Determination of Income and Financial Reporting for Long-Term Construction-Type Contracts.

Jackson A. White
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A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The Department of Accounting

by

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In the recent decades accountants have developed many basic postulates and principles. Emphasis has shifted from the balance sheet to the income statement, or more specifically to the determination of income by objectively matching revenue with costs and expenses in the light of the accounting period concept.

Much of the work in the area of income determination has been based on the "average" firm; one in which the basic postulates and principles may be applied without undue difficulty in assigning revenues, costs and expenses to specific accounting periods. In such cases, the matching of revenues with costs and expenses, while presenting problems, can be managed with existing accounting knowledge.

However, the accounting profession has apparently offered little in the way of basic accounting postulates and principles to those businessmen whose operating cycle is longer than twelve months. The accounting problems of one of those groups of businessmen, the construction industry, is the basis of this study. Furthermore, the study is limited to those construction firms involved with long-term contracts; i.e., those requiring a period of time greater than twelve months to complete.

The specific problem is a determination of the applicability or lack of applicability of generally accepted accounting
postulates and principles to the long-term construction-type enterprise, with the study limited to determination of income and financial reporting.

The approach to the problem is theoretical; no case studies were made since the problem pertains to what constitutes correct procedure and not to current procedure.

As a starting point, the composition of basic accounting postulates and principles is considered. Next, with revenue determined to be the governing factor in periodic income determination, an examination of the most common revenue-recognition bases is made. In the consideration of each revenue-recognition basis, emphasis is placed on the fulfillment or lack of fulfillment of the basic postulates and principles.

Subsequently, consideration is given to financial reporting under each of the bases of revenue recognition, again with emphasis on the fulfillment or lack of fulfillment of the basic accounting postulates and principles.

The major conclusion is that the percentage-of-completion basis is in accord with more of the basic postulates and principles of accounting than any other basis currently in use. However, the percentage-of-completion basis fails to provide for price-level changes, and also fails to distinguish operating profits and losses from profits and losses caused by physical possession of assets.

The other bases in current use, i.e., the cash, completed-contract, and completed sales bases, also neglect price-level changes and holding profits or losses. These bases moreover fail
to recognize revenue, costs and expenses as production occurs, and thus have more shortcomings than does the percentage-of-completion basis.

In order to solve the problems of reporting price-level changes and holding profits or losses, the accrual basis is recommended. With income defined as the amount that can be distributed to its owners while permitting the business to remain as well off at the end of the period of time as at the beginning, price-level changes must be considered.

Though the accrual basis does not spell out the necessity of separating operating income or loss from holding income or loss, the term 'accrual' indicates income is to be recognized when earned and losses when incurred. Thus, holding profits or losses must be given separate recognition.

The accrual basis provides the best measurement of income or loss, in addition to supplying the fullest disclosure of income or loss components, assets, liabilities and owner's equity. Employment of the accrual basis is recommended for long-term construction-type contractors.
CHAPTER I
INTRODUCTION

During the past century, the American economy has experienced tremendous growth of large scale enterprises, accompanied by increases in the number of owners of the businesses - owners now usually far removed from management of the firms. The accounting profession has attempted to keep pace with this development by shifting its emphasis from the balance sheet to the determination of income, and to a search for improved presentation of income data.

Accountants have developed many principles and postulates, but perhaps the most important use of these items in the accounting field may be centered around the following: the principles of objectively matching revenue with costs and expenses in the light of the accounting period convention, in order to determine income. Much commendable work has been done in this area, as well as other areas; yet, much remains for the future.

A great deal of the work in the area of income determination has as its base the "average" firm; one in which the principles and postulates may be applied without great difficulty to revenues, costs and expenses in order to assign them to fiscal periods. In such cases, the matching of revenues with costs and expenses, while presenting problems, can be handled with current accounting knowledge and procedures.
But what of the unusual cases? What of those firms whose projects are not completed within accounting periods? Revenues, costs and expenses may not be accurately determined in each accounting period. What has the accounting profession offered in the way of sound accounting principles to help these businessmen? It appears, unfortunately, very little. However, if the accounting profession is to continue to command respect and to live up to its high standards, sound accounting procedures must be developed for these unusual cases.

Such is the purpose of this study. One of the unusual types of businesses, the construction industry, will be considered. Furthermore, the study will be limited to those construction firms involved with long-term contracts; i.e., those requiring a period of time greater than twelve months to complete.
Nature and Growth of the Construction Industry

The United States has experienced great growth since the mid-1940's. One measure of the growth is the tremendous rise in construction during this period. This construction, in various forms such as private dwellings, office buildings, public works and manufacturing establishments has been an integral part of the development of the American economy.

When an industry is involved with activities having the magnitude of those in the construction industry, the need for a well-developed accounting system is great. Data must be provided for use by management, creditors, banks, bonding companies, stockholders, or prospective investors. However, it is not possible to use most conventional accounting systems for a construction firm. Due to the specialized characteristics of construction firms, accounting systems must be designed to fit these special characteristics to a greater extent than in most other industries. Before any further attempt is made to discuss the accounting problems involved, it will be necessary to examine some of these specialized characteristics.

The Nature of the Construction Contract. The word "contract", as used in the construction industry, may have several different meanings. However, for construction contract purposes, a contract may be defined as a written agreement between the person or company desiring work to be done and the person or company who will do the work (i.e., the contractor), setting forth the various relationships and responsibilities of each party involved in the construction project.
The terms of a contract for a construction project may follow several different forms. One common form, especially in many government projects in the "cost-plus" contract, calling for payment to the contractor of costs incurred in completing the contract plus a fixed fee or fixed percentage of cost. Probably the most common type in private industry is the lump-sum contract calling for a fixed amount to be paid to the contractor for completion of the project. The latter type of contract, being more common and presenting most of the accounting problems involved in construction accounting, will form the basis of this study unless otherwise noted.

Regardless of the type of contract, there is a general sequence of events which occurs in connection with most of the construction projects. In attempting to reach a clear understanding of the nature of the construction industry, some knowledge of these events is necessary.

**Events Leading Up to Award of Contract.** Any construction project originates with the person, company, or governmental agency desiring the work to be done. Once the nature of the project is decided upon, plans and specifications must be prepared. If the originator of the project has architects and/or engineers as employees, it will be the responsibility of these individuals to develop the necessary plans and specifications. If the originator employs no architects or engineers, then it becomes necessary to acquire the services of a public architect who will work in the interests of the project originator.
When the specifications and plans have been satisfactorily completed, a public announcement, usually in the form of circular letters and newspaper advertisements, is made requesting interested parties to "bid" on the project. The "bid" is the proposed price for which the work will be done, if the project is awarded to that contractor. Copies of the plans and specifications are made available to the contractors to aid them in computing their bid price.

As the first step in the bid preparation, the contractor will attempt to estimate the costs that he will incur on the job. This is probably the most difficult, time-consuming part of determining the bid price. Based on his experience, as well as the experience of other contractors doing similar work, the contractor will estimate the cost of such items as (1) acquisition and depreciation of equipment, (2) materials, (3) direct and indirect labor, (4) supplies, (5) services of other firms, (6) transportation of men, equipment and materials, (7) temporary facilities at construction site, and (8) sub-contract work. Of course, the current cost of these items is considered along with the quantity shown by experience records.

The general contractor, similar to any businessman, expects to receive a sum of money which is greater than the total expenditures of the job. The amount or percentage of accounting profit acceptable will vary from contractor to contractor, and from
job to job. One point to be considered along this line of thought is that the profit must be large enough to allow for contingencies. Contingencies in the construction business may take the form of serious equipment breakdowns, an unusually long period of inclement weather or unexpected rock formations beneath the surface of the earth. In spite of all the planning that is possible, unforeseen events such as these will occur. The accounting profit must be large enough to cover these contingencies on an average basis, and still give a return to the contractor which is sufficiently large to induce him to continue in the construction industry.

The contractor whose total estimate of costs, expenses and profit is lowest will have the lowest bid price, and generally has the best chance of acquiring the construction contract. However, it should be apparent that the bid price is composed of judgment to a large extent, and that there is a great deal of risk in the construction industry.

**Award of the Construction Contract.** The originator of the project, or his representative, generally sets a deadline for the presentation of bids. If the originator is a governmental unit, there will be a public opening and reading of the bids at a specified time. This procedure may vary somewhat according to the law covering the governmental unit.

If the project originator is a private individual or enterprise, the procedure for awarding the contract may vary substantially from one originator to another. The bids are not often made public
by the originator. Also, it is not uncommon for post-bid negotiations to take place before the actual contract price is reached, even though such negotiations violate good public relation policies.

As a general rule, however, the contract is awarded to the low bidder if the originator believes that the contractor will give satisfactory performance in completing the work.

**General Coverage of the Construction Contract.** The items which may be included in a construction contract are of a legal or engineering nature, and are usually rather complex. A resume' of some of the more common areas of coverage is of value in a study of the construction industry.

Ordinarily, construction contracts provide that the project engineer is to make a decision on all questions related to the work, and further that his decision will be binding upon the contractor. Often a provision is included providing for payment of penalty or damages by the contractor, should he fail to meet the completion deadline. Usually accompanying the latter provision is one granting the contractor a specified number of days suitable for construction work (week-ends, holidays, and days where inclement weather prevails are often excluded). Another rather common provision is one stating that claims against the contractor must be submitted within a certain

---

period of time and must be written. There is normally a provision stating whether or not the issuance of the final payment shall constitute a release of all liability under the contract. Provisions are also made for damages recoverable upon discharge of the contractor, or for breach of contract. Various clauses may be inserted covering submission of disputes to arbitration, a distinction between normal, extra and additional work, and numerous other points.

In addition to the more technical points, the contract normally contains a job description. Also to be included are provisions covering the method and timing of payments to the contractor, and the acquisition of performance bonds and insurance by the contractor.

Provisions related to the specific jobs are included as the need arises.

The Construction Work. As soon as the contract is awarded, the contractor is expected to begin work on the project. Unless the organization is complete, the first step is to acquire the staff to complete the job. According to the size and requirements of the job to be performed, organizational needs will differ. In Charts 1 and 2 on the succeeding pages, two possibilities are given to illustrate the differences in organizations of contractors.
Chart 1

Organization Chart for a Relatively Small Organization

Chart 2

Organization Chart for a Relatively Large Organization

The elements of materials, direct and indirect labor, equipment use and subcontract work are generally necessary for the completion of any job. As needed on the job, each element must be obtained and its use controlled by the general contractor or his designated supervisors.

In addition to consideration of the elements of construction listed above, the contractor must constantly remember that he is subject to different types of regulation. If the originator of the project is privately owned, the regulation takes the form of engineers or architects employed by the project originator. Should the originator be a governmental unit, the degree of regulation is usually greater. Not only are governmental engineers on hand to inspect the work being carried on, but the government may also regulate safety standards, minimum wages, types and number of reports, and working hours.

The period of time required to complete the project will vary according to the size and complexity of the project. Some construction jobs take several years to complete. Whenever the job is completed, it must be accepted by the originator of the project or his agent. Should the job fail to meet specifications, the contractor must perform additional work at his own expense in order to bring the construction project up to the specified standards. When accepted by the originator, final payment is made to the contractor which generally constitutes a release of
all claims under the contract. However, for the final payment to constitute such release, a provision to that effect would have been required in the construction contract. Otherwise, legal documents are exchanged certifying completion of the requirements of both parties to the contract.

\[\text{\textsuperscript{2}Ibid., p. 72.}\]

\[\text{\textsuperscript{3}Ibid.}\]
Financial Considerations Involved in Construction

Contractors involved in the long-term construction industry face a very high degree of risk. This was well stated by Julius W. Phoenix, Jr., in an address to the Robert Morris Associates in 1955:

Being a risk industry, one would expect the contractor to start his contract with a margin profit sufficient to allow him to sustain a certain amount of unforeseen losses and still come out with a reasonable profit. Such is not the case. The industry is highly competitive and if a contractor puts too much padding in his bid, he finds someone else is awarded the contract.

Different contracts require different skills and experience, not all of which may be possessed by a contractor when he enters his bid; nevertheless, he must give a firm price at which he will perform the work. Normally his work must be completed within a specified time. ...it seems rather remarkable that a contractor can make a bid low enough to be awarded a contract and still make any profit unless lady luck is one of his major stockholders.4

In addition to these problems, the contractor faces the rather severe problem of financing the work. Since the contractor is competing in an industry subject to severe risks and a low profit margin, it is often hard to acquire working capital from banks or other financial institutions. Thus the contractor may have to depend to a large degree upon the progress payments received from customers.

Billing Procedures and Progress Payments. Many construction contracts provide that a portion of the total contract price will be paid the contractor as the work progresses. Such payments are known as progress payments, and are made periodically, often monthly. Such payments, to a large degree, finance the construction operation. The payment will be an amount equal to the value of the work completed during the period, as a fraction or percentage of the total contract price. Most contracts have a clause whereby the originator of the project may retain a specified percentage of each progress payment to insure satisfactory completion of the contract. The retained percentage will be paid the contractor only when the job is fully accepted.\(^5\)

The progress payments, however, are received by the contractor only after a portion of the work has been completed. Since large amounts of money are involved, most contractors must solve the problem of financing the initial portion of the construction entirely. This money must be obtained from financial institutions or private sources.

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\(^5\)Edward B. Wilcox, "Conflicting Methods of Accounting for Construction Contracts," American Institute of Accountants, 1954 Annual Meeting Papers (New York: American Institute of Accountants, 1954), pp. 154-155. (On June 1, 1957, the name of the publishing organization was changed to the American Institute of Certified Public Accountants.)
Furthermore, and unfortunately for the contractor, a large portion of the construction costs occurs during the initial stages of the contract period. Thus, working capital demands are greater then than at any other time. This explains, then, why the contractor will often attempt to allocate an excessive amount of the contract cost to the earlier portions of the work. This procedure is often referred to as "Loading' the bid. Edward B. Wilcox has this to say about the practice, "This practice obviously aids the contractor in financing the entire project. It tends to offset the retainage which the progress payments provision of the contract authorizes the owner to withhold in order to insure the final and satisfactory completion of the work. ... the practices of retainage and loading are fairly well established, and most architects make no objection to the loading so long as it appears to be within reason." 

Acquisition of Working Capital from Financial Institutions.

since the contractor usually is forced to obtain working capital for the early stages of a project from sources other than progress payments, he often is faced with the task of convincing a banker that the construction enterprise is a sound risk for a loan. Many loans are made to contractors by commercial banks, while numerous other

Ibid.

Ibid.

Wilcox, op. cit., p. 133.
Contractors are refused loans. Most of the refusals stem from poor risks and/or from contractors whose financial statements are so poor that a true financial picture cannot be determined. The financial statements are often so condensed that they are useless. Detailed statements with supporting information including the details of the receivables, the contract revenue and costs, and the amounts billed form the heart of the contractor's financial report for purposes of requesting a loan.  

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Footnote:

Accounting Problems of Contractors in the Construction Industry

A business undertaking may be thought of as a process of motion, even if somewhat irregular. Business operations consist of a large number of small purchases and sales. In many enterprises, the time involved between expenditures and receipt of revenue is relatively insignificant from the standpoint of the accounting period convention. In the construction industry, however, the time lag between expenditures and receipt of revenue may cover several accounting periods. Very often, the contractor may find it a necessity to apply all the resources within his control to one project for several years. Examples of such undertakings are the erection of large buildings and dams, construction of roads, and buildings of ships. Thus the time lag causes great difficulty in the determination of income. Until the job is completed, no one is able to determine accurately the net income or loss. Yet, the accounting period convention, together with the matching principle, requires that revenue be recognized when earned and that costs and expenses be recognized when incurred. Certainly, revenue is earned and costs and expenses are incurred during each accounting period.

Can the contractor follow generally accepted principles of accounting and correctly determine income? Such is the major problem of this thesis. The preceding portions of this chapter are presented as background material. It now seems feasible to concentrate on the problem of income determination, and the related area of financial statements.
CHAPTER 2
INCOME DETERMINATION

During the twentieth century, the accounting profession has made paramount the problem of determining income. Increasing emphasis has been, and is being, placed upon this facet of accounting. Considering that there is so much discord among accountants as to the definition of terms and the inclusion of certain concepts in accounting principles or postulates, it appears necessary to present a general discussion of income determination in this chapter. In the opinion of this writer, the application of accounting principles and postulates to the construction industry is not feasible until a determination of what comprises these principles and postulates is made. Such is the purpose of the current chapter.

The general concepts discussed here will be applied to the construction industry in the following chapters.
Terminology:

The accounting profession is by no means agreed upon standardized definitions for its terms. Thus, a logical point of departure seems to be the examination of the more important terms to be used in this study, after which a working definition of each term will be formulated.

Revenue. In 1955, the terminology committee of the American Institute of Certified Public Accountants stated,

Revenue results from the sale of goods and the rendering of services and is measured by the charge made to customers, clients or tenants for goods and services furnished to them. It also includes ... other increases in the owners' equity except those arising from capital contributions and capital adjustments.¹

Paton and Littleton define revenue as "the product of an enterprise, measured by the amount of new assets received from customers," ² whereas Paton had earlier said, "revenue is represented by the selling value of the product of the enterprise, either commodities or services."³


A variation of these definitions is found when Backer declares revenue to be "the aggregate of values received in exchange for the goods and services of an enterprise." 4

A recently formulated definition by Sprouse and Moonitz appears to encompass a larger area of revenue realization by defining revenue as "the increase in net assets of an enterprise as a result of the production or delivery of goods and the rendering of services (underscoring provided). 5 Under this concept revenue may be recognized prior to a sale actually taking place. The authors further state that "Inventories which are readily salable at known prices with readily predictable costs of disposal should be recorded at net realizable value, and the related revenue taken up at the same time." 5

The first definition listed (i.e., from Terminology Bulletin No. 2) seems to provide the best working description of revenue for the purposes of this study. It is broad enough to encompass the one advanced by Sprouse and Moonitz, and yet specific enough to be useful. However, it should be noted that the accounting profession


5 Ibid., p. 57.
has tended to ignore the latter part of the definition, and con-
centrated on the first sentence only. Such is not the intent here.

Cost. An American Accounting Association Committee has defined
this term as "a general term for a measured amount of value purpose-
fully released or to be released in the acquisition or creation of
economic resources, either tangible or intangible. Normally, it is
measured in terms of a monetary sacrifice involved. There is,
however, nothing to prevent the adjustment of monetary sacrifices to
common units of purchasing power." 7

Cost is the amount of bargained-price of goods or service
received or of securities issued in transaction between independent
parties, says Paton and Littleton. 8 The American Institute of
Certified Public Accountants limits cost to "the amount, measured
in money, of cash expended or other property transferred, capital
stock issued, services performed, or a liability incurred, in
consideration of goods or services received or to be received." 9
Backer defines cost as "that portion of the acquisition price of
goods, property or services which have not yet expired or been
utilized in connection with the realization of revenue." 10

7Committee on Cost Concepts and Standards, American
Accounting Association, as quoted by Robert I. Dickey, Editor,
Accountants Cost Handbook (New York: The Ronald Press Company,


9American Institute of Certified Public Accountants,
Committee on Terminology, "Cost, Expense and Loss," Accounting
Terminology Bulletin No. 4 (New York: American Institute of

Definite limitations should be placed on the use of the term cost, according to Moonitz, as he recommends the use of the term "be restricted to those cases in which the consideration given consisted entirely of cash or promises to pay cash. Yet, Moonitz seems to agree with Sprouse on a broader definition within six months, for they define cost as "a forgoing, a sacrifice made to secure benefits, and is measured by an exchange price. For purposes of this study, it appears that a workable definition of cost might be: the benefits secured for a sacrifice consisting of the payment of cash or the promise to pay cash, or the delivery or promise of delivery of other valuable consideration. Furthermore, the term 'cost' should be utilized to describe that portion of the sacrifice which has not expired or been utilized in connection with revenue realization, or to describe the portion of the sacrifice directly attributable to commodities sold or produced (i.e., cost of goods sold or manufactured).

