not a time concept. Under PPBS for example, costs are matched to programs as necessary to determine total program costs, measure benefits and assess program efficiency. Cost accounting is then, as previously discussed, the logical extension of accrual accounting. Costs measure consumption, and taken together with accomplishments, they permit the manager to make judgments of performance and informed operational decisions. It is this management aspect of accounting that gives cost-based accrual systems their growing emphasis in government. Little improvement can be expected in either planning or control techniques unless reliable expense data are available, and such data can only come from an accrual accounting system.

The need for better cost data and improved legislative (management) control over appropriations is what led two Hoover Commissions to recommend the adoption of accrual accounting in government. To strictly account for public monies, the obligation method was satisfactory. For accurate costing and management purposes it was not. The benefits to be gained from an accrual system appeared well documented, and Public Law 84-863 has required its use since 1956. GAO has been given responsibility for approving all new federal accounting systems within this guidance. Implementation has

been slow, however, and most governmental agencies still do not employ accrual accounting techniques. It is worthwhile to look at some major problems encountered during implementation, and these are discussed in the following section.

C. PROBLEMS AND CONCEPTS FOR GOVERNMENT ACCOUNTING

Having examined the benefits to be gained from an accrual accounting system, it is appropriate to focus on two areas that have impeded its adoption within the federal government. These are addressed in the sections: 1. The Budget Structure and 2. Obligation Accounting. Following this, attention is turned to two concepts, widely accepted in the private sector, but not fully practiced by the federal government. These concepts, which mandate an accrual approach to accounting, are presented in sections: 3. Full-Costing Concept and 4. The Entity Concept.

1. The Budget Structure

The major stumbling block in government financial reporting today is the budget. The budget is submitted by the President and approved by the Congress annually. Each agency and department prepares and submits its budget request for higher level review and consolidation. A significant improvement began in 1951 when budget estimates were first presented on a program basis. Regardless of the general purpose served, however, the budget outlays of the federal government are classified by function. The estimated

TABLE II

PROJECTIONS

BUDGET AUTHORITY BY FUNCTION

[In billions of dollars]

	Estimate		Projection		
	1979	1980	1981	1982	1983
National defense	128.4	139.6	150.9	162.7	174.9
Military personnel	(27.2)	(27.4)	(27.6)	(27.7)	(27.9)
Retired pay	(10.1)	(11.1)	(12.1)	(13.0)	(13.8)
Operation and maintenance	(37.4)	(39.1)	(40.8)	(42.8)	(44.2)
Procurement	(31.9)	(35.7)	(39.8)	(43.9)	(48.5)
Other	(21.8)	(26.2)	(30.7)	(35.4)	(40.4)
International affairs	13.8	14.4	14.3	16.5	16.7
General science, space, and technology	5.2	5.4	5.1	4.5	4.2
Energy	9.5	6.6	6.0	6.5	6.4
Natural resources and environment	12.7	12.8	12.6	12.5	12.5
Agriculture	7.2	4.6	4.9	5.3	4.6
Commerce and housing credit	6.6	7.7	7.5	7.5	7.7
Transportation	18.6	19.3	19.4	19.5	19.7
Community and regional development	7.7	7.7	7.5	7.6	7.7
Education, training, employment, and social services	33.6	34.1	35.2	37.7	38.9
Education	(14.4)	(13.6)	(13.7)	(13.7)	(13.7)
Training and employment	(12.3)	(14.8)	(15.7)	(18.2)	(19.3)
Other	(6.9)	(5.7)	(5.8)	(5.8)	(5.9)
Health	52.6	58.8	68.8	77.5	85.1
Medicare	(31.7)	(37.0)	(46.1)	(53.8)	(60.1)
Medicaid	(12.0)	(12.9)	(13.7)	(14.5)	(15.6)
Other	(8.9)	(9.0)	(9.1)	(9.2)	(9.3)
Income security	190.9	215.1	236.0	255.4	273.9
Social security	(100.2)	(115.8)	(135.8)	(154.7)	(170.6)
Federal employee retirement	(19.7)	(21.4)	(22.5)	(23.4)	(24.4)
Unemployment compensation	(17.0)	(15.5)	(12.1)	(10.6)	(11.0)
Public assistance and related programs	(49.1)	(57.3)	(60.2)	(61.2)	(62.2)
Other	(5.0)	(5.2)	(5.4)	(5.6)	(5.7)
Veterans benefits and services	19.1	19.7	20.0	20.2	20.5
Administration of justice	4.1	4.2	4.2	4.2	4.2
General government	4.4	4.6	4.4	4.3	4.2
General purpose fiscal assistance	16.6	15.8	20.5	20.4	18.7
Interest	49.0	53.7	56.5	58.0	58.8
Allowances:					
Civilian agency pay raises	1.2	2.3	3.6	5.1	6.5
Contingencies	3.0	2.8	5.5	7.2	8.8
Undistributed offsetting receipts:					
Employer share, employee retirement	−5.2	−5.5	−6.0	−6.4	−6.7
Interest received by trust funds	−9.1	−10.3	−11.7	−13.3	−15.1
Rents and royalties: Outer Continental Shelf	−1.8	−1.8	−1.8	−1.8	−1.8
Total budget authority	**568.2**	**611.7**	**663.5**	**711.4**	**750.3**
MEMORANDUM					
Budget authority, off-budget Federal entities	16.1	9.2	9.2	10.2	10.2
Budget authority, including off-budget entities	584.3	620.9	672.7	721.6	760.5

Budget Authority for FY79 and FY80 is shown in Table II. Taking National Defense for example, Congress appropriates funds by the functional areas RDT&E, Military Personnel (MPN), Military Construction, Operation and Maintenance (O&MN) and Procurement. DOD, through a process called "cross-walking," identifies these funds to individual program categories aligned with the Five Year Defense Plan (FYDP). This is illustrated in Figure 1 and Table III below.

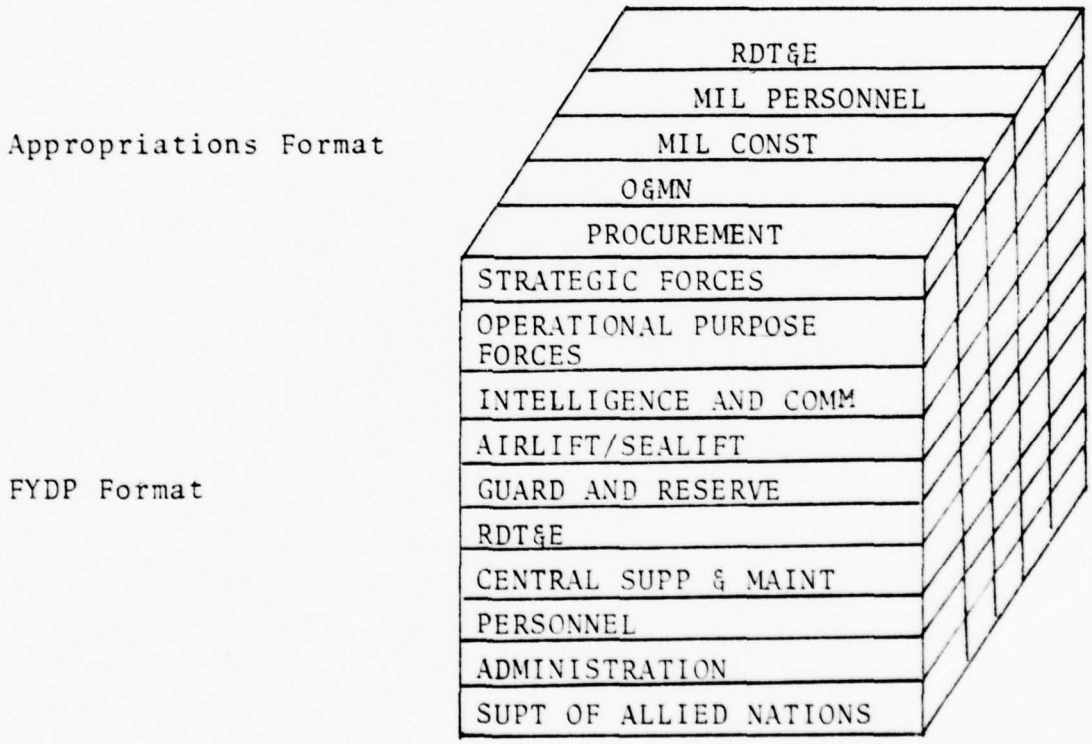


Fig. 1 - DOD Programming System

The program areas are further refined into individual program elements. In the budget formulation phase, the concepts of cost-based budgeting and cost-benefit analysis are evident. In the budget execution and reporting phases,

TABLE III

NATIONAL NEED: DEFENSE, MILITARY

(In billions of dollars)

Major Military Programs	Budget Authority		
	1977 Act.	1978 Est.	1979 Est.
Strategic Forces	9.4	9.4	9.8
General Purpose Forces	38.6	41.5	46.8
Intelligence and Communications	7.4	7.8	8.3
Airlift and Sealift	1.5	1.6	1.8
Guard and Reserve	5.9	6.7	6.7
Research and Development	9.8	10.1	11.1
Central Supply and Maintenance	10.9	11.8	12.5
Training, Medical and Other General Personnel Activities	22.6	23.9	26.0
Administration and Associated Activities	2.1	2.3	2.4
Support of Other Nations	.2	.3	.3
TOTAL BUDGET AUTHORITY	108.4	115.3	125.6
Non-Year Funds and Other Financial Adjustments	-.1	+1.5	+.4
TOTAL OBLIGATIONAL AUTHORITY	108.3	116.8	126.0

however, these concepts become somewhat obscured. As an example, the Commanding Officer, Newport, Rhode Island, is funded an amount of O&MN dollars for base operation, including maintenance of real property. If a supply center is on base, this is separately funded from the Naval Stock Fund. If R&D activities exist (in this case the Naval Underwater Sea Center--NUSC), these are separately funded. The pay of all service personnel is provided by the MPN appropriation. Finally, any approved construction is funded through the MILCON account. While the Naval Station might be considered an individual reporting unit for fiscal purposes, the funding structure leaves little discretionary authority to the CO, except possibly in the area of O&MN monies. Little incentive exists for efficiency or control of costs at the activity level. Likewise, the organizational structure shows little resemblance to the responsibility center concept practiced in private enterprise. While our example is defense related, these same problems are evident in other federal agencies, usually exacerbated by interface with state and municipal programs.

Agency activities are financed through federal funds and trust funds accounts. A fund may be defined as "an independent fiscal and accounting entity with a self-balancing set of accounts recording cash and/or other resources, together with all related liabilities, obligations, reserves, and equities which are segregated for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations."[Ref. 14, p. 5] In this context, a fund is a

legally earmarked sum of money tied to a specific appropriation. The responsible agency must be able to account for the dollars in the fund from inception to expiration. While municipalities may have as many as eight funds, there are five usually associated with the federal government. The "general fund" is credited with receipts which are not designated by law, and charged with payments out of appropriations of "any money in the Treasury not otherwise appropriated." Strictly speaking, there is only one general fund in the entire federal government, maintained by the Bureau of Accounts of the Treasury Department. Agency funds are subdivisions of the general fund. "Special funds" contain receipts earmarked for specific purpose, other than carrying out a cycle of operations. "Public enterprise (revolving) funds" finance a cycle of business-type oeprations in which outlays generate collections, primarily from the public. "Intra-governmental revolving and management funds" facilitate financing operations within and between government agencies. Finally, "trust funds" are used to account for transactions related to assets held by a governmental unit as a trustee of fiduciary agent.

An individual agency fund, then, is a subdivision of the general fund, and represents the amount appropriated for operations on an annual basis. Tied to the concept of fund accounting is what is termed budgetary accounts. These perform the stewardship functions of accounting for appropriations by Congress. Examples of account classifications might be Unobligated Allotments, Unliquidated Obligations, Accounts

Payable and Fund Balance with U.S. Treasury. They are designed to serve fund control purposes and record transactions which affect status of fund authorizations. Integrated with these are the proprietary accounts which reflect the familiar asset, liability, expense and revenue balances. It is unique in government accounting that the budgetary accounts are integrated into an agency's account structure, a requirement to insure that appropriation and other fund balances are neither over-obligated nor over-expended in a particular time period. A typical Navy accounting spread as used on a requisition, for example, identifies the appropriation account, operating budget, and expense element, among other things. It is the "accountability" nature of the budgetary group of accounts that receive the greatest emphasis in federal government. It is virtually impossible, however, for any user of fund accounting to apply financial analysis techniques to financial statements in a way that would identify problems. Efforts in recent years have stressed accounting systems that provide for full cost accounting, clear separation of expense and investment items and a uniform expense structure that identifies cost with program element and compliments PPBS. At the operational level, however, major emphasis remains on fund control, with integration of program and cost done at the claimant level after the fact, often on a statistical basis.

2. Obligation Accounting

Closely related to the fund account structure for appropriations is the subject of obligation (or encumberance) accounting. Each year Congress approves appropriations for the various agencies, a projection of which was shown in Table II. Most appropriations for current operations are made available for obligation only during a specified fiscal year (1-year appropriations). Others, such as some procurement items, are for a specified longer period (multiple-year appropriations). A third group, including most for construction and some for research, receive appropriations available for obligations until the objectives have been obtained (no-year appropriations). These appropriations are called budget authority, and following the apportionment process by OMB, permits agencies to incur obligations against this appropriation and authorizes the Comptroller General to release money from the Treasury (fund) in payment for same.

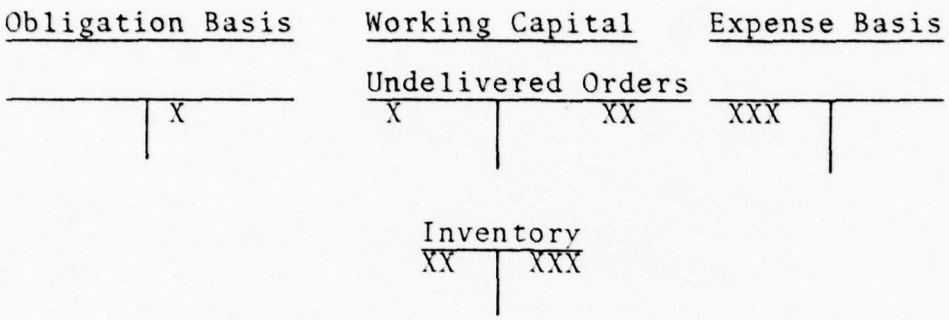
At the agency level, each appropriation is treated as a fund, although, from the overall point of view, it is a subdivision of the one general fund which exists for the entire government. The preoccupation with fund accounting stems from Section 3679 of the Anti-Deficiency Act which prohibits overobligating an agency's appropriated funds and provides penalties for those charged with such responsibility. This statute also applies to lesser breakdowns of a specific appropriation, specifically operating budgets and allotments. This is the instrument of Congress to ensure that agencies

do not overspend the amounts authorized them by the legislative branch.

