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Preface

As part of its endeavor to improve financial management in the federal government, GAO undertook a survey to obtain information on the characteristics of cost accounting systems currently in use in the federal government. We believe that reliable and consistent data for cost and performance measurement could help both the Congress and agency managers to assess the efficiency and effectiveness of government operations, activities, and programs. Such cost data would also provide information that would enable agency officials to make more informed financial management decisions.

There have been a number of studies relating to cost accounting in the private sector. We believe that similar cost accounting studies in the federal government will be useful to encourage the development of improved cost accounting practices responsive to the needs of federal managers and the Congress. Therefore, we surveyed cost accounting systems in five agencies: the Department of the Interior, General Services Administration, the Department of Health and Human Services, the Department of Agriculture, and the Department of the Army. In order to obtain consistent information, we provided a definition of cost accounting, which was based on a "measurement of resources consumed" concept. This concept stresses the cost of all the economic resources used in performing a task. Therefore, it excludes systems that rely principally on cash based or budgetary accounting.

Within the five agencies surveyed, we identified 59 cost accounting systems that met our definition. The systems identified in our survey are varied and were established for many different purposes.

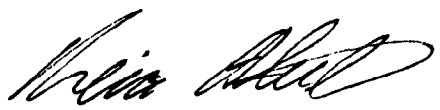
The survey results showed the following:

- The cost systems used were based principally on financial accounting standards which do not pertain directly to cost accounting and, therefore, permit significant differences in cost measurement.
- A significant number of respondents stated their cost systems were not controlled by the general ledger and, therefore, reliance on various forms of reconciliation becomes necessary to ensure the integrity of the cost data.

We are sending copies of this study to the five agencies surveyed, the Director of the Office of Management and Budget, members of the Joint Financial Management Improvement Program, members of the Chief Financial Officers' council, various congressional committees, and others

who might have an interest in this issue. We will also make copies available to other interested parties.

The major contributors to this study are identified in appendix I.



Rein Abel, Director
Cost and Regulatory Accounting

Contents

Preface		1
Chapter 1 Introduction		6
	Cost Accounting Standards	7
	Objectives, Scope, and Methodology	7
Chapter 2 Reports Generated Using Cost Accounting Data		10
	Types of Reports	10
	Distribution of Reports	11
	Contents of Reports	12
Chapter 3 Cost Determination		14
	Capitalization of Assets	15
	Depreciation of Assets	15
	Direct Labor Distribution	16
	Direct Material	18
	Other Direct Costs	20
	Accumulation of Indirect Costs	21
	Allocation of Indirect Costs	23
Chapter 4 Characteristics of Cost Accounting Systems		26
	Number of Operating Personnel	26
	Fiscal Year of System Installation	27
	Sources of Funding	27
	Methods of Cost Determination	28
	Types of Standards Used in Cost Accounting Activities	29
	Cost Data Origin	31
	System Integration	32
	Reconciliation With General Ledger Control Accounts	33
Chapter 5 Summary and Observations		35
Appendix	Appendix I: Major Contributors to This Report	38
Table	Table 3.1: Common Bases for Distribution of Indirect Costs	23

Figures

Figure 2.1: Purpose of Developing Reports 11
Figure 2.2: Users of Reports Generated From Cost Accounting Systems 12
Figure 2.3: How Cost Accounting Data Are Used 13
Figure 3.1: Different Types of Labor Rates 18
Figure 3.2: Valuation of Direct Material 19
Figure 3.3: Timing of Direct Material Charges to Products or Services 20
Figure 3.4: Source of Indirect Costs 22
Figure 3.5: Basis of Allocating Operational Overhead Cost Pools 24
Figure 3.6: Basis of Allocating General and Administrative Overhead Cost Pools 25
Figure 4.1: Total Number of Personnel Working With System 26
Figure 4.2: Fiscal Year of System Installation 27
Figure 4.3: Source of Funding 28
Figure 4.4: How System Determines Cost of Resources Consumed 29
Figure 4.5: Standards Used 30
Figure 4.6: Origin of Data 32
Figure 4.7: Integration With Other Financial Management Systems 33
Figure 4.8: Reconciliation of Cost Systems With General Ledger 34

Glossary

39

Abbreviations

CASB	Cost Accounting Standards Board
CPA	certified public accountant
DOA	Department of the Army
FASB	Financial Accounting Standards Board
GAAP	generally accepted accounting principles
GAO	General Accounting Office
GSA	General Services Administration
HHS	Health and Human Services Administration
NIH	National Institutes of Health
USDA	Department of Agriculture

Introduction

In an era where there is increased emphasis on improving financial management in the federal government, additional attention should be paid to obtaining more reliable cost information.[1] We believe that cost accounting systems should form an integral part of any comprehensive financial management system. Improvement in financial management practices also involves improvement in the cost data produced by the cost accounting systems. There have been a number of studies relating to cost accounting in the private sector (e.g., National Association of Accountants' Controllers Council's survey on the status of members' cost accounting systems).

Generally accepted accounting principles (GAAP) for the federal government are incorporated in Title 2 of GAO's Policy and Procedures Manual for Guidance of Federal Agencies. The need for cost accounting is recognized in Title 2. The manual stipulates that agency accounting systems shall incorporate appropriate cost accounting methods so that needed cost information will be produced for management and financial reporting purposes. The manual also states that in dealing with specialized cost accounting issues, federal agencies shall refer to relevant OMB circulars and to the Cost Accounting Standards issued by the former Cost Accounting Standards Board.

As part of our endeavor to improve financial management in the federal government, we undertook a survey to obtain information on the characteristics of cost accounting systems currently in use in the federal government. To ensure that we obtained consistent information in this survey, the following definition of cost accounting was provided.

"Cost accounting, for the purpose of this survey, includes a methodology which can provide a measurement of resources consumed in accomplishing a specific purpose, performing a service, providing a product, or carrying out a project or program, regardless of the source of funding. This includes subsystems or modules of the general ledger system as well as stand-alone cost systems, whether manual or automated, centralized or decentralized, that measure incurred costs. Accordingly, this excludes data generated SOLELY by the budgetary accounts. However, this may include systems beyond the reporting requirements for OMB Circular A-127."

The intent was, on the basis of this definition, to exclude systems maintained on a cash basis and those dealing with budget analysis. It would include only the cost accounting systems kept on an accrual basis.

[1] Managing the Cost of Government: Building An Effective Financial Management Structure (GAO/AFMD-85-35), Vol. I, pp. 2-5.

Accrual based cost data are necessary to provide reliable and meaningful cost information. Where accounting systems are mainly concerned with accounting for and control of appropriations, available information is largely based on obligation or outlay data. Only in those circumstances where obligation, outlay, and use occur almost simultaneously will such data correctly reflect the cost of specific purposes.

Cost Accounting Standards

In 1970, Congress established the Cost Accounting Standards Board (CASB), Public Law 91-379, to achieve uniformity and consistency in cost accounting practices for defense contractors and subcontractors. Because no funds were appropriated for the CASB for fiscal year 1981, the Board ceased to exist as of September 30, 1980. During its 10 years of existence, the Board developed 19 cost accounting standards. The Board is currently being reestablished in the executive branch. Since 1980, even without the existence of a Board, contractors and subcontractors have been required to follow these cost accounting standards under the procurement contracts to which the standards are applicable.