Expense. Sprouse and Moonitz assert that an expense is the decrease in net assets as a result of the use of economic services in the creation of revenues or the imposition of taxes by governmental units." This rather extensive definition of expense had appeared in the Institute pronouncements earlier, when it was stated that "expense in its broadest form includes all expired

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12 Sprouse and Moonitz, *op. cit.*, p. 54.

costs which are deductible from revenues. ... the narrower use of
the term expense refers to such items as operating, selling or
administrative expenses, interest and taxes. 14

Both Paton and Backer appear to accept the conclusions drawn
above. Paton would include as expense ‘all charges which may
reasonably be construed as costs of making and selling the pro-
duct or products of the business.’15 “Costs which have been
applied against revenue constitute expenses in the writing of
Backer.

For purposes of this study, any of the definitions listed
will serve well. So, an arbitrary adoption of the description
preferred by Sprouse and Moonitz is made.

Loss. Losses, cites Backer, "represent reductions in equity,
other than withdrawals of capital, for which no compensating value
has been or is expected to be received." 17 Agreement is to be
found in the writings of Paton, who says, 'losses are the outlays
and expirations of assets recognizable in a particular period
which have no observable or imputable relation to the revenue
stream of the period.'18

14 American Institute of Certified Public Accountants,
Committee on Terminology, ‘Cost, Expense and Loss,’ Terminology
Bulletin No. 4, op. cit., p. 2.


18 Paton and Paton, op. cit., p. 275.
Sprouse and Moonitz, also in basic agreement with Backer, define losses as "decreases in net assets other than those resulting from reductions in invested capital or from expenses" (See definition of expense cited in footnote number 13.)

The latter definition, again an arbitrary choice, will suffice for this study. It should be noted, in addition, that the word loss may also be used in another sense; i.e., to describe the result of the excess of revenue deductions over revenues. The latter usage is normally cited as "net loss for the period, as contrast with net income.

Income. Two other terms are commonly used as synonyms for income, i.e., earnings and profit. Sprouse and Moonitz have determined that net income is 'the increase in owners' equity, assuming no changes in the amount of invested capital either from price-level changes or from additional investments and no distribution to owners.' The American Institute Committee on Terminology avered,

\[ \text{Income and profit involve net or partially net concepts and refer to amounts resulting from the deduction from revenues, or from operating revenues, of cost of goods sold, other expenses, and losses, or} \]

\[ \text{Sprouse and Moonitz, op. cit., p. 9.} \]

\[ \text{Ibid., p. 9.} \]
some of them. The terms ... are generally preceded by an appropriate qualifying adjective or term such as "gross," "operating," "net before income taxes," and "net." The terms are also used in titles of statements ...

Sanders, Hatfield and Moore described income as,

(1) The increment in wealth arising from the use of capital wealth, and from services rendered. (2) Income in the narrow sense is the owner's share of this increment. This is the income which it is sought to define as "net income" in the income statement.22

Sprouse and Moonitz once again have arrived at a conclusion which is acceptable for use in this study. Their definition is in line with the opinion of many contemporary economists who regard income for a specific period of time as being equivalent to the amount that can be distributed to its owners while permitting the business to remain as well off at the end of the period of time as at the beginning.23

21 American Institute of Certified Public Accountants, Committee on Terminology, "Proceeds, Revenue, Income, Profit, and Earnings," Accounting Terminology Bulletin No. 2., op. cit., p. 3.


Gains. This term appears to have been aptly defined by Sprouse and Moonitz as "increases in net assets other than those resulting from additions to invested capital or from revenues."

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2-Sprouse and Moonitz, op. cit., p. 9.
It has often been said that the correct net income of a firm can be determined only after the firm has been dissolved and liquidated. Obviously, it is not feasible to wait until the end of the life of a business enterprise to measure net income or net loss. The owners, managers, creditors and other interested parties need a "test-reading" of the earnings and financial condition of the firm often. The time between these readings is usually no more than one year. The United States Internal Revenue Service, and usually the states in which the firm operates, require an annual determination of taxable income.

Thus, it is necessary for the accountant to exercise his best judgment and assign revenues, costs and expenses to specific periods of time. Such a procedure is often labeled the "accounting period" principle, and is one of the major principles of accounting. One authority has stated,

For many uses the most important data from accounting are the revenue charges and the revenue credits by means of which enterprise efforts are periodically matched against enterprise accomplishments (underlining supplied).25

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The same writer has indicated that "revenue is more often the leading clue to the assignment of applicable costs, expenses, and losses than the latter are clues to the recognition of revenue," or as stated by Paton, "The basic element in income determination is revenue."26

**Cash Basis.** Revenue is recognized by several different methods. The simplest of these to apply is the cash basis. Application of this method results in ignoring the "time lag," or interval of time, between the beginning and completion of a transaction as far as the accounting records are concerned. Revenue is recognized and recorded upon receipt of cash; costs and expenses are recorded and recognized as incurred upon payment of cash. Transactions related to the contract are not recorded until the contract is completed. This arrangement is generally considered to be the most conservative of all the methods. The primary disadvantage, of course, is failure to properly match revenue with costs and expenses, since the "time lag" is ignored.

Variations of the pure cash basis are often formulated, one of the more common being to recognize revenue on a cash basis while deferring or accruing costs and expenses in order to match them against the proper revenue. The matching process is properly accomplished, though in the year of collection rather than

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in the year in which revenue was earned. From a theoretical viewpoint, this method is not as acceptable as one which recognizes all of the gross profit in the year of the sale and sets up contra and valuation accounts for costs and expenses which are estimated to occur in subsequent periods. The latter description is actually of the sales basis of recognition.

**Sales Basis.** Under the sales basis of revenue recognition, similar to most other bases, the completed sale forms a valid legal contract in which title passes to the buyer. In return the seller receives new assets, normally cash or receivables. The sales price creates an objective measurement for the recognition of revenue, since it presumably is the result of negotiations between an informed buyer and an informed seller who are otherwise unrelated. Costs and expenses are assigned to accounting periods on the basis of applicability against revenues of the period. Or, in other words, costs and expenses are matched against the revenues of an accounting period if it is reasonably discernible that they represent resources and services expended in the process of earning those revenues.

The sales basis provides for recognition of revenue in the accounting period in which it is earned, not necessarily received. Such a procedure complies with the accrual concept of matching revenues against costs and expenses, but is not as conservative as the cash basis. Revenue may be recognized prior to completion.

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of the transactions. The latter argument is not considered a valid objection to the method, however, since adjustments for returns, uncollectible accounts, or additional expenses, may be made with reasonable accuracy.

As Paton and Littleton have so pertinently stated, it appears to be generally accepted that for the great majority of business enterprises, the sales basis of measuring revenue clearly meets the requirements of accounting standards more effectively than any other possible basis. 29

Accretion Basis. The accretion basis of revenue recognition is based upon an increase in value which is attributed to growth in agricultural and farm products, and to production in certain extractive industries. As prerequisites to the use of the accretion method, Paton has said that the underlying support for this policy is found in the view that the fundamental phase of activity for concern involved is production and/or growth rather than selling. 30 His statement is necessarily based on the fact that there is usually a broad, active market for these items, assuring sale at the going market price for any reasonable quantity at any time. Thus, the actual sale has less value than physical completion or physical growth in the measurement of revenue.

Criticism of this mode of revenue recognition stems from the fact that it is necessary to prognosticate; i.e., to estimate

29 Paton and Littleton, op. cit., p. 50.
future costs and to appraise market conditions that will exist when the product is finally sold. Many accountants declare such a procedure does not form the objective evidence of an "arms-length" transaction, and is not conservative.

The advocates of accretion answer their critics by stating that prognostication in the areas concerned is relatively safe. The market conditions can be estimated with reasonable accuracy in most instances (in some cases with complete accuracy; e.g., price paid for gold and silver), and the total of future costs likewise will fall within a reasonably narrow range. As a clincher, it is argued that proper recognition of revenue when earned will more than offset the difficulties caused by prognostications of future costs and market conditions. It is necessary to recognize revenue each period to acquire proper matching of costs and expenses with revenues. A recent promulgation sponsored by the American Institute of Certified Public Accountants agrees somewhat with the concept of accretion in declaring:

Inventories which are readily salable at known prices with readily predictable costs of disposal should be recorded at net realizable value, and the related revenue taken up at the same time. ... Accounting for inventories on ... (this) basis will result in recording revenues ... before they are validated by sale but they are nevertheless components of the net profit (loss) of the period in which they occur.31

31 Sprouse and Moonitz, op. cit., p. 37.
Thus, it seems the accrual basis of revenue recognition has found a greater degree of favor among accountants in recent years than ever before.

**Appreciation Basis.** Appreciation as a basis of revenue recognition has generally been frowned upon by the accounting profession. Paton and Littleton define the term in a broad sense as:

The excess of the estimated 'fair market value' of merchandise, securities, land, buildings, or other property over the cost of such property or the unabsorbed book balance of depreciable or amortizable elements.32

Several arguments have been advanced against the use of appreciation, some of which are valid.

One such argument is that appreciation does not bring about an increase in liquid funds. This statement has merit in regard to fixed and other non-current assets, but is not completely apropos in connection with current assets. Periodic earnings usually do not equal disposable funds; a portion of the earnings is reflected in receivables, inventories, supplies, and in non-current asset increases. In addition is the knowledge that, should the market value of any readily disposable asset increase, its value as security for a loan would also increase. Thus, it might be possible to increase liquid funds by borrowing.

One of the more worthy arguments is found in the statement that market values may later decline and prove an increase in revenue recognized at the present time was not justified. Such a conclusion is extremely prevalent among accountants, as evidenced by the continued use of historical cost as a basis of asset valuation.

Another noteworthy objection is found in the fact that appreciation is difficult to distinguish from a change in the general price level, and the latter should be reflected in an adjustment of capital rather than in recognition of income. Consequently, accountants are reluctant to attempt a recognition of appreciation.

Appreciation, furthermore, has little legal standing as realized revenue. Possibly this is due to accountants generally refusing to give recognition to rises in the market value of assets held in the business.

Other grounds mentioned to preclude the use of appreciation include the use of estimates and the lack of conservatism. Little, if any, credence should be placed on these reasons. The accountant is continually exercising his judgment to make estimates (e.g., depreciation and bad debts estimates and whether to capitalize or expense). And, as far as the latter argument is concerned, Paton covers the situation in a most relevant style as he avers, 'Accountants have overworked the habit of attacking proposals to
extend the scope of accounting by referring to the need for 'conservatism'.

Sprouse and Moonitz, in a recent study of accounting principles, have decided that current assets should reflect appreciation. (See footnote 31). They further state that inventory items other than those whose net realizable value is known should be valued at their current market value, and the gain or loss reported separately. However, conservatism is not ignored, for 'in all cases the basis of measurement employed should be subject to verification by another competent investigator'.

As in the case of accretion, appreciation may be breaking through the thick wall of conservatism and perhaps will be interwoven into recognition of revenue in the future.

**Completed-Contract Basis.** This method, often used in long-term construction accounting, recognizes revenues only when the project covered by the contract is completed, or almost completed. Costs of construction are correspondingly accumulated in an asset account rather than charged against revenue in the period incurred. Indirect expenses may be allocated to an asset account rather than to period expenses. The latter item is handled

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33 Paton and Paton, _op. cit._, p. 299.
34 Sprouse and Moonitz, _op. cit._, p. 57.
35 _Ibid._, p. 57.
according to the judgment of the accountant, with the governing feature being a proper matching of revenue with costs and expenses.

Once the project is complete, or almost complete, the aggregate of revenues and related costs and expenses are recognized in one accounting period. Thus, a profitable project taking five years to complete would show a net income only in the fifth year. The income statements for the other years would either show a net loss, or no loss or gain, depending upon the handling of indirect expenses.

This method will be discussed to a greater extent in Chapter 3.

Percentage-of-Completion Basis. Again pertaining to the long-term construction industry, this method provides for recognition of revenue prior to project completion. Total revenue for the contract is known, so the problem involved is to assign a portion of the revenue to each accounting period involved. Revenue is commonly assigned by use of a percentage developed when total costs to date are compared with expected total costs, or by taking the project engineer's appraisal of percentage-of-completion. Costs and expenses are assigned to the accounting period in which they are considered to have aided in the production of revenue.

Application of this system results in income or loss being recognized each accounting period during the project's life rather than in the last period. The results obtained, of course, are only as sound as the estimates on which revenue is assigned.

The percentage-of-completion basis will be considered in greater detail in Chapter 4.
Accrual Basis. There is currently a trend in the research studies of the American Institute of Certified Public Accountants to recognize revenue when earned, be it at the time of, prior to, or subsequent to the sale (See material cited in footnotes 5, 31 and 34). Arthur Cannon, a member of the project advisory committee that formulated 'Basic Postulates of Accounting' (See footnote 11), has declared that a positive statement on objectivity would assert "changes in assets and liabilities, and the related effects (if any) on revenues, expenses, retained earnings, and the like, should be given formal recognition in the accounts at the earliest point of time at which they can be measured in objective terms." 36 He further elaborates:

The term 'objective' is used here to mean unbiased; subject to verification by another competent investigator. In this usage, an estimate or forecast can be objective, along with completed events of the past. 37 (Underlining supplied.)

This is certainly a departure from the thought and expression found in accounting literature a short time ago. The general consensus was perhaps manifested by Paton and Littleton who declare, "the act of production, without the confirmation afforded by sale at an agreed price, does not furnish the objective and decisive test which should be available as a basis for the


37 Ibid., p. 50.
booking of revenue. These two writers have agreed that revenue is earned during the entire process of operation, but should not be recognized unless there is a legal sale or liquid assets are acquired.

Thus the disagreement in the two points of view seems to be the proper time for recognition of revenue, and not when revenue is to be considered earned.

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3c Paton and Littleton, op. cit., p. 52.
39 Ibid., Pp. 48-49.
Accounting Postulates and Principles Affecting Income Determination

Perhaps no area of accounting has more different interpretations of what should be included than do the segments entitled "principles" and "postulates." Postulates are defined by Kohler as "any of a series of axioms or assumptions constituting the supposed basis of a system of thought of an organized field of endeavor. The truth of a postulate ... is taken for granted ... ." Such a limitation probably led the Accounting Principles Board of the American Institute of Certified Public Accountants to state in their charter rules: "Postulates are few in number and are the basic assumptions on which principles rest. They necessarily are derived from the economic and political environment and from the modes of thought and customs of all segments of the business community ... ."

A principle, says Kohler,

is a proposition asserted to be controlling in a given system or domain of inquiry and having acceptance among members of a professional group deemed to be competent in a society; growing out of observation, reason, or experiment, a principle purports to be the best possible guide in the choice of alternatives leading to the qualities desired in an end product.

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41As quoted by Cannon, op. cit., p. 4.

42Kohler, op. cit., p. 365.
As a further description of the term, Kohler declares, "principles are not equally self-evident to all persons. ... If a principle is accepted without evidence or proof, it may be called a ... postulate."43 Such a position was evidently acceptable to Sprouse and Moonitz in their recent pronouncement of principles as they stated, "The 'basic postulates of accounting' developed in Accounting Research Study No. 1 are integral parts of this statement of principles."44

Without attempting to identify the terms as either postulate or principle, many of the expressions will be considered to the extent that they affect income determination.

**Exchange Concept.** Most of the production of goods and/or services are distributed through the process of exchange, and are not consumed by the producer.45 This postulate points out a need for the making of decisions. Judgment must be exercised to determine what to produce, and to decide upon the quantity and quality of resources to be used in the productive operation. When alternatives exist, quantitative data form the best basis of measurement (i.e., if the data are accurate). Accounting provides one form of this quantitative measurement.

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44 *Sprouse and Moonitz, op. cit.*, p. 55.
45 *Moonitz, op. cit.*, p. 52.
Stable Unit of Measurement. Accounting expresses data in numerical terms, and the common denominator used as a means of expression is money. In the United States, therefore, the basis of measurement has been, and is, the dollar.

Since the unit of measurement remains unchanged, accountants generally have been prone to assume the purchasing power of the dollar has not altered. One of the fundamental limitations of accounting lies in the latter idea, which obviously is not true. One has only to look at any of the available price indexes to see that the dollar's purchasing power has declined in the last decade or so. The current trend, as measured by consumer price indexes, is a continued decline in the purchasing power of the dollar. As a consequence, the accountant has a real problem in reporting data based on a stable unit of measurement.

Many prepared solutions have been developed in the past thirty years, but none have been generally accepted by the profession. One of these studies was published by the American Accounting Association in 1953, and recommended the use of supplementary statements fully adjusted for the change in price levels by use of index numbers. \(^4\) Earlier, in 1932, a study had been made recommending that the income statement data be adjusted by use of

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a general price index. This group recommended that the balance sheet continue to show historical cost.47

Neither of these studies, or others of a similar nature, has had much effect on accounting practices. Factors which have helped maintain the use of historical cost are the lack of agreement as to what price index is suitable (if any), and the fact that price-level changes may not be recognized for income tax purposes.

Arthur Cannon has asserted,

> the probability that the instability (of the monetary unit) will prevail into the foreseeable future is high. Accountants should move quickly therefore to implement modest proposals such as those of the Study Group and the American Accounting Association....48

He further states, "the postulates lead clearly to a requirement that we must make price-level adjustments."49

It appears, therefore, that the accounting profession is finally taking constructive notice of one of the areas of its severest criticism. Perhaps a generally acceptable solution will soon be forthcoming. Possibly the recommendation from the study of accounting principles will suffice; i.e., to value inventory at net realizable value (if known) or at replacement cost, and

48 Cannon, op. cit., p. 52.
49 Ibid., p. 53.
to restate fixed assets periodically in terms of current replacement cost.\textsuperscript{30} Such recognition is at least a start in the solution to the problem of establishing and maintaining a stable unit of measurement.

**Entity Concept.** This accounting postulate, normally contrasted with the proprietorship concept, has become commonplace in accounting usage. Accounting is based on an institution which may range in size from the one-man operation to a giant corporation. However, under the entity concept, the institution is the business enterprise and not the owners of the enterprise. The separation of ownership and management of corporations is determined legally, and is assumed to be the situation in other forms of business ownership. Advocates of the entity concept therefore maintain that all businesses should be treated as institutions separated and distinct from the legal owners.