In federal accounting, an obligation has been defined in these words: "amounts of orders placed, contracts awarded, services received, and similar transactions during a given period requiring disbursements of money. Such amounts shall include disbursements not preceded by the recording of obligations, and shall reflect adjustments for differences between obligations and actual disbursements."[Ref. 14, p. 480] As noted in the section on accrual accounting, however, obligations are not satisfactory measures of performance since they may be incurred well in advance of resource utilization. When obligational authority expires, special accounts are set up to track the unliquidated obligations beyond the accounting period. These are referred to as M-accounts and often remain on the books for a number of years. With disbursements lagging obligations for any significant period, it is obvious that costs calculated on this basis could not properly reflect expenses associated with a specific program or timeframe.

Turning to our example in an earlier section, in a profit-oriented enterprise, no entry is made when orders are placed. The first entry is made when goods are received (and a liability incurred), and this is made to an inventory account. When the goods are used, this becomes an expense regardless of when payment is made. This is the essence of accrual accounting which has long been employed in the private sector. These two systems may be reconciled in many instances by a third account titled working capital accounts, which

permits recording of both obligations and expenses. [Ref. 3, p. 120] To use a Navy related example, shown in Figure 2, issuance of a purchase order reduces a command's operating target (OPTAR) by the estimated amount of the requisition, and sets up an equal charge in the undelivered orders account.



X - Purchase Order
XX - Material Received
XXX - Material Consumed

Fig. 2. Reconciliation of Obligation and Accrual Accounting

When a filled order expenditure document is received by the authorized accounting activity (AAA) and reconciled, the unfilled orders account is credited and an offsetting accounts payable account charged. Under the system both obligations and expenses can be recorded, assuming inventories remain constant as in our example. This would support a cost-based budgeting system by supplying accurate expense data; however, it does not eliminate the need for obligation controls. Furthermore, as will be seen in the next section, reconciling of costs to obligations requires adjusting costs to reflect many unfunded costs. As long as appropriations are recorded in terms of obligational authority, and legal statutes govern their use, the accounting structure must first support fund control of obligations incurred. It is difficult, at best,

to institute a full cost-based accrual system on top of a fund structure designed to record incurred obligations.

3. Full Costing

The full cost of any cost objective may be thought of as the sum of its direct and indirect costs. In industry, the cost of a product includes the direct manufacturing expense plus an "appropriate" allocation of the indirect expenses. The excess of the benefits (revenues) obtained by this product is the profit earned. In a non-profit government agency many services are performed without accruing revenues. Additionally, it is virtually impossible in most instances to put a price tag on many government benefits. Some government agencies, however, do charge for services performed. A major precept in setting a pricing policy in this circumstance is that the price should be equal to full cost to preclude a mis-allocation of resources. "If revenues generated by full-cost prices are not sufficient to cover total expenses, there is an indication that the service is not valuable enough to society to warrant the cost of providing it."[Ref. 3, p. 158] Exceptions to this policy include penalty pricing to discourage use of a service and subsidy pricing used to provide a public good, the latter being generally defined as services not available through the market place. Generally speaking, the full cost concept applies to nonprofit organizations since prices set above cost may take advantage of a monopoly position and prices set below may constitute unfair competition with the private sector. (The latter condition supports a third method called market-based pricing.) The problem, however, is in the

accurate determination of full costs, a concept that presupposes the use of accrual accounting.

The problem in nonprofit service organizations is that many indirect costs are not included in the pricing decision. Two examples should suffice, those of (a) personnel costs and (b) capital (investment) costs.

a. Personnel Costs

Most organizations record personnel costs under the heading of labor, including wages and salaries, usually but not always accelerated for fringe benefits. Retirement costs, however, is a large element of compensation that is often omitted. Although these costs may not be paid for many years to come, they are incurred during the period in which the employee is actually working, and under the accrual concept should properly be charged as a cost of current operations. The prime example of this is military retirement costs, the subject of this paper. Under a full-costing system, the discounted value of future retirement costs should be included in the current annual cost of national defense and paid for by today's "clients," the public-at-large. Such is not presently the case.

b. Capital Costs

These include large investment items such as equipment, plant, property and, often, research and development. Capital costs are converted to operating costs by depreciation. Depreciation is useful for two purposes: first,

to assign the cost of using capital assets to an operating period based on its estimated useful life and, second, to help finance a replacement when its utility has ended. A great deal of controversy exists as to whether depreciation should be based on historical or replacement costs, an argument that will not be pursued here. It is sufficient to say that most government agencies do not "capitalize" or depreciate assets. Consequently, the costs of using these capital assets are not passed on to today's "clients." While capital assets and depreciation may be recorded in various accounts, the latter is a "statistical cost" not charged to the cost of current operations. In striking contrast, rental costs are expensed annually and included in the computation of full costs. It should be pointed out that many governmental and other nonprofit organizations do not pay property taxes, which constitutes an imputed cost that many feel should be included in any full-costing calculation.

Thus, full-costing requires the use of an accrual accounting system; otherwise the cost of current services is understated. While this concept is well recognized in private enterprise, it is generally not applied in the federal government, particularly in the case of general funds.

4. Entity Concept

The entity concept applies to separate economic organizations or agencies. Financial statements prepared report the status of the entity in question, a well-accepted concept in the business community. The balance sheet reflects the

familiar accounting equation: ASSETS = LIABILITY + OWNER'S EQUITY. As already noted, however, the federal government lacks a central accounting department. Various groups, principally the Treasury Department, GAO, OMB, and GSA have direct or shared responsibility for the accounting and reporting practices of federal agencies. The consolidated reports issued by the Treasury merely aggregate the reports of the various government agencies along the lines of the fund concept already discussed. What many feel is needed is a consolidated balance sheet showing the financial position of the entire federal government as a separate reporting entity.

One potential problem with such a statement would be in the "accounts-receivable" area; specifically, how to account for accrued taxes due the government. Many accountants feel estimating revenues from taxes for balance sheet purposes would be equivalent to a business enterprise estimating proceeds from sales. Our discussion of accrual accounting addressed only half the problem, that of accruing expenditures. Full accrual accounting requires that revenues be recognized when earned, even though collected well into the following year. (In fact, many revenues are forwarded more quickly through withholding and corporate tax laws.) Municipalities have resolved this issue by the use of the modified accrual basis recommended by the National Committee on Governmental Accounting (NCGA). The modified accrual basis is defined as "...that method of accounting in which expenditures other than accrued interest on general long-term debt are recorded when received in cash, except for material or available

revenues which should be accrued to reflect properly the taxes levied and the revenues earned."[Ref. 14, p. 11] Use of this basis for general and special revenue funds is accepted by the AICPA as consistent with GAAP. It generally says that certain revenue items, such as property taxes, that can be accurately determined in advance may be recorded on an accrual basis, with all other revenue items being recognized on a cash basis. In the federal government, however, no parallel exists. All revenues are deposited in the receipt accounts of the General Fund when collected. (The exceptions are revenues specially earmarked and designated for Special Revenue Funds. Customs receipts is such as example.) No accounting provision for estimating accrual revenues due the federal government exists. It would appear necessary that, before meaningful financial statements can be prepared, a modified or full accrual system to account for earned revenues needs to be implemented.

While individual funds are a separate accounting and legal entity, they have no source of revenues. Their balance is provided through the appropriation process, usually on an annual basis. Since appropriations are subject to Congressional review and modification, they can hardly be categorized under the going concern concept used in private accounting systems. Furthermore, it seems unlikely that the fund structure is likely to change in the face of entrenched legislative resistance. The "responsibility center" and entity concepts, in their traditional sense, would appear thus incompatible to individual government agencies and

departments. This makes consolidated accounting and reporting for the federal government as a whole all the more desirable if the public is to benefit from financial statements showing full disclosure of financial position.

D. SUMMARY

Many volumes have been written on governmental accounting, and it was not the purpose here to attempt to condense them all. Rather, the discussion has focused on a few key issues and developments in federal accounting, with an emphasis on the accrual concept. This principle is

in business, and the significant gains it can provide towards accounting and reporting in the federal government should be well understood. With dwindling resources and competing programs, today's management needs accurate cost data for operational decision-making. This can be provided only by a fully cost-based accrual system. Yet the appropriation and fund structure adopted by Congress emphasizes the stewardship function of accounting for authorized dollars, based on an obligational system. While a few individual agencies have adopted accrual accounting techniques, they are not instituted government wide, nor does the federal government as a whole report on the basis of this concept. As a result, many accrued costs are not currently recognized, a fact which would make the accumulated national deficit appear far greater than is presently reported. Federal retirement costs are certainly a significant portion of this accrued liability. Incidents of (near) default in some of

the nation's cities in recent years have resulted from too much debt coming due, and the inability of the city managers to refinance or secure new funds through loans or bonds. One has to wonder if accrual accounting systems, which recognize accrued liability, could have prevented or forwarned these crises. Similarly, is the federal government approaching a debt ceiling where it will be difficult to obtain new funds from the public? Whatever the answer, adoption of accrual accounting will help identify the true costs of federal programs and alert federal planners to dangerous trends. Retirement costs, the subject of this paper, is one area that needs just such attention.

III. RETIREMENT COSTING

A. RECOGNIZING THE RETIREMENT LIABILITY

1. Compensation and Retirement Issues

The past several years have seen increased public awareness and media coverage of the escalating costs of military manpower, and the expense and form of military compensation. Out of this have come numerous reports, surveys and recommendations for wide-ranging reform of the services' pay and allowance system. As a frame of reference, Table IV provides a summary of significant developments in this area in recent years. These commission reports and legislative reforms have been augmented by many more staff reports and independent "think tank" studies. Their volume alone reflects concern over rising military costs and increased efforts to manage the budget by closer attention to "controllable" costs. In recent years the portion of the federal budget attributed to "uncontrollable" costs has surpassed two-thirds and is rising. In contrast, as James Wilson writes in his article, The Rise of the Bureaucratic State, "...the size and budget of the military are matters wholly within the power of civilian authorities to decide - indeed, the military budget contains the largest discretionary items in the entire federal budget."[Ref. 26, p. 77] It is not surprising then that, in an effort to gain control of an

TABLE IV

DEVELOPMENTS RELATED TO FEDERAL RETIREMENT SYSTEMS

1962 - Federal Salary Reform Act

1967 - Rivers Amendment (linked military raises to CSC raises)

1969 - DOD First Quadrennial Review (QRMC)

1970 - Federal Pay Comparability Act

1971 - Interagency Committee Report (IAC)

1972 - Survivor Benefit Plan

1972 - Retirement Modernization Act (RMA)

1972 - DOD Retirement Study Group

1976 - Defense Manpower Commission

1976 - DOD Third Quadrennial Review (QRMC)

1977 - President's Commission on Military Compensation (PCMC)

escalating budget authority, the military establishment in general and manpower costs in specific would be a target for reform.

The President's Commission on Military Compensation (PCMC), which reported out in April 1978, addressed a number of important compensation issues. Among the more important are the following:

Benefits vs Salary System

Differential Pay

Regular Military Compensation (RMC)

Vesting for Deferred Compensation

Retirement Annuities

The recommendations of the PCMC have yet to be acted on; however, a short discussion here of several key issues is provided for background reference. Four categories of compensation--basic pay, basic allowance for quarters (BAQ), basic allowance for subsistence (BAS) and the tax advantage (arising from the latter two) are usually combined into a single figure called regular military compensation (RMC). Excluded are fringe benefits (medical/PX/commissary/etc.) and special duty pays, generally considered to constitute 31% of total compensation. An example of RMC for an average 0-4 over ten years of service, extracted from Ref. 15, is shown in Table V below:

TABLE V (1976 Base)

CALCULATION OF REGULAR MILITARY COMPENSATION

Pay Grade	Basic Pay	Quarters Allowance	Subsistence Allowance	Federal Tax Advantage	Regular Military Compensation
0-4	$18,972.75	$3,191.20	$667.32	$1,417.31	$24,248.59

While retirement annuities and costs are not the only compensation issue, they are currently receiving the most attention. Under the uniformed services nondisability retirement plan, an employee is eligible to retire after twenty years of service (YOS). Prior to this date he has no rights to retirement pay or benefits, e.g., he has no "vested" benefits. Upon reaching retirement eligibility a member's retirement pay is calculated at 2.5% of basic pay x YOS, with a maximum of 75 percent. This does not include BAS, BAQ, or the tax

advantage, which when added to basic pay represents regular military compensation, considered to be equivalent to a civilian employee's salary. This argument is often presented to counter the charge that military retirees are overpaid. This retirement plan is a noncontributory system, funded on a pay-as-you-go basis by annual appropriation.

The intent of this section is not to summarize the entire controversy of military compensation, which is beyond the scope of this paper. It should be kept in perspective, however, that retirement payments are part of an overall compensation package, and any attempt towards revision is a monumental task in suboptimization.

Retirement or pension annuities are generally considered from two viewpoints, either as employer reward for years of faithful service, or a deferred compensation due the employee. The deferred compensation view appears the most prevalent, as attested to by the increasing number of pension plans with complex benefit provisions. Table II provided a projection of retired military pay costs through 1983. As can be seen, these increase steadily, approaching 50% of active duty personnel costs. Reference 15 provides a second breakdown of Total Obligational Authority (TOA) for retired pay and estimates of the accrued liability for past service costs. This is reproduced in part in Table VI. As shown, the near term projection for the accrued military liability is 178 billion dollars.

TABLE VI

(In Millions of Dollars)

Year	TOA for Retired Pay	Accrued Prior Service Cost
1972	$ 3,889.1	$121,392
1973	4,392.2	130,373
1974	5,136.9	148,016
1975	6,238.5	163,352
1976	7,300.1	165,900
1977	8,238.1	168,300
1978	9,036.0	170,600
1979	9,700.0	173,600
1980	10,400.0	174,600
1981	11,200.0	176,300
1982	11,900.0	178,000

As with compensation, it is not the purpose to argue whether retirement costs are too high or what modifications in the retirement system are desirable. It is, however, the intention to discuss who should pay these costs. In Table VI, does not the $9.7 billion 1979 retirement cost reflect payments for past service, and should these costs not be borne by the taxpaying public who benefited from their service? This is not inconsistent with the full-costing concept. Additionally, it is the intent to discuss the currently accruing retirement costs, recognition of same by increased annual obligational authority, and the question of funding these costs. With the

exception of the funding issue, these represent fundamental government accounting changes.

2. The Arthur Andersen Study

It was noted in an earlier section that the Federal Government does not have a central accounting department, and produces no unified and comprehensive report of the financial results of the Government's operations. In 1975 Arthur Andersen and Company, one of the nation's largest CPA firms, published such financial statements for the government for 1973 and 1974, based on extensive research.[Ref. 4] The Statement of Revenues and Expenses, and a consolidated balance sheet are shown in Tables VII and VIII. These represent the consolidated results of virtually all federal operations, including those of the off-budget agencies and trust funds. Further, they were prepared on an accrual basis, as are corporate financial reports, not on a cash basis, as the government reports it. Included are the familiar accounting techniques of capitalization of PP and E and land, depreciation and amortization schedules, and recognition of accrued liabilities. Some of the more controversial entires, explained in footnotes to the original statements, are highlighted below:

Gold carried at its official rate of $42.22 an ounce.