Objectives, Scope, and Methodology

The objectives of this survey were to obtain information on the characteristics of cost accounting systems currently in use in the federal government. For example, we obtained information regarding system descriptions, origin and sources of data input, cost determination and measurement, types and uses of output, and reports that are generated utilizing the systems' data. We reviewed numerous books and articles and consulted with experts in the field of cost accounting to obtain background information on cost accounting and the types of federal activities that might use cost accounting systems. We also conducted library research on cost accounting to see what information has been written to date and to uncover potential issues to pursue during this survey. In addition, we conducted numerous interviews with agency officials.

In order to obtain information on the characteristics of cost accounting, we judgmentally selected five agencies—Department of the Interior, Department of Health and Human Services (HHS), Department of the Army, Department of Agriculture (USDA), and General Services Administration (GSA). We ultimately gathered information on a total of 59 cost accounting systems, which are the subject of this study. These agencies performed several activities that we believed might employ a variety of cost accounting systems. Such activities included operation of Army maintenance depots, HHS' service and supply fund, Agriculture's working capital fund, which is used to finance and furnish certain supply and

equipment services in support of forest service programs, Interior's operation of dams and power plants, and GSA's federal supply service and public building service. We contacted the chief financial officer or his designated representative in these agencies and they advised us which financial managers could best answer our questions on cost accounting.

We prepared two questionnaires with the assistance of a cost accounting consultant, John T. Crehan, former Director for Accounting Policy, Department of Defense. We based these questionnaires on principles of cost accounting contained in textbooks, periodicals, and applicable regulations. In order to obtain consistent answers, we developed the definition of cost accounting presented above.

These questionnaires were sent to the key individuals responsible for providing cost accounting information. We did not obtain the views of users of cost accounting data as part of this survey. Such data on the information needs of federal managers would be useful in order to further develop cost accounting systems responsive to these needs.

With the first questionnaire, we gathered information on the extent to which cost accounting data are currently being used and whether the agencies are planning to develop additional cost accounting data for managerial purposes. We pretested the first data collection instrument within each of the five agencies. Our pretest was done to obtain comments and suggestions on how to improve the instrument. After we considered all suggestions, we finalized the data collection instrument and delivered 48 instruments; we received responses from all 48. These top-level financial managers identified 93 potential cost accounting systems within their agencies.

Our second instrument was designed to obtain information regarding the systems identified. The second instrument was pretested, and the same cost accounting definition was used. In this instrument, we asked questions concerning cost determination, system background and descriptions, and reports that are generated using the systems' data. We sent copies of this instrument to the individuals identified by the top financial managers as the most knowledgeable of the 93 systems identified in the first questionnaire. We received responses from all 93. Based on our review and further discussions with individuals responsible for the systems identified in our first questionnaire, we determined that 34 of the originally identified systems did not meet the criteria of a cost accounting system according to our definition. Unless otherwise noted, our

results are based on the remaining 59 cost accounting systems which met the criteria used for our survey.

We used several common cost accounting terms in our questionnaire. These terms are defined in the glossary at the end of our study. The results of our work are presented as follows:

- Chapter two: Reports Generated Using Cost Accounting Data,
- Chapter three: Cost Determination,
- Chapter four: Characteristics of Cost Accounting Systems, and
- Chapter five: Summary and Observations.

Reports Generated Using Cost Accounting Data

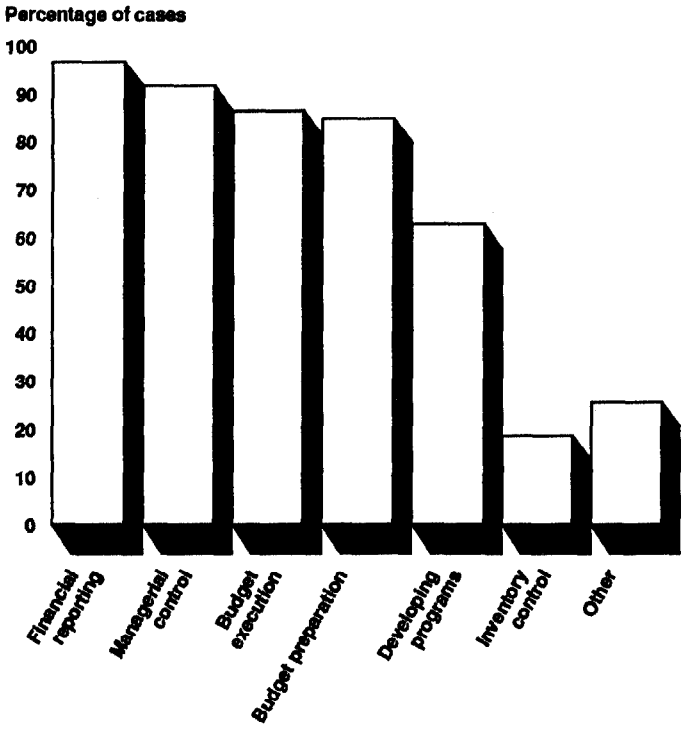
Federal agencies are using many different cost accounting systems for a wide variety of purposes. The cost accounting systems included in our survey generate a variety of reports, including, among others, reports for financial and managerial control, budget execution, and budget preparation. The reports are distributed to a wide variety of users.

According to generally accepted accounting principles (GAAP) for the federal government, the reporting of significant cost information that is derived from an effective accounting system facilitates effective financial management. The reports, statements, and related disclosures produced from the systems' cost data should be accurate, useful, complete, timely, and consistently presented. We gathered data on the types of reports issued, their distribution, contents, and perceived usefulness.

Types of Reports

The 59 cost accounting systems included in our survey generate a variety of reports. Most systems develop more than one type of report. The diverse nature of the reports generated indicates many areas where cost accounting data may be useful. As indicated in figure 2.1, the most common reports prepared are financial, managerial control, budget execution, and budget preparation.

Figure 2.1: Purpose of Developing Reports



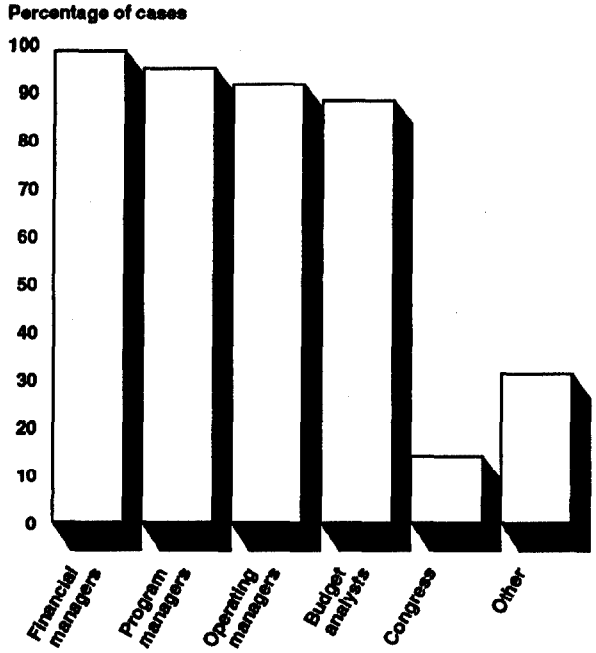
Note: Percentages total more than 100 because respondents were asked to check all applicable answers.

The availability of reliable cost data, particularly when related to assignments of management responsibility, provides a basis for the measurement and evaluation of efficiency of resources used in the performance of specific tasks. It may also be used to make meaningful comparisons and to keep costs within the limits established by law. As seen in figure 2.1, a large percentage of the respondents use cost data for budget preparation and budget execution. For this accrual based cost data to be meaningful for budgetary purposes, certain adjustments, such as subtracting depreciation, will sometimes have to be made.