This concept is in disagreement with the proprietary theory which contends that the enterprise is the creature of its owners and that it continuously reacts to their advantage or detriment and that this condition should be reflected in appropriate proprietary accounts.\textsuperscript{31}

The proprietary theory finds little acceptance among accountants, however, since the accountant is normally concerned with assets in particular forms (rather than assets in general),

\textsuperscript{30}Sprouse and Moonitz, \textit{op. cit.}, p. 37.

\textsuperscript{31}Bicker, \textit{op. cit.}, p. 214.
and moreover with assets owned or in the possession of business concerns. The accountant is usually concerned with specific business enterprises and not with the ownership composition of those enterprises. Such an idea appears to be realistic and is generally accepted.

**Continuity of Existence.** Another proposition which is generally accepted by accountants states that, unless there is evidence to the contrary, the business entity shall be viewed as remaining in operation indefinitely. This is the normal expectation, even though liquidations do occur. Thus the accountant, as a matter of convenience, assumes the business enterprise to be a going concern. As in the conclusion of the entity concept, use of the "going concern" postulate appears realistic.

**The Accounting Period.** Another of the underlying assumptions of the accounting profession is that the results of enterprise operation may be assigned to specific periods of time. Acceptance of this assumption provides an inference that revenues, costs, and expenses may be assigned to specific periods of time in order to determine profit or loss for that period. Such hypotheses are necessary if the accountant is to serve the needs of management, owners, creditors, taxing authorities, and others by preparing periodic reports. Recognition must be given to the true nature of these reports, however, since "the results of operation for relatively

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short periods of time are tentative whenever allocations between past, present and future periods are required. 53

The accountant must continuously be occupied with the recognition and allocation of events. Inasmuch as the future is uncertain, many of the allocations are likely to prove inexact. In the face of uncertainties, some accountants choose to wait until an event is complete before reporting the event. This idea of completeness is often in conflict with the basic hypothesis expressed above, which infers that the changes in financial condition and operations should be recognized when they occur and not necessarily when the sequence of events is finally completed. Jprose and Moonitz have added support to the fact that periodic results are uncertain, as they declare, Profit is attributable to the whole process of business activity. 3

However, they recognize the need for recognition by asserting that all assets and liabilities should be recorded in the accounts and reported in the financial statements (underlining supplied). 55

Two additional techniques are necessary to the accountant in application of the accrual basis; these are the use of estimates, and the use of judgment. Estimates are necessary, e.g., in allocating the historical cost of an asset to the operating periods involved. The accountant cannot know in advance the

33 Moonitz, op. cit., p. 52.
34 Jprose and Moonitz, op. cit., p. 53.
exact life a truck will have. However, the exercise of the obser-
vant facilities of the accountant may have pointed out that trucks
of this type, which are used in the same form of work, will last
five years in 95 per cent of the cases. Such an observation
provides a reasonable basis for recognition of expense. Similar
observations may be made to form the basis of assignment of revenue,
costs and other expenses, which should result in more timely,
beneficial reports.

In any situation where uncertainties exist, the use of
accounting judgment becomes a necessity. In the example previously
cited, the fact that most trucks last five years is not conclusive.
A decision must be made as to whether or not this specific truck will
last more than, less than, or exactly, five years.

This is not to say that judgment should replace quantification.
Rather, the opposite is true whenever possible. When unknown
variables exist, in whatever degree, quantification is not usually
possible, and judgment must fill the need.

Unquestionably, many of the accounting problems which exist have
as their basis the attempt to assign revenues, costs and expenses
to specific periods of time.

Objectivity. Transactions and events should be recorded by
the accountant only when there is objective evidence to support
their existence. But what is objective'? What are the require-
ments to be fulfilled before objectivity is reached?
One point of view regards financial information to be completely objective when:

1. It is free from personal opinion and bias, which further requires
   a. that there actually be an exchange of something for something, both having value, and
   b) this exchange be the result of an arm's length transaction between independent parties,
   c. this exchange be capable of being accurately measured in dollars,
   d. that one of the negotiating parties in the exchange be the unit for which the accounting is being done.

2. It is substantiated or capable of being substantiated by an independent investigator.50

Many situations occur in practice in which these requirements are met: e.g., the purchase of merchandise for cash or on account, the sale of merchandise for cash or on account, and the payment of expenses. On the other hand, it does not appear possible to administer the rigid requirements for objectivity in all cases. If the rigid rules were followed, depreciation of fixed assets would not be possible since no arm's length transaction had occurred. Assets received in the form of gifts could not be recorded.

Insistence on rigid application of the rules for objectivity forces the accountant to consider the current fiscal period, and

to ignore the going-concern principle. Such an application is illogical, since an accounting entity is operated with a succession of fiscal periods in view, even though the entity exists but one period at a time.

That the rigid point of view is not adhered to is apparent when authorities state, 'Objective facts need not be conclusively objective to be dependable; if they are convincingly objective, they are convincingly dependable.'\(^{57}\) The same writers conclude, "the basic concept of verifiable, objective evidence, then, contains an element of variability. ... The highest degree of objectivity is the best, provided attainment of that high degree does not run counter to the long-run point of view of a going concern."\(^{58}\)

Use of objective data is generally deemed by accountants to include "fair market value." Failure to do so precludes the recording of many assets, and in many cases incorrectly matches revenue with costs and expenses to such an extent that the result is misleading.

The term objective has come to mean "unbiased; subject to verification by another competent investigator."\(^{59}\) A conclusion

\(^{57}\)Paton and Littleton, op. cit., p. 20.

\(^{58}\)Ibid., p. 21.

\(^{59}\)Cannon, op. cit., p. 50.
may be drawn, then, as one writer has done, that "an estimate or forecast can be objective..." Arnett has concluded that, any data which are considered useful are objective to accountants, provided they are substantiated or capable of being substantiated by an independent party. This type of evidence may range all the way from suppliers' invoices and cancelled checks... to data derived from the use of index numbers and fair market values.

Thus, the use of estimates and judgment is required, rather than forbidden, by at least one current concept of objectivity.

Consistency. As a corollary to the continued emphasis on income determination and the consequential comparison of operating results between accounting periods, the need for consistent application of accounting principles and rules has been emphasized. Comparability is provided by continued use of accounting methods, practices, or rules which have a background of general acceptance in each fiscal period. Any change, as well as the effect of the change, must be disclosed by the accounting reports.

The accounting profession has generally applied consistency on an entity basis, and not on an industry or nationwide basis. Comparability may be achieved, then, only within the entity. Consistency would by no means assure comparability of one entity's results with the results of a second unit. Some accountants have recently begun expressing a desire to see comparability enhanced by industry-wide consistency in the application of accounting

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50 Ibid., p. 50.
51 Arnett, op. cit., p. 58.
methods, practices and rules. It is felt by these writers that reasonable uniformity may be obtained within the industry group. However, the majority of accountants have not enlarged the scope of their stand to this extent, and continue to call for uniformity only within an accounting entity.

The conclusion expressed by Moonitz as regards consistency is quoted as applicable to this study; i.e., 'The procedures used in accounting for a given entity should be appropriate for the measure of its position and its activities and should be followed consistently from period to period.'

Conservatism. No concept in accounting has found more use in the understatement of the financial position and earnings of firms than has "conservatism. This position was given recognition some time ago, when the statement was made, "There is a prevalent impression that, while overstatement of assets or earnings is a major fault, understatement is less objectionable, and may be a positive virtue." Such conservatism is still in existence today in many instances, such as the use of cost or market, whichever is lower; understatement of the life of fixed assets; rapid amortization of intangible assets; and recognition of losses prior to actual incurrence.

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"Cannon, op. cit., p. 51.

"Moonitz, op. cit., p. 53.

"Sanders, Hatfield, and Moore, op. cit., p. 12."
Authorities in the accounting profession are presently
de-emphasizing conservatism. The recent studies of postulates
and principles sponsored by the American Institute of Certified
Public Accountants did not include conservatism as postulate or
principle. In the study on postulates it is stated that
"conservatism is a reaction to uncertainty and represents in
essence merely a counsel of caution. The proper role of conserva-
tivism in accounting is to insure that the uncertainties and
risks inherent in any given business situation are given adequate
consideration."^\textsuperscript{5}

Backer has described conservatism, applied to the income
statement, as a procedure which "encourages the recognition of
all losses that have occurred or are likely to occur but does not
acknowledge gains until actually realized."^\textsuperscript{6} Such a policy is in
conflict with certain principles and postulates of accounting.
Thus, the statement is made that "the accountant's primary function,
however, is to disclose facts, illusive as these sometimes may be."^\textsuperscript{7}
Moreover, it is evident that the latter concept of conservatism will
clash with the postulate of consistency, and with the attempt
to properly match revenues with costs and expenses. Conservatism

^\textsuperscript{5}Robert L. Dixon, as cited by Moonitz, \textit{op. cit.}, p. 47.
^\textsuperscript{6}Backer, \textit{op. cit.}, p. 212.
^\textsuperscript{7}\textit{Ibid.}, Pp. 212-213.
then, must be restricted in its usage to the general idea advanced
by Dixon, and must not be allowed to overshadow sound postulates
and principles of accounting.

**Disclosure.** In an enumeration of accounting principles
Peloubet has declared,

> The first principle is adequate disclosure, sufficient,
> as the SEC phrases it, to make the statements not mis­
> leading. ... It (adequate disclosure) does require that
> the conventions and assumptions on which the accounts
> are prepared should be clearly stated. Under some
> circumstances the effect of alternative conventions or
> assumptions should be shown, particularly if changes in
> basis have been made.68

Such is the crux of the principle of disclosure. The same
line of thought was evidently followed by Moonitz and Sprouse in
their formulation of principles, as they state:69

1. All assets ... should be recorded in the accounts
   and reported in the financial statements.

2. All liabilities ... should be recorded in the
   accounts and reported in the financial statements.

3. In a corporation, stockholder's equity should
   be classified into invested capital and retained
   earnings. In an unincorporated business the
   total interest of each owner or group of owners
   is reported at the balance sheet date.

4. A statement of the results of operations should
   reveal the components of profit in sufficient
   detail to permit comparisons and interpretations
   to be made.

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68 Maurice Peloubet, "Is Further Uniformity Desirable or Possible?" *Journal of Accountancy*, CXI (April, 1961), 35.

The principle of disclosure is obviously in disagreement with the concept of conservatism previously discussed. As an example, consider the valuation of inventory on the balance sheet. Sound accounting theory would dictate that historical cost be used consistently, or that the market value be used consistently, and the method of valuation be disclosed. Actually, the current (market) value is preferable when it can be determined on an objective basis.

However, conservatism dictates the use of cost or market, whichever is lower. Such application is plainly inconsistent, and does not normally provide a useful value to the readers of the statement. If such a valuation is not misleading, it would indeed be surprising. Since the understatement of the ending inventory in one period results in understated income, the opposite will prove true in a later period or periods; i.e., income will be overstated. Utilization of a procedure contrary to the accounting postulates of consistency and disclosure would impair the usefulness of accounting reports. Accordingly, then, conservatism may no place in accounting usage except to serve as an admonition of caution, whereas consistency and disclosure are props in all accounting endeavors.

Materiality. This accounting dogma is rarely found in a listing of accounting postulates and principles. Rather, it is that facet of the accountant's judgment described as a state of
relative importance. Depending on the size and/or nature of the item, the accountant must determine whether or not it is material. One group of accountants avers: "An item should be regarded as material if there is reason to believe that knowledge of it would influence the decisions of an informed investor."\(^70\)

Thus the doctrine of materiality fails to lend itself to exact definitions or limitations, but rather is a concept to be applied by the accountant in a specific set of circumstances.

Moonitz eliminates materiality from the basic postulates, since the concept declares items of small significance need not be taken seriously. "Since insignificant things cannot also be significant, such a doctrine is logically unnecessary."\(^71\) However, most accountants continue to make use of the application of judgment.

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\(^71\) Moonitz, *op. cit.*, p. 47.
The process of determining net income or net loss is a complex and exacting operation. The process is complicated by numerous definitions of each of the professional terms, by the diverse methods of revenue recognition and assignment of costs and expenses, and by the different ideas of what compose accounting postulates and principles.

Revenue is generally recognized under one or more of the following bases: (1) cash, (2) sales, (3) accretion, (4) appreciation, (5) completed-contract, (6) percentage-of-completion, and (7) 'modern accrual'. Costs and expenses have definite bases of assignment to the various accounting periods under each basis of revenue recognition.

Each of these bases will be discussed in the following chapters as they pertain, or fail to pertain, to a firm in the long-term construction industry. The postulates, principles, and other concepts examined in the latter part of this chapter will appear in the discussion of these bases when applicable.
CHAPTER 3
INCOME DETERMINATION FOR LONG-TERM CONSTRUCTION CONTRACTORS, I: CASH, SALES, COMPLETED CONTRACT, AND APPRECIATION BASES OF REVENUE RECOGNITION

Revenue may be recognized, along with the related costs and expenses, by one, or a combination, of several methods. Such recognition is as true in the long-term construction industry as in most other industries. However, not all methods provide equally preferable results.

It therefore becomes necessary to consider the various alternatives available in the determination of income of long-term construction contractors, and to reach a decision as to the preferred method or methods. Several of the alternatives are examined in this chapter, and the remaining schemes will be included in the next chapter.
**Cash Basis**

Pure application of this method, as the name implies, demands that the contractor recognize revenue upon the receipt of cash applicable to a contract. The last statement holds true regardless of the stage of work related to the payment; i.e., not begun, in process, or complete. No revenue can be recognized, of course, unless cash is received.

Costs and expenses, in the purest application of the cash basis, are recognized and recorded at the time of the cash payment. The contractor may conceivably record costs and expenses for several fiscal periods before recognition of revenue is made (assuming the contract calls for a lump-sum payment upon completion).

However, a modification of the recognition of costs and expenses has become so prevalent that it has generally replaced the "purer" form. The modification is based upon the assumption that revenue is the controlling factor, and that costs and expenses should be assigned against revenue in a reasonable manner; i.e., one which will match revenue with related costs and expenses.

Thus the contractor who receives a lump-sum payment upon completion of the job will have to defer recognition of costs and expenses on the income statement until that time in order to achieve the matching process. The costs and expenses will be
carried as assets until matched with revenue. If payments are received by the contractor periodically, a portion of the related costs and expenses will be recognized at the time of each payment. However, such receipts are usually not related percentage-wise to the work completed (and thus the amount of revenue earned), and do not produce an accurate determination of income. The American Institute of Certified Public Accountants has stated, "income to be recognized on such contracts at the various stages of performance ordinarily should not be measured by interim billings."\(^1\)

Proponents of the cash basis argue that this is the most conservative basis of all. The contracts are often completed prior to the receipt or payment of cash, offering completely objective evidence.

The latter point of completeness is not always valid, especially where progress payments are involved. Payment is often received for work which is not complete, but, according to the terms of the contract, payment is due. This point is not overpowering, however, since accountants generally agree that objectivity is possible prior to the termination of a series of transactions. Cannon has stated, "an estimate or forecast can be

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objective. Objective means unbiased. The argument that only completed transactions furnish objective evidence appears to have little acceptance among accountants.

Conservatism, in its proper role, is as applicable to an incomplete series of transactions as to those completed and recorded under the cash basis. No matter what basis of revenue recognition is deemed appropriate, the uncertainties and risks involved should be given suitable attention.

A proper determination of income, through the matching process, appears highly unlikely to be achieved under the cash basis. In the case of a lump-sum payment at the completion and acceptance of a project, it is entirely possible for the determination of income to be accomplished in a fiscal period in which no work was done on the project. Should the contract work be completed late in 1962, it is highly probable that acceptance of,

2Cannon, op. cit., p. 50.

3Robert L. Dixon, cited by Moonitz, op. cit., p. 47, has stated, "The proper role of conservatism in accounting is to insure that the uncertainties and risks inherent in any given business situation are given adequate consideration."
and payment for, the project would not take place until 1963. Even if the modified form of the cash basis is used, it is unlikely that the fixed overhead items, often called "period costs", are deferred until project completion. Many accountants prefer to charge these costs to expense in the period in which the expenditure is made. To do so will result in improper matching.

If the contract specifies that periodic payments are to be made to the contractor, these payments are recognized as revenue when received. The expenditures must be matched against revenue to determine income, or in the modified cash basis the expenditures are allocated to the accounting periods in an attempt to properly match revenue and expenses. It is still very common, however, to charge period costs to expense upon payment. Again, improper matching seems likely to occur.

Use of the cash basis by the construction contractor ignores the accounting period postulate, or at best defines the accounting period as the life of the project. Such an indefinite period of time, often several years, does little to serve the needs of management, owners, creditors, and other interested parties. The cash basis falls far short of assigning revenue, costs and expenses to specific periods of time, as the accounting period postulate denotes.4

4Moonitz, op. cit., p. 22.
Normally, the assumption of a continuous life of the firm complements the accounting period concept. If a firm has a continuous life, operations during the accounting periods should produce revenue and incur costs and expenses. The cash basis, however, implies that unless cash is received, no revenue is earned. This basis is somewhat similar to the venture of a few centuries ago, in which the time involved was uncertain and no attempt was made to determine income until cash was received. While the cash basis does not connotate the liquidation that usually took place at the completion of a venture, it is certainly similar in other respects.

Even though the cash basis is consistently applied, it fails to give results which are comparable from one period to another. It is not the application of the method that is inconsistent, but rather the method itself.

Sprouse and Moonitz, as well as numerous other accounting authorities, decree that all assets, liabilities and stockholder's equity, along with the results of operations, shall be reported each accounting period. ¹⁰ Or, in other words, full disclosure of all material facts shall be given. The cash basis obviously does


not follow this concept, since receivables, payables, revenues, costs and expenses are not recognized until payment is received or made.

Management should recognize that the cash basis applied to long-term contracts, assuming a lump-sum payment at completion of the contract, will result in a greater income tax than would the accrual basis if the total income is subject to surtax, if a corporation, or to higher rates, if an individual. The hypothesis might be advanced that it is not necessary to pay the tax until the cash is received. This assumption is true, but the difference in tax often amounts to a material amount. Usually, the money to pay the taxes can be borrowed and a large net saving effected.

The cash basis has little to recommend it to the long-term construction contractor. It probably should not be used in this industry, since more reliable methods are readily available.
Sales Basis

For many types of business enterprises, the completed sale is a logical point of revenue recognition. Title passes to the buyer and the seller acquires new assets. The period of time between the beginning of negotiations and the sale is often insignificant, so it is logical to await the completed transaction as a basis of revenue recognition.

However, this latter point is usually not true in the long-term construction industry. More than one year will transpire from the date of the contract until the project is completed. Since no revenue will be recognized until the project is completed, no income can be produced. Karrenbrock and Simons state, "revenue cannot be considered to be realized until there is a completed sale involving the formal recognition by the seller of new assets," and Wilcox has declared, "A contract is not final until its completion." Therefore, the sales basis will delay recognition of revenue almost as long as the cash basis ordinarily does in the event of a lump-sum payment contract. If progress payments are made as the project reaches various stages of completion, these payments cannot be recognized as revenue at the time of receipt under the sales basis.

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8Wilcox, op. cit., p. 162.
This latter situation makes the sales basis more conservative, and probably more in violation of generally accepted accounting postulates and principles, than the cash basis.