No accrual made for individual income taxes (due to the withholding system).

Land represented at cost to the Government.

Offshore holdings not capitalized.

TABLE VII

UNITED STATES GOVERNMENT

ILLUSTRATIVE CONSOLIDATED STATEMENT OF REVENUES AND EXPENSES

FOR THE YEARS ENDED JUNE 30, 1974 AND 1973

	Millions	
	1974	1973
REVENUES:		
Individual income taxes	$118,952	$103,246
Social Security and unemployment taxes and retirement contributions	76,780	64,541
Corporate income taxes	40,736	37,588
Excise taxes	16,844	16,260
Estate and gift taxes	5,035	4,917
Outer continental shelf rents and royalties	6,748	3,956
Other	6,539	4,970
Total revenues	271,634	235,478
EXPENSES (including transfer payments):		
National defense—		
Military personnel	23,728	23,246
Operations and maintenance	27,698	24,980
Research and development	8,582	8,157
Depreciation	11,100	10,800
Other	1,371	3,091
	72,479	70,274
Other operating expenses, including depreciation of $2,100 million in 1974 and $2,000 million in 1973	41,982	36,328
Grants-in-aid, primarily to state and local governments	41,500	40,400
Transfer payments to individuals—		
Income security, including retirement, unemployment and Social Security payments made	69,381	60,373
Health care	11,300	9,000
Veterans' benefits and services	10,400	9,700
Other	6,900	4,800
	97,981	83,873
Noncash provision for retirement and disability benefits—		
Social Security	75,090	63,670
Other	20,560	13,360
	95,650	77,030
Interest expense (net of interest income)	17,148	14,146
Total expenses	366,740	322,051
EXCESS OF EXPENSES OVER REVENUES	$ 95,106	$ 86,573

TABLE VIII

UNITED STATES GOVERNMENT
ILLUSTRATIVE CONSOLIDATED BALANCE SHEET

JUNE 30, 1974 AND 1973

ASSETS

	Millions	
	1974	1973
CASH AND CASH EQUIVALENTS	$ 18,127	$ 22,797
GOLD, at official rate	11,567	10,410
RECEIVABLES (net of allowances):		
Accounts	5,490	4,859
Taxes	14,960	12,844
Loans	65,836	62,985
	86,286	80,688
INVENTORIES, at cost		
Military and strategic system supplies	28,019	25,173
Stockpiled materials and commodities	11,526	12,693
Other materials and supplies	11,026	12,012
	50,571	49,878
PROPERTY AND EQUIPMENT, at cost:		
Land	6,686	6,415
Buildings, structures and facilities	88,649	86,129
Strategic and tactical military assets	119,913	117,670
Nonmilitary equipment	39,708	37,377
Construction in progress	19,400	17,169
Other	2,118	1,848
	276,474	266,608
Less—Accumulated depreciation	129,000	122,000
	147,474	144,608
DEFERRED CHARGES AND OTHER ASSETS	15,297	15,369
	$329,322	$323,750

LIABILITIES AND DEFICIT

	Millions	
	1974	1973
FEDERAL DEBT		
Gross debt outstanding	$ 486,247	$ 468,426
Less—Intragovernmental holdings—		
Trust funds	(129,745)	(114,852)
Federal Reserve	(80,649)	(75,182)
Other	(10,449)	(10,529)
Debt outstanding with the public	265,404	267,863
Less—Unamortized discount	2,506	2,243
	262,898	265,620
FEDERAL RESERVE LIABILITIES:		
Federal Reserve Notes outstanding	64,263	58,754
Deposits of member banks	26,760	25,506
Other	2,286	1,725
	93,309	85,985
ACCOUNTS PAYABLE AND ACCRUED LIABILITIES:		
Accounts payable	32,491	30,757
Accrued interest, annual leave and other	11,187	11,819
Deferred revenue	6,734	6,565
	50,412	49,141
OTHER LIABILITIES	18,991	19,836
RETIREMENT AND DISABILITY BENEFITS		
Civil Service	108,000	97,000
Military	80,380	70,950
Veterans	110,980	110,850
	299,360	278,800
ACCRUED SOCIAL SECURITY	416,020	340,930
CONTINGENCIES		
Total liabilities	1,140,990	1,040,312
LESS—ACCUMULATED DEFICIT	811,668	716,562
	$ 329,322	$ 323,750

Buildings, structures and facilities reflected at acquisition cost.

Depreciation computed on a straight-line basis with no salvage value.

Nonetheless, the figures provide a meaningful picture of where Washington stands financially. As in corporate balance sheets, there is a factor related to (stockholder's) equity which makes the statements balance; in the government's case, that item is the (accumulated) deficit.

Among other things, the Revenue and Expense Statement shows a $95 billion deficit for 1974, many times the $4.7 billion reported by the government. (This difference, of course, is primarily due to the difference between corporate-type accrual accounting and the government's cash-based figures.) Twenty billion dollars of that figure came from government pension plans and a staggering $75 billion from the Social Security Program. Under the present system, the extent of these huge liabilities is never seen. Only actual payments are reflected.

The balance sheet begins with the federal debt reported by the government, but after several adjustments, the end result shows assets of $329 billion, liabilities of $1.1 trillion--or a deficit of $812 billion. It was estimated that the fully accrued Social Security liability is actually in excess of $2.4 trillion, but Andersen amortizes this over a thirty-year period, resulting in a 1975 accumulated liability of $416 billion. The contingencies for which the government could become ultimately liable include $228 billion in various federally insured programs such as the Federal Deposit

Insurance Corporation. Finally, the report reflects $299 billion in accrued federal retirement and disability programs, of which $80.38 billion is attributable to the uniformed services nondisability retirement system. This was calculated as shown below: [Ref. 4, p. 28]

	Billions
Present Value (PV) of Accrued Benefits at 6/30/74.	$148.00
Less PV of Accrued Benefits for Active Military Personnel	71.00
PV of Accrued Benefits of Retired Personnel Which is 100% Vested	77.00
Estimate of PV of Vested Benefits of Active Personnel Eligible to Retire	3.38
PV of Vested Benefits of Personnel Retired or Eligible to Retire	80.38

It is apparent from the calculations that Andersen has included no accrual for active personnel, since no vesting rights exist until a member is retirement eligible. Accordingly, the balance sheet liability reflects only the approximated present value of "accrued vested benefits." The actuarially determined present value of "accrued benefits" by contrast, $148 billion, compares favorably with 1974 figures from another source as shown in Table VI. While intuitively this appears to understate the liability, the calculation is technically sound in accordance with APB Opinion No. 8, paragraph 14.

Whatever their shortcomings, these statements provide an important function by enabling the public to see how much the government is receiving and paying out during a given year, and giving an indication of the liabilities for which it has committed itself that are not funded out of current revenues. To the extent that these amounts exceed what can reasonably be expected of future taxpayers, a potential crises could develop. With the recent passing of Proposition 13 in California, this eventuality looms all the more threatening.

Not everyone, however, favors the accrual consolidated balance sheet and the reasons are not simply political. Some arguments are presented in the next section.

3. Pros and Cons

Recognizing the unfunded retirement liability of federal retirement programs generally assumes making the necessary accounting changes to reflect these accrued costs in reports of government operations. Specifically, this would be accomplished through the congressional authorization process by increased total obligational authority (TOA). To the extent that the present value of future payments of vested benefits exceeds the present value of future plan contributions and the amount in the (pension) fund, this "unfunded actuarial liability" is reflected on the balance sheet. This was precisely the procedure followed by Andersen in Table VIII. Funding these plans through increased appropriation outlays, however, is a separate matter. By law most federal retirement trust funds

are required to be invested in federal debt securities. There is no cost involved in this kind of governmental transaction, only bookkeeping entries. This funding, in itself, does not create a financial hardship for the government. When funds are needed to make benefit payments, the Treasury obtains the cash through the normal channels of tax receipts or borrowing from the public.

Citing these problems and references to the private sector, opponents of the accrual consolidated balance sheet concept offer several arguments. The first is the political and economic repercussions in acknowledging governmental accrued liabilities of this size. The adverse effects of such an accumulated deficit would likely be felt on the borrowing capacity of the government, the stability of the dollar and the GNP as well. Secondly, under the termination provision of most private sector plans, vested beneficiaries are covered only to the extent of the value of the pension fund, plus up to 30 percent of corporate net worth under ERISA. These figures are substantially less than the fully accrued liability. Additionally, since the latter sum may be insured by the Pension Benefit Guarantee Corporation, there are essentially no liabilities. Hence the conclusion that there is no"real" or "legal" liability, and that only a "moral" obligation exists which should not be recorded under GAAP. In the federal sector, the Social Security Act states that "payments should be made only to the extent of the trust funds and that covered individuals who have contributed to the fund have no contractual right to receive benefits."[Ref. 4, p. 19]

Despite these arguments, it seems unlikely that the federal government could terminate the various retirement plans without considerable domestic upheaval. Consequently, it appears reasonable to accrue a liability for these costs on a going-concern basis. Only by full recognition of these growing liabilities can the cost of government operations be accurately determined and allocated, and the present and future financial condition of the United States be ascertained. Further, with full funding, these retirement system liabilities can be totally reflected in the public debt.

B. THE PRIVATE SECTOR

The previous section presented arguments for recognizing the unfunded federal retirement liabilities under an accrual concept as consistent with generally accepted accounting principles. The military portion of this liability was estimated between $80 billion and $148 billion, computed in 1974 dollars. This variance is explained in the different approaches used in the calculating methods. (The question of funding is reserved for a later section of the paper.) While the government has not adopted any uniform practices or principles for financing or funding its own retirement programs, it has imposed stringent requirements on pension plans in the private sector through enactment of the Employee Retirement Income Security Act of 1974 (ERISA). Additionally, opinions of the Accounting Principles Board (APB) and its successor, the Financial Accounting Standards Board (FASB), provide

guidance related to accounting for pension costs. The following pages attempt to highlight the accounting, reporting, and funding requirements for pension plans in the private sector. This presentation is useful to a basic understanding of the nature of pensions and costs. Also, many of the terms and techniques used are relevant to the public sector as well. Finally, comparison of the different systems provides a basis for conclusions and future recommendations.

1. Actuarial Valuation and Cost Methods

The entire spectrum of pension costing is complex and confusing. This is due to the fact that pension terminology is not widely understood, that two entities are involved (the company and the pension plan), and several methods for determining costs exist. Each of these methods encompass, in turn, a number of "actuarial assumptions." As a result, the relationship between such nomenclatures as pension expense, contributions, benefits accrued, pension assets, unfunded liabilities and vested benefits become confusing and make analysis particularly difficult.

In simplist terms, a pension plan is an arrangement whereby a company undertakes to provide its retired employees with benefits that can be determined or estimated in advance from company documents or well-understood company policy. These are referred to collectively as either "defined-benefit" or "defined-contribution" plans. The objective of a plan is to accumulate sufficient assets to meet present and future payments to its retired beneficiaries. The

professional charged with the responsibility to cost-out a pension plan and to measure its present level of funding is an actuary. His task is to calculate what benefits will be paid out by a pension plan, given the population currently employed and a particular schedule of benefits. He usually seeks to establish a level cost which, over a period of time (say 30 to 40 years), accumulates assets large enough to pay all benefits earned to date, as well as create a surplus. An actuarial valuation of a plan, then, is the process used for determining the amounts an employer is to contribute under a particular pension plan. (Although annual valuations are, perhaps, the rule, in some cases they are made as infrequently as every five years.) This process may be thought of as consisting of the following three stages: [Ref. 5, pp. 20-21]

Asset Valuation

Determining the Actuarial Assumptions

Using an Actuarial Valuation Method to Determine Present Value of Prospective Benefits

An actuarial cost method is then applied to this present value to determine the contributions to be made by the employer.

a. Asset Valuation.

The first task of the actuary should probably be to value the assets of the pension plan. There are many approaches to this endeavor including valuation at book value, adjusted book value, market value or adjusted market value. The emphasis should be on consistency, both between accounting periods and between the approach to valuing the assets

and that used to determine the present value of the prospective benefit obligations. Further, the method chosen should be disclosed to permit comparison of different pension plans and to permit auditors to perform the attest function. Since no uniformity currently exists, Ref. 5 suggests the adoption of "generally accepted actuarial practices to be recognized for accounting purposes," and specifically recommends the market value basis as acceptable for these purposes.

b. Determining the Actuarial Assumptions

This is probably the most difficult and subjective job of the actuary, and requires an expert skilled in such matters. Based on the benefit formula of the plan in effect, he must estimate the amounts and timing of the future benefits whose present value is used in expressing the cost of a pension plan. A representative, but not all inclusive, list of important variables is briefly detailed below:

(1) Interest. An expression of the rate of earnings that can be expected on the funds invested or to be invested.

(2) Expenses of Fund Administration.

(3) Future Compensation Levels. An estimate of future earnings as employees progress through normal wage and salary categories. Effects of inflation may be implicitly or explicitly figured in this and other calculations, with essentially the same results, if consistently applied.

(4) Cost-of-Living. For those plans whose purchasing power of retired benefits is protected by linking them to rises in the Consumer Price Index (CPI), the estimated future charges in the index need to be included in the assumptions.

(5) Mortality. An estimate of how long an employee will receive a pension based on mortality tables. A factor for survivors benefits or death gratuities should probably be included here.

(6) Retirement Age. Average normal retirement age and disability retirement provisions.

(7) Turnover. A consideration for employees who terminate before acquiring vested benefits. If relevant, a provision for contribution to "portable" pension plans should be made.

(8) Social Security Benefits. Estimating future Social Security benefits is necessary for those plans that offset pension benefits when an employee begins receiving Social Security payments.

(9) Actuarial Gains and Losses. Since it is unlikely that actual events will coincide with each assumption made, the calculations should recognize the differences between actual prior experience and the assumptions used in the past.

c. Actuarial Valuation Method

The actuary's next task is to determine the present value of prospective benefits. This is the amount

of money it would take today, taking into account expected future levels of renumeration, to provide the expected benefits in future years to all active and retired employees now covered by the plan. To determine the size of benefits to be paid, the actuary considers the benefit provisions of the plan, the make-up of the present participants, and the set of actuarial assumptions just discussed. He then discounts this benefit stream back to the present by means of an assumed interest rate. The result is termed the "present value of prospective benefits." It is worthwhile to note that the exact size of this valuation is very sensitive to the actuarial assumptions used, particularly the all-important interest discount rate, all of which are judgmental decisions made by the actuary based on his perception of the plan's probable future experience. (One factor customarily ignored by actuaries is future plan improvements, even though they may know that the plan will change several times.)

Next comes the matter of dividing the total between past service costs vs. current service costs based on an acceptable cost method. Before turning to these, several definitions and a further discussion of pension terminology are presented to provide a better understanding of the issues involved.