Distribution of Reports

The reports generated by the cost accounting systems are distributed to a wide variety of users. Most of the reports are distributed in-house; however, some are distributed to the Congress and others, as seen in figure 2.2.

Figure 2.2: Users of Reports Generated From Cost Accounting Systems

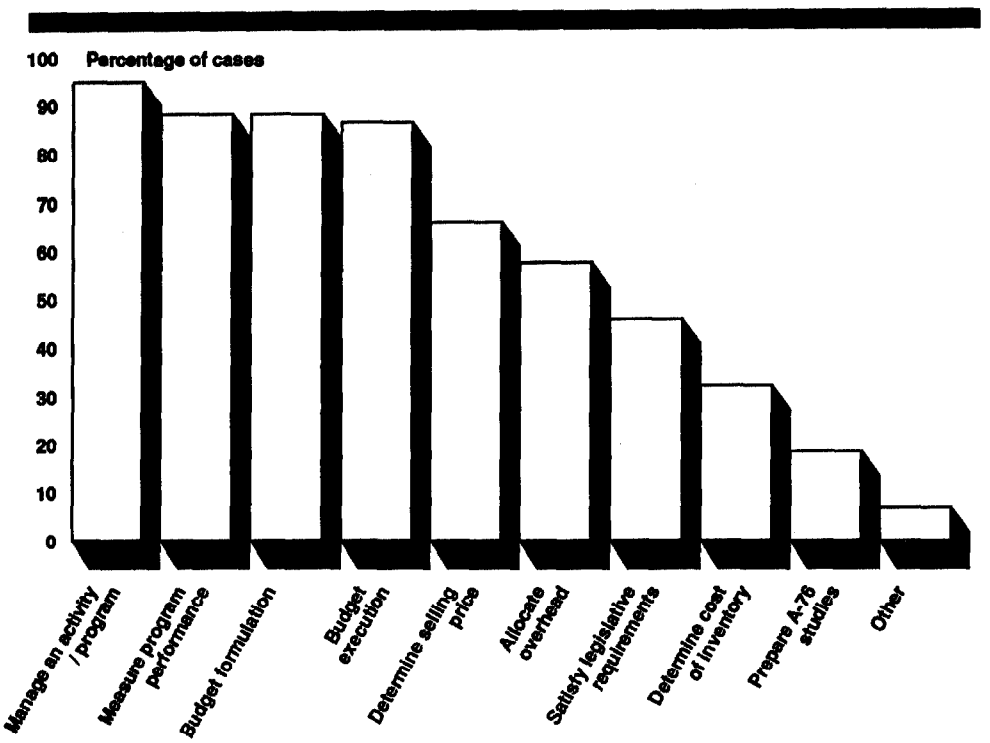


Note: Percentages total more than 100 because respondents were asked to check all applicable answers.

Contents of Reports

The contents of a report are determined by the intended use of the data. As indicated earlier, a wide variety of reports are issued to numerous recipients and the intended use of the cost data is also quite diversified. Figure 2.3 illustrates this diversity.

Figure 2.3: How Cost Accounting Data Are Used



Note: Percentages total more than 100 because respondents were asked to check all applicable answers.

We also asked the preparers of the reports how often feedback was received on management decisions made based on data in the reports. Over half of the respondents said that feedback was received often or always. Most of the remainder stated that feedback was received sometimes.

Cost Determination

This chapter presents questionnaire responses regarding cost determination. We gathered information regarding capitalization and depreciation of assets, distribution of direct labor, direct material and other direct costs, and the accumulation and allocation of indirect costs.

According to the Joint Financial Management Improvement Program's Core Financial System Requirements publication, cost accounting (accumulation) deals with the financial measurement of resources used in accomplishing a specified purpose, such as performing a service (e.g., Medicare), producing a product (e.g., armament), or carrying out a project or program. These resources include the cost of personnel (salaries/wages, fringe benefits, etc.), facilities (depreciation, rents, utilities, etc.), and material and supplies. To determine the full cost of such activities, all costs incurred must be included, regardless of when the resources were acquired or what the source of funding was. For this reason, cost accounting systems need to be integrated with and controlled by financial management systems that are kept on an accrual basis. If the system is not kept on an accrual basis, items purchased for future use (e.g., inventory) or that benefit future periods (e.g., prepaid expenses, buildings, and equipment) would not be capitalized and charged (depreciated) to the period in which they were utilized. Under these circumstances, cost of performance in future periods would be understated. Further, financial control of these assets may well be lost.

The determination of the cost of producing a product or rendering a service for those activities producing a single product or performing a single function/service is relatively simple. Since only a single cost objective is involved, all costs incurred by or allocated to the activity during the performance period are directly attributable to the sole product or service. A mere tabulation of the period costs of the activity would represent the costs of performing the function or producing the product. If several items of the same product are produced, the total number of items produced during the period divided into the total period costs would provide the individual item cost.

Determination of product and service costs within an activity becomes increasingly more complicated as the number of products produced increases or the services rendered become more diverse. In cost accounting terminology, this means that there is more than one final cost objective involved. Accordingly, the period costs, as determined in accordance with GAAP for the federal government, must be assigned or allocated among these final cost objectives. Cost Accounting Standards, although initially developed for government contract costing, have been

recognized by Title 2 as part of GAAP for the federal government. Briefly, these standards require that certain costs be assigned on a direct basis (direct costs) and others to be prorated by use of overhead pools and cost centers (indirect costs). In these cases, the full cost of each product or service will be determined by adding the allocable portion of the indirect costs to the directly assigned costs.

The remainder of this chapter discusses the questionnaire responses relating to cost determination.

Capitalization of Assets

Title 2 establishes specific criteria for the capitalization of facilities and equipment. Facilities and equipment are capitalized if they have

- an initial acquisition cost of $5,000 or more and
- an estimated service life of 2 years or more.

Items not meeting both these criteria should be expensed in the period they are utilized or consumed. Capitalization is not necessary when the item(s) is(are) bought for immediate utilization or consumption.

Questionnaire responses indicated that 81 percent (42 of 52 respondents who answered this question) capitalize facilities and equipment in accordance with Title 2. In only two cases was the dollar criterion exceeded. In those two cases, the respondents explained that it was not practical to comply with the lower dollar value criterion because of the number of items and dollar value involved.

Depreciation of Assets

According to Title 2, depreciation accounting recognizes the cost of depreciable property, plant, or equipment as an operating expense during the accounting periods in which the assets are expected to provide benefits. Depreciation expense is determined by allocating the asset's depreciable cost to the accounting periods of an asset's estimated useful life in a systematic and rational fashion.

There are several ways assets can be depreciated. The most common method identified in our survey is the "straight line method" (distributing costs equally to each accounting period of an asset's useful life) accounting for 87 percent, or 41 of the 47 cases where respondents stated they depreciated assets. Another method is the "accelerated" depreciation method, which may be appropriate when more benefit is

expected from the use of the equipment in the early periods of its estimated life than in the later periods. The third method is the "usage" (units of production) method of depreciation, which is appropriate when benefits correlate to the use of the asset and such use varies significantly between periods. In this case, the depreciable costs are divided by the total estimated units of usage (e.g., hours) during the service life of the asset to arrive at a depreciation rate per unit of usage. Depreciation for the period is then determined by multiplying the units of usage during a period by the depreciation charge per unit.