The sales basis, as it pertains to the long-term construction industry, has more or less the same advantages and disadvantages as the cash basis. The sales basis is very conservative, since no revenue is recognized until the job is completed and accepted. The completed contract forms objective evidence for the recognition of income, inasmuch as costs and expenses have been incurred and the amount is determinable. Costs and variable expenses are deferred and matched against revenue whenever revenue is realized.

However, the matching process takes place in the period when the project is accepted, and not in each fiscal period. Thus, all income from a project is recognized in one period, regardless of the number of periods the project takes to complete. Also, fixed expenses such as administrative salaries are often charged off as period costs, resulting in incorrect matching. While the sales basis offers proper matching for most business firms, it fails to do so for the long-term construction firms. The failure is caused by the huge amount of time from the beginning to the completion of such projects.

The accounting period postulate decrees that revenues, costs and expenses are to be assigned to each accounting period as they are earned or incurred. The sales basis, applied to the long-term
construction industry, fails to do so. Thus, this basis is inconsistent, providing results which are not comparable with other fiscal periods.

The postulate of proper disclosure is violated, since the receivables and revenues are not recognized on the books until the contract is completed and accepted. It is quite possible for the entire income from a project to be recognized in a period in which no work occurred on the project. Such a procedure can lead to material distortion in the interpretation of financial condition and operating results.

Furthermore, costs accumulated in a Contracts in Progress account for several years are not homogeneous. Since price levels have been changing during the past decades, it is desirable for management and other interested parties to take note of this fact. While the amount of revenue is fixed, the purchasing power must be measured for the year of receipt and not the year in which the contract is signed. For proper determination of income, the costs accumulated in the Contracts in Progress account would have to be converted periodically to net realizable value (if known) or to replacement cost, and the related revenue or gain taken up at the same time. Recognition of revenue or gain in this manner is not in keeping with the completed sales basis, however, so this refinement in the determination of income cannot occur under the sales basis.
Since the sales basis produces huge distortions in the recognition of income, it is not permissible for the contractor to use this basis in computing taxable income. The regulations state that the contractor may use the cash, accrual, completed-contract, or percentage-of-completion methods of revenue, cost and expense recognition.  

Similar to the cash basis in many respects, the completed sales basis has little to offer contractors in the long-term construction industry, and is not recommended for usage.

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Completed-Contract Basis

A committee of the American Institute of Certified Public Accountants declared in 1955 that:

the completed-contract method recognizes income only when the contract is completed, or substantially so. Accordingly, costs of contracts in process and current billings are accumulated but there are no interim charges or credits to income other than provisions for losses. A contract may be regarded as substantially completed if remaining costs are not significant in amount.\textsuperscript{10}

The completed-contract method is obviously an attempt to apply the sales basis to long-term construction contracts. Prior to the opinion of the Institute Committee,\textsuperscript{11} income was generally recognized when the contract was fully completed and not substantially completed.\textsuperscript{12} Such recognition is consistent with the sales basis.

The phrase "substantially completed" was added to the description of the completed-contract basis in order to permit income to be recognized when the job is complete, or nearly complete, and awaiting formal acceptance. Also, the phrase was included to discourage deliberate postponement of income.


\textsuperscript{11}Ibid., p. 5.

\textsuperscript{12}For example, see Myron M. Strain, \textit{Some Specialized Phases of Accounting Practice: Contractor's Accounts} (San Francisco: The Pacioli Press, 1947), p. 8.
determination. Recognition on the basis of "substantial" completion, a nebulous term subject to interpretation by the use of accounting judgment, permits recognition of income earlier than does the completed sales basis. However, this liberal interpretation of completion has not been accepted by the taxing authorities, as they rule:

a contractor using the completed-contract method of reporting gain from long-term construction contracts should report gain from a particular contract in the year the project is finally completed and accepted, not an earlier year in which the contract was substantially completed.\(^\text{13}\)

Thus, the taxpayer is forced to use the completed sales basis, even though the tax regulations label the method a completed-contract basis.

The chief advantage, according to advocates of this method, is the complete objectivity obtained from completed results. Costs and expenses can be determined with a fair degree of accuracy at completion, thus the net income figure is more meaningful to readers of the statements. Supporters of the completed-contract basis also claim to be conservative, having eliminated the guesses and estimates that are necessary when using an accrual basis.

Inasmuch as the completed-contract basis is essentially the completed sales basis, the disadvantages of the sales method are

also apropos in a discussion of this basis. The ultimate objective in income determination (the matching of revenues with related costs and expenses) may be achieved, but if so, the achievement is secured in the year of substantial completion only. Often the fixed, or period, costs are not deferred and matched against revenues in the year of substantial completion, but are charged to expense in the period incurred. Such a procedure hardly leads to accurate income determination.

In connection with the measurement of income, Moonitz has stated, "Economic activity is carried on during specifiable periods of time." One of the most common techniques of decision making, whether it be by owners, management, potential investors, or creditors, is the comparison of operating results for several consecutive fiscal periods. If revenues, costs, and expenses are not assigned to the fiscal periods in a consistent manner, such comparisons are valueless. A method recognizing all the profit in one period which is related to a project taking several periods to complete is surely not consistent. Work on the project occurs each period, and thus each period's operations should reflect a profit or loss.

A further indication of inconsistency is found in the "conservative" rule of recognizing all possible losses in full as soon as the possibility of a loss is recognized. It seems

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14Moonitz, op. cit., p. 22.
that consistency would dictate the deferral of loss recognition until the project is substantially complete, just as the recognition of income is deferred, but such is not the case. The Institute Committee led the way in providing for losses as they state, "Provision should be made for expected losses in accordance with the well established practice of making provision for foreseeable losses."\(^{15}\) Once again, the concept of conservatism ruled the thoughts of the committee members, a concept which has appropriately been returned to its rightful place of a "counsel of caution."\(^ {16}\) Certainly, it is inconsistent to recognize losses and not recognize gains on uncompleted contracts.

Still another inconsistent point is found in the many applications of the completed-contract method. One application was condoned and even recommended by the Institute Committee as they declare, "when the contractor is engaged in numerous projects ... it may be preferable to charge those (general and administrative) expenses as incurred to periodic income."\(^ {17}\)

This application is certainly an exception to the matching

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\(^{16}\)Robert L. Dixon, cited by Moonitz, op. cit., p. 47.

principle, but one recognized by many authorities as likely to continue. However, it is inconsistent and period costs must be deferred to obtain the proper income under the completed-contract basis.

In addition to being inconsistent, the completed-contract basis casts doubt on the continuous existence postulate. Rather than assuming a continuous life where the results of operations are assigned to specific periods of time, this basis implies a quasi-venture situation. The inference is that the contract under consideration is the only purpose for the firm to exist. When the contract is completed, a profit determination will take place. Determination of profit only at the completion of a contract is in conflict with the usual assumption that the business life consists of a continuous series of transactions which provide income (or loss), and that the completion of a contract is merely one transaction from this series.

Once the contract is completed, the liquidation that would be accomplished under a venture system does not take place; rather, a new contract (venture) is begun. The quasi-venture presumption is present, however, regardless of the number of projects in process. Each contract appears to be a separate venture, and income is recognized upon completion of the venture. Most contractors

\[18\] For example, see Backer, op. cit., p. 246; or Sprouse and Moonitz, op. cit., p. 59.
have reached the stage of overlapping ventures that provides continuous business operation. Thus, according to Gilman, the need for fiscal period reporting has been developed and venture reporting left behind.\(^{19}\)

Since costs and expenses are accumulated in a Contracts in Progress account for several fiscal periods prior to being matched against revenue, it is necessary for the readers of the statements to understand that a stable unit of measure is not reflected by the reported data. For a proper matching of revenues with costs and expenses under the completed-contract basis, it is necessary to convert the costs and expenses to current-year dollars. Of course, this procedure does not meet the requirement of a periodic recognition of income. To meet the latter mandate, it is necessary to convert periodically the costs and expenses in the Contracts in Progress account to net realizable value (if known) or to replacement costs, and to recognize the related revenue or gain at that time. This latter method is completely adverse to the postulate of the completed-contract basis.

The completed-contract basis fails to give disclosure to material facts. Receivables from the contract originator are not shown, and neither are the revenues earned by the contractor (assuming the earning process takes place as the work progresses). The distorted results may tend to mislead an informed reader.

\(^{19}\)Gilman, *op. cit.*, p. 73.
If the completed-contract basis is used, then full disclosure should be given as to the basis of revenue recognition, so that the statement readers may be on guard.

Use of the completed-contract basis will often lead to payment of a greater amount of income tax than will an accrual basis. The individuals concerned in a sole proprietorship or partnership will find their income in a higher tax bracket on the progressive rate schedule, while the corporation may have a greater portion of its income subject to surtax. It is often argued that it is worthwhile for the taxpayer to pay the higher tax to acquire the use of the money over the life of the project. However, many taxpayers find themselves, in effect, paying interest at a considerably higher rate than if they had borrowed the money. Management should be aware of such a situation and act accordingly.

The completed-contract basis has little, if any, to offer the contractor engaged in long-term construction. It appeals to the overly conservative individuals who are so engrossed with the possibility of overstating income that they are willing to disregard the definition of income; i.e., "the increase in owner's equity, assuming no changes in the amount of invested capital either from price-level changes or from additional investments and no distribution to owners."\(^{20}\) As previously stated, Sprouse

\(^{20}\) Sprouse and Moonitz, \textit{op. cit.}, p. 9.
and Moonitz declare that it is the task of the accountant to provide full disclosure, reporting all assets and liabilities of the firm along with the revenues and expenses of the period.  

The completed-contract method hardly conforms in this respect. Rather, it perpetuates the poor accounting systems often found in use by contractors. As Wilcox has stated, "In many cases contractors do not have well-developed systems... In such cases the accounting methods may be adequate for the application of the completed-contract method, but not for the percentage-of-completion method." It should be noted that the task of the accountant is to report all the pertinent data to the best of his judgment. The completed-contract method does not permit this, so utilization of another basis should be encouraged.

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22 Wilcox, op. cit. p. 164.


Appreciation Basis

Appreciation, the excess of estimated replacement cost over historical cost of certain assets, has not generally been recorded by accountants. The main objections have been that this method is applied by use of market prices which may decline prior to completion of the transaction series (completion of the contract in this study), and the lack of legal standing of appreciation results. Another serious objection is the fact that appreciation is difficult to distinguish from changes in the general price level. The latter changes are not considered to be income, but rather an adjustment of capital. Thus, the arguments boil down to the lack of conservatism and the lack of completely objective evidence on which to base the recognition of revenue.

If appreciation is used by the long-term construction contractor, it will take the form of valuing the contracts in progress at net realizable value or replacement cost instead of historical cost, and recognizing the related revenue or gain at the time of valuation. Obviously, appreciation will have to be used in association with another method, such as the completed sales or completed contract bases. Appreciation will not change the total revenue or gain to be recognized on the contract, but will cause earlier recognition of a portion of the revenue or gain.

Appreciation is suggested as a solution to the problem of a stable unit of measurement which has plagued accountants for past
decades. The dollar has been used consistently in the United States as the unit of measurement, but the dollar is not stable; i.e., its purchasing power fluctuates. For the past two decades the purchasing power of the dollar has declined. As the purchasing power has decreased, costs (measured in dollar amounts) have generally increased, and increasing costs are normally taken into account in determining the sales price.

The latter provision must be estimated by the contractor when computing the bid price, since the sales price is fixed once the bid is accepted. If the contractor uses the completed-contract, completed sales, or cash (assuming one lump-sum payment upon completion) basis of accounting, then the revenue received is measured in terms of the purchasing power of the dollar in the year of receipt. Costs, however, that are accumulated in the Contracts in Progress account represent dollars of several years with different purchasing powers. If appreciation is recognized periodically, such is not the case. The revenue, or gain, from appreciation is reported periodically, thus converting the amounts in the Contracts in Progress account to current-year dollars. The final profit determination at the completion of the contract is based on a more stable unit of measurement.

The use of accounting judgment plays a more important role in the use of appreciation than in the use of most other bases. The completely objective evidence that many accountants demand is not present. However, many other
accountants agree with Cannon that "an estimate or forecast can be objective." Sprouse and Moonitz state that inventories should be recorded at net realizable value (if known) or at replacement cost, and the related revenue or gain recorded at the same time.

They require that "in all cases the basis of measurement be subject to verification by another competent investigator."

Thus, the use of appreciation is not only permitted, but recommended by them.

Appreciation has in its favor the fact that the results are more meaningful in terms of "real" money; i.e., in terms of the dollar's purchasing power. Failure to record the changes in the value of the dollar for a number of years may materially mislead the readers of the statements. Better disclosure is given by the use of appreciation.

The method of appreciation can give consistent results when properly applied. Full disclosure of its application is mandatory.

The principle of matching requires the reporting of revenues and costs on a current basis. As noted above, the utilization of appreciation aids in this discharge of the accountant's duty even when the completed-contract, completed sales, or cash basis

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23Cannon, op. cit., p. 50.
24Sprouse and Moonitz, op. cit., p. 57.
25Ibid., p. 57.
is employed. A basis that recognizes revenue and expenses periodically, such as the percentage-of-completion or accrual basis, tends to distort the results less through unrecognized appreciation than do those formerly named, but the use of appreciation is also applicable with these latter methods.

As Cannon so aptly states, "the postulates lead clearly to a requirement that we must make price-level adjustments." 26

Recognition of appreciation will aid the contractor. However, such recognition is not generally accepted, so complete disclosure must be given if appreciation is used. Many accountants consider the mode of recording appreciation in separate accounts, and the separate listing of appreciation on the financial statement, to be preferable.

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26Cannon, op. cit., p. 53.
The previous chapter was primarily devoted to methods of revenue recognition which do not conform to the postulate of recognizing revenue each accounting period when earned; rather, these methods defer recognition of revenues until cash is received, or receivable in the near future. The present chapter is devoted to methods which demand recognition of revenue when earned, and not necessarily when cash is received or receivable.
Revenue recognition by application of the accretion method is often limited to the agricultural or extractive industries. However, many of the characteristics which form the underlying foundations of this method are apropos in the determination of income of the long-term construction-type contractor.

A variation from the normal concept of accretion as used in agriculture or the extractive industries is found in the fact that the construction project will earn a fixed-dollar amount of revenue. The problem in the contractor's recognition of revenue becomes one of when to recognize, and the amount to be recognized each period. The farmer or miner has the same problems, as well as one of determining the total revenue to be realized. The problem of determining and allocating total costs and expenses is one that is common to the contractor as well as to the farmer or miner.

The practice of periodic revenue, cost and expense recognition for long-term construction contractors as project "growth" occurs is called the percentage-of-completion basis, and is discussed below under that heading. As a consequence, no further elaboration of the accretion basis is made at this point.
Percentage-of-Completion Basis

Traditionally, accountants have held that realization is necessary in order to recognize revenue, with realization evidenced by cash receipts or receivables, or other new liquid assets. Of course, this concept implies that an exchange takes place.

In recent years, many members of the accounting profession have departed from this strict concept. One writer has stated, "Manifestly, when a laborious process of manufacture and sale culminates in the delivery of the product at a profit, that profit is not attributable, except conventionally, to the moment when the sale or delivery occurred."  ^2

Paton, in a recent article, said, "If there is a major point upon which there is general agreement in accounting it is that revenue results from the over-all process of production ...."  ^3

Even though the percentage-of-completion method is still controversial among accountants, such controversy is not due to a recent

1 Paton and Littleton, op. cit., p. 49.


development of the basis itself. Recognition of income in terms of completion percentages was approved by the Treasury Department in Article 36 of Regulations 62 issued in connection with the Revenue Act of 1921.\(^4\) It seems that a period of four decades would be sufficient for accountants to either accept or reject the basis completely, but such is not the case. The war of words among accountants continues, debating the acceptability of the percentage-of-completion basis.

Application of the percentage-of-completion method of revenue, cost and expense recognition results in the determination of income periodically as work on the contract progresses. The American Institute committee recommends that,

\[
\text{the recognized income be that percentage of estimated total income, either:}
\]

\[(a) \text{ that incurred costs to date bear to estimated total costs after giving effect to estimates of costs to complete based upon most recent information, or}\]

\[(b) \text{ that may be indicated by such other measure of progress toward completion as may be appropriate having due regard to work performed.}\]

Since it is not uncommon for a contractor to incur substantial costs during the early life of a project, the committee agrees with many other accountants as they state,

\(^4\)As quoted in Paton, \textit{op. cit.}, p. 461.

\(^5\)American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Long-term Construction-type Contracts," \textit{Accounting Research Bulletin No. 45, op. cit.}, p. 4.
Costs as here used might exclude, especially during the early stages of a contract, all or a portion of the cost of such items as materials and subcontracts if it appears that such an exclusion would result in a more meaningful periodic allocation of income.6

Such costs as are excluded would be allocated to accounting periods over the life of the contract. Action of this kind represents the use of accounting judgment in an attempt to determine income as correctly as possible. Undiscerning application of total costs incurred often leads to distorted income figures.

In some instances costs incurred to date, even with certain costs excluded, fail to provide an acceptable measure of work performed. When such a situation arises, it may be preferable to use some "other measure of progress"7 as suggested by the Institute committee. These measures may take the form of cubic yards of excavation for foundation work, cubic yards of cement poured or miles of cement laid for highway and street contractors, or estimates of percentage completed by the architects and/or engineers. The method to be used should be the one that gives the most meaningful determination of periodic income.

A number of advantages are inherent in the utilization of the percentage-of-completion method. One of the most important of these is periodic recognition of income or loss. The accounting period

6Ibid., p. 4.
7Ibid., p. 4.
postulate has as its basis the presumption that revenues, costs and expenses can be allocated to specific identifiable periods of time, and the residue formed by comparing revenues with the total of expired costs and expenses provides the income or loss for the period. The percentage-of-completion basis, enabling the accountant to recognize revenue as work on the contract progresses, fulfills the requirements of fiscal period accounting. In addition, the matching postulate is accomplished by assigning most related costs and expenses to accounting periods as they aid in the production of revenue. An exception to such an assignment is often found in the case of period costs. While failure to allocate period costs may not lead to a large distortion of operating results, period costs are to be allocated. Whenever a procedure is available that will lead to a more meaningful income or loss figure, that procedure should be exercised. Whether the distortion is large or small, it is still a distortion and must be eliminated whenever feasible.

However, the problem of deferring period costs for a number of years in order to match them against revenue is usually unnecessary when using the percentage-of-completion basis. Most of the allocation problems will be in the nature of prepaid or accrued expenses with a current asset or current liability status. As noted in the previous chapter, long-term deferment is often appropriate when the completed-contract or completed sales method is applied.
Consistent utilization of the percentage-of-completion method provides operating statements which are comparable to the statements of other accounting periods. To produce such comparable statements, it is necessary that the revenues earned and costs and expenses incurred be recognized on the statement of the period to which they apply. As Moonitz states, "The procedures used in accounting for a given entity should be appropriate for the measure of its position and its activities...." Such is the aim of the percentage-of-completion method.

Consistency in income determination cannot be procured by consistent application of one method of revenue, cost and expense recognition alone. Certainly, consistent application is mandatory, but the method itself must be designed to give results which are comparable with those produced in other operating periods. Basically, revenue must be recognized when earned and costs and expenses recognized when incurred if a method is to be consistent. The percentage-of-completion method passes this test to a larger extent than do any of the methods discussed in the previous chapter.