(1) Normal Cost. Normal cost is the annual cost assigned, under the actuarial cost method in use, to years <u>subsequent</u> to the inception of a pension plan.

(2) Past Service Cost. Pension cost assigned, under the actuarial cost method in use, to years prior to the inception of a pension plan.

(3) Prior Service Cost. Pension cost assigned, under the actuarial cost method in use, to years prior to the date of a particular valuation. This may be a regular annual valuation or one arising from an amendment to the plan. Hence, prior service cost includes any remaining past service cost.

The semantics of pensions is made unnecessarily difficult because various groups define the same thing in different terms. One easy approach to pension terminology is the "circle method" presented by Gewirtz and Phillips in Ref. 9. While the figures are different, an abbreviated illustration of this approach is shown in Fig. 3, and will be referred to throughout this section. In this example, the present valuve (P.V.) of future or prospective benefits has been calculated, using procedures already discussed, to be 500 million dollars. In part (A), the present value of past contributions, now labeled assets, is $200 million. The other portion, $300 million, remains to be financed. Actuarial costs methods are used to determine a budget to pay for this $300 million, not the value of what still is to be financed. Regardless of the budgeting method, the P.V. of $500 million remains the same. This situation is often compared to depreciation methods, where total cost to be expended over the life of the asset remains unchanged,

but a range of schedules exists chosen primarily on the basis of cash flow and accounting considerations.

Most actuarial cost methods divide this $300 million into two components as shown in Part (B). The first in the present value of future normal costs ($75 million) and the second the "unfunded actuarial liability" ($225 million). This latter term has created a great deal of misunderstanding, partly because ERISA calls it the "unfunded past service liability" and APB Opinion No. 8 refers to it as the "unfunded prior service cost." Different cost methods attach different importance and values to these two portions. Again, the size of the $300 million balance remains unchanged, but the budget pattern will be affected and consequently becomes the controlling factor in choosing a cost method.

Figure 3, Part (C) provides a slightly different perspective. The circle is divided into two sections: benefits accrued to date ($300 million) and benefits to be accrued in the future. The former is further broken down into three segments. The first is the P.V. of benefits both vested and insured by the Pension Benefit Guarantee Corporation (PBGC). If the plan terminates without sufficient assets to cover this $150 million, the company is legally liable to PBGC for up to 30 percent of its net worth. The second segment is the P.V. of benefits vested but not insured; $75 million in the example. This is not a legal liability, however, since plans generally extend benefits only up to the value of assets in the fund. Finally, the third segment represents the P.V. of benefits accrued but not yet vested

($75 million). Some interesting relationships can be seen by superimposing Circle (B) on Circle (C), producing Circle (D). In our example assets cover all the legal liability and most of the uninsured vested portion. The $25 million not covered is frequently referred to as the P.V. of "unfunded vested benefits," and is reportable under APB Opinion No. 8. Additionally, most of the unfunded actuarial liability ($125 million) is assignable to benefits that have not yet been earned by employees. Thus, the unfunded actuarial liability ($225 million) is not really a liability in the traditional sense, since additional service is required for it to become so. A more important revelation is the extent to which pension assets cover benefits accrued to date and the unfunded balance, $100 million in this instance. A funding strategy to "fully fund" the pension commitment is a legitimate management concern, rather than preoccupation with the much belied unfunded actuarial liability.

d. Actuarial Cost Methods

There are five generally recognized methods for determining current service (normal) and past services (unfunded actuarial liability) costs for employer funding purposes. [Ref. 1, Appendix A]

(1) Accrued Benefit Cost-Unit Credit Method. Under this method, future service benefits are funded as they accrue, e.g. as each employee completes a year of service. Normal cost is the P.V. of the units of future benefit credited to employees for service in that year. If,

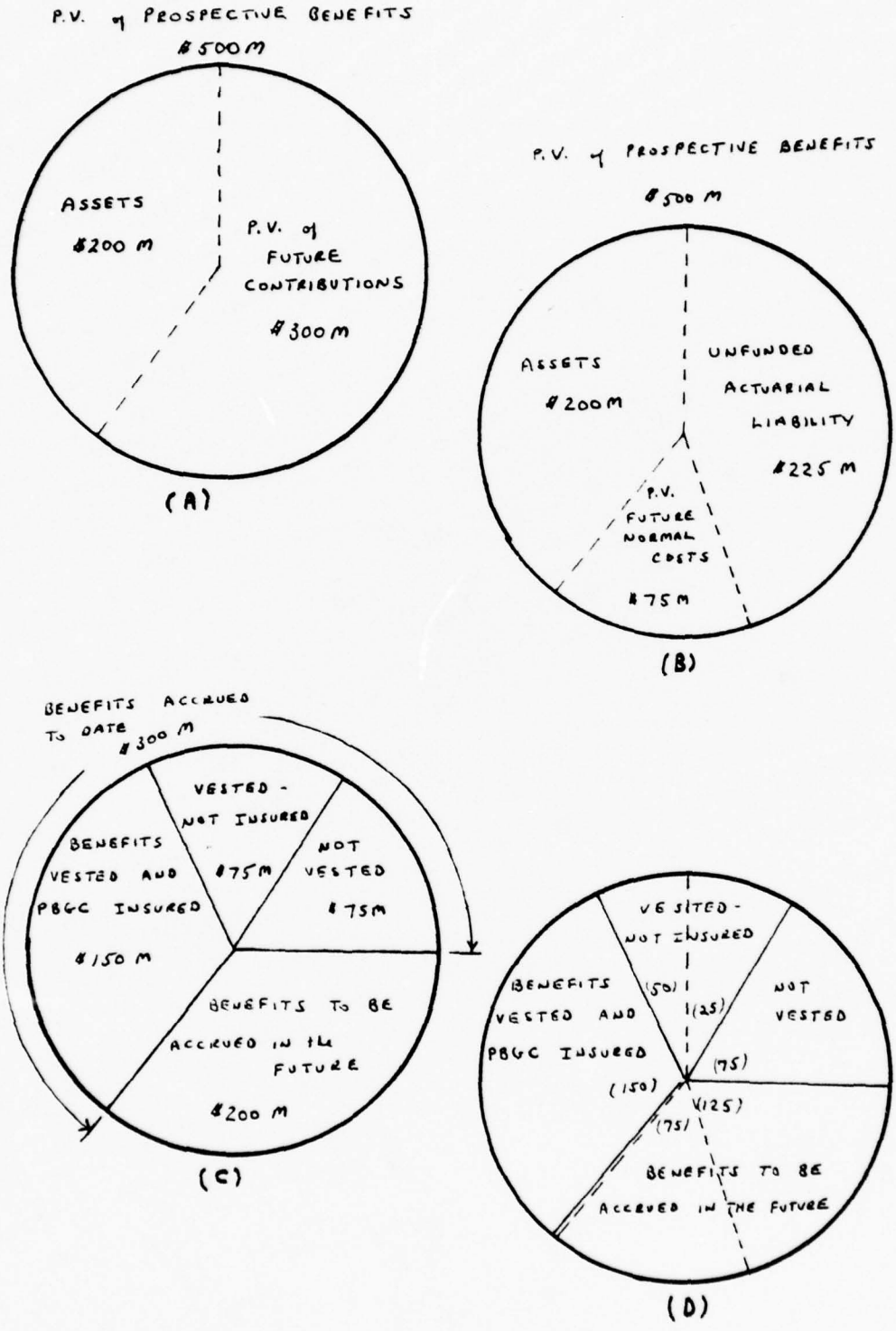


Fig. 3. Pension Terminology

for example, a plan provided $20 a month retired pay for each year of service ($500/mo for 25 years service), the normal cost for an individual employee would be the P.V. of an annuity of $20 per month beginning at his anticipated retirement date and continuing until his expected death. Past service cost is the P.V. at the plan's inception of the units of future benefit credited to employees for service prior to that date. The annual contribution under this method is the normal cost plus some amount for past service cost. The latter may include only an amount equal to interest on the unfunded balance (the interest a fully-funded plan could be expected to be earning) or may also include an amount intended to reduce the unfunded balance. While the annual normal cost for an individual increases each year because of increased probability of reaching retirement and a reduced discount period, for a mature employee group the normal cost tends to be fairly level. This method is frequently used where the benefit is a stated amount per year of service, but is seldom used where the benefit is a fixed amount or where current year's benefit is based on earnings of a future period.

(2) Projected Benefit Cost Methods. Whereas the previous method recognized the cost of benefits only when they accrued, these four methods look forward, assigning the entire cost of an employee's projected benefits to past and future periods.

(a) Entry Age Normal Method. Normal costs under this method are computed assuming each employee entered

the plan at the time of employment or at the earliest eligible time for new plans, and that contributions were made from this date until the present valuation date. The contributions are the level amounts which, if accumulated at the rate of interest used in the actuarial valuation, would result in a fund equal to the P.V. of the pension at retirement for each employee. Such current service cost would be expressed as a level percent of payroll and used for all active plan members. From this is determined the P.V. of all future current services (normal) costs. This amount is added to plan assets and then subtracted from the P.V. of total projected benefits (see Fig. 3(B)) to yield the unfunded actuarial liability from which past service costs arise. Several variations of this method exist, including the use of an "average entry age" and its application on an aggregate basis. As with the previous method, contributions include normal cost plus some amount for past service cost.

(b) Individual Level Premium Method. This method assigns the cost of each employee's pension in level amounts over a period from the inception date of a plan (or the date of his entry, if later) to his retirement date. Past service cost is not determined separately but is included in normal cost. This method generates annual costs which are initially very high because the past service cost (although not separately identified) for employees near retirement when the plan is adopted is in effect amortized over a very short period. This plan is most frequently used with funding by individual insurance or annuity policies.

(c) Aggregate Method. This method applies on a collective basis the principles followed in the previous method. The entire unfunded P.V. of future pension benefits (Fig. 3(A)) is spread over the average service lines of employees who are active as of the date of the valuation. Past service cost is not dealt with separately, rather it is included as part of normal cost. Annual contributions are less initially, but decrease slower than under the individual level premium method, since past service cost is effectively amortized over the average future service lives of all employees.

(d) Attained Age Normal Method. This method begins by defining past service costs based on benefits accrued to date (Fig. 3(C)). The balance is the P.V. of benefits expected to accrue in the future from which current services' costs are determined by spreading the sum over the remaining working lifetimes of active plan members. As with some other methods, contributions comprise normal plus a determined amount for past service cost.

An example that shows the difference in the computation of normal cost under two different methods is condensed from Ref. 22. Assume that under the aggregate method $731,059 is needed 25 years hence. If the interest rate is 8 percent, a normal cost of $10,000 will be required to accumulate this sum ($731,059 ÷ 73.1; the factor for the amount of an ordinary annuity of $1 for 25 years.) Under a different method which recognizes past service costs, assume credit for 5 years of prior service. Now there are 30 years to accumulate $731,059

rather than 25. Thus, the normal cost becomes $6,453 ($731,059 ÷ 113.28 at 8 percent). Past service cost is determined by assuming that 5 annual payments were made. The amount is $37,857 ($6,453 x 5.87, the factor for the amount of an ordinary annuity of $1 for 5 years at 8 percent.) It can be seen that normal cost varies considerably. As noted previously, contributions would equal normal cost plus some portion of past service cost to be determined as part of a management financing decision. (This aspect of contributions will be discussed in subsequent sections.) While the aggregate pension expense remains unchanged in the long run, the methods available to fund the plan provide wide flexibility for both cash flow and accounting patterns desired. The following pages discuss acceptable accounting and funding procedures available to management based on regulations and principles currently in effect.

2. Generally Accepted Accounting Principles (GAAP)

In November 1966 the Accounting Principles Board (APB) issued Opinion No. 8 entitled, "Accounting for the Cost of Pension Plans."[Ref. 1] It should be recalled that there is an important distinction between accounting for annual pension costs and funding the plan. In any given year the amount of pension costs may differ very substantially from the amount required by the pension plan to fund future benefit payments. More often than not, however, the actuarial method used to determine eventual funding requirements is

the same method used by the actuary in computing the pension expense for the year. The difference between pension expenses and contributions is reflected as a balance sheet accrual. The simple accounting entry below illustrates this point.[Ref. 22, p. 45]

Pension Expense	$100,000	
Liability for pension expense not funded		$20,000
Cash contribution to pension fund		$80,000

The stated purpose of this opinion was to narrow the practices applicable to accounting for the cost of pension plans. It still permits, however, considerable flexibility in determining annual pension expense. Specifically, it allows alternative accounting methods to be used in four main areas:[Refs.1&16]

Choice of Actuarial Cost Method

Accounting for Prior Service Cost

Accounting for Actuarial Gains and Losses

Accounting for Unrealized Appreciation/Depreciation on Pension Fund Assets

a. Choice of an Actuarial Cost Method

The opinion states that "to be acceptable for determining cost for accounting purposes, an actuarial cost method should be rational and systematic and should be consistently applied so that it results in a reasonable measure of pension cost from year to year."[Ref. 1, Para. 23] The five different cost methods discussed earlier are specifically

mentioned as being acceptable provided the actuarial assumptions used are reasonable. For a plan that separately assigns a portion of the expense to past or prior service costs, any amortization of that cost, above the interest on the unfunded actuarial liability, should be based on a rational and systematic plan and generally should result in reasonably stable annual amounts. As previously mentioned, the method used for accounting purposes does not have to be the same one used to fund the pension plan, the choice of the former presumably being based on the desired cash flow pattern.

b. Accounting for Prior Service Cost

The opinion recognizes that different views exist concerning the preferable way to recognize pension cost, arising from the long-term nature of pensions and uncertainties about the total amount of benefits ultimately to be paid. One view is that periodic pension cost should take into account all estimated prospective benefit payments with respect to the existing employee group, whether related to service before or after the plan's adoption, and should be allocated over the remaining service lives of active employees. A second view stresses the continuing nature of pensions and holds that a charge for normal cost plus an amount equivalent to interest on the unfunded prior service cost will be adequate to meet all benefit payments. This amount, it is argued, will over time accumulate an amount at least equal to the actuarially computed value of vested benefits. A third

and final view holds that, since a company has no responsibility to pay benefits beyond the amounts in the pension fund, pension cost is therefore discretionary and should only be accounted for when an actual contribution is made during the period. In discounting this discretionary argument on the (accrual) basis of long-term obligations that will continue to be met, the opinion states that annual pension expense should fall within a range as indicated below:

(1) Minimum. The annual provision for pension cost should not be less than normal cost plus an amount equal to interest or any unfunded prior service cost plus a provision for vested benefits (if prior service costs are not being amortized and the P.V. of vested benefits exceeds assets plus any accruals.)

(2) Maximum. The annual provision for pension cost should not exceed the total of normal cost plus 10 percent of past service cost plus 10 percent of prior service cost arising from amendments to the plan plus interest equivalent on the cumulative difference between the provisions and amount funded. The effect of this 10 percent limitation is to prevent unreasonably large charges against income. A company may choose any method between the minimum and maximum, including amortization over a 10 to 40 year period, and meet the requirements of the opinion. Once a company chooses an accounting method for prior service cost, it is assumed that it will use the same method each year.