Eighty percent (47) of the respondents to our questionnaire stated that they depreciate assets for purposes of cost determination. Of these 47, the straight line method was used by 87 percent (41); straight line and accelerated by 2 percent (1); straight line and usage also by 2 percent (1); and other methods accounted for 9 percent (4) of the cases.

Direct Labor Distribution

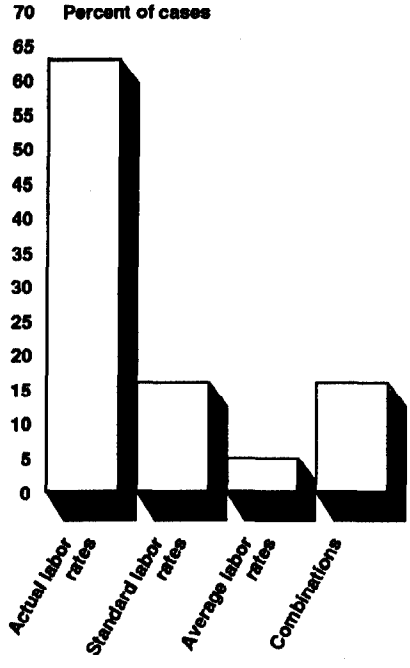
Direct labor is charged directly to a final cost objective (generally the cost of an activity or a product). The computation of this charge is performed as part of payroll distribution. We found that for approximately 66 percent (39) of the systems included in our survey, direct labor costs were distributed by the payroll system to the final cost objectives. This means that in these instances, the actual number of hours an employee worked on a given project or function would be multiplied by his/her actual rate of pay and the resulting amount charged to that project or function.

For the remaining systems, direct labor hour distribution was performed separately from the payroll system by the use of time cards, time sheets, and various other methods. Determination of the rate of pay to be assigned to the hours so accumulated may be determined in a number of different ways. In those cases where individuals perform tasks that are specifically applicable to a final cost objective and easily identifiable, the use of actual labor rates is relatively straightforward. In other instances where a group of individuals (or a team) is necessary to perform specific tasks and the individual efforts of each member of the group are not readily identifiable, then an average rate of the actual labor costs for the total team may be applied to the total hours of the team. In cases where a group of people with slightly varying rates of pay perform the same specific function, a predetermined rate of pay based on an overall average of the group's pay may be applied to the individual member's efforts.

Standard labor rates, another method of determining the labor rate, are used in connection with standard cost accounting systems. In these systems, standard hours and rates of pay are developed for the performance of a task. The standard hours are generally developed by using engineering methods to estimate the time necessary to perform the task. The standard rates, on the other hand, are developed from the rates of pay for the skill levels required to perform the task. In a standard cost system, actual costs incurred in performing specific standard tasks are accumulated in the cost accounting system for comparison with the aggregation of standard costs. Any variance, which is the difference between actual and standard costs, should be distributed among the final cost objectives. The standard cost system enables management to analyze the reasons for the variance between standard and actual. This analysis may show that higher graded labor than needed is performing the task, more hours than necessary are being incurred to perform the task (indicating a need for training or more industrious employees), or the standards need to be reassessed.

Figure 3.1 shows the various methods used to determine direct labor rates in 38 of the 59 systems included in our survey where respondents stated that they distinguish between direct and indirect labor. The other 21 respondents stated that they did not distinguish between direct and indirect labor.

Figure 3.1: Different Types of Labor Rates



Note: Combinations include standard labor rates and actual labor rates (3 cases) and other combinations.

Direct Material

Direct material costs are distinguished from indirect material costs when an activity is involved in providing more than one service or producing more than one product. The designation of material as either direct or indirect will depend on whether it benefits a single final cost objective (direct) or more than one final cost objective or at least one intermediate cost objective (indirect). For this purpose, it does not matter whether material is acquired through an inventory account or directly from a supplier.

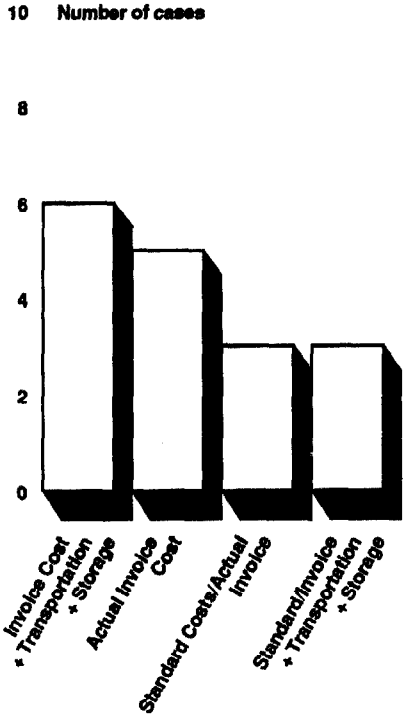
Only 50 of the respondents surveyed answered a question concerning the use of inventories. Of those, approximately two-thirds (33) stated that they did not use inventory accounts. In these cases, material was received from inventory accounts controlled outside the cost accounting systems, such as the Army Stock Fund or NIH's Service and Supply Fund, and charged to the appropriate cost objective, normally upon receipt.

GAAP for the federal government require that inventory be valued at cost or market, whichever is lower. They further state that these costs

include all amounts paid or payable to bring the goods to their present condition and location. These amounts include, among others, the supplier's invoice cost, incoming transportation costs, and a pro rata share of the storage and handling costs.

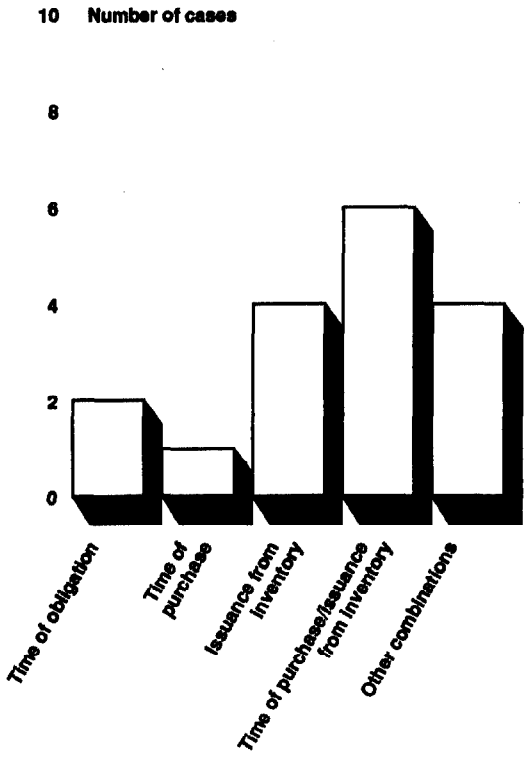
Questionnaire responses presented in figure 3.2 show that various methods were being utilized to value direct material in the 17 systems where respondents stated they account for material inventory.

Figure 3.2: Valuation of Direct Material



For those 17 systems in our survey that account for material inventory, questionnaire responses showed direct material was charged to products or services at different times, as shown in figure 3.3.

Figure 3.3: Timing of Direct Material Charges to Products or Services



It should be noted that 3 of the 17 respondents indicated they charged material to cost objectives at the time of obligation or purchase. However, obligations and expenditures for material may not equate to the material actually used during the period. Therefore, a mismatch between resource consumption and cost recognition may result in the distortion of the measurement of cost.

Other Direct Costs

For the 39 systems included in our survey which distinguished between direct and indirect costs, 30 indicated they characterized certain costs other than material and labor as direct costs. Other direct costs identified were the costs of equipment leases, travel, contracted services, and numerous other costs incurred for the benefit of a single, final cost objective.