Moonitz has declared, "accounting reports should disclose that which is necessary to make them not misleading." Sprouse and Moonitz also state that all assets and liabilities with their

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8 Moonitz, op. cit., p. 53.
9 Moonitz, op. cit., p. 50.
related revenues and expenses should be recorded in the accounts and reported on the financial statements. The percentage-of-completion method, to a large extent, allows fulfillment of these requirements.

The financial statements must indicate clearly the method used to recognize revenues, costs and expenses, and should be supplemented by a schedule or schedules revealing the components of profits or losses for each contract. The objective is to disclose pertinent details, not conceal them. Proper disclosure necessitates the reporting of profits when earned and losses when incurred. It is the intent of the percentage-of-completion method to report the earnings or losses as they exist, and not present a conservative, though perhaps misleading, picture.

The percentage-of-completion method does have one conservative aspect, however, since no attempt is normally made to recognize losses or gains resulting from price-level changes through the use of net realizable value or replacement cost for assets. Losses or gains from price-level changes are usually not recognized separately, but are included with the normal operating loss or income each period. Such losses or gains are normally an insignificant item under the percentage-of-completion method, but form an item of which management should be aware.

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10 Sprouse and Moonitz, op. cit., Pp. 55 and 58.
Apparently the percentage-of-completion basis complies with the requirements for disclosure to a larger extent than does the completed-contract, cash or sales basis. As called for by Sprouse and Moonitz, this method enables the reporting of all assets and liabilities, specifically receivables and payables relating to the contract. Such disclosure aids in making the statements "not misleading."  

In addition, the concept of continuous existence of the firm appears to be recognized when using the percentage-of-completion method. Operations under the "going-concern" postulate should produce revenue while incurring costs and expenses. The quasi-venture presumption that is implied under the completed-contract basis is left behind and the need for fiscal period reporting is acknowledged and fulfilled by the percentage-of-completion method. Revenues are assigned to specific periods of time, as are costs and expenses. No more consideration is given to the possibility of liquidation or completion of the venture (contract) than is given to the possibility of liquidation or the completion of a job in a job order cost system. The underlying assumption is that the completion of a contract is a normal part of operations, and a new project will be started when

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12 Peloubet, op. cit., p. 35.
the one in progress is completed. This theory is in line with the usual assumption that a business life consists of a continuous series of transactions which provide income (or loss), and the completion of a contract is merely one transaction from this series.

Application of the percentage-of-completion basis will often lead to a savings in income tax payments when the firm is profitable. As indicated earlier, use of the completed-contract, completed sale, or cash basis of income determination by a corporation subjects all of the taxable income from a contract except $25,000 to the present surtax rate of 22 per cent. Periodic recognition of income, allowed under the percentage-of-completion method, exempts $25,000 of taxable income from the surtax each year of the contract's life, assuming taxable income each year to be in excess of $25,000. Such recognition results in a tax savings of $5,500 per year for each year of the contract except one. With an assumed interest rate of approximately 6 per cent, over $90,000 could be borrowed for a year for the purpose of paying the taxes, with the tax savings of $5,500 used to cover the interest payment on the loan, and the corporation would be as well off as under the completed-contract method of recognition. While savings for individual taxpayers under the percentage-of-completion method may not be so great, saving possibilities exist due to the progressive tax rate table.
Recognition of all the income in one year subjects the taxpayer to a higher tax rate than if the income is recognized periodically. The oft-expressed argument that the contractor has the use of the money for a longer period of time under the completed-contract method is true, but the cost of using the money appears rather high. Borrowing is often preferable, resulting in lower total costs (income taxes plus interest) to the contractor.

The prime criticisms of the percentage-of-completion basis are the lack of objective evidence furnished by incomplete transactions, the lack of conservatism, and the recognition of revenue prior to realization of cash. All of these concepts appear to pertain to the concept of conservatism, and are discussed as such.

While the cash realization doctrine is often quoted as a basis of revenue recognition, it is rarely followed in practice. The sales basis recognizes revenue at the time of the sale, not upon collection of the money. Little, if any, consideration is given to the bad debts arising from the sale until the end of the fiscal period. These bad debts, however, will not be realized as cash at any time. No consideration is given to the possibility of the return of merchandise, even though the dollar amount involved may be relatively large. The "completed" transaction may not be so

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13 Paton and Littleton, op. cit., p. 49. "Revenue is realized, according to the dominant view, when it is evidenced by cash receipts or receivables, or other new liquid assets. Implicit here are two tests: (1) conversion through legal sale or similar process; (2) validation through the acquisition of liquid assets."
complete after all. The receivable created may be worthless, or its amount materially changed. Most series of transactions are recorded prior to ultimate completion.

Another example is the matter of depreciation of fixed assets. Following the strict description of realization, no sale occurs and no liquid assets are formed so depreciation can never be recognized.

Thus, the continuous existence of the firm must be ignored under strict use of realization by sale, and attention focused only on the current fiscal period. Such is illogical, since an accounting entity is operated with a succession of fiscal periods in mind, even though actual existence is but one period at a time.

The term objective means, to many accountants, "unbiased; subject to verification by another competent investigator." As such, it is not a synonym for realization, and the meaning of the two words may conflict. Objectivity is possible with estimates or forecasts.

The application of objectivity under the percentage-of-completion method would require only that the data used for revenue recognition "be substantiated or capable of being substantiated by an independent party." Such application recognizes the following points: "(1) the clear recognition that

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14Cannon, op. cit., p. 50.
15Ibid., p. 50.
16Arnett, op. cit., p. 68.
profit is attributable to the whole process of business activity, not just the moment of sale, and (2) the clear recognition that 'realization at the point of sale' will give satisfactory results only when the flow of product is reasonably uniform."

If conservatism is given its proper usage, i.e., a counsel of caution in the application of accounting judgment, no violation is apparent in the exercise of the percentage-of-completion basis.

A disadvantage often mentioned as attached to the percentage-of-completion method is that the recognition of income prior to receipt of money may lead to the declaration, or a request for declaration, of dividends when money is not available for payment. Such a disadvantage reflects poor managerial policies in financial reporting, and is not a fault of the revenue recognition basis in use. Thus, this so-called disadvantage should not be considered in the selection of a method to determine net income.

A more serious disadvantage attached to this basis is the lack of a stable unit of measurement. The most common means of recognizing revenue is the application of the ratio of total costs to date to estimated total costs of the contract. Total costs to date, however, may be accumulated costs of several years and probably do not reflect the deduction in current purchasing power. Thus, the total net income is probably overstated (assuming price level increases so common in recent decades), and net income for

the years to date is probably overstated. By the same token, a net loss is understated. To reflect net income or loss in terms of its real value (purchasing power), the total revenues and the total costs and expenses must be stated in terms of the money value of one accounting period. This reconciliation may be accomplished by one of two methods: (1) stating total revenue to be received, as well as prior year costs, in current year dollars; or (2) increasing total costs to date and expected total costs to dollars of the year of estimated contract completion. Either of these procedures requires the use of an index number to determine the difference in prior and current year dollar values and those dollars values in the year of estimated contract completion. In other words, accounting judgment must be applied to give more meaningful results. Use of either of these procedures will not only reduce the total net income, assuming an upward trend in prices or a decreasing purchasing power trend, but will also cause the recognition of a larger proportion of the net income in the earlier years of the contract life. Similarly, a net loss will be increased by either procedure. Since current data is normally emphasized, the former adjustment listed above is preferable to the latter.

In spite of this disadvantage of the percentage-of-completion basis, it is by far the most realistic basis discussed to this point. An attempt is made to recognize and measure the economic activity of the enterprise each fiscal period, as it should be.
Accrual Basis

In 1940, a monograph authored by Paton and Littleton gave recognition to the difference in earned and realized revenues.\(^\text{18}\) Revenue is earned, according to these writers, "during the entire process of operation reflected in the accumulation of costs assignable to product."\(^\text{19}\) However, these same writers consider revenue to be realized only when "it is evidenced by cash receipts or receivables, or other new liquid assets."\(^\text{20}\) And this proposition is followed by a statement probably reflecting general opinion until very recent years; "As a basis for revenue recognition in the accounts, realization is in general more important than the process of earning."\(^\text{21}\)

However, the trend in recent years has been in the opposite direction. Many accountants agree with Paton as he states, "If there is a major point upon which there is general agreement in accounting it is that revenue results from the over-all process of production ..."\(^\text{22}\) Sprouse and Moomitz have aptly described this basis as follows:

\(^{19}\)Ibid., p. 48.
\(^{20}\)Ibid., p. 49.
\(^{21}\)Ibid., p. 49.
Accrual accounting already provides an attitude, a point of view, and a procedure to allocate profit among the appropriate periods. Accrual accounting in essence attempts to reflect the financial efforts of business transactions when they occur, rather than at the time of some restricted set of events, such as the receipt or outlay of cash.

Many of the advantages and disadvantages of the accrual basis are identical with those of the percentage-of-completion basis. Among these are the concepts of periodic determination of income by the matching process, the continuous life of the firm, consistency, and the managerial problem of periodic dividend declaration or the lack of such declaration. It is not necessary to discuss these points again under the accrual basis. However, some of the points of consideration differ markedly under the two bases, and these propositions form the foundation for further discussion.

Perhaps the greatest difference between the percentage-of-completion basis and the accrual basis is the stability or instability of the unit of measurement, coupled with the use or non-use of replacement cost. As stated previously, the percentage-of-completion basis does not recognize either changes in the dollar value or changes in replacement costs. These items are lumped together with operating profit or loss to form a single net income or loss. The accrual basis, recognizing revenue as a measurement of the exchange value of goods and services of the firm during

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23 Sprouse and Moonitz, op. cit., p. 11.
a period of time,²⁴ separates operating profits or losses from the profits or losses due to the holding of assets for a period of time and from price-level changes. However, the accrual basis does not necessarily distinguish price-level changes from profits or losses caused by changes in replacement cost. While such a distinction should be made, the accrual method does not specifically call for it.

Changes in the value of enterprise assets over a period of time give rise to the term "holding" profits or losses. Such changes are due only to possession of these assets, and not to operation of the firm. It has long been accepted by some accountants to value inventories at less than cost if the market value has fallen. Due to conservatism, however, it has been generally unacceptable to use a value greater than cost. Such an arbitrary valuation method cannot help but be inconsistent. Consistency calls for the use of cost or market, not both. Thus, when market values are applied, these values should be used regardless of cost. If cost is the basis, then market should be ignored completely.

Sprouse and Moonitz have recommended adoption of market value, along with a process which is even more unconservative. They hold that:

Inventories which are readily salable at known prices with readily predictable costs of disposal should be recorded at net realizable value, and the related revenue

²⁴Ibid., p. 9.
taken up at the same time. Other inventory items should be recorded at their current (replacement) cost, and the related gain or loss separately reported. ... Acquisition costs may be used whenever they approximate current (replacement) costs ... 25

This procedure has the result of assigning most of the change in the resource and the related income or loss to the periods of production or other activity, rather than to the period of the sale. The presumption is, of course, that current cost represents the minimum economic value of the items to the firm. Holding profits or losses (those brought about by price rises or falls) are separated from operating profits or losses (sales price compared with current costs). Still, price-level changes are not separated and are combined with the holding profits or losses.

The long-term construction-type contractor, in applying these ideas to the accounting records, faces the problems of valuing the contract in progress at either net realizable value or replacement cost. Such valuation will provide the holding profit or loss, and the adjusted cost compared with the revenue assigned to the period 26 will determine the operating income or loss. Net realizable value, being the contract price, is easily determined in this situation. However, costs of disposal (in this case the cost of completing the contract) are not so easily

25Ibid., p. 57.

26It is assumed by this writer that revenue will be assigned to accounting periods in the same manner as under the percentage-of-completion basis.
ascertained. Replacement costs, if used, would require a restate-
ment of all material, labor, overhead and period costs into current
period costs. Neither alternative is easily accomplished, but both
are possibilities. The fact that the contractor is valuing an
incomplete unit may hinder a determination of net realizable value
or current cost. And even if the determination is made, the holding
income or loss contains elements of price-level changes.

The problem of assigning revenue to each period remains as
great as under the percentage-of-completion method. All the
uncertainties of this method are carried forward to the accrual
basis, with the added doubtfulness caused by restating the
inventory into net realizable value or current costs. For these
reasons, many accountants who accept the percentage-of-completion
method as objective refuse to accept the accrual basis.

In accordance with what has been thought to be generally
accepted accounting "principles," changes in the general level
of prices have not been recognized in the accounting records.
In the past quarter century, price levels have consistently
risen and the purchasing power of the dollar has fallen. This
in turn has led to recognition of fictional profits (in terms
of purchasing power), and the resulting financial statements
are often misleading.
Moonitz, in the recent postulates study, states, "accounting reports should be based on a stable measuring unit." This concept is not new. In 1952, the Study Group on Business Income recommended adjustment of the income statement to reflect price-level changes. A year earlier, an American Accounting Association committee had issued a statement urging the use of supplementary statements adjusted for price-level changes by use of index numbers. Edwards and Bell recommend adjustments at the end of the fiscal period to accounts which are presently compiled. The adjustments are recorded in separate ledger accounts, thus preserving historical costs. Data are made available by this process to prepare supplementary statements reflecting price-level changes, which can be presented along with traditional statements based on historical costs.

Moonitz apparently is in agreement with the utilization of supplementary statements since he states, "Accountants should move

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27 Moonitz, op. cit., p. 45.


quickly therefore to implement modest proposals such as those of
the Study Group (on Business Income) and the American Accounting
Association Committee."31 Sprouse and Moonitz, in the principles
study, advocate recognition of price-level changes: "B. Changes
in resources should be classified among the amounts attributable
to (1) changes in the dollar (price-level changes) which led to
restatement of capital but not to revenues or expenses.—"32 While
many accountants are now willing to concede that price-level changes
do exist and should be reported, apparently none of them are willing
to maintain the accounts of record on the basis of current-value
dollars. All of the writers cited seem to prefer use of supplementary
statements, with the prime statements still based on historical cost
or current cost. The recommendations of Edwards and Bell appear to
be workable in the treatment of price-level changes.33

The long-term construction-type contractor, in the application
of price-level adjustments, faces the problem of converting revenue
as well as costs and expenses to current-dollar values.

The revenue, to be received in future accounting periods, must
be stated in terms of dollars of the period of receipt. Since

31Moonitz, op. cit., p. 46.
32Sprouse and Moonitz, op. cit., p. 55.
33Edwards and Bell, op. cit., p. 280.
fixed-dollar amount is to be received, it is necessary to estimate the price-level index in the year of receipt. By use of the ratio of the current price-level index to the year-of-receipt price-level index, it is possible to increase or decrease the current year revenue to dollars of the year of receipt. In periods where the price-level index is expected to increase, the use of such a ratio will decrease the dollar amount of revenue to be recognized currently.

If the matching process is to provide a correct measure of net income or loss, the assets and liabilities affecting revenues, costs and expenses must also be stated in terms of current dollars. These assets include inventories, investments, long-term receivables and payables, plant and equipment, and intangibles. Failure to reflect current dollars in consideration of these items will misstate cost of goods sold, interest earned, interest expense, depreciation, and amortization of intangibles insofar as purchasing power of the dollars is regarded.

Once all the items on the income statement are expressed in terms of current-year dollars, the resulting residue is the net operating income or loss plus the net holding income or loss. To separate these two items, it is necessary to use replacement costs (instead of the historical costs adjusted for price-level changes) for the various assets and liabilities which affect
revenues, costs and expenses. The difference in net income or loss provided after this adjustment and the net income or loss prior to the adjustment, but after price-level adjustments, is the holding profit or loss. Finally, a comparison of revenues with costs and expenses based on replacement costs provides the contractor with net operating income or loss. Or, in other words, the remaining portion of net income or loss not explained by the holding of assets is considered operating profit or loss.

The great problem facing the contractor is to locate satisfactory price indexes. Which, if any, of the existing indexes are suitable for use in converting the historical cost of assets and liabilities into dollars of the current period? Possible indexes include the Consumer Price Index, construction indexes, wholesale indexes and some general indexes. Furthermore, each firm may construct an index designed to fit its specific needs. In any case, a choice must be made by the management of the construction firm as to what index is suitable; or as to whether several indexes will be used, each one for separate assets or liabilities. This problem of selection is beyond the scope of this paper.

Inasmuch as the application of neither current cost or current-dollar value is generally used by the accounting profession, the utilization of either or both requires full disclosure. The preferable means of disclosure is to show statements based on
historical costs as well as statements developed by use of current cost and/or current-dollar values.

Similar to the percentage-of-completion method, period costs must be allocated to the span of time in which they aid in the production of revenue. Arbitrary assignment to the period in which these costs are paid is a throwback to the cash basis, and should be eliminated.

Employment of this basis of recognition would have resulted in lower income taxes assuming profitable firms, for the past quarter century. The basis is, unfortunately for the contractors, not recognized under present tax regulations. Although the tax rules specify that the accrual basis may be used, the definition of accrual is actually a description of the completed sales basis: "Under the accrual method, income is included in the year in which the right to receive income becomes fixed and deductions are allowed when deductions are definitely established." The justification of the statement that this basis would have resulted in lower taxes is the fact that the price level has risen and net income (in terms of purchasing power) has thus been overstated, or net loss understated.

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Critics of the accrual basis proclaim this method completely lacks conservatism and objectivity. Not only are the results based on an incomplete series of transactions with no realization of revenue taking place through an exchange, but income is determined by processes which are never objectively determined by transactions. The completed transaction (completion and acceptance of the construction project) will never distinguish among price-level changes, holding profits or losses, and operating profits or losses. Such a lack of conservatism and objectivity renders the basis completely unacceptable to many accountants.

If the definition of income chosen for this study\(^3\) is valid, however, price-level changes must be distinguished from holding profits or losses and from operating income or loss. And if income is recognized when earned and losses when incurred, the necessity for recognition of holding gains or losses becomes evident. In spite of the disadvantage of the lack of conservatism, the accrual basis may provide the best measurement of profit or loss and at the same time give the fullest disclosure of the profit or loss components.

\(^3\)Sacker, op. cit., p. 216.
Summary

In the current chapter, the methods which attempt, at least to some extent, to recognize revenue when earned and expenses when incurred have been studied. The prior chapter was devoted to methods which typically do not recognize revenue when earned or expenses when incurred, insofar as the long-term construction-type contractor is concerned. Further discussion of the bases, to implement the presentation of contractor's financial statements, will be effected in the ensuing chapter.
CHAPTER 5
FINANCIAL STATEMENTS OF THE LONG-TERM
CONSTRUCTION-TYPE CONTRACTOR

In past chapters, methods of determining net income or loss of the long-term construction-type contractor have been examined. The purpose of the current chapter is to present a discussion of the means of reporting and interpreting financial data of the contractor; i.e., a consideration of the financial statements.
Purpose and Use of Financial Statements

The conventional accounting statements ... balance sheet, income statement, retained earnings statement, and funds flow statement ... have traditionally been and probably will be the most important media for management as well as outsiders to use in gauging the condition of a firm. In years past, most enterprises have relied on the balance sheet and income statement to determine where the firm stands at a particular time and to point out the results of operations for a specified period of time.