Finally, the excess of the P.V. of vested benefits over plan assets or accruals should be shown in the balance sheet as both a liability and a deferred charge.

c. Accounting for Actuarial Gains and Losses

Actuarial gains and losses arise from changes in actuarial assumptions concerning future events and from variances between past estimates and actual results. Two methods are sanctioned for reflecting these gains and losses in the annual cost provision:

(1) Spreading. Net actuarial gains and losses are applied to current and future cost, either through the normal cost or through the prior service cost. Spreading can take place over the future service lifetimes of active plan participants or over a ten to twenty year period.

(2) Averaging. Under this method an average of annual net gains and losses, developed from those that occurred in the past with consideration of those expected to occur in the future is applied to normal cost. Alternately, a similar effect may be obtained by applying net actuarial gain as a reduction to prior service cost in a manner that reduces the interest on, or the amount of amortization on, the prior service cost without reducing the period of amortization.

d. Accounting for Unrealized Appreciation/Depreciation

These are actually variations of actuarial gains or losses. The opinion states that unrealized appreciation or depreciation on pension fund investments should be recognized on a rational and systematic basis that avoids giving undue recognition to short-term market fluctuations. Two methods acceptable for accomplishing this are: (1) recognizing

an amount annually through some type of moving average or (2) introducing an assumed rate of appreciation as a separate actuarial assumption. The opinion further states that it is acceptable to recognize up to only 70 percent of market value as an actuarial gain.

A final concern of APB Opinion No. 8 is the matter of disclosure. Noting that pension plans are of sufficient importance to an understanding of financial position and results of operations, it states that sponsoring companies should make the following disclosures in its financial statements or notes thereto:[Ref. 1, Para. 46]

(1) A statement that such plans exist, identifying or describing the employee groups covered.

(2) A statement of the company's accounting and funding policies.

(3) The provision for pension cost for the period.

(4) The excess, if any, of the actuarially computed value of vested benefits over the total of the pension fund and balance-sheet pension accruals, less pension prepayments or deferred charges.

(5) The nature and effect of significant matters affecting comparability for all periods presented, such as charges in accounting methods (actuarial cost method, amortization of past and prior service cost, treatment of actuarial gains and losses, etc.), changes in circumstances (actuarial assumptions, etc.), or adoption or amendment of a plan.

The opinion does not require the disclosure of unfunded past service cost. However, companies registered under the rules and regulations of the Securities and Exchange Commission are required to make such a disclosure!

In summary, while it was the intention of APB Opinion No. 8 to narrow the accounting practices applicable to defined-benefit pension plans, considerable diversity in accounting for annual pension provisions still exists. The five valuation methods assign greatly different sums to the normal cost of future benefits. The ranges between entry age normal and the aggregate methods, for example, are immense. The actuarial assumptions leave much room for differences of opinion as to what is "reasonable." Finally, the options for amortizing prior service costs and accounting for actuarial gains and losses in determining annual pension expense provide much discretionary latitude. The particular procedure to be followed, of course, is a management perogative based on a number of considerations, not the least of which is the issue of taxation. In brief, there are three aspects of the present tax treatment of qualified pension plans that need to be remembered:[Ref. 10, p. 3]

(1) Employer contributions to pension funds used to finance such plans are deductible currently from the employer's gross income as a business expense.

(2) Employer contributions to such funds are not taxable to covered employees until received by them as benefits--when their tax rates usually are lower than when the contributions were made.

(3) Income from pension fund investments is not taxable to the fund nor to the employer, and is not taxed to covered employees until received as benefits.

The multitude of acceptable accounting procedures has posed problems for accountants, auditors and financial analysts. Some feel the question of proper determination of period expense has not been fully addressed. Others feel more disclosures are needed in financial statements, including not only the unfunded past service cost, but the amortization period being used, the actuarial assumptions used, and the cost method employed. This would make comparison and analysis of plans feasible. Based on recent literature, a consensus seems to be forming that would tend towards uniformity in the cost method as well. That companies can take like transactions and account for them in an unlike manner has become too confusing. The aggregate cost method has been the one mentioned most frequently as providing a reasonable cost measurement approach. This method, as previously discussed, reflects current year's pension expense as a level percent of payroll. This relationship can be expressed as follows:

$$\frac{\text{Pension Expense}}{\text{Current Payroll}} = \frac{\text{P.V. of Pension Benefits}}{\text{P.V. of Future Payrolls}}$$

APB Opinion No. 8 was issued some 13 years ago. The FASB has been studying the whole spectrum of pension plan accounting for some time. A statement was originally due out last year,

but has now been postponed until the first quarter of 1979, and is not currently available.

3. Employee Retirement Income Security Act (ERISA)

In the past many employees have lost pension rights due to bankruptcies, mergers or simply ruthless employers. Occasionally employers released workers before earning vested benefits or terminated their pension plans because of insufficient funds. As a result, a major piece of legislation, the Employee Retirement Income Security Act (ERISA - sometimes referred to as the Pension Reform Act) was enacted in 1974. It provides guarantees for the worker to at least part of his vested pension. The provisions of this legislation establish new minimum funding requirements that are more stringent than the current minimum accounting requirements for recognition of the annual pension cost provision. In addition, the Act increases significantly the reporting and disclosures required of pension plans. Before discussing these, the following summarizes a few of the more important provisions of ERISA, exclusive of the new reporting and disclosure guidelines. [Ref. 18, p. 21]

a. Eligibility

Requires employers to enroll each employee 25 years of age or older with one year of service, with a few exceptions, into the pension plan. It also prohibits excluding an employee because he is too old.

b. Vesting

Establishes new minimum standards whereby the employer has three choices:

(1) 100 percent vesting after 10 years of service.

(2) 25 percent vesting after 5 years of service, grading up to 100 percent after 15 years.

(3) 50 percent vesting when age and service (if employee has at least 5 years of service) equal 45, grading up to 100 percent vesting 5 years later. Further, the law states that pension plans must pay 50 percent of a retired employee's pension to the surviving spouse unless the employee specifically waives that right.

c. Funding

Establishes minimum funding standards requiring the employer to fund annually full normal costs, including plan administration costs, plus amortize past service benefit liabilities over 30 years for new plans and over 40 years for existing plans. Experience gains and losses are also to be amortized over a period from 15 to 20 years. Fines are set for noncompliance.

d. Fiduciary Responsibility

A fiduciary is defined as any person exercising power of control, management, or disposition over a pension fund's assets. The law establishes the "prudent man" rule as the basic standard of fiduciary responsibility. He is

required to act only to the benefit of plan participants, and prohibited from investment of more than 10 percent of the pension plan assets in the employer's securities. He is also required to diversify fund investments. In some cases he may be held liable for loss to the plan.

e. Termination Insurance

It creates a Pension Benefit Guarantee Corporation (PBGC), a division of the Department of Labor (DOL), to insure payment of vested benefits in the event of termination of a plan. Employers of defined-benefit plans pay annual premiums of between $.50 and $1.00 per participant. Once a plan is terminated and found to have insufficient funds, PBGC takes over management of the remaining assets of the plan. An actuarial determination would have to be made which would show the required allocation of the fund's assets to various classes of participants. (Because such a calculation is complicated and because plans usually do not terminate, this information is not often reported.) PBGC also would assist in establishing retirement accounts and sending out monthly retirement checks. If plan assets are not sufficient to cover vested benefits ($25 million per Fig. 3(D)), PBGC has the power to seize up to 30 percent of a company's net worth to make up the deficit.

While APB Opinion No. 8 provided guidance as to preparation of the financial statements of the company, pension fund statements prepared by the fund trustee come under the rules and regulations of ERISA. The numerous reports

and schedules now mandated are required to be sent to four main government agencies: the Department of Labor, the Pension Benefit Guarantee Corporation, the Internal Revenue Service, and the Secretary of the Treasury. In addition, a Summary Description Report must be prepared and sent to all participants and beneficiaries. Most of these reports are situational; however, each agency does require at least one annual report or registration statement. It is beyond the scope of this paper to present the full spectrum of contingent reporting requirements, but one report, the Annual Report (Form 5500) filed with the DOL, is worth mentioning briefly as being particularly significant. A sample listing of some of the reports and schedules included in the Annual Report are shown in Table IX.[Ref. 2, p. 23] ERISA requires the administrator of a plan to engage an independent public accountant to conduct a sufficiently comprehensive examination to enable him to "...form an opinion as to whether the financial statements and schedules required to be included in the Annual Report...are presented fairly in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year."[Ref. 18, p.22] In addition to a "financial statement and opinion" the Annual Report requires an "actuarial statement and opinion." In this the administrator must appoint an enrolled actuary who makes a valuation of the plan every three years, unless he determines a need to evaluate the plan more often. Accompanying the statement must be his opinion as to whether the matters disclosed in the statement are on the whole reasonably related

to the experience of the plan and represent his best estimate of anticipated experience under the plan.

TABLE IX

CONTENTS OF DEPARTMENT OF LABOR (DOL) ANNUAL REPORT

1. Balance Sheet, including statements of assets and liabilities, changes in net assets, footnote disclosures and supplementary schedules.
2. Income/Loss Statement
3. Transaction Schedule involving the lessor of $300,000 or 3 percent of plan assets.
4. Actuary Statement with an evaluation of the plan made every three years.
5. Name and address of each fiduciary.
6. The reason for change in accountant, actuary, administrator, trustee, insurance carrier, investment manager or custodian.
7. An opinion, by an individual, qualified public accountant in regards to the financial stability of the plan and the Annual Report.

The impact of ERISA has been significant. It not only guarantees minimum pension benefits through the PBGC, it also requires minimum funding levels, the effect of which is to ensure that the plan does not terminate. While ERISA does not specifically state that plan statements must be prepared in accordance with GAAP, the required opinion of the independent auditor in his attest role makes compliance implicit. Thus, while ERISA provides greater plan stability through extensive reporting and new funding requirements, the actuary and auditor still have wide flexibility.

Specifically, actuarial assumptions, cost methods for determining annual pension expense and/or contributions, and valuing investments, provide under GAAP considerable diversity and subjectivity. As noted, the FASB has been studying the issue of pension accounting for some time and nearing a final statement on the subject. It is not now known, however, to what extent uniformity might be materially increased in the future.

C. THE PUBLIC SECTOR

Having presented the fundamentals of pension plan accounting and funding in the private sector, it is worthwhile to look briefly at costing of some representative retirement systems in the public sector before turning exclusively to the issue of the military retirement liability. While enacting ERISA to apply to the private sector, the government has not adopted any uniform practices relating to its own retirement programs. Nevertheless, many parallels can be seen. The primary difference is that the annual accruing (normal) costs of the federal systems is usually understated, due in large measure to actuarial assumptions that ignore the effects of general pay increases and inflation. Consequently, most retirement programs are greatly underfunded, while some are intentionally not funded at all. The net result of understating these retirement costs is that the cost of government operations and agency programs are also understated. In the

meantime, the unfunded actuarial liability continues to grow.

This section will describe three widely divergent systems affiliated with the federal government as indicated below:

Post Office Department

Civil Service Commission

Social Security System

While a number of other federal retirement systems exist (Tennessee Valley Authority, federal judiciary, etc.), the financing operations of these three encompass the large majority of dollar outlays and should suffice for comparison purposes. Consistent with the emphasis of this paper, no opinion as to the equity or propriety of the compensation is offered; only the accounting and funding aspect of the prescribed benefit formula is presented.

1. The Postal Service

The Postal Service employs approximately 25 percent of all persons covered by the Civil Service Retirement System. Under current law, the Postal Service matches its employees' contributions of 7 percent of base pay to a retirement trust fund. As the next section on the Civil Service will discuss, this 14 percent of payroll is not considered sufficient to adequately fund normal costs. In 1970 the Postal Reorganization Act created the Postal Service to be a self-sustaining enterprise and authorized it to bargain with its employees. It was unclear, however, who was to finance the increases in the unfunded retirement liability

resulting from employee-management agreed upon pay raises. As a result, in 1974 Congress passed P.L. 93-349, requiring the Postal Service to amortize this increase in unfunded liability, making it the only agency required to do so. The nature of these payments is shown in Table X.[Ref. 7, p. 19] Unresolved, however, is who pays for the increased liability resulting from government-initiated raises to retired annuitants based on Consumer Price Index (CPI) changes. This latter problem arises because normal costs do not include an assumption for inflation or general level pay increases. The conclusion is that postal rates, however high, do not currently reflect the full cost of providing services.

TABLE X

PAYMENTS TO AMORTIZE INCREASE
IN THE POSTAL UNFUNDED LIABILITY

(thousands of dollars)

Year	Annual Payments Required to Amortize the Increase in Unfunded Liability	Postal Service Payments	Government Appropriations
1972	$ 62,991	--	$ 66,991
1973	104,985	--	104,985
1974	174,185	$ 69,200	104,985
1975	207,441	207,441	--
1976	385,865	385,865	--

2. The Civil Service System

By number of beneficiaries and current year outlays, Civil Service is the largest of the federal government's major

nondisability retirement systems. There are many inconsistencies among those systems involving factors such as retirement eligibility, service credits, the benefit formula, reemployment restrictions, survivors benefits and Social Security coverage. The general benefit formula for Civil Service is 1.5 percent for each of the first 5 years of service, plus 1.75 percent for each of the next 5 years, plus 2 percent for each year thereafter, multiplied by the employee's average salary for the three consecutive highest pay years, to a maximum of 80 percent. Thus an annuitant with 30 years' service would receive 56.25 percent of his "high three" average salary. As a general rule, federal civilian employees are not covered by the Social Security Program and, as such, are the only major group of employees in the United States who cannot participate in this program.

The last major change in Civil Service funding policies occurred in 1969 with the enactment of P.L. 91-93. This law increased employee contributions to the retirement fund to their current level, between 7 and 8 percent of compensation. This is matched by the employer, the federal government. Some comparative statistics on the status of the system for the years 1970 and 1976 are provided in Table XI.

TABLE XI

CIVIL SERVICE RETIREMENT SYSTEM
(millions)

Year	Beneficiaries	Outlays	Liability	Fund Balance	Unfunded (Vested) Liability
1970	.97	2,752	75,236	22,432	52,804
1976	1.45	8,284	150,470	43,470	107,000
Percent Increase	150	201	99	93	103

The $150 billion liability shown represents the P.V. of vested benefits less the P.V. of future employee contributions. (The 1974 figure reported by Andersen in Table VIIII was $108 billion.) These valuations, using the approach that the government has historically employed, do not recognize cost-of-living increases until after they occur, while the salary scale used to estimate future pay raises anticipates only the promotion or longevity type of increase, excluding the inflation element. As a result, the normal cost, 14 percent of payroll, to fund future benefits of current employees is significantly understated. Reference 7 calls this the "static normal cost," calculated in the most recent Board of Actuaries report for the Civil Service System to be 13.64 percent, a figure which appears to be covered by the combined contributions of employer and employee. The report also included a "dynamic normal cost," based on different economic assumptions

including future general pay increases and CPI adjustments. In recent years general pay and annuity increases have occurred frequently and in large amounts. These figures ranged from 21.56 to 28.74 percent. In the same year the Office of Management and Budget (OMB) estimated this dynamic normal cost to be 31.7 percent of pay. Applying the differential of 17.7 percent (31.7-14) to the 1976 payroll of $39.2 billion, normal costs in that year alone were understated almost $7 billion.