The Cost Accounting Standards developed by the Cost Accounting Standards Board require that when other direct costs are charged to a final cost objective, all similar costs should also be charged to a final cost objective. If similar costs are not treated consistently, as either direct or

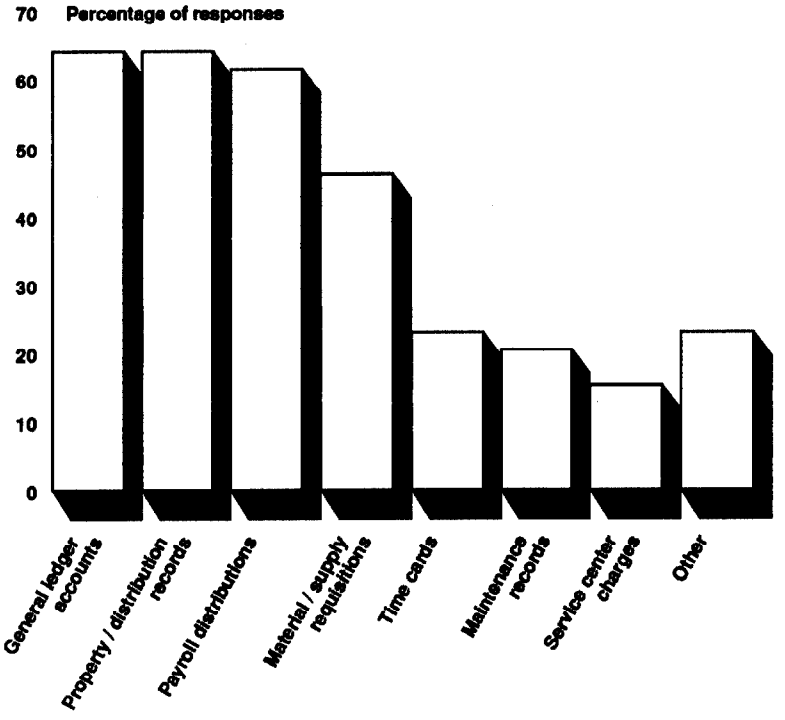
indirect costs, double counting may result. That is, the cost objectives to which the costs are charged directly will also receive a portion of the same type of costs that are treated as indirect, and thus the cost objective bears an inequitable amount of the total of such costs incurred.

Accumulation of Indirect Costs

In our survey, we asked the respondents to consider as an indirect cost any cost that is not directly assigned to a final cost objective. These costs should be collected in homogeneous cost pools (overhead pools) and then prorated among the benefiting cost objectives on the basis of a suitable causal or beneficial relationship between the benefiting cost objectives and the costs accumulated in the pool. In some cases, service centers (intermediate cost pools) may be used to accumulate costs that benefit other overhead functions, as well as final cost objectives. An example of such a service center would be a computer center that performs computing services for the accounting and personnel departments as well as some scientific applications which are regarded as final cost objectives. The costs of the services provided to the accounting and personnel departments could be assigned to an applicable overhead pool(s) and then further allocated to the benefiting final cost objectives. On the other hand, the cost of computing services for the scientific application could be charged directly to the benefiting final cost objective. There are various sources used for accumulating indirect cost data, including general ledger, payroll distribution, time cards, and maintenance records.

For those 39 systems that distinguished between direct and indirect costs, figure 3.4 indicates the sources of data for accumulating the indirect costs. The other 20 systems did not distinguish between direct and indirect costs.

Figure 3.4: Source of Indirect Costs



Note: Percentages total greater than 100 because respondents were asked to check all applicable answers.

As shown in the above figure, 64 percent (25) of the questionnaire responses indicated that data for accumulating indirect costs came from general ledger accounts and from property/distribution records. These two are followed by payroll distributions, 62 percent (24) of the responses; material/supply requisitions, 46 percent (18); and other sources as listed.

When more than one overhead pool is involved, the indirect costs incurred need to be assigned to the various overhead pools. This may be done by direct assignment or by distributing costs by using a base that prorates the costs to the various pools. Our survey shows that in those circumstances, some of the more common bases used for distribution and the costs involved are those presented in table 3.1.

Table 3.1: Common Bases for Distribution of Indirect Costs

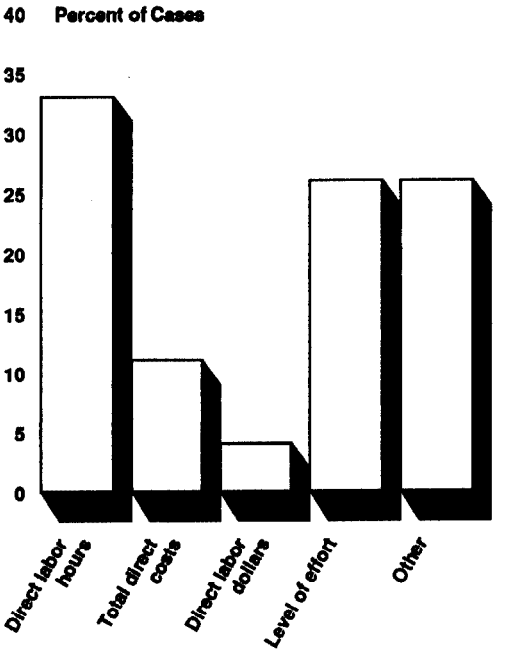
Costs to be assigned	Base
Travel and transportation, indirect materials and supplies, etc.	Labor hours or dollars
Facilities (rent, depreciation, utilities, etc.)	Square footage
Personnel management, personnel administration	Number of personnel serviced or labor hours
Data processing	Machine usage

Allocation of Indirect Costs

After the indirect costs are accumulated in overhead pools, they should be allocated to the final cost objectives on the basis of the causal and/or beneficial relationship existing between the costs accumulated in the pools and the final cost objectives. The two most common overhead pools found in our study were an operations overhead pool and a general and administrative overhead pool. Only two systems had other overhead pools. Also, a relatively minor number of the systems included in the survey had service centers (seven systems).

The bases utilized to allocate operational overhead costs to the final cost objectives by the 27 systems in our survey which had overhead cost pools are illustrated in figure 3.5.

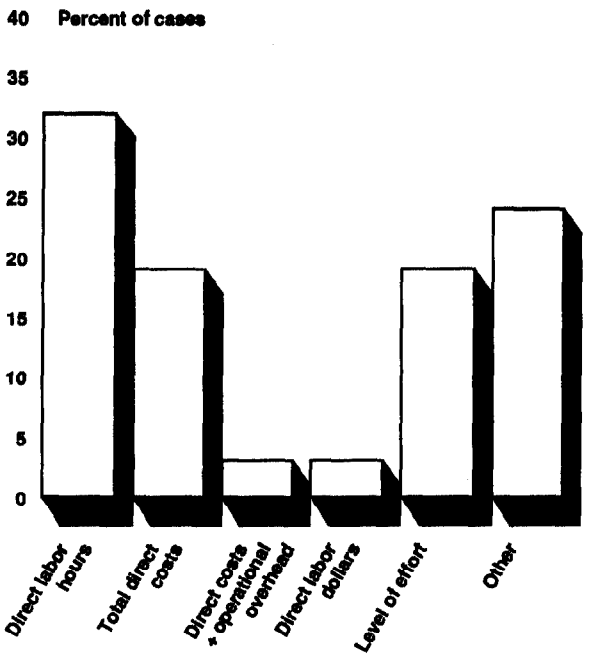
Figure 3.5: Basis of Allocating Operational Overhead Cost Pools



The other bases included square footage of space occupied, percent of sales, program allocation, a predetermined rate of measurement, and "determined by service financial managers."