The balance sheet is often referred to as the statement of financial condition or the statement of financial position, more appropriate titles. In like manner, the income statement is often referred to as the profit and loss statement or the operating statement. Whatever their titles, it is generally agreed that these two statements are the basic communication methods used by the accountant to report and interpret financial data.

In corporate accounting, the two basic statements are usually supplemented by a statement of retained earnings. The intent of this statement is to explain changes in earnings held by the firm due to net income or loss, payment of dividends, extraordinary losses or gains not reported on the income statement, and non-recurring losses or gains not reported on the income statement.
A statement reflecting the changes in the current financial position of the firm over a period of time is called a funds flow statement (also often called a statement of source and application of funds). And of course the changes in current position are reflected in the changes in net working capital, so the statement could properly be labeled a statement of source and application of working capital. While the funds flow statement has not known the popularity of the others mentioned, its use is becoming prevalent today, especially for managerial purposes.

The long-term construction-type contractor can, and does, make use of each of these statements. Consideration will be given to each statement in its applicability, or lack of applicability, to the construction industry, under the various bases of revenue recognition.
Cash Basis Statements

Income Statement. Contractors subject to the cash basis will often prepare a statement of cash receipts and disbursements in lieu of an income statement and balance sheet, inasmuch as transactions are recorded only upon the payment or receipt of cash. The excess of receipts over disbursements, or vice versa, may be called net income or loss, but usually, does not reflect the earnings or losses of the firm. The final figure is more properly labeled "excess of receipts over disbursements" than net income.

Balance Sheet. If a balance sheet is prepared by means of the cash basis, it is rather meaningless. Only the assets which are in cash form or have been paid for are recorded on the books. No liabilities are recorded, except when money is borrowed. Many of the plant and intangible assets are charged to expense as paid. The balance sheet almost, if not entirely, becomes a recital of cash in bank and cash on hand. However, the contractor may show "Contracts in Progress" at the total expenditure to date less progress payments. The excess of progress payments over expenditures is recognized as income upon receipt.

Statement of Retained Earnings. The statement of retained earnings would be prepared in the usual manner. To the beginning balance of retained earnings is added the excess (deficit) of cash receipts from operations over cash disbursements due to operations, after which dividend payments or owner withdrawals are deducted.
Funds Statement. A funds statement is usually unnecessary under the cash basis. The changes in funds are usually evident from the statement of cash receipts and disbursements, which in reality is a statement of cash flow.

Violation of Accounting Principles. Statements prepared in accordance with the cash basis of accounting fail to fulfill many of the accounting postulates and principles, just as the cash basis itself is in violation of the same principles and postulates.

The realization concept is carried to the extreme conservative position, recognizing revenues and expenses only upon the exchange of cash. Proper matching of revenues earned with expenses incurred is not possible.

Recognition of transactions on a cash basis only may reflect doubt as to the continued existence of the firm, and is akin to a liquidation recognition procedure. Such recognition also fails to acknowledge existing assets and liabilities. Sprouse and Moonitz have declared that all assets and liabilities should be recorded in the accounts and reported in the financial statements. 1 Peloubet agrees, declaring, "The first principle is adequate disclosure, sufficient, as the SEC phrases it, to make the statements not misleading." 2 Failure to report many of the assets and most of the liabilities hardly complies with the preceding statements.

1Sprouse and Moonitz, op. cit., Pp. 55, 58.
2Peloubet, op. cit., p. 35.
In regards to those assets carried on the books for several years, e.g., Contracts in Progress, no recognition is given to changes in the price level for that period of time. Thus, in terms of current-year dollars, the asset value may be misstated. Also, any profits or losses that may have occurred from the holding of assets are ignored and are combined with operating profits or losses.

Statements prepared by application of the cash basis provide little useful information to any group of readers. The only advantage appears to be the limited accounting records necessary to prepare such statements, and the lack of corresponding information usually turns out to be a disadvantage to all interested parties.
Completed Sales Basis Statements

As stated earlier in this paper, the completed sales basis applied to the construction industry becomes the completed-contract basis. Consequently, the discussion of accounting reports will be made under that heading.
Completed-Contract Basis Statements

**Income Statement.** An income statement prepared by use of this basis will reflect total revenue of the contracts completed during the period of time covered by the statement. The cumulative costs of the same contracts, held in the Contracts in Progress account, are also reported on the income statement.

If period costs have been deferred in the same manner as the direct construction costs, then a proper matching of revenue with expired costs and expenses may be possible in order to determine a correct net income figure. The net income reported, however, is for the life of the contract or contracts completed this period, and is probably not earned in its entirety during the current accounting period. If the fiscal period is to be limited to a year or less, and if "profit is attributable to the whole process of business activity," it follows that profit or loss must be measured periodically by a matching of revenues with expired costs and expenses. Such is not possible, of course, due to the nature of the completed-contract basis. In cases where period costs are not deferred until revenue is recognized from a contract, the matching process gives distorted results on contracts completed. Revenue is properly matched against construction costs of the same contract. However, most of the period costs

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3 Sprouse and Moonitz, op. cit., p. 55.
of that contract have been recognized in prior periods, and costs pertaining to contracts to be completed in future periods are deducted from revenues of completed contracts. This procedure can hardly be classified as "matching" expenses with related revenues.

An income statement of a contractor engaged in the long-term construction-type industry, prepared by use of this basis, fails to comply with the postulate that "accounting reports should be based on a stable measuring unit."4

The Contracts in Progress account, having been compiled over several accounting periods, reflects dollar values of each period. The dollar values reflected do not accurately measure the sacrifice in terms of current purchasing power. Thus, the net income often is misstated in terms of its purchasing power, and the readers of the income statement are misled. The completed-contract method, based on historical costs, makes no provision for recognition of price-level changes.

"Accounting reports should disclose that which is necessary to make them not misleading,"5 declares Moonitz. As stated above, this postulate is violated by the non-recognition of price-level changes. Since holdings profits or losses are also intermingled with operating profits or losses, the reader of the income statement is not able to determine the net operating income or loss.

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4Moonitz, op. cit., p. 50.
5Ibid., p. 50.
Such inability, in the opinion of this writer, violates the postulate of disclosure.

The concept of disclosure is normally complied with to some extent by reporting the basis utilized to recognize revenues, costs and expenses. It is further exercised by the preparation of a detailed supplementary schedule of the individual contracts. However, this partial application of the postulate does not provide the necessary disclosure. Complete disclosure is mandatory if the income statement is to be fully utilized by its readers.

The income statement is usually rather condensed, providing a minimum of detail. A typical statement is illustrated in Chart 3. The supplementary schedules supply the details of the contracts completed during the fiscal period. Such schedules are illustrated in Charts 4 and 5.

For purposes of analysis, comparative statements and schedules for several years are recommended, normally for a minimum of five years including the current one. Many accountants prefer statements and schedules for a ten-year period.

**Balance Sheet.** A balance sheet prepared under the completed-contract basis usually has deficiencies, but not nearly so many as a balance sheet prepared by use of the cash basis. Accrual accounting is applied to some extent, resulting in partial recognition of the assets and liabilities of the enterprise.
However, the concept of conservatism is closely aligned with the completed-contract basis, which often leads to inconsistent reporting of assets and liabilities. While it is common practice to anticipate losses on a contract (resulting in accruing expenses and the related liabilities), the basis prohibits the recording of revenues prior to contract completion. The latter mandate precludes the recording of accounts receivable and the related revenues on the basis of work progression. Accordingly, the only recorded items are the costs of Contracts in Progress and the billings to the project originator. Since billings are not often related to the degree of completion of the project, the balance sheet may fail to inform its readers as to the actual financial position of the firm.

Period costs, carried on the balance sheet as deferred costs, may have no future value to the enterprise. If period costs are to be deferred several fiscal periods in order to match revenues of the completed contract with expired costs and expenses, it is necessary to carry these period costs as deferred costs. These assets may be overstated, since their value to the firm occurred in prior periods, but it is not possible to avoid this misconception under the completed-contract basis.
Chart 3

A B Y Z Construction Co., Inc.

Income Statement

For Year Ended December 31, 1962

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue from Completed Jobs (Schedule A)</td>
<td>$1,203,500</td>
</tr>
<tr>
<td>Costs of Construction (Schedule A)</td>
<td>$1,031,620</td>
</tr>
<tr>
<td>Gross Profit from Completed Jobs</td>
<td>$ 171,880</td>
</tr>
<tr>
<td>Operating Expenses:</td>
<td></td>
</tr>
<tr>
<td>Administrative Expenses (Schedule B)</td>
<td>$54,610</td>
</tr>
<tr>
<td>General Expenses (Schedule B)</td>
<td>$ 63,695</td>
</tr>
<tr>
<td>Total Operating Expenses</td>
<td>$ 118,305</td>
</tr>
<tr>
<td>Net Income Before Income Taxes</td>
<td>$ 53,575</td>
</tr>
<tr>
<td>Income Tax Provision (40%)</td>
<td>$ 21,430</td>
</tr>
<tr>
<td>Net Income to Retained Earnings</td>
<td>$ 32,145</td>
</tr>
</tbody>
</table>
### Chart 4

**A Y Z Construction Co., Inc.**

**Schedule A to the Income Statement**

**For the Year Ended December 31, 1962**

<table>
<thead>
<tr>
<th>Completed Job Number</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$285,000</td>
<td>$196,000</td>
<td>$310,000</td>
<td>$287,500</td>
<td>$125,000</td>
<td>$1,203,500</td>
<td></td>
</tr>
<tr>
<td><strong>Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td>$ 69,150</td>
<td>$ 47,500</td>
<td>$ 75,500</td>
<td>$ 66,000</td>
<td>$ 48,500</td>
<td>$ 306,650</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>43,590</td>
<td>31,100</td>
<td>48,200</td>
<td>50,200</td>
<td>22,050</td>
<td>195,140</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>36,250</td>
<td>28,400</td>
<td>39,180</td>
<td>49,230</td>
<td>16,650</td>
<td>169,710</td>
</tr>
<tr>
<td><strong>Sub-Contracts</strong></td>
<td>51,200</td>
<td>25,570</td>
<td>49,130</td>
<td>43,580</td>
<td>17,700</td>
<td>187,180</td>
</tr>
<tr>
<td><strong>Other direct costs</strong></td>
<td>16,110</td>
<td>12,330</td>
<td>23,800</td>
<td>9,990</td>
<td>7,300</td>
<td>69,530</td>
</tr>
<tr>
<td><strong>Overhead</strong></td>
<td>21,200</td>
<td>17,500</td>
<td>28,180</td>
<td>21,900</td>
<td>14,630</td>
<td>103,410</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>$237,500</td>
<td>$162,400</td>
<td>$263,990</td>
<td>$240,900</td>
<td>$126,830</td>
<td>$1,031,620</td>
</tr>
<tr>
<td><strong>Gross Profit</strong></td>
<td>$ 47,500</td>
<td>$ 33,600</td>
<td>$ 46,010</td>
<td>$ 46,600</td>
<td>$(1,830)</td>
<td>$ 171,880</td>
</tr>
</tbody>
</table>
## Chart 5

**A B Y Z Construction Co., Inc.**

**Schedule B to Income Statement**

**For Year Ended December 31, 1962**

<table>
<thead>
<tr>
<th>Item</th>
<th>Administrative Expenses</th>
<th>General Expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>$42,000</td>
<td>$43,500</td>
<td>$85,500</td>
</tr>
<tr>
<td>Rent</td>
<td>1,200</td>
<td>1,500</td>
<td>2,700</td>
</tr>
<tr>
<td>Repairs and maintenance</td>
<td>300</td>
<td>240</td>
<td>540</td>
</tr>
<tr>
<td>Automobile expense</td>
<td>3,350</td>
<td>2,700</td>
<td>6,050</td>
</tr>
<tr>
<td>Depreciation</td>
<td>1,500</td>
<td>1,800</td>
<td>3,300</td>
</tr>
<tr>
<td>Office supplies</td>
<td>750</td>
<td>600</td>
<td>1,350</td>
</tr>
<tr>
<td>Telephone and telegraph</td>
<td>610</td>
<td>450</td>
<td>1,060</td>
</tr>
<tr>
<td>Travel</td>
<td>4,500</td>
<td>3,090</td>
<td>7,590</td>
</tr>
<tr>
<td>Utilities</td>
<td>300</td>
<td>180</td>
<td>480</td>
</tr>
<tr>
<td>Insurance - other than payroll</td>
<td>-</td>
<td>1,125</td>
<td>1,125</td>
</tr>
<tr>
<td>Taxes</td>
<td>-</td>
<td>4,385</td>
<td>4,385</td>
</tr>
<tr>
<td>Interest</td>
<td>-</td>
<td>1,950</td>
<td>1,950</td>
</tr>
<tr>
<td>Bad debts</td>
<td>-</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Legal and auditing</td>
<td>-</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>100</td>
<td>475</td>
<td>575</td>
</tr>
<tr>
<td>Total</td>
<td>$54,610</td>
<td>$63,695</td>
<td>$118,305</td>
</tr>
</tbody>
</table>
The postulate of disclosure\textsuperscript{6} is hardly fulfilled by a balance sheet prepared under the auspices of this method. Comparability of balance sheets for several consecutive fiscal periods is virtually non-existent. Consistency in the measurement of financial position is not possible when the results of several periods of operation are arbitrarily assigned to one period, i.e., the period in which the project is completed.

A contractor's balance sheet, prepared by employment of this basis fails to reflect changes in owner's equity due to price-level changes. The Contracts in Progress account, as well as accounts for fixed assets and long-term liabilities, reflect dollar values of prior periods, which do not necessarily correspond to dollar values of the current fiscal period. Any change in the purchasing power of the monetary unit is ignored, and the account balance is subsequently removed from the ledger at historical cost. If a gain or loss results, the computation is made by comparing historical cost with revenue earned. The gain or loss, in terms of purchasing power, is thus misstated if price-level changes have occurred.

Fixed assets, Contracts in Progress and materials inventory may also change in value by having been held for several fiscal periods. These "holding" profits or losses are not recorded under the completed-contract method, and the assets remain on

\textsuperscript{6} Ibid.
the books at historical cost. When final disposition of an asset is made, the resulting profit or loss may be due in part or wholly to the holding of the asset. However, holding profits or losses are not normally set forth separately by use of this basis, but are included as part of operating profits or losses.

The format of a balance sheet for a long-term construction-type contractor is similar to that of a mercantile business, but with certain modifications. Accounts receivable, the contract price of those jobs completed less progress payments received, must distinguish between the amount currently due and the amount to be retained by the contract originator for a specified period of time. Also to be set aside in separate accounts are bid deposits, blueprint deposits and loans to sub-contractors.

The Contracts in Progress account contains the elements of cost (i.e., labor, material, overhead and sub-contract expense) accumulated on the incomplete jobs. As soon as a contract project is complete, or substantially so, as recommended by the Institute committee, the cumulative cost is removed from

7American Institute of Certified Public Accountants, Accounting Research Bulletin Number 45, op. cit., p. 6. It is the opinion of this committee that "an excess of accumulated costs over related billings should be shown in the balance sheet as a current asset, and an excess of accumulated billings over related costs should be shown among the liabilities, in most cases a current liability." This is the generally accepted method of handling the two items, though some accountants prefer to show total costs as an asset and total billings as a liability.

8Ibid., p. 5.
Contracts in Progress and the account receivable is recognized. Of course, billings previously made are deducted from the receivable recorded.

Other inventories reported on the balance sheet are materials, supplies and tools on hand and not yet charged to a specific project.

The remaining current assets, along with investments and fixed assets, are presented in the same manner as those of a typical mercantile enterprise.

Included among other or miscellaneous assets are such items as utility deposits, deposits for bonding purposes and receivables from bonding companies of the sub-contractors. These items are not usually receivable by the firm in the current operating period, and therefore are not considered current assets.

Many of the liabilities reported on the balance sheet retain their conventional meaning. Examples include accounts payable, notes payable, accrued liabilities, and mortgage payable. Some of the other liability titles are distinctive with the construction industry.

Among this latter group are included payables to subcontractors, both the amounts due currently and the amounts to be retained by the contractor for a specific period of time, and the excess of accumulated billings over related costs.⁹ In most cases, these

⁹Ibid., p. 0.
liabilities are classified as current, either due to their nature or to the insignificant dollar amount involved which makes further classification impractical.

The equity section of the contractor's balance sheet does not differ from the equity portion of any other balance sheet. The governing feature as to presentation continues to be the type of ownership organization; i.e., proprietorship, partnership, or corporation.

The balance sheet, like the income statement, must be supported by schedules which supply the details of the items listed. Unless the details are given, much of the meaningfulness of the statement is destroyed. A typical statement is presented in Chart 6 and certain supplementary schedules are given in Chart 7.
# A B Y Z Construction Company, Inc.