In addition to raising agency and employee contributions to 7-8 percent, the 1969 law also requires the government to make direct appropriations to the fund to: (1) liquidate in 30 annual installments any increase in the unfunded liability resulting from pay increases, liberalization of retirement benefits, or extension of retirement coverage to new groups of employees; (2) pay interest on the unfunded liability; and (3) pay the cost of allowing credits for military service. The intent of this legislation was to stabilize the fund and retard the growth of the unfunded liability. Despite the fact that the government contributed $7.4 billion (18.9 percent of payroll) in 1976, from 1970 to 1976 the unfunded liability doubled as indicated in Table XI. During this same period the number of beneficiaries increased 50 percent, the average pay rate increased 36 percent, and the annuity cost-of-living adjustment increased 64 percent. Assuming 6 percent annual pay and cost-of-living increases, by 1985 the unfunded liability (as distinguished from Fig. 1),

this figure represents exclusively vested benefits) will further increase to about $207 billion.[Ref. 7, p. 9] This growth can be expected to continue unless general pay increase and CPI adjustments, e.g., dynamic normal cost, are figured in the actuarial calculations and the plan financed on this basis.

3. The Social Security System

A third system to be looked at is the Social Security System. Social Security is an accepted part of the American scene, but recently has been under attack both for it's alleged inequities and the important question of how it will be financed in the future. Social Security has been defined as "...a nationwide group insurance plan with a social objective, utilizing an insurance approach to redistribute income from contributors to the aged, survivors, and disabled, and to pay part of the medical care costs of some of these."[Ref. 6, p. 10] Only 55 percent of total contributions go to old age benefits, with the remaining 45 percent going to disability, life insurance, and Medicare. Provisions of the Old Age and Survivors Insurance (OASI) portion of the system appear to be more controversial than the Hospital Insurance-Medicare (HI) or Disability Insurance (DI) portions, and the emphasis of recent legislative efforts. In 1977, cash benefits under the program were paid to more than 33 million persons every month, more than 100 million persons contributed to the system, and more than $102 billion was paid in benefits to the aged, disabled, and survivors, in addition to $29 billion in Medicare payments.

The OASI system, which provides the basic floor of benefits to covered retired workers and survivors to be supplemented by private plans and savings, is discussed briefly below.

a. Pre-1977

In the 1960's and early 1970's the financial health of the Social Security System was very secure, based on real earnings growth, a steadily rising tax rate and an expanding labor force resulting from the post-WWII "baby boom." Prior to 1972, Congress raised Social Security benefits on an ad hoc basis (70 percent over the six-year period, 1967-1972). In 1972 Congress amended the Social Security Act to provide for benefits to increase automatically with increases in the Consumer Price Index, and for the maximum earnings base, on which Social Security taxes are levied, to increase automatically with increases in average earnings. Unfortunately, there were two serious problems with the 1972 amendments, apart from the economic slowdown of 1974-1975, that contributed to recent problems with the system. First, cost projections were made based on obsolete demographic assumptions that bear little resemblence to the recent experience of sharply declining birth rates. By 1975, the fertility rate (number of births per woman) had fallen to 1.8, below the postwar peak of 3.7 in 1957, and even below the level of 2.1 necesssary to maintain a constant population in the absence of immigration.[Ref. 8, p. 5] Had realistic birth rate assumptions been used in 1972 (they were 30% too high), the system would already have indicated a deficit,

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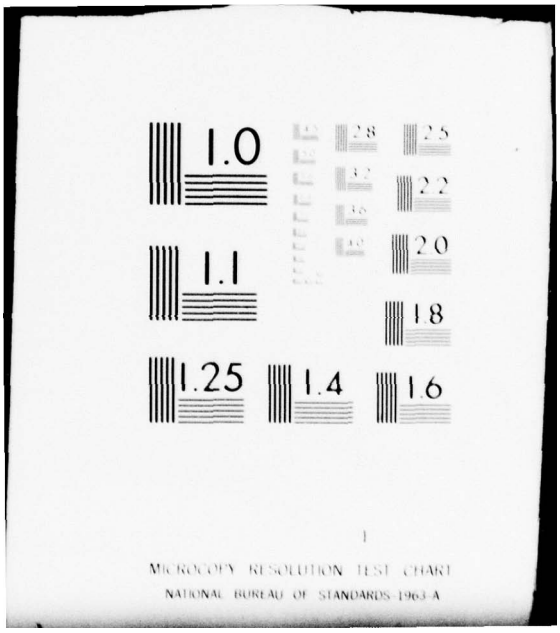
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even before the 20 percent across-the-board increase. Assuming continued low fertility rates, the financial burden on the system would have been immense in the early twenty-first century, when those born during the baby boom begin to retire. For example, if the fertility rate were 1.7 by 1985, and remained constant from then on, the ratio of those 65 and over to the 20 to 64 year old population would be 36 percent in 2050 compared with 19 percent in 1985. This decline in the birth rate would cause sharply higher tax rates on future workers based on the pre-1977 system.

The second problem related to the indexing method chosen by Congress. Under the prescribed benefit formula, payments are computed as a percentage of a worker's average monthly wage (AMW) in covered employment. At retirement this benefit, called the Primary Insurance Amount (PIA), is calculated for the worker's actual AMW. The relationship between PIA and AMW is shown in Table XII. Between 1972 and 1977 the percentages on the left were automatically increased by the amount the CPI rose, a 5.9 percent increase between the first quarter of 1976 and the first quarter of 1977. During inflationary periods, however, wage hikes were also reflected in higher AMWs. As a result, workers received a double benefit from inflation by having both higher wages and a higher benefit percentage computed on those wages. The system was said to be "double indexed." It would have been possible, by the turn of the century, for future retireees to have received benefits that exceeded their most recent wages, especially when the tax-free nature of benefits was included.

TABLE XII

SOCIAL SECURITY BENEFIT FORMULA

(PIA as a Percent of AMW)

1976	1977	1979
137.77% of first $110	145% of first $110	90% of first $180 of AIME
50.11% of next $290	53.07% of next $290	32% of next $905
46.85% of next $150	49.59% of next $150	15% of amt over $1085
55.04% of next $100	58.29% of next $100	
30.61% of next $100	32.42% of next $100	
25.51% of next $250	27.02% of next $250	
22.98% of next $175	24.34% of next $175	
21.28% of next $100	22.54% of next $100	
	21.18% of next $100	

The 1972 amendments, coupled with low fertility rates and high inflation, led to a huge forecasted deficit for the system. In 1975 Social Security actuaries estimated the deficit to be $2 trillion. Using slightly different actuarial assumptions, Andersen estimated this liability to be $2.4 trillion. In 1975 the trust fund (excluding Medicare) balance represented about 70 percent of annual benefit payments. With payments exceeding revenues, however, this cushion was expected to quickly erode and be exhausted by the early 1980's. This deficit was projected to significantly worsen based on the demographic projections mentioned previously.

These gloomy forecasts indicated that positive steps were necessary if the Social Security System were to survive in its present form. Numerous proposals were offered by two administrations, congressional subcommittees, labor, and special study groups and commissions. A few achieved general agreement, but most had both advocates and opponents. Most of the proposals to finance both the short and long-run deficits centered around these few key issues:

(1) Increasing Payroll Taxes. This would include both the employer-employee tax rate and the maximum earnings base which was $16,500. Proponents argue this would be in keeping with a progressive tax system whereby higher wage earners would pay more into the trust. Opponents argue that by thus increasing AMW, the higher contributor would receive more benefits later. Further, higher employer taxes would be passed on in the form of higher prices, hurting those on low or fixed income the most.

(2) General Revenue Financing. Supported by organized labor, this proposal recommended drawing on general revenues to supplement the financial resources of the trust fund. Since federal taxes are graduated, it is felt this would make financing more progressive. Opponents felt this option would destroy the contributory philosophy of the Social Security System and the benefit structure that is earnings related.

(3) "Decouple" the Indexing of Benefits. This is probably the least controversial proposal, although how to structure a new indexing scheme was the major worry.

Under most proposals, the retired population would be treated as it is now, with CPI increases of benefits, while current employees would be subject to a new "wage indexing" or "price indexing" procedure. This change alone could reduce future deficits significantly.

(4) Increased Coverage. Increasing the retirement age would both offset somewhat the aforementioned demographic shift and reduce benefit payments as some of the elderly continued to work. Coverage could also be increased by extending Social Security membership to all federal employees. Currently, many retired federal workers end up qualifying for the minimum benefit of about 121 dollars a month, based on short experience in a second job. This is considered a windfall, with benefits far exceeding contributions, that could be avoided by extending universal coverage.

(5) Secondary Benefits. Of two retired workers with identical earnings histories, the married worker receives benefits about 50 percent higher. One proposal would eliminate benefit payments to secondary recipients.

(6) Dependency Test. Currently wives are presumed to be dependent on their husbands. A "dependency test" for each spouse has been proposed with only the one with the lower income over the prior three years qualifying as a dependent.

This is only a small sampling of the major issues that confronted the Social Security System. Discussion of the complexities of these or the many side issues would be too lengthy for a "macro-treatise." They do provide some background,

however, as to the evolution and purpose of the system, as well as the serious financing problems that developed.

b. Post-1977

In 1977 the President signed into law H.R. 9564, known as the Social Security Amendments of 1977. Many of the provisions adopted by the act addressed the problems and inequities of the 1972 amendments just discussed. Among those with the most far-reaching impact are:

(1) Increased Contribution And Benefit Base And Higher Tax Rates. The net effect of these changes is to increase revenues to the point where they exceed expenditures by 1980. The revised tax rate and taxable wage base schedule is shown in Table XIII.[Ref. 21, p. 62]

The distribution of employer-employee contributions for 1978 is approximately as follows:

1.	Old Age	3.144
2.	Disability	.775
3.	Life (Survivors) Insurance	1.131
4.	Medicare	1.000
		6.050%

TABLE XIII

SOCIAL SECURITY TAX RATE AND TAXABLE WAGE BASE

Year	Tax Rates for Both Employers/ Employees	Percent Self-Employed	Maximum Annual Wage Contribution and Benefit Base for Employee, Employer & Self-Employed
1978	6.05	8.10	$17,700
1979	6.13	8.10	22,900
1980	6.13	8.10	25,900
1981	6.65	9.30	29,700
1982	6.70	9.35	31,800*
1983	6.70	9.35	33,900*
1984	6.70	9.35	36,000*
1985	7.05	9.90	38,100*
1986	7.15	10.00	40,200*
1987	7.15	10.00	42,600*
1988	7.15	10.00	*
1989	7.15	10.00	*
1990 - 2010	7.65	10.75	*

*After 1981, the base would be increased annually in line with wage levels whenever there has been a cost-of-living benefit increase in the preceding year.

(2) Decoupling. The new benefit formula was shown in Table XII under "1979." To offset the overadjustment for inflation resulting from the 1972 amendments, the PIA is now computed on the basis of average indexed monthly earnings

(AIME), which is stabilized 5 percent below previous levels. The intent is to assure that Social Security benefit protection will keep pace with the increases in wage levels during a person's working lifetime and with increases in the cost of living, as measured by the Consumer Price Index, thereafter. Although somewhat involved, a hypothetical example of wage indexing under the new law is provided in Table XIV. [Ref. 23, p. 12]

TABLE XIV

WAGE INDEXING AND BENEFIT COMPUTATION FOR HYPOTHETICAL EARNINGS, 1951-78, OF A WORKER RETIRING AT AGE 62 IN 1979

Year	Annual Earnings	Average Annual Covered Wages	Indexing Factor	Wage-Indexed Earnings
1951	$3,000	$2,769	$3.532	$10,596
1952	2,900	2,945	3.321	9,631
1953	3,600	3,089	3.166	11,398
1954	3,600	3,226	3.031	10,912
1955	4,200	3,350	2.919	12,260
1956	4,200	3,540	2.762	11,600
1957	4,200	3,747	2.610	10,962
1958	4,000	3,852	2.539	10,156
1959	2,500	3,980	2.457	6,142
1960	4,800	4,148	2.358	11,318
1961	2,800	4,283	2.283	6,392
1962	4,800	4,461	2.192	10,522
1963	4,800	4,572	2.139	10,267
1964	4,800	4,712	2.075	9,960
1965	6,000	4,787	2.043	12,258
1966	-----	4,997	1.957	------
1967	2,000	5,311	1.841	3,682
1968	7,000	5,683	1.721	12,047
1969	5,500	5,977	1.636	8,998
1970	7,200	6,288	1.555	11,196
1971	7,400	6,670	1.466	10,848
1972	-----	7,250	1.349	------
1973	5,520	7,580	1.290	7,121
1974	6,000	8,031	1.218	7,308
1975	7,500	8,631	1.133	8,498
1976	8,000	9,226	1.060	8,480
1977	7,200	9,779	1.000	7,200
1978	8,100	-----	1.000	8,100

The PIA in the example in Table XIV is calculated as follows:

Total Indexed Earnings in Highest 23 Years		$231,636
AIME = $231,636 ÷ 276 (23 x 12)		839
PIA under 1979 formula:	90% x $180 =	$162
	32% x ($839-180) =	$210.88
PIA (rounded)	=	$372.90

(3) The minimum benefit for future beneficiaries was frozen at the 1979 amount of $121 per month. This will be adjusted for CPI increases only after an individual begins receiving it.

(4) Dependency benefits payable to spouses or surviving spouses will be reduced by the amount of any public (federal, state or local) retirement available to the spouse. The offset will apply only to pension payments based on the spouse's own work in public employment which is not covered under Social Security.

(5) Recommendations to extend coverage to all federal employees was referred to a study group under the direction of the Secretary of HEW. No report has been submitted on this proposal yet.

(6) No general revenue financing was authorized, but some funds were transferred from OASI to the nearly depleted DI fund.

While these are only a few of the many provisions of the 1977 amendments, they have the largest impact on revenues and expenditures. The decoupling provision alone

eliminates over one-half of the estimated long-range deficit in the Social Security System. Based on the economic and demographic assumptions in the 1977 Reports of the Board of Trustees, the long-range (75 year) deficit is reduced from more than 8 percent to less than 1 1/2 percent of taxable payroll.