Figure 3.6 shows that for the 37 systems in our survey which had a general and administrative overhead pool, various bases for allocation were reported.

Figure 3.6: Basis of Allocating General and Administrative Overhead Cost Pools



The other bases included direct distribution, a predetermined rate per measurement, indirect labor surcharge, and "determined by service financial managers."

Of the 59 respondents, 26 stated they received an allocation of overhead from other organizational units. The amounts so received are added to the other general and administrative expenses and allocated along with them to the final cost objectives.

When attempting to arrive at the total indirect cost of a government operation, a question is frequently raised as to what level of management should be included in determining an operation's total cost. Theoretically, a case can be made for including the highest levels of management, that is, the President, the Congress and the Supreme Court. However, from a practical standpoint, this is not feasible. The Cost Comparison Handbook, which has been issued as a supplement (Part IV) with OMB Circular A-76, "Performance of Commercial Activities," establishes some guidelines. The handbook, which provides guidance in comparing the costs of government operations with those of contractors, suggests only going to that level of supervision which would be reduced if the operation under study were to be eliminated.

Characteristics of Cost Accounting Systems

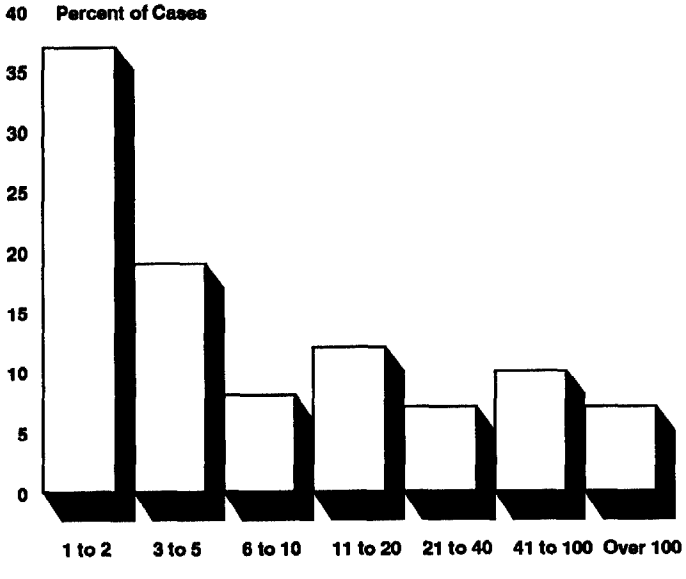
Cost accounting systems identified from our questionnaires were varied and were established for many different purposes. Some are used to obtain costs of activities associated with the operation and maintenance of dams, power plants, and canals; establish prices for a central blueprinting, photostating, and duplicating service; maintain records of costs and revenues of vehicle assets; and provide cost information required to operate, manage, and report performance at an army arsenal.

The following sections provide information on existing cost accounting systems. Topics included are: number of operating personnel, fiscal year of system installation, sources of funding, methods of cost determination, types of standards used, origin of cost data, systems integration, and reconciliations with general ledger control accounts.

Number of Operating Personnel

Figure 4.1 shows the total number of full-time and part-time accounting/finance personnel directly involved in operating the cost accounting systems. In about 56 percent of the cases, there were fewer than 6 people working with the cost accounting systems. In 17 percent of the cases, there were more than 40 people working on the systems.

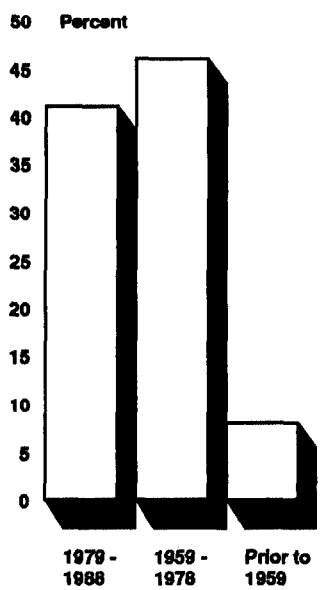
Figure 4.1: Total Number of Personnel Working With System



Fiscal Year of System Installation

Forty-one percent (24) of the cost accounting systems were installed between 1979 and 1988, about 46 percent (27) between 1959 and 1979, and 8 percent (5) were installed prior to 1959. Five percent (3) of the respondents did not provide an answer. Figure 4.2 indicates that most of the cost systems have been installed in the past 19 years.

Figure 4.2: Fiscal Year of System Installation



About 85 percent (50) of these systems were developed in-house and were installed as early as fiscal year 1902 and as recently as fiscal year 1988.

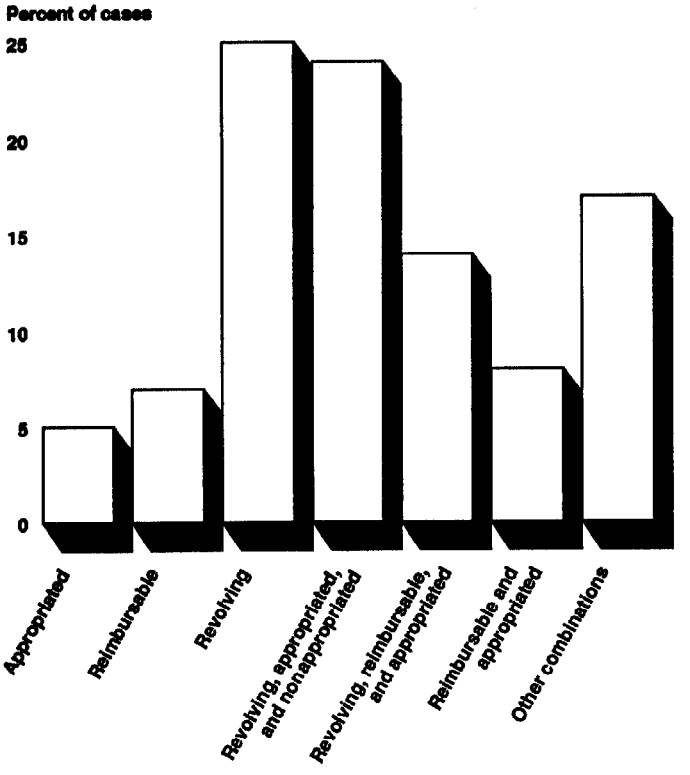
The respondents further indicated that only 34 percent of the cost accounting systems have been subjected to a major revision since installation. In 52 percent of the cases, respondents answered affirmatively when asked if a major revision was planned for their system. However, few revisions were presently in process.

Sources of Funding

In the government environment, cost accounting is frequently associated with revolving funds. Therefore, data on sources of funding may be relevant in trying to understand the extent of cost accounting being used. Figure 4.3 shows that approximately 37 percent (22) of the systems

were financed by a single source of funds (i.e., appropriated, reimbursable, or revolving). All of the other systems received multiple type funding:

Figure 4.3: Source of Funding



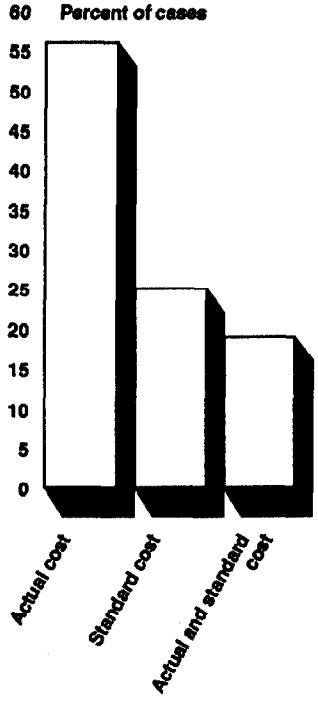
Note: "Other combinations" includes nonappropriated and appropriated (one system); reimbursable, appropriated, and another category (four systems); revolving, reimbursable, nonappropriated, appropriated, and another category (five systems).