**Balance Sheet**  
**December 31, 1962**

## ASSETS

### Current Assets:
- Cash: $37,800
- Receivables:
  - Due on Completed Projects (Schedule 1): $30,000
  - Excess of Construction Cost over Related Billings (Schedule 4): $135,550
  - Bid on Blueprint Deposits: $10,000
  - Advance to Sub-Contractors (Schedule 2): $215,700
- Inventories of Materials, Tools, and Supplies (at cost): $28,320
- Prepaid Insurance: $10,500
- Supplies (Office): $5,080

**Total Current Assets:** $297,400

### Fixed Assets (Schedule 3):
- $277,500

### Other Assets:
- Utility Deposits not Currently Returnable: $1,800
- Deferred Period Costs: $4,000
- Cash Bonds not Currently Returnable: $15,000
- Due from DEX Bonding Company (disputed claim on subcontractor default of 1961; in litigation): $21,400

**Total Other Assets:** $42,200

**TOTAL ASSETS:** $617,100

## LIABILITIES

### Current Liabilities:
- Notes Payable: $40,000
- Accounts Payable (Schedule 5): $78,800
- Due to Subcontractors (Schedule 6): $76,050
- Accrued Liabilities (Schedule 7): $25,900
- Income Taxes Payable: $21,430

**Total Current Liabilities:** $242,180

### Long-Term Liabilities:
- Mortgage Payable: $112,000

**TOTAL LIABILITIES:** $354,180
## EQUITY

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock (7,500 shares of $10 par)</td>
<td>$75,000</td>
</tr>
<tr>
<td>Retained Earnings (Schedule 8)</td>
<td>187,920</td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>262,920</td>
</tr>
</tbody>
</table>

**TOTAL LIABILITIES AND EQUITY**

$617,100
A B Y Z Construction Company, Inc.
Schedules to the Balance Sheet
December 31, 1962

Schedule 1 - Receivables on Completed Contracts

<table>
<thead>
<tr>
<th>Job. No.</th>
<th>Customer</th>
<th>Contract Price</th>
<th>Payments Received</th>
<th>Balance Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Jones Brothers</td>
<td>$196,000</td>
<td>$186,500</td>
<td>$ 9,500</td>
</tr>
<tr>
<td>18</td>
<td>King Company</td>
<td>287,500</td>
<td>273,150</td>
<td>14,350</td>
</tr>
<tr>
<td>19</td>
<td>Linn Corporation</td>
<td>125,000</td>
<td>118,850</td>
<td>6,150</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>$608,500</td>
<td>$578,500</td>
<td>$ 30,000</td>
</tr>
</tbody>
</table>

Schedule 2 - Advances to Subcontractors

<table>
<thead>
<tr>
<th>Job. No.</th>
<th>Subcontractor</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Short Electric Company</td>
<td>$ 9,000</td>
</tr>
<tr>
<td>21</td>
<td>Digg Plumbing Company</td>
<td>4,670</td>
</tr>
<tr>
<td>22</td>
<td>Rugged Concrete Finishers</td>
<td>1,500</td>
</tr>
<tr>
<td>23</td>
<td>Rugged Concrete Finishers</td>
<td>2,700</td>
</tr>
<tr>
<td>23</td>
<td>Short Electric Company</td>
<td>12,000</td>
</tr>
<tr>
<td>23</td>
<td>Kleen Plumbers, Inc.</td>
<td>10,280</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$ 40,150</td>
</tr>
</tbody>
</table>

Schedule 3 - Fixed Assets

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Accumulated Depreciation</th>
<th>Net Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy-duty equipment</td>
<td>$345,000*</td>
<td>$194,400*</td>
<td>$150,600</td>
</tr>
<tr>
<td>Autos and trucks</td>
<td>183,000</td>
<td>92,150</td>
<td>90,850</td>
</tr>
<tr>
<td>Power tools</td>
<td>116,750</td>
<td>88,800</td>
<td>27,950</td>
</tr>
<tr>
<td>Office equipment</td>
<td>19,050</td>
<td>10,950</td>
<td>8,100</td>
</tr>
<tr>
<td>Totals</td>
<td>$663,800</td>
<td>$386,300</td>
<td>$277,500</td>
</tr>
</tbody>
</table>

*Covered by mortgage securing long-term equipment loan. All items are depreciated by the declining balance method except office equipment, which is depreciated at a composite rate of 7.5% per annum.
### Schedule 4 - Excess of Cost of Jobs in Progress Over Related Billings

<table>
<thead>
<tr>
<th>Description</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job. No.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer</strong></td>
<td>McInnis, Inc.</td>
<td>Note Company</td>
<td>Ping Corp.</td>
<td>RST, Inc.</td>
<td></td>
</tr>
<tr>
<td><strong>Estimated completion date</strong></td>
<td>3-15-63</td>
<td>9-8-63</td>
<td>4-27-63</td>
<td>2-14-64</td>
<td></td>
</tr>
<tr>
<td><strong>Amount of Contract</strong></td>
<td>$300,000</td>
<td>$657,000</td>
<td>$275,000</td>
<td>$963,000</td>
<td>$2,195,000</td>
</tr>
<tr>
<td><strong>Costs Incurred:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning of year</td>
<td>$27,000</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
<td>$27,000</td>
</tr>
<tr>
<td>During year</td>
<td>$173,000</td>
<td>$282,000</td>
<td>$153,000</td>
<td>$361,000</td>
<td>$969,000</td>
</tr>
<tr>
<td>Total</td>
<td>$200,000</td>
<td>$282,000</td>
<td>$153,000</td>
<td>$361,000</td>
<td>$996,000</td>
</tr>
<tr>
<td><strong>Estimated Cost to Complete</strong></td>
<td>50,000</td>
<td>302,000</td>
<td>98,000</td>
<td>477,000</td>
<td>927,000</td>
</tr>
<tr>
<td>Total</td>
<td>$250,000</td>
<td>$584,000</td>
<td>$251,000</td>
<td>$838,000</td>
<td>$1,923,000</td>
</tr>
<tr>
<td><strong>Estimated profit (loss) at completion</strong></td>
<td>$50,000</td>
<td>$73,000</td>
<td>$24,000</td>
<td>$125,000</td>
<td>$272,000</td>
</tr>
<tr>
<td><strong>Amounts billed</strong></td>
<td>$160,000</td>
<td>$275,000</td>
<td>$125,450</td>
<td>$300,000</td>
<td>$860,550</td>
</tr>
<tr>
<td><strong>Excess of costs incurred over related billings</strong></td>
<td>$40,000</td>
<td>$7,000</td>
<td>$27,550</td>
<td>$61,000</td>
<td>$135,550</td>
</tr>
<tr>
<td><strong>Uncollected portion of amounts billed:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due currently</td>
<td>$54,000</td>
<td>$63,000</td>
<td>$36,000</td>
<td>$207,000</td>
<td>$360,000</td>
</tr>
<tr>
<td>Retained - Due at contract completion</td>
<td>6,000</td>
<td>7,000</td>
<td>4,000</td>
<td>23,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Total</td>
<td>$60,000</td>
<td>$70,000</td>
<td>$40,000</td>
<td>$230,000</td>
<td>$400,000</td>
</tr>
</tbody>
</table>
Schedule 5 - Accounts Payable

Late-Lee Building Materials Company $31,380
On-The-Spot Concrete, Inc. 9,930
Diversified Steel Products 8,780
Local Supply Company 3,660
Knotle Lumber Company 9,440
Contractor Equipment Rental 7,440
Others (each less than $100) 8,170

Total $78,800

Schedule 6 - Due to Subcontractors

<table>
<thead>
<tr>
<th>Job. No.</th>
<th>Subcontractor</th>
<th>Due Currently</th>
<th>Retainage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>PQ Roofing Company</td>
<td>$3,610</td>
<td>$930</td>
</tr>
<tr>
<td>19</td>
<td>PQ Roofing Company</td>
<td>4,460</td>
<td>1,230</td>
</tr>
<tr>
<td>19</td>
<td>CDF Floorers, Inc.</td>
<td>2,070</td>
<td>230</td>
</tr>
<tr>
<td>20</td>
<td>Flash Electric Co.</td>
<td>6,830</td>
<td>1,580</td>
</tr>
<tr>
<td>21</td>
<td>MNO Plumbers</td>
<td>5,580</td>
<td>1,040</td>
</tr>
<tr>
<td>21</td>
<td>Speed Electric Co.</td>
<td>9,900</td>
<td>990</td>
</tr>
<tr>
<td>22</td>
<td>MNO Plumbers</td>
<td>7,750</td>
<td>1,950</td>
</tr>
<tr>
<td>23</td>
<td>MNO Plumbers</td>
<td>4,510</td>
<td>960</td>
</tr>
<tr>
<td>23</td>
<td>Flash Electric Co.</td>
<td>8,840</td>
<td>2,070</td>
</tr>
<tr>
<td>23</td>
<td>AB Concrete Company</td>
<td>9,750</td>
<td>1,770</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>$63,300</td>
<td>$12,750</td>
</tr>
</tbody>
</table>

Schedule 7 - Accrued Liabilities

Interest on notes payable $400
Interest on mortgage payable 2,900
Withheld from employees for taxes 13,750
Employer's payroll taxes 6,250
Workmen's compensation and liability insurance 2,300
Sales and use taxes 300

Total $25,900

Schedule 8 - Statement of Retained Earnings

Retained Earnings, January 1, 1962 $192,205
Add: Net income for year 32,145
Available for dividend declaration $224,350
Less: Dividends declared and paid 36,430
Retained Earnings, December 31, 1962 $187,920
Funds Statement. The funds statement, as one writer has stated, "can be characterized as a condensed report of how the activities of the business have been financed, and how the financial resources have been used, during the period covered by the statement." This quotation is as true for the long-term construction-type contractor as for any other enterprise. The funds statement is often referred to as the "where-got, where-gone" report.

Most of the data necessary to prepare a funds flow statement is derived from comparative balance sheets, with the net changes of the items being indicated. Some accounts, such as Retained Earnings, often have several important transactions involved and must be further analyzed. Certain information from the income statement is required, e.g., depreciation charges, amortization of intangibles, and amortization of deferred costs.

In order that the pertinent details may be visualized, the balance sheet of the AYZ Company for 1961 is presented in Chart 8. Following the balance sheet, in Chart 9, is a statement of changes in working capital for the year 1962. The latter statement is necessary to provide full disclosure of the movements of funds during the period. As stated by Mason, "The change in working capital should not be shown as a single item unless the changes in individual current assets and liabilities are immaterial." Such is often not the case.

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11 Ibid., p. 90.
Once comparative balance sheets are available along with the changes in working capital, the funds statement is prepared. A funds statement for the ABYZ Company for 1962 is illustrated in Chart 10.
**A B Y Z Construction Company, Inc.**

**Balance Sheet**

**December 31, 1961**

<table>
<thead>
<tr>
<th><strong>ASSETS</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets:</strong></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$40,200</td>
</tr>
<tr>
<td>Receivables:</td>
<td></td>
</tr>
<tr>
<td>Due on Completed Projects</td>
<td>$22,600</td>
</tr>
<tr>
<td>Excess of Construction Costs over Related Billings</td>
<td>143,760</td>
</tr>
<tr>
<td>Bid and Blueprint Deposits</td>
<td>10,000</td>
</tr>
<tr>
<td>Advance to Subcontractors</td>
<td>38,743</td>
</tr>
<tr>
<td>Inventories of Materials, Tools and Supplies (at cost)</td>
<td>29,600</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>9,300</td>
</tr>
<tr>
<td>Supplies (Office)</td>
<td>6,210</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>$300,413</td>
</tr>
<tr>
<td>Fixed Assets (net)</td>
<td>293,800</td>
</tr>
<tr>
<td><strong>Other Assets:</strong></td>
<td></td>
</tr>
<tr>
<td>Utility Deposits not Currently Returnable</td>
<td>$2,200</td>
</tr>
<tr>
<td>Deferred Period Costs</td>
<td>2,195</td>
</tr>
<tr>
<td>Cash Bonds not Currently Returnable</td>
<td>14,000</td>
</tr>
<tr>
<td>Due from DEX Bonding Company (disputed claim on subcontractor default of 1961 in litigation)</td>
<td>21,400</td>
</tr>
<tr>
<td><strong>Total Other Assets</strong></td>
<td>$39,795</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$634,008</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LIABILITIES</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Liabilities:</strong></td>
<td></td>
</tr>
<tr>
<td>Notes Payable</td>
<td>$45,000</td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>82,413</td>
</tr>
<tr>
<td>Due to Subcontractors</td>
<td>59,010</td>
</tr>
<tr>
<td>Income Taxes Payable</td>
<td>20,000</td>
</tr>
<tr>
<td>Accrued Liabilities</td>
<td>24,380</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>$230,803</td>
</tr>
<tr>
<td><strong>Long-Term Liabilities:</strong></td>
<td></td>
</tr>
<tr>
<td>Mortgage Payable</td>
<td>136,000</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>$366,803</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EQUITY</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock (7,500 shares of $10 par)</td>
<td>$75,000</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>192,205</td>
</tr>
<tr>
<td><strong>TOTAL EQUITY</strong></td>
<td>267,205</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES AND EQUITY</strong></td>
<td>$634,008</td>
</tr>
</tbody>
</table>
### Chart 9

**A B Y Z Construction Company, Inc.**  
**Schedule of Changes in Working Capital**  
**For the Year Ended December 31, 1962**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>1962</th>
<th>1961</th>
<th>Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$37,800</td>
<td>$40,200</td>
<td>($2,400)</td>
</tr>
<tr>
<td>Due on Completed Projects</td>
<td>30,000</td>
<td>22,600</td>
<td>7,400</td>
</tr>
<tr>
<td>Excess of Construction Costs over Related Billings</td>
<td>135,550</td>
<td>143,760</td>
<td>(8,210)</td>
</tr>
<tr>
<td>Bid and Blueprint Deposits</td>
<td>10,000</td>
<td>10,000</td>
<td>-0-</td>
</tr>
<tr>
<td>Advances to Subcontractors</td>
<td>40,150</td>
<td>38,743</td>
<td>1,407</td>
</tr>
<tr>
<td>Inventories of Materials, Tools and Supplies</td>
<td>28,320</td>
<td>29,600</td>
<td>(1,280)</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>10,500</td>
<td>9,300</td>
<td>1,200</td>
</tr>
<tr>
<td>Supplies (Office)</td>
<td>5,080</td>
<td>6,210</td>
<td>(1,130)</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>$297,400</td>
<td>$300,413</td>
<td>($3,013)</td>
</tr>
<tr>
<td>Notes Payable</td>
<td>$40,000</td>
<td>$45,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>78,800</td>
<td>82,413</td>
<td>3,613</td>
</tr>
<tr>
<td>Due to Subcontractors</td>
<td>76,050</td>
<td>79,010</td>
<td>2,960</td>
</tr>
<tr>
<td>Accrued Liabilities</td>
<td>25,900</td>
<td>24,380</td>
<td>(1,520)</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>$220,750</td>
<td>$230,803</td>
<td>$10,053</td>
</tr>
<tr>
<td>Working Capital</td>
<td>$76,650</td>
<td>$69,610</td>
<td>$7,040</td>
</tr>
</tbody>
</table>
**Chart 10**

**A B Y Z Construction Company, Inc.**

**Statement of Source and Application of Funds**

**For the Year Ended December 31, 1962**

**SOURCE:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>$65,425</td>
</tr>
<tr>
<td>Sale of Fixed Assets</td>
<td>5,000</td>
</tr>
<tr>
<td>Return of Utility Deposits classed in non-current category</td>
<td>600</td>
</tr>
<tr>
<td>Return of Cash Bonds classed in non-current category</td>
<td>3,000</td>
</tr>
<tr>
<td><strong>Total Funds Provided</strong></td>
<td>$74,025</td>
</tr>
</tbody>
</table>

**APPLICATIONS:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments on Mortgage</td>
<td>$24,000</td>
</tr>
<tr>
<td>Payments of Period Costs to be Deferred</td>
<td>16,785</td>
</tr>
<tr>
<td>Dividends Declared and Paid</td>
<td>15,000</td>
</tr>
<tr>
<td>Purchase of Fixed Assets</td>
<td>7,000</td>
</tr>
<tr>
<td>Payment of Cash Bonds not currently returnable</td>
<td>4,000</td>
</tr>
<tr>
<td>Payment of Utility Deposits not currently returnable</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total Funds Applied</strong></td>
<td>66,985</td>
</tr>
</tbody>
</table>

**Net Increase in Working Capital during Year**

$7,040

1 Operations composed of:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income for Year</td>
<td>$32,145</td>
</tr>
<tr>
<td>Non-Cash Expenses Deducted to Determine Net Income:</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$18,300</td>
</tr>
<tr>
<td>Period Cost Amortization</td>
<td>14,980</td>
</tr>
<tr>
<td><strong>Total Funds from Operations</strong></td>
<td>$65,425</td>
</tr>
</tbody>
</table>
**Percentage-of-Completion Basis Statements**

**Income Statement.** Preparation of an income statement under the auspices of this basis will reflect a portion of the revenue from most of the contracts completed during the fiscal period, as well as a portion of the revenue from the contracts on which work was performed but the contracts were not completed. The underlying concept is that revenue is earned as production progresses. The costs and expenses of the construction firm for the period, less deferred material, subcontract or period costs, and plus amortization of previously deferred costs are matched against revenue to determine the net income for the period.

An income statement prepared by application of the percentage-of-completion basis results in a proper matching of revenue with expired costs and expenses, and in the fiscal period when the revenue is earned. Thus, the concept of period accounting is fulfilled by this method, whereas it was not effected by the completed-contract basis.

For a correct matching of revenue and expenses to occur, it is often necessary that certain costs and expenses be deferred until a later accounting period. Examples include material, subcontract and period costs. The Institute Committee declared, "Costs as here used might exclude, especially during the early stages of a contract, all or a portion of the cost of such items as materials
and subcontracts if it appears that such an exclusion would result in a more meaningful periodic allocation of income."\textsuperscript{12}

Application of the percentage-of-completion method instead of the completed-contract basis does not produce an income statement using a stable unit of measurement. Since revenue is recognized each accounting period and most of the costs and expenses are assigned to the income statement in the period incurred, the price-level problem is of less importance in each accounting period than it is under the completed-contract basis. However, the problem is still prevalent.

If the contract price is to be paid in one payment at the completion of the project, it is unlikely that the purchasing power of revenue recognized currently will be the same as the purchasing power of the payment received several years hence. When the price level is rising, it is necessary to discount future receipts to determine future purchasing power of revenue currently recognized. The percentage-of-completion basis, unfortunately, does not call for such discounting, or for any other recognition of price-level changes.

The price-level problem is also present in deferred material, subcontract and period costs. The purchasing power of the monetary

\textsuperscript{12} American Institute of Certified Public Accountants, Accounting Research Bulletin Number 45, \textit{op. cit.}, p. 4.
unit probably changes from the time of payment to the time of recognizing the deferrals as expenses. Again, the change in purchasing power is ignored by the percentage-of-completion basis.

Similar to the completed-contract basis, the income statement prepared by application of the percentage-of-completion basis does not provide full disclosure. Price-level changes are not recognized, and neither are holding profits or losses. Partial disclosure is provided by reporting the basis utilized to recognize revenues, costs and expenses, and by preparing detailed supplementary schedules of the individual contracts. Still, it appears doubtful that the concept of disclosure as viewed by Moonitz is fulfilled: "Accounting reports should disclose that which is necessary to make them not misleading."

The income statement is usually rather condensed, with details shown in the supplementary schedules. A typical income statement, with supporting schedules, is shown in Charts 11, 12 and 13.

Balance Sheet. A marked improvement in the compliance with accounting postulates and principles is noted in the preparation of a contractor's balance sheet when the percentage-of-completion basis is utilized instead of the completed-contract basis. However, some defects remain which must be eliminated.

The concept of conservatism appears, to a larger extent, to have been returned to its rightful place as a counsel of caution.

13Moonitz, op. cit., p. 50.
Thus, assets and liabilities, along with the result of revenues earned and expenses incurred, are reported on the balance sheet at the end of the period in which their existence is determined. The Institute Committee clearly stated: "Under this method current assets may include costs and recognized income not yet billed, with respect to certain contracts; and liabilities, in most cases current liabilities, may include billings in excess of costs and recognized income with respect to other contracts."\(^{14}\)

The latter procedure, of course, is in variance with that of the completed-contract method, whereby "recognized income not yet billed" is not recorded on the balance sheet.

Period costs, for the most part, do not require deferral when the percentage-of-completion basis is applied. The few period costs which are deferred and amortized are not normally so material in amount as to affect the statement reader's judgment.