Thus, the future solvency of the Social Security System appears relatively encouraging. The system is fundamentally on a pay-as-you-go basis with the role of the trust fund, which covers only a fraction of total liabilities, not very important. It is like a private pension plan in that a stream of future benefits is guaranteed the worker, but quite dissimilar in that this stream of benefits will be financed by taxing future workers, rather than from the return on a portfolio of investments accumulated over an individual's working lifetime. As previously noted, in 1974 Andersen estimated the unfunded liability of the system to be $2.4 trillion. Using a period of thirty years to accrue this liability, the reportable balance sheet liability for that year, as shown in Table VIII, was calculated to be $416 billion. These figures, adjusted to 1977 levels, should presumably be reduced somewhat by the recent amendments. Under ERISA, this unfunded prior service cost ($2.4 trillion) must be funded over a forty-year period. The purpose of this provision is to protect workers should the plan terminate or the company go out of business. The federal government, however, is not presumed to be subject to default; hence the argument that prior service costs do not need to be funded.

While APB Opinion No. 8 states explicitly that "pay as you go is not an acceptable actuarial cost method,"[Ref. 1, para. 24] many argue that this is not relevant to the federal government. Under the going-concern concept, the government has an obligation to meet benefit payments to covered beneficiaries, which it does from annual contributions. As long as it continues to meet this commitment, which the recent amendments were designed to ensure, the system will remain viable. This leaves open to debate the question as to whether or not the unfunded prior service cost is in fact a liability that should somehow be recognized, given a secure pay-as-you-go financing system, but one that will remain essentially unfunded.

IV. MILITARY RETIREMENT COSTS

A. OUTLAY PROJECTIONS AND PROPOSED CHANGES

Chapter III has already provided some insight into the nature of military retirement costs. To summarize, retirees receive 2 1/2 percent of their terminal base pay times the number of years of service up to a maximum of 75 percent. This pension is drawn immediately upon retirement, is protected from inflation by CPI adjustments, and is augmented by Social Security payments at age 62 or 65. Some representative values of lifetime retired pay, exclusive of Social Security benefits, is shown in Table XV.[Ref. 20, p. 21] These figures are stated in constant 1978 dollars.

TABLE XV

ANNUAL RETIRED PAY AND EXPECTED LIFETIME RETIRED PAY FOR THOSE RETIRING AFTER JANUARY 1, 1978

Grade at Retirement	Years of Service	Annual Annuity	Expected Lifetime Retired Pay
0-6	30	$24,000	$590,072
0-5	20	12,629	419,912
E-8	30	11,605	281,109
E-7	20	5,800	191,109

The recent controversy surrounding the military retirement system has centered around three principle issues: rising current year outlays, the large unfunded liability, and the system inequities (translated to mean over-generosity) in

comparison to typical private and other public sector plans. Emphasis has been on the nondisability retirement costs, which account for greater than 80 percent of all military retirement costs. (The other 20 percent pays for categories such as: disabled retirees, retirees from the "weekend reserves," and the survivors of retirees.) Table XVI provides some further insignt into the liberal provisions of the military retirement system.[Ref. 20, p. 35]

TABLE XVI

PERCENT OF FINAL ACTIVE DUTY AFTER-TAX INCOME THAT WOULD BE REPLACED BY SOCIAL SECURITY AND AFTER-TAX RETIRED PAY UNDER VARIOUS RETIREMENT PLANS

	20 Years of Service	30 Years of Service
Military	95.9%	97.7%
Civil Service	62.4%	73.5
Police and Fire	95.7	100.0
State Retirement Systems		
Pennsylvania	66.6	68.0
New York	66.6	68.0
Illinois	65.8	62.0
Michigan	63.0	60.0
Private Sectors		
Bank	60.5	59.3
Fund Processor	58.3	52.1
Electronics Manufacturer	56.8	53.3

Further criticism of the system's inequities include: the early retirement option available after only 20 years of service, no Social Security offset to retired pay when these benefits are received, computation based on "high-one" terminal salary which aids a retiree who has recently made grade or received a longevity pay increase, and "double-dipping," among others. The many recent studies have addressed most or all of these issues.

Outlays for retired benefits have increased significantly in recent years. In 1978 retired pay costs were $9.1 billion representing 8 percent of the defense budget, as compared to 2 percent in 1964. It is widely quoted that these costs will exceed $30 billion by the year 2000. For this reason, most proposals recommend changes in the benefit formula that would reduce these annuities, resulting in significant cost savings downstream. Table XVII provides a summary of past and projected outlays for the current system and three packages of proposed changes.[Ref. 11, p. 49] Except where "current-year" is indicated, projected figures represent constant 1978 dollars. The first option for change would create a two-step annuity. Upon retirement the recipient would receive a reduced annuity until that point when he would have completed thirty years of service, when the payment would be restored to its current level. Savings by the year 2000 would amount to about $1.2 billion in today's dollars. The second option, which also entails a two-stop annuity, would defer full payments until age 55 or 60 and result in further cost reductions. Cumulative savings by the year 2000 would be

$19 billion. Finally, the third option would reduce military retirement costs by over $4 billion a year in current dollars in the year 2000, and result in a cumulative savings of $36 billion. The study recently completed by the President's Commission on Military Compensation[Ref. 20] also incorporated a reduced annuity concept. The rise in retirement costs in the years immediately following any enactment are attributable to the payment of vested benefits to personnel who separate prior to retirement eligibility, a feature endorsed by all the proposed changes.

The preoccupation with rising retirement costs, however, needs further explanation. First, the high $37.5 billion outlay for the year 2000 assumes real wage growth of 1.5 percent and inflation (as reflected in CPI) of 5 percent. As noted earlier, the resultant figures are highly sensitive to these assumptions. When discounted to 1978 dollars, this figure becomes a much more acceptable $12.4 billion. Secondly, this growth in retirement costs is the result of three factors: inflation, higher military pay, and more retirees. It is estimated that 42 percent of this growth in the last decade is attributable to CPI increases. While these CPI increases are likely to continue, the other two factors should not be as dominant in the future. Twenty-two (22) percent of this growth is attributable to military pay increases. During the late sixties and early seventies a number of significant military "catch-up" pay raises were enacted, aimed at equating military compensation to the private sector and other federal jobs. In 1967 the Rivers

TABLE XVII

PAST AND PROJECTED MILITARY RETIREMENT OUTLAYS

	Outlays (billions)								Accrual Charge
	1964	1978	1979	1980	1983	1985	2000	2050	1979
Current System:									
Current year dollars	1.2	9.1	9.9	10.4	13.8	15.6	37.5	-.5	
Constant 1978 dollars	2.4	9.1	9.4	9.7	10.4	10.7	12.4	18.2	7,100
Changes Under:			-----(millions)-----						
Reduced annuity to 30			+100	+90	+40	--	+970	-3,370	-1,600
Reduced annuity to 55 or 60			+140	+130	+20	--	-1,900	-5,620	-2,400
Reduced annuity to 55 or 62			+90	+100	+20	--	-4,220	-7,790	-3,800

Amendment (later repealed) linked military pay raises to those of the Civil Service. In 1970 the Federal Pay Comparability Act increased Civil Service pay levels to parallel those found in the private sector. The net effect of these changes was to raise active pay levels significantly, and faster than CPI increases (although slower than inflation since 1972). More retirees have contributed 36 percent to the growth of military retirement costs. The effect of this is shown in Table XVIII.[Ref. 15, p. 124] The large increase in retirees prior to 1976 resulted from the buildups required for national defense during World War II and Korea. Most of the participants in these conflicts are now retired. While life expectancy has increased, the size of the active force has decreased considerably in recent years. The result of these factors is that the size of the retired military group, assuming no unforeseen events, will increase much more slowly in future years. This trend is evident from the following table.

TABLE XVIII

ACTUAL AND PROJECTED NUMBER
OF RETIRED MILITARY PERSONNEL

Year	Average Number
1952	137,785
1957	192,209
1962	313,436
1967	564,280
1972	867,190
1974	983,788
1976	1,109,357
1978	1,220,671
1980	1,266,747
1982	1,318,035

The ultimate conclusion to be drawn from these figures is that, while military retirement costs are high and will continue to grow, we are over the hump in terms of rapidly escalating costs. The 16 percent a year increase observed between 1964 and 1978 will stabilize at about 7 percent for the predictable future. This, too, is evident from Table XVII. Excluding inflation, estimated in these projections at 5 percent, retired pay through the year 2000 will actually grow at a (real) annual rate of less than 2 percent.

B. ACCOUNTING IMPROVEMENTS

The military and Civil Service retirement systems currently operate essentially on a pay-as-you-go basis. Recent proposals have been made, however, to change the way the federal budget accounts for these retirement costs. Under the recommended accrual accounting procedure, the budget would reflect the annually accruing liability for future retirement benefits of active-duty personnel. This, it is argued, would make the budget more accurately reflect the costs of current activity, and improve management by making the full costs of manpower more visible. Additionally, the changes would make accounting for military and Civil Service retirements more consistent. The recommended accounting changes include the following:

1. Transfer the Defense Retired Pay appropriation out of the defense function (050), probably into the income security function (600), which now contains the appropriation that pays benefits to Civil Service retirees (recently introduced as H.R. 4894).

2. Add to the defense function a charge for retirement costs of present employees. This accrual charge would be determined as in the private sector, using actuarial assumptions that include expected future growth in prices and wages and future interest rates.

3. Increase the charge for accruing Civil Service retirement costs to accommodate future price and wage considerations, with this increase being paid by the government.

4. Create a military trust fund, similar to the Civil Service fund, that would hold contributions and pay benefits.

These changes were recommended by the Executive Branch and endorsed by GAO and the Congressional Budget Office (CBO).[Ref. 12] Of those mentioned, the major advantage is probably the increased visibility given manpower costs. Under the accrual charge, any change in pay, numbers of military personnel, or the benefit formula will immediately be reflected in the accrued charge in the defense function, which should enhance management decision-making. Probably the major disadvantage, however, is the sensitivity of any retirement charge to technical assumptions and interest rates.

The effects of these changes on outlays and Budget Authority are shown in Table XIX.[Ref. 12, p. 6] (These figures assume 4 percent growth in CPI, 5 percent growth in wages, and an interest rate of 6 percent.) As shown, these accounting changes would not affect outlays in the budget as a whole, although outlays within functions do change. In the defense function, for example, the first two changes would result in a net decrease of $2.7 billion, since the accrued charges computed

are less than current outlays to retirees. If the increased Civil Service charge is implemented, however, the defense function would increase $.5 billion. The accounting changes have a different effect on budget authority, however. If all charges were adopted, the increase would be $13.8 billion, $6.8 billion for civilian and $7.0 billion for the military. The increase of $7 billion occurs because the federal government begins recognizing its liability to pay future retirement costs. But these "contributions" to the trust fund do not affect outlays; outlays occur only when employees actually retire. The accruing liability would merely be reflected in a "special (trust) fund" maintained by the Treasury.

Under these changes prior unfunded liabilities would continue to be paid off under a pay-as-you-go system for 50 years or more. The accrual charge of $7 billion is tentative, as are the other actuarial projections. If the real interest rate were lowered from the 2 percent used to 1 percent, this amount would jump to $9.3 billion. Since these figures could be subject to political manipulation, the proposals further recommend an independent board of actuaries be established to determine the annual contribution required to fully fund accruing costs. (The law requires the Civil Service to use the age-entry normal cost method, an extension of which would appear likely for determining the military expense.) It is presumed that prior service costs would not be funded, except in the case of the present Civil Service requirement, and would continue to be met by annual appropriation until liquidated. Despite some of the obvious disadvantages

TABLE XIX

IMPACT OF PROPOSED ACCOUNTING CHANGES (1979)

(In Billions)

	Charge from Transferring Retired Pay Defense Account	+ Accrual Charge - Military	Change from Increase in + Accrual Charge - Civil Service	+ Change from Creation of Military Trust Fund
		OUTLAYS		
Defense Function (050)	-9.7	+7.0	+3.2	0
Other Agency Functions	0	0	+3.6	0
Income Security (600)	+9.7	0	0	0
Offsetting Receipts (900)	0	-7.0	-6.8	0
TOTAL	0	0	0	0
		BUDGET AUTHORITY		
Defense Function (050)	-9.7	+7.0	+3.2	0
Other Agency Functions	0	0	+3.6	0
Income Security (600)	+9.7	0	+6.8	+7.0
Offsetting Receipts (900)	0	-7.0	-6.8	0
TOTAL	0	0	+6.8	+7.0

referred to, the advantages of these proposed accounting changes appear to be compelling. It is a step in the right direction, and a first attempt by the federal government to recognize the full cost of military manpower, an improvement that should aid military force planning in the future. The proposal to create a military trust fund was recently introduced as H.R. 12392, a copy of which is contained in Appendix B.

C. THE UNFUNDED LIABILITY

Mention has already been made of the nature of unfunded actuarial liabilities. Specifically, this is the excess of the P.V. of prospective benefit payments over the sum of (1) the amount in the pension fund and (2) the P.V. of future contributions for normal cost. This liability was calculated using the following assumptions: wage growth 3 percent, inflation 4 percent, and interest rate 6 percent. The resulting accrued prior service cost was shown in Table VI. The combined prior service liability for the military and Civil Service retirement systems in 1976 was $273 billion, a figure substantially larger by now.

The military unfunded liability for 1979 is estimated at $173.6 billion. Referring to Fig. 3(B), since there are presently no assets or a trust fund to hold contributions, this sum represents the entire "circle." (Andersen has estimated the real liability for reporting purposes to be $80.38 billion (in 1974) based on the P.V. of vested benefits.)

The proposals to recognize an accruing charge for retirement costs and establish a fund will change the complexion of this circle. The P.V. of future normal costs would be reflected by the annual accrual charge, the amount necessary to fully fund retirement costs of active duty personnel. The remainder of the circle, the unfunded prior service liability, will continue to be met by annual appropriation until depleted. Table XX provides an estimate of future accrual charges based on 1978 dollars and assuming 1.5 percent real wage growth.[Ref. 20, p. 98] It is apparent that the accrual charge here is somewhat less than in Table XIX based on different assumptions used in the valuations. The last column shows the amount necessary to amortize the unfunded liability, but over what time span is unclear. The accrual charge determined is equal to 36.6 percent of base pay.

Since the trust fund would be required to invest in government securities, no outlays result until employees retire. A few have suggested that the fund be permitted to invest in the commercial sector, thereby improving its rate of return. The investments of large private pension plans have already had an enormous economic impact. When the distribution of their portfolios is out of state, politicians become involved. Lately, because of sizeable investments in the "sunbelt" region, northern politicians have become increasingly concerned as scarce resources leave their domain. It is extremely unlikely, given the political volatility of this issue, that funds could conceivably be released to private sector investment.

Furthermore, this funding scheme would necessarily have an immediate and full impact on current year outlays. Consequently, this option is mentioned only briefly.

TABLE XX

BUDGET AUTHORITY FOR MILITARY RETIREMENT FUND

(1978 Dollars in Billions)

Year	Retirement Accrual	Additional Appropriation to Liquidate Unfunded Liability
1980	$6.9	$ 9.3
1984	7.2	9.9
1988	7.7	10.0
1992	8.1	9.7
1996	8.6	9.1
2000	9.2	8.0

All of this, however, leaves several questions still unanswered. Given that real growth in military retirement costs have stabilized at less than 2 percent, has too much emphasis been placed on efforts to reduce these costs? While the unfunded liability does represent a burden for taxpayers in the future, has too much attention been given to this figure, given the going-concern nature of the federal government, and its ability to meet these now-stabilizing retirement costs through general revenues? If accruing liabilities are to be recognized, is the present proposal the best method, and is establishment of a trust fund appropriate? Finally, what implication for full funding should be made when taxpayers

are paying $9.7 billion for present retirees, as opposed to an estimated accrual charge of $7.1 billion?