Methods of Cost Determination

As stated in chapter 3, cost accounting involves the measurement of the resources used in the process of delivering services (e.g., Medicare), or producing a product (e.g., armament). However, different techniques can be used to measure the cost of these resources. For the purposes of our survey, actual cost is defined as an amount determined on the basis of cost incurred as distinguished from forecasted cost. Also, standard cost is defined as any cost computed with the use of preestablished

measures. Figure 4.4 shows that in 56 percent (33) of the cases, respondents stated they used actual cost when determining the cost of resources consumed.

Figure 4.4: How System Determines Cost of Resources Consumed



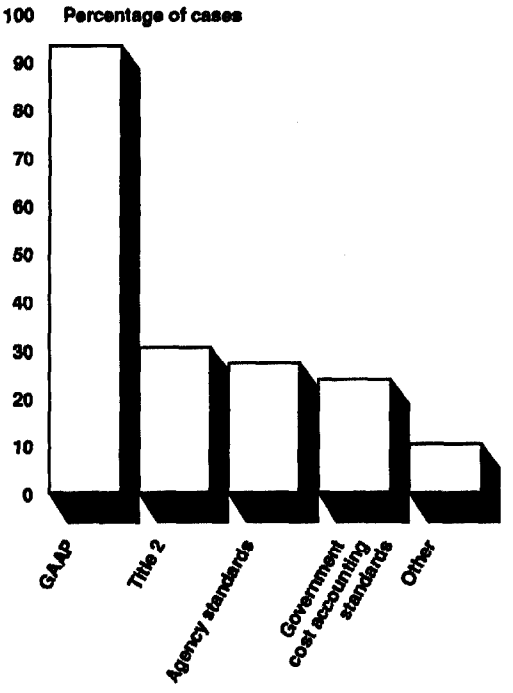
Types of Standards Used in Cost Accounting Activities

Financial accounting involves the determination of the financial position of an entity at a given point in time and the financial results of its operation over a period of time. The principles governing financial statement presentation in this country have been referred to as generally accepted accounting principles (GAAP). In order to obtain a CPA's unqualified opinion on financial statements, they must be presented in compliance with GAAP.

The generally accepted accounting principles to be observed by each executive agency within the federal government are contained in Title 2. Besides its financial accounting requirements, Title 2 requires that all departments and agencies have accounting systems that have the capability to produce cost data for managerial and budget purposes. To the extent that guidance is not provided by Title 2, agencies are advised to

follow Financial Accounting Standards Board (FASB) statements dealing with the accounting for specialized activities. In addition, for guidance on specialized cost accounting issues, according to Title 2, agencies shall refer to the Cost Accounting Standards issued by the Cost Accounting Standards Board (CASB). As previously discussed, the cost accounting standards were established to fill a perceived need for such standards in the costing of government defense contracts. Figure 4.5 depicts all applicable standards reported by the respondents.

Figure 4.5: Standards Used



Note: Percentages total greater than 100 because respondents were asked to check all applicable answers.

Title 2 standards pertain primarily to agency financial accounting, and the only specific cost accounting guidance available to cost accounting system designers is that developed by the CASB. In particular, Title 2 requires use of CASB standards in connection with specialized cost accounting issues.

Nevertheless, at least 54 percent (32) of the respondents in our survey stated that their systems were developed based solely on GAAP. As seen in figure 4.5, in combination with other standards, the respondents

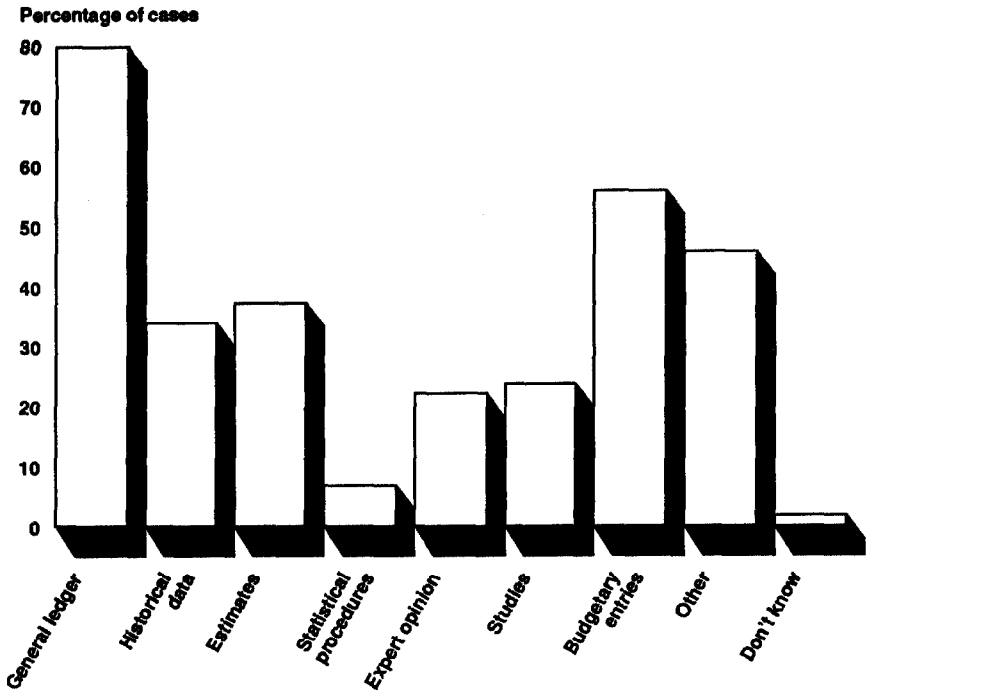
stated that GAAP accounted for 93 percent of the cases. However, GAAP and Title 2 relate principally to financial accounting and reporting, and their applicability to unit cost measurement is limited.

In 27 percent (16) of the cases, respondents reported that their systems were based on agency standards. In most instances, it was indicated that agency standards were used in combination with other standards. We determined through follow-up interviews that agency standards were actually financial accounting standards and did not specifically relate to cost accounting.

Cost Data Origin

A cost accounting system that is integrated with the general ledger will receive most of the cost data needed from the appropriate general ledger accounts or the books of original entry. Stand alone cost accounting systems receive their cost data from a myriad of sources. This is so because Title 2 permits the use of cost finding techniques where the cost to produce detailed cost data as part of the regular agency accounting systems will outweigh the benefits of having such data. The origin of cost data for the systems included in our survey is summarized in figure 4.6.