---

\(^{14}\) American Institute of Certified Public Accountants, Accounting Research Bulletin Number 45, op. cit., Pp. 4-5.
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Contract Revenue (Schedule A)</td>
<td>$1,252,565</td>
</tr>
<tr>
<td>Cost of Construction (Schedule A)</td>
<td>$1,075,548</td>
</tr>
<tr>
<td>Gross Profit on Construction Work Performed</td>
<td>$177,017</td>
</tr>
<tr>
<td>Operating Expenses:</td>
<td></td>
</tr>
<tr>
<td>Administrative (Schedule B)</td>
<td>$49,148</td>
</tr>
<tr>
<td>General (Schedule B)</td>
<td>$61,199</td>
</tr>
<tr>
<td>Total Operating Expenses</td>
<td>$110,347</td>
</tr>
<tr>
<td>Net Income Before Income Taxes</td>
<td>$66,670</td>
</tr>
<tr>
<td>Income Tax Provision (40%)</td>
<td>$26,680</td>
</tr>
<tr>
<td>Net Income to Retained Earnings</td>
<td>$39,990</td>
</tr>
</tbody>
</table>
### Schedule A to the Income Statement
For the Year Ended December 31, 1962

#### Description

<table>
<thead>
<tr>
<th>Job. No.</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Completion date</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3-15-63</td>
<td>9-8-63</td>
<td>4-27-63</td>
<td>2-14-64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of contract</td>
<td>$285,000</td>
<td>$196,000</td>
<td>$310,000</td>
<td>$287,500</td>
<td>$125,000</td>
<td>$300,000</td>
<td>$657,000</td>
<td>$275,000</td>
<td>$963,000</td>
<td>$3,398,500</td>
</tr>
<tr>
<td>Estimated percent of completion</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>80%</td>
<td>48.29%</td>
<td>60.96%</td>
<td>43.08%</td>
<td></td>
</tr>
<tr>
<td>Estimated amount of contract earned: Total</td>
<td>$285,000</td>
<td>$196,000</td>
<td>$310,000</td>
<td>$287,500</td>
<td>$125,000</td>
<td>$300,000</td>
<td>$657,000</td>
<td>$275,000</td>
<td>$963,000</td>
<td>$3,398,500</td>
</tr>
<tr>
<td>Earned in prior years</td>
<td>230,000</td>
<td>150,000</td>
<td>240,000</td>
<td>250,000</td>
<td>95,000</td>
<td>60,000</td>
<td>65,700</td>
<td>-0-</td>
<td>-0-</td>
<td>1,090,700</td>
</tr>
<tr>
<td>Earned in current year</td>
<td>55,000</td>
<td>46,000</td>
<td>70,000</td>
<td>37,500</td>
<td>30,000</td>
<td>180,000</td>
<td>251,565</td>
<td>167,640</td>
<td>414,860</td>
<td>1,252,565</td>
</tr>
<tr>
<td>Costs Incurred in Current Year</td>
<td>47,500</td>
<td>50,000</td>
<td>58,600</td>
<td>32,300</td>
<td>30,000</td>
<td>167,000</td>
<td>197,600</td>
<td>317,568</td>
<td>1,075,548</td>
<td></td>
</tr>
<tr>
<td>Current Year Profit (or Loss)</td>
<td>$ 7,500</td>
<td>($ 4,000)</td>
<td>$ 11,400</td>
<td>$ 5,200</td>
<td>-0-</td>
<td>$ 13,000</td>
<td>$ 53,965</td>
<td>($ 7,340)</td>
<td>$ 97,242</td>
<td>$ 177,017</td>
</tr>
<tr>
<td>Amounts billed</td>
<td>$285,000</td>
<td>$196,000</td>
<td>$310,000</td>
<td>$287,500</td>
<td>$125,000</td>
<td>$220,000</td>
<td>$275,000</td>
<td>$155,650</td>
<td>$590,000</td>
<td>$2,243,950</td>
</tr>
<tr>
<td>Excess of: Estimated amount of contract earned over amounts billed and billable</td>
<td>$ 20,000</td>
<td>$ 42,265</td>
<td>$ 12,190</td>
<td>$ 24,860</td>
<td>$ 99,315</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncollected portion of amounts billed: Due currently</td>
<td>$ 10,000</td>
<td>$ 4,000</td>
<td>$ 30,000</td>
<td>$ 12,581</td>
<td>$ 7,000</td>
<td>$ 63,581</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained-due at contract acceptance</td>
<td>$ 31,000</td>
<td>12,500</td>
<td>22,000</td>
<td>27,500</td>
<td>12,545</td>
<td>30,000</td>
<td>135,545</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$ 31,000</td>
<td>$ 22,500</td>
<td>$ 26,060</td>
<td>$ 57,500</td>
<td>$ 25,126</td>
<td>$ 37,000</td>
<td>$ 199,126</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Administrative Expenses</td>
<td>General Expenses</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------</td>
<td>------------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>$36,000</td>
<td>$42,000</td>
<td>$78,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td>1,500</td>
<td>1,500</td>
<td>3,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repairs and maintenance</td>
<td>300</td>
<td>250</td>
<td>550</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile expense</td>
<td>3,780</td>
<td>2,600</td>
<td>6,380</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>1,500</td>
<td>1,800</td>
<td>3,300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office supplies</td>
<td>560</td>
<td>400</td>
<td>960</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone and telegraph</td>
<td>518</td>
<td>406</td>
<td>924</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>4,500</td>
<td>2,764</td>
<td>7,264</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>370</td>
<td>210</td>
<td>580</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance-other than payroll</td>
<td>1,290</td>
<td>1,290</td>
<td>1,290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td>4,400</td>
<td>4,400</td>
<td>4,400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>1,300</td>
<td>1,300</td>
<td>1,300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad debts</td>
<td>319</td>
<td>319</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal and auditing</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Miscellaneous</td>
<td>120</td>
<td>460</td>
<td>580</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$49,148</strong></td>
<td><strong>$61,199</strong></td>
<td><strong>$110,347</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
While the concept of disclosure is fulfilled insofar as recognition of receivables is involved, many pertinent facts remain undisclosed. The balance sheet fails to reflect changes in owner's equity brought about by price-level changes. Accounts for fixed assets and long-term liabilities reflect dollar values of other fiscal periods, which often do not correspond to dollar values of the current period. Changes in the purchasing power of the monetary unit are ignored, and the account balance is removed from the ledger at historical cost when final disposition of the item occurs. Should a gain or loss occur, the computation is derived by a comparison of historical costs with revenue earned or with a decrease in liabilities. The gain or loss, in terms of purchasing power, is therefore misstated if price-level changes have occurred.

Many of the fixed assets may also change in value over a period of time, resulting in profits or losses due only to the physical possession of the asset. Such "holding" profits or losses are not recorded when the percentage-of-completion basis is applied, and the assets are continued in the accounts at historical cost. Upon final disposition of an asset, the resulting profit may be caused in part or completely by the holding of the asset. However, profits or losses of this type are not set forth separately under the percentage-of-completion basis, but are combined with price-level changes and operating profits or losses to give a "gain or loss upon disposition of fixed assets."
The format of the balance sheet is approximately the same as the one presented under the completed-contract basis. Under the receivable section of the current assets, the listing "Excess of Construction Cost over Related Billings" would be changed to "Excess of Construction Costs and Recognized Income Not Yet Billed Over Related Billings."\(^{15}\) If the related billings on any contract are larger than the cost and recognized income not billed, the difference is normally shown as a current liability.\(^{16}\) The schedule supporting this portion of the balance sheet would also be modified to reflect recognized income which has not been billed to the customers.

Other than the changes noted above, the balance sheet and its supporting schedules are arranged in the same manner as those presented under the completed-contract basis. For this reason, it is not deemed necessary to illustrate the balance sheet and schedules anew.

**Funds Statement.** The same argument is presented for the funds statement. With the exception of a different amount of "net income from operations" and a different "net change in funds" than if the completed-contract basis was applied, the funds statement is similar in preparation and presentation to the one shown in Chart 10 above. Thus, it appears unnecessary to illustrate the statement once more.

\(^{15}\)Ibid.

\(^{16}\)Ibid.
Accrual Basis Statements

The financial statements prepared by application of this concept are, as a beginning, the same as those provided by utilization of the percentage-of-completion basis. Additional information is shown, however, for the purpose of separating price-level components and holding profits or losses from each other and from operating income or loss.

Such statements are designed to give full disclosure of all pertinent information affecting the reader's judgment. An accurate report on the stewardship of management must separate those areas over which control cannot be directly exercised, i.e., price-level changes and holding profits or losses, from the area where management is responsible. The latter area, of course, is the result of operating the firm for a specific period of time.

Income Statement. A starting point in the preparation of the income statement is to convert the income recognized but not currently receivable into dollar-values at the time of expected receipt. The problem of price-level changes is especially prevalent in cases of lump-sum payments at the completion of a contract. However, the adjustment appears equally necessary in cases where revenue recognized is not receivable for several months or years.

For purposes of illustration, the income statement and supporting schedules appearing in Charts 11, 12 and 13 will be used. This statement and the schedules are prepared by the application of historical costs, and the assumption is made that progress payments are to be received by the contractor at specified intervals during the projects.
By referring to Chart 12, it is determined that $99,315 in revenue has been recognized which cannot be currently billed, due to contract provisions. However, the amounts due on Jobs 20 and 22 apparently can be billed within two or three months and may not need price-level adjustment. But judging by the estimated completion date, it may be six or more months before billings are allowed on Jobs 21 and 23. Upon investigation, it is determined that the $42,265 for Job 21 will be billed about July 1, and the $24,860 for Job 23 will be billed about September 1. The price level is expected to increase .8 per cent by July 1 and .95 per cent by September 1. Thus, it becomes necessary to decrease the revenue recognized and not billed to dollar values at the time of receipt. Assuming the current date equal to 100 per cent, the $42,265 is divided by 100.8 and the $24,860 by 100.95, yielding $41,930 and $24,626 respectively. Thus, the two contracts will yield $569 less in purchasing power than is traditionally shown on the statements.

Balance Sheet. In addition, construction costs incurred on incomplete jobs several months or years prior to the statement date represent a greater sacrifice of purchasing power than is indicated by the statement (assuming a rising price-level). Construction costs must be adjusted to reflect current-dollar values. For illustrative purposes, it is assumed that the price level has increased and that a net adjustment of $1,250
to construction costs is necessary to convert historical costs to current-dollar values.

The same price-level problem as was noted on the "Recognized Income Not Yet Billed" may be found in "Advances to Subcontractor." If these advances are not due for several months and the amounts involved are large enough to affect a reader's judgment, then a price-level adjustment is in order. As an assumption, $25,000 of the advances are due in January and early February, with the remainder having an average due date of July 1. Unless the price level fluctuates rapidly with rather emphatic changes, it is not likely that an adjustment of the $25,000 will be profitable. For the remainder, however, an adjustment may be needed. Having already determined that the price-level will increase .8 per cent by July 1, $15,150 is divided by 100.8 to yield $15,030 or a price-level adjustment of $120. This adjustment alone is not important and, depending upon the accountant's judgment, might be omitted. However, the danger in such an omission is the cumulative result of a number of small items. For purposes of this paper, the adjustment is made.

If period costs have been deferred in past years, and are being recognized as expenses in the current period, it is necessary to convert these expenses into current-dollar values. Assuming a rising price level, the period costs will be increased by the amount of change in the price level since the expenditures for
the period costs were made. Such an adjustment will enable the income statement to show the correct decrease in purchasing power. Examples of these items are insurance expense, amortization of patents and subcontract expense.

The remaining items listed as other assets present the same problem. Each one represents an expenditure of cash or a receivable recorded in the current year or in a prior year. By their classification, it is not expected that any of these items will be realized in cash in the next fiscal period. If the price level continues to rise, the purchasing power of each one is overstated. Since the cash realization date is uncertain, a compromise appears in order, stating each of the assets at estimated dollar values as of the end of the next fiscal period. This is not accurate, but may be the only solution possible if the cash realization date of the assets is not determinable. Certainly, some adjustment is in order.

The inventories of tools and supplies are not normally held for more than a few months and do not usually require adjustment for price-level changes. Should the tools or supplies be held for more than a few months, and if the dollar amount is material, historical cost must be converted into current-period dollars.

Many contractors purchase all the materials for a contract at the beginning of the project, even though some of the materials may not enter into construction until several fiscal periods hence. Materials on hand may be carried on the books for several accounting periods. The materials must be expressed in current-year dollars,
so that an accurate calculation of purchasing power expended (in terms of materials entered into process) can be made. When the price level increases, the material inventory will be increased to reflect current-year dollars.

In regards to the inventory of materials, tools and supplies, profits or losses occur due to the physical possession of inventory for several fiscal periods. Called "holding" profits or losses, the determination is made by comparing current replacement cost with historical cost adjusted for price-level changes. Sprouse and Moonitz advocate the use of net realizable value, where known, in lieu of replacement cost. The contractor, applying this concept, must be able to ascertain the total mark-up on inventory which he expects to apply as a portion of contract profit. With the mark-up added, the inventory is expressed at net realizable value. If the mark-up cannot be determined accurately, then replacement cost is assumed.

The depreciation of fixed assets is usually based on historical costs of the assets. However, if depreciation is to measure the sacrifice in purchasing power assigned to a specific accounting period, the assets involved must reflect purchasing power. The reflection of purchasing power calls for recognition of changes in the price level, as well as changes in the market value of the assets.

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\[17\] Sprouse and Moonitz, \textit{op. cit.}, p. 57.
As in the case of the inventory, the first step is to adjust for price-level changes since the acquisition of the assets. After the price-level change is recognized, the adjusted historical cost figure is compared with replacement cost to compute the holding profit or loss.

The problem arises, however, of determining replacement cost of the fixed assets. It is often necessary to resort to appraisal, an expensive and often inaccurate procedure. For these reasons, Sprouse and Moonitz declare: "In the external reports, plant and equipment should be restated in terms of current replacement costs whenever some significant event occurs .... Even in the absence of a significant event, the accounts could be restated at periodic intervals, perhaps every five years." 18 While this criteria is a very arbitrary selection of a time interval, it is preferable to no recognition of replacement cost. The five-year interval between appraisals is also suggested by Edwards and Bell for complex assets, but they suggest that, "For most assets which do not have a current market purchase value, however, it should be feasible to estimate current values on the basis of one or another of various price indexes...." 19 The latter approach appears realistic to this writer. Depreciation computed on the adjusted amounts usually differs significantly from depreciation based on historical cost.

18 Ibid.
In the area of liabilities, it is wise to consider accrued liabilities and the expenses to which they relate. If these liabilities are due soon after the next fiscal period begins, no adjustment for price-level changes should be needed. However, if some of the accrued liabilities are due several months hence and are of significant dollar amount to affect the reader's judgment, a price-level adjustment is required. The procedure is similar to that used for contractor's revenue earlier in the chapter.

Often a price-level adjustment for the income tax liability is in order. The amount involved is usually large enough to affect a reader's judgment, and taxes are not payable for more than two months after the fiscal period ends (more than three months in the case of individuals). A small change in the price level applied to the large dollar amount involved in taxes can cause a significant adjustment, even for this short period of time. The mechanics again are similar to those applied to the contractor's revenue.

Long-term liabilities present a difficult problem in the recognition of price-level changes. For example, the contractor has a mortgage payable which is being retired by payments for the next thirty years. Each year the price level will probably be different. And to forecast the price level thirty years hence is not realistic. However, neither is it realistic to
show a mortgage requiring a specified sacrifice of purchasing power for retirement, when that amount is undoubtedly incorrect. Thus, the estimate of price level may be the lesser of the evils.

Usually a trend is developed for prior years and the current year in order to prognosticate for the future. With many years involved, the accountant may find it simpler to use a weighted average of the time period. A new estimate should be made each year in order to present the data in view of the most recent information.

Many accountants refuse to discount liabilities due in future years, relying on a historical cost basis instead. Again, the concept of conservatism rears its head. If price-level changes are recognized for assets, why not for liabilities?

Interest payments on the mortgage should be treated in the same manner as the mortgages, recognition being given to the changes in purchasing power of fixed-amount payments to be made in later years.

While other items may have an effect on the reliability of the contractor's statements, those mentioned above are the most prevalent ones affecting price-level changes and holding profits or losses.

Presented in Charts 14 through 19 are statements and schedules for the ABYZ Company in which price-level changes and holding profits or losses are recognized. In Schedule B to the income statement, only those items which are affected by price-level
changes and replacement cost valuation are shown. The reader is
directed to Chart 13 for the remaining items. Most of the schedules
accompanying the balance sheet are easily prepared and are omitted.
It is deemed necessary to show the schedule of fixed assets and
the statement of retained earnings appearing in Chart 17.

In the opinion of this writer, the statements presented under
the accrual basis are much more informative and useful than those
statements previously discussed. As an example, the income state­
ment presented in Chart 14 shows the net income figure typically
given is overstated (in this case) by $5,182 if net income is
deemed to mean a purchasing power increase. This is an overstatement
of 14.89 per cent when based on the net income reflecting purchasing
power and current costs. Such a distortion is not readily discern­
able to the readers of statements based on historical costs; yet,
such a distortion will probably mislead the reader of the state­
ments regarding the earning power and financial condition of the
enterprise.
A B Y Z Construction Company, Inc.
Income Statement
For the Year ended December 31, 1963

<table>
<thead>
<tr>
<th></th>
<th>Historical Costs</th>
<th>After Price-Level Adjustment</th>
<th>After Price-Level Adjustment and with Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Contract Revenue (Schedule A)*</td>
<td>$1,252,565</td>
<td>$1,251,994</td>
<td>$1,251,994</td>
</tr>
<tr>
<td>Costs of Construction (Schedule A)*</td>
<td>1,075,548</td>
<td>1,076,798</td>
<td>1,076,377</td>
</tr>
<tr>
<td>Gross Profit on Construction Work Performed</td>
<td>$177,017</td>
<td>$175,196</td>
<td>$175,617</td>
</tr>
<tr>
<td>Operating Expenses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative (Schedule B)</td>
<td>$49,148</td>
<td>$49,391</td>
<td>$49,448</td>
</tr>
<tr>
<td>General (Schedule B)</td>
<td>61,199</td>
<td>61,599</td>
<td>61,572</td>
</tr>
<tr>
<td>Total Operating Expenses</td>
<td>110,347</td>
<td>110,905</td>
<td>111,020</td>
</tr>
<tr>
<td>Net Income Before Income Taxes</td>
<td>$66,670</td>
<td>$64,291</td>
<td>$64,597</td>
</tr>
<tr>
<td>Income Tax Provision (40%)</td>
<td>26,660</td>
<td>25,716</td>
<td>25,839</td>
</tr>
<tr>
<td>Net Income after Taxes</td>
<td>$39,990</td>
<td>$38,575</td>
<td>$38,758</td>
</tr>
<tr>
<td>Profits from Use of Replacement Costs and not previously recognized (see balance sheet)</td>
<td>$10,084</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less: Income Tax Provision (40%)</td>
<td>4,033</td>
<td>6,051</td>
<td>6,551</td>
</tr>
<tr>
<td>Net Income from Holding Profits and Operations</td>
<td>$44,809</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less: Holding Profits Recognized in Prior Periods (see 1961 balance sheet)</td>
<td></td>
<td></td>
<td>10,001</td>
</tr>
<tr>
<td>Net Income to Retained Earnings</td>
<td>$39,990</td>
<td>$38,575</td>
<td>$34,808</td>
</tr>
</tbody>
</table>

*Schedule A, similar to the one shown in Chart 12, is not shown here. The reader is referred to the descriptive material prior to presentation of these statements for analysis of the items that would appear in Schedule A.
Chart 15

A B Y Z Construction Company, Inc.
Schedule B* to the Income Statement
For the Year Ended December 13, 1962

<table>
<thead>
<tr>
<th>Item</th>
<th>Administrative Expenses</th>
<th>General Expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>After</td>
<td>After</td>
<td>After</td>
</tr>
<tr>
<td></td>
<td>Historical Level Costs</td>
<td>Cost</td>
<td>Cost</td>
</tr>
<tr>
<td></td>
<td>Adj. Costs</td>
<td>Cost</td>
<td>Cost