V. SUMMARY AND CONCLUSIONS

A. SUMMARY

The initial sections of this paper briefly traced the evolution of accounting by the federal government to be present day. The concepts of accrual accounting and full costing were highlighted as being particularly relevant to the study of accruing retirement costs. The budget, it was noted, should be an accurate reflection of current activity, and only an accrual accounting system will show resources actually consumed, thereby providing better program and performance measurement. Probably the most important benefit to be gained is that this permits better control over costs. This was a major consideration in the recent administration proposals to reflect the currently accruing military retirement costs in the federal budget. An extension of accrual accounting is the full costing concept, which states essentially that price should equal full cost. In the personnel example, it was noted that retirement is often overlooked when assessing manpower costs, but under an accrual approach should properly be charged as a cost of current operations. Otherwise, the cost of current services (defense) is understated.

In Chapter III a sample consolidated Statement of Revenues and Expenses and Balance Sheet for the U.S. Government was presented, as prepared in 1975 by Arthur Andersen & Co., on

an accrual concept. These figures showed accrued liabilities for federal retirement and transfer payment programs, ending in an accumulated federal deficit of $812 billion. The Andersen Report achieved wide attention, if not universal acceptance. The Congressional Budget Office questions whether accrual accounting, as applied to the federal government, encompasses present-value discounting and whether the changes in the commitments shown, whether legal or moral, should be allowed to affect budget totals since they do not reflect current activity.[Ref. 24] The consensus appears to be that these obligations need to be recognized, but exactly how is disputed, and the unified budget attempt may not be the best answer. It may be remembered that the recent accounting changes proposed for recognizing retirement costs did not affect budget outlays.

The next sections examined accounting and funding principles employed in administering pension plans in the private sector under the guidelines of APB Opinion No. 8 and ERISA. These were subsequently compared to the operation of two public sector plans and the Social Security System. Despite considerable flexibility in accounting and costing techniques and the range of actuarial assumptions permitted, definite funding requirements were observed in the private sector, especially applicable to prior service costs. The public sector plans, however, are essentially funded on a pay-as-you-go basis, even though a small trust fund may exist. It was further observed that, if funded by design, contributions were insufficient to meet future benefits and therefore "underfunded."

For the most part, however, improvements were either recently instituted or are in the offing.

Finally, military retirement costs in specific were examined. The increased annual retirement charge, the factors causing this increase, and the growth of the unfunded liability were all presented. Recently proposed changes in accounting for retirement costs were introduced. These included greater recognition of the annual Civil Service costs, recognition by inclusion in obligational authority an amount for the annually accruing military charge, and establishment of a military trust fund. Lastly, how to deal with the unfunded liability for retirement costs was addressed in the final section.

B. CONCLUSIONS AND RECOMMENDATIONS

A large number of issues were addresses in this paper. It would be difficult to advance conclusions on many of them. A few observations, however, that are most pertinent to the topic follow.

1. Accrual accounting and cost-based budgeting offer distinct advantages for governmental accounting. Implementation of these procedures, however, has proved difficult. In view of the appropriation structure and continued obligational accounting, converting to an accrual basis will be a long, slow process.

2. There is a need to recognize the growing liability resulting from federal retirement programs and the Social Security System. This helps to show the true financial status

of the government and reflects a taxpaying burden on future workers. Just how these liabilities are to be recognized, and the propriety of a consolidated federal balance sheet, are likely to be disputed for some time. In fact, given the continuing nature of the federal government and it's power to raise revenues, it is debated whether these represent liabilities at all, in the traditional accounting sense of the word.

3. The uproar in recent years over increasing military retirement costs has been somewhat misguided. It has been demonstrated that these will grow at less than 2 percent through the year 2000. Therefore, any proposals to modify the present system should reasonably be presented from a standpoint of equity and force requirements, vice retirement outlays.

4. Likewise, the size of the unfunded liability has been somewhat over-emphasized. Given stabilized retirement outlays, there is no reason to suspect that Congress will fail to appropriate these funds. The size of this liability is dwarfed in comparison to that of the Social Security System. Collectively (military, Civil Service Commission, and Social Security), however, these systems do represent a significant burden on a relatively decreasing working populace. The advent of Proposition 13 and the recent initiative to call a Constitutional Convention to require a balanced budget have omnious implications as to the willingness of current taxpayers to meet past commitments of this nature.

5. Finally, the recently proposed accounting changes and military trust fund appear sound. This permits the recognition of annually accruing retirement costs without affecting budget outlays, while slowly paying off the unfunded liability. Conceivably, this concept could also be extended to the Social Security System; however, the political ramifications and the size of the annual accrual charge (above contributions) are unknown.

APPENDIX A

PUBLIC LAW 84-863

AN ACT

To improve governmental budgeting and accounting methods and procedures, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

AMENDMENTS TO THE BUDGET AND ACCOUNTING ACT, 1921

Sec. 1 (a) Section 201 of the Budget and Accounting Act, 1921, as amended (31 U. S. C. 11), is further amended by inserting "(a)" after the words "Sec. 201,"; by changing subsection (a) to subparagraph (1); by adding after subparagraph (1) a new subparagraph "(2) at such times as may be practicable, information on program costs and accomplishments"; by changing subsections (b) through (j) to subparagraphs (3) through (11), respectively.

(b) Section 216 of such Act, as amended (31 U. S. C. 24), is further amended by inserting "(a) after the words "Sec. 216." and adding the following new subsections:

"(b) The requests of the departments and establishments for appropriations shall, in such manner and at such times as may be determined by the President, be developed from cost-based budgets.

"(c) For purposes of administration and operation, such cost-based budgets shall be used by all departments and establishments and their subordinate units. Administrative subdivisions of appropriations or funds shall be made on the basis of such cost-based budgets."

AMENDMENTS TO THE BUDGET AND ACCOUNTING PROCEDURES ACT OF 1950

Sec. 2 (a) The Budget and Accounting Procedures Act of 1950 is amended by inserting after section 105 thereof the following new section:

"ACCOUNTING AND BUDGET CLASSIFICATIONS

"Sec. 106. The head of each executive agency shall, in consultation with the Director of the Bureau of the Budget, take whatever action may be necessary to achieve, insofar as is possible, (1) consistency in accounting and budget classifications, (2) synchronization between accounting and budget classifications and organizational structure, and (3) support of the budget justifications by information on performance and program costs by organizational units."

(b) Section 113 of such Act (31 U. S. C. 66a) is amended by adding at the end thereof the following new subsection:

"(c) As soon as practicable after the date of enactment of this subsection, the head of each executive agency shall, in accordance with principles and standards prescribed by the Comptroller General, cause the accounts of such agency to be maintained on an accrual basis to show the resources, liabilities, and costs of operations of such agency with a view to facilitating the preparation of cost-based budgets as required by section 216 of the Budget and Accounting Act, 1921, as amended. The accounting system required by this subsection shall include adequate monetary property accounting records as an integral part of the system."

(c) Section 113 of such Act is amended by inserting "113 (c)" after the words "section iii".

SIMPLIFICATION OF SYSTEM FOR SUBDIVIDING FUNDS

Sec. 3 Section 3679 (g), Revised Statutes, as amended (31 U. S. C. 665 (g)), is further amended by adding at the end thereof the following sentence: "In order to have a simplified system for the administrative subdivision of appropriations or funds, each agency shall work toward the objective of financing each operating unit, at the highest practical level, from not more than one administrative subdivision for each appropriation or fund affecting such unit."

Approved August 1, 1956

APPENDIX B

95TH CONGRESS
2D SESSION

H. R. 12392

IN THE HOUSE OF REPRESENTATIVES

APRIL 26, 1978

Mr. PRICE (for himself and Mr. BOB WILSON) (by request) introduced the following bill; which was referred to the Committee on Armed Services

A BILL

To amend title 10, United States Code, to provide for a Department of Defense Military Retirement and Disability Fund, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That subtitle A of title 10, United States Code, is amended by:

(1) Inserting the following new item in the chapter analysis and the chapter analysis of part II:

"74. Department of Defense Military Retirement and Disability Fund ---------- 1460".

(2) Inserting the following new chapter in part II:

"CHAPTER 74—DEPARTMENT OF DEFENSE MILITARY RETIREMENT AND DISABILITY FUND

"Sec.
"1460. Definitions.
"1461. Department of Defense Military Retirement and Disability Fund.

"§ 1460. Definitions

"For the purposes of this chapter:

"(1) 'Fund' means the Department of Defense Military Retirement and Disability Fund to be established pursuant to this Act.

"(2) 'Currently accruing retirement liability' means the amount of funds needed to finance benefits for future retirement and survivor benefits accruing as a result of military service performed after September 30, 1978.

"(3) 'Preexisting unfunded liability' means the present value of all retirement benefits earned as of the date of the establishment of the Fund.

"(4) 'New unfunded liability' means the present value of all retirement benefits earned as of the date of the new unfunded liability is determined less the Fund balance and preexisting unfunded liability as of that date. If in the calculation of the new unfunded liability it is found that there is a surplus in the Fund, the surplus shall be known as an 'actuarial surplus'.

"(5) 'Fund balance' means the sum of—

"(A) the investments of the Fund in interest bearing securities of the United States plus

"(B) the unobligated cash balance of the Fund on the books of the Treasury.

"§ 1461. Department of Defense Military Retirement and Disability Fund

"(a) There is authorized to be established a Department of Defense Military Retirement and Disability Fund. The Fund is authorized for the payment of retired pay and retirement pay, as authorized by law, of military personnel on the retired lists of the Army, Navy, Marine Corps, and Air Force, including the reserve components thereof, retainer pay for personnel of the Inactive Fleet Reserve, and payments under section 4 of Public Law 92–425 and chapter 73 of this title to survivors of military personnel.

"(b) The Secretary of Defense shall administer the Fund and shall prescribe the rules and regulations for the establishment, maintenance and administration of the Fund.

"§ 1462. Investment of Fund

"(a) The Secretary of the Treasury shall maintain the Fund on the books of the Treasury. It shall be the duty of the Secretary of the Treasury to invest such portion of the Fund as is not in the judgment of the Secretary of Defense, required to meet current withdrawals. Such investments shall be in public debt securities with maturities suitable to the needs of the Fund, as determined by the Secretary of Defense, and bearing interest at rates determined by the

Secretary of the Treasury, taking into consideration current market yields on outstanding marketable obligations of the United States of comparable maturities. The income on such investments shall be credited to and form a part of the Fund.

"§ 1463. Determination of currently accruing retirement liability

"The percentages of basic pay necessary to fund currently accruing retirement liability shall be computed annually as provided in section 1464 of this title. The annual computation of the percentages shall be premised on assumptions, including assumptions of interest rates, annual increases in military basic pay, and inflation as determined by the Board of Actuaries described in section 1464.

"§ 1464. Determinations of Fund liabilities

"(a) The President of the United States shall appoint three actuaries, to be members of the Board of Actuaries of the Military Retirement System. The actuaries first appointed under this section shall be appointed for terms ending five, ten, and fifteen years, respectively, after the date of enactment of this Act, the term of each to be designated by the President at the time of nomination. Each successor shall be appointed for the term of fifteen years from the date of the expiration of the term for which his predecessor was appointed. Any actuary appointed to fill a vacancy occurring

prior to the expiration of the term for which his predecessor was appointed shall be appointed only for the remainder of such term. A member of the Board, not otherwise in the employ of the United States, is entitled to pay at the daily equivalent of the annual rate of basic pay of the highest rate of basic pay then currently being paid under the General Schedule of subchapter III of chapter 53 of title 5, United States Code, for each day the member is engaged on work of the Board, and is entitled to travel expenses, including a per diem allowance, in accordance with section 5703 of title 5, United States Code. The Board shall report to the Secretary of Defense annually on the actuarial status of the system and furnish its advice and opinion on matters referred to it by the Secretary. The Secretary shall keep, or cause to be kept, such records as necessary for making periodic valuations of the system. Such valuations will be carried out by the Department of Defense using methods and assumptions approved by the Board. The valuations will include—

"(1) an annual determination, in sufficient time for the preparation of budget estimates for the ensuing fiscal year, of the percentages of basic pay of military personnel necessary to be paid to the Fund to finance the estimated currently accruing liability; and

"(2) a periodic estimate not less than once every four years, of the unfunded liabilities of the Fund.

"(b) The Board of Actuaries shall review such valuations and report periodically, not less than once every four years, to the President and the Congress on the status of the Fund and recommend such changes as in the Board's judgment are necessary to protect the public interest and maintain the system on a sound financial basis.

"(c) Based on the valuations made under subsection (a) the Secretary of Defense shall cause to be made estimates of amounts needed—

"(1) to be appropriated as part of annual appropriations available for pay to cover payments to the Fund for currently accruing retirement liability;

"(2) to be appropriated each year for transfer to the Fund to liquidate the preexisting unfunded liability for retirement benefits payable during the budget year that are attributable to service performed prior to October 1, 1978;

"(3) to be appropriated for transfer to the Fund to the extent necessary to liquidate any new unfunded liabilities of the Fund; and

"(4) to be transferred from the Fund to the General Fund of the Treasury to liquidate any actuarial surplus in the Fund.

The amounts determined under clauses (1), (2), (3), and (4) shall be included in the budget transmitted by the President pursuant to section 201(a) of the Budget and Accounting Act of 1921, as amended (31 U.S.C. 11).

"§ 1465. Payments and transfers into the Fund

"(a) There shall be paid into the Fund each month, from appropriations of funds used to pay military personnel of the Army, Navy, Marine Corps, and Air Force, including the reserve components thereof, percentages of the basic pay of such personnel, without deduction from the pay of such personnel, necessary to fund the currently accruing retirement liability. The first payment under this section shall be made three months after the Board of Actuaries described in section 1464 of this title computes the percentages of pay needed to be paid into the Fund for the fiscal year beginning October 1, 1978, and the first payment shall be made in a lump sum equal to the total of the amounts that would have been paid to the Fund each month between October 1, 1978, and the time the first contribution is made.

"(b) In addition to the payments made pursuant to subsection (a), there shall be transferred into the Fund:

"(1) unobligated balances of appropriations currently available for retired pay of military personnel,

"(2) interest on investments of the Fund, and

"(3) such amounts as may be appropriated for transfer to the Fund.".

SEC. 2. This Act is effective October 1, 1978.

95TH CONGRESS
2D SESSION

H. R. 12392

A BILL

To amend title 10, United States Code, to provide for a Department of Defense Military Retirement and Disability Fund, and for other purposes.

By Mr. PRICE and Mr. BOB WILSON

APRIL 26, 1978

Referred to the Committee on Armed Services

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