Figure 4.6: Origin of Data



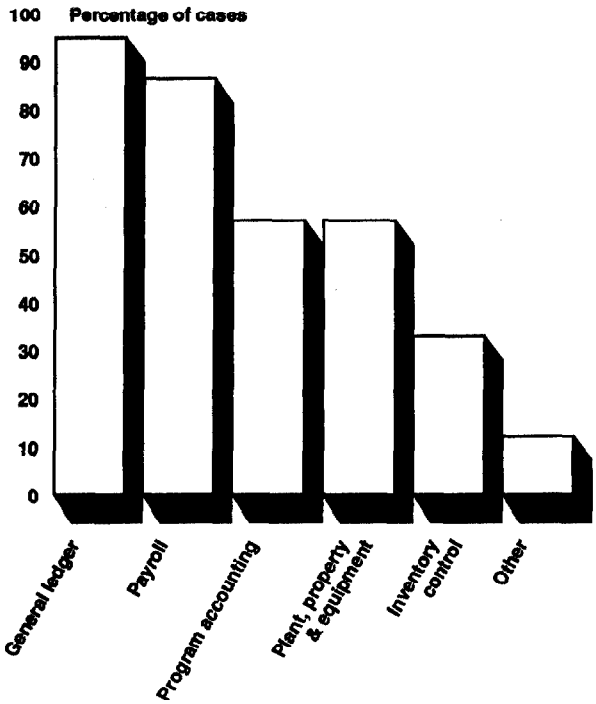
Note: Percentages total greater than 100 because respondents were asked to check all applicable answers.

The accuracy and reliability of cost data obtained from such sources as estimates, expert opinion, budgetary entries, etc., may not be as high as that of data obtained from the general ledger because the general ledger accumulates financial transaction data on a more systematic basis.

System Integration

When asked what other financial management systems their cost accounting systems were integrated with, 55 respondents stated the general ledger; followed by payroll systems; program accounting; and plant, property, and equipment records.

Figure 4.7: Integration With Other Financial Management Systems



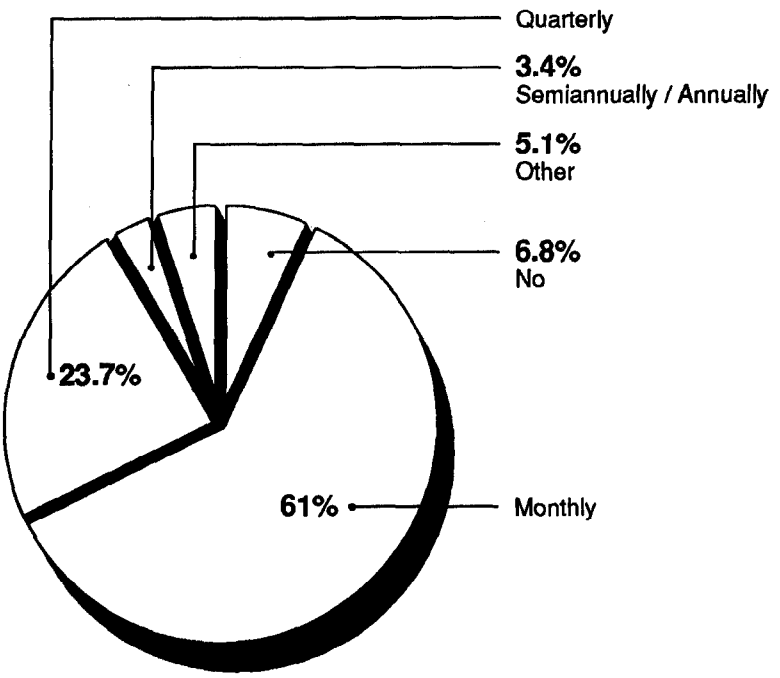
Note: Percentages total greater than 100 because respondents were asked to check all applicable answers.

Integration of cost accounting data with the general ledger would ensure that the same data are being used for financial as well as cost accounting purposes. Reconciliation is particularly important when the cost accounting system is not integrated with the general ledger.

Reconciliation With General Ledger Control Accounts

Cost data should be reconciled on a periodic basis to other financial data to ensure that they are reliable. As seen in figure 4.8, our survey indicated that cost accounting data are periodically reconciled to the general ledger; payroll; and plant, property, and equipment records on a monthly basis in 61 percent of the cases and on a quarterly basis in 24 percent of the cases. We did not inquire as to the exact nature of the reconciliation process.

Figure 4.8: Reconciliation of Cost Systems With General Ledger



Title 2 states that general ledger balances should be reconciled with subsidiary accounts and records, either manually or by the computer, in a timely manner. Regularly scheduled reconciliation of control and subsidiary accounts and records including any cost ledgers, helps to substantiate and maintain the accuracy of account postings and balances by checking the agreement between the sum of the detail in subsidiary accounts and the general ledger control balances.

Summary and Observations

Over the past several years, GAO has placed considerable emphasis on improving financial management in the federal government. While some progress has been made in this area (e.g., development of the Standard General Ledger for federal agencies, publication of Core Financial System Requirements), the scope of these efforts could be broadened. In particular, an integrated and disciplined financial management system could be developed that has the capability, besides its other functions, to provide consistent data for cost and performance measurement to help the Congress and the executive branch assess the efficiency and effectiveness of government operations, activities, and programs.

We believe the measurement of costs in a government agency is important because reliable cost data play a central role in establishing controls and making key management decisions. Our survey showed that federal agencies are using many different cost accounting systems for a wide variety of purposes. For example, there are cost accounting systems used for product costing, managerial control, allocation of administrative costs, and other purposes. Most of the systems in our survey were designed in-house, using financial accounting standards rather than cost accounting standards. According to the respondents, revolving funds are the sole source of funding for the services/operations to which about 25 percent (15) of the cost accounting systems relate.

The cost accounting systems included in our survey are used most frequently to obtain cost accounting data for managing activities or programs and in budget formulation. As might be expected, in these circumstances they generate a variety of reports, including reports for financial and managerial control, budget execution, and budget preparation. The reports are distributed to a wide variety of users.

The cost systems surveyed were based principally on financial accounting standards. Financial accounting standards such as GAAP and Title 2 do not provide guidance in allocating period costs to such final cost objectives as individual jobs, contracts, programs, or specific activities. Specific standards dealing with allocation of periodic costs, such as Cost Accounting Standards promulgated by the CASB or OMB Circular A-76, offer some guidance. However, these standards were designed for a different purpose and, therefore, may not be directly applicable to regular agency cost accounting systems.

To ensure the necessary reliability and integrity of cost data, the quality of data input into cost systems must be carefully monitored. In the case

of financial data, integration of the cost accounting system with the general ledger would provide a straightforward method for ensuring that the same data are used both in financial and cost accounting. When the data are not integrated, suitable reconciliation procedures should be established to ensure adequate control. A significant number of respondents stated their cost systems were not controlled by the general ledger.

Reliable and consistent data for cost and performance measurement could help both the Congress and agency managers assess the efficiency and effectiveness of government operations, activities, and programs. Such cost data could also provide information that would enable agency officials to make more informed financial management decisions.

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Glossary

Actual Cost	An amount determined on the basis of cost incurred as distinguished from forecasted cost.
Cost Objective	A function, organizational subdivision, contract or other work unit for which cost data are desired and for which provision is made to accumulate and measure the cost of processes, products, jobs, capitalized projects, etc.
Direct Cost	A cost which is identified specifically with a particular final cost objective (product/service). Direct costs are not limited to items which are incorporated in the end product as material or labor.
Final Cost Objective	A cost objective which has allocated to it both direct and indirect costs.
General and Administrative Expenses	Any management, financial, or other expense which is incurred by or allocated to an organizational unit and which is for the general management and administration of the unit as a whole.
Indirect Cost	Any cost not directly identified with a single final cost objective but identified with two or more final cost objectives or with at least one intermediate cost objective.
Operational Overhead	Indirect costs which are necessarily incurred during a fiscal year to produce or deliver the products or services being provided by a particular organizational element.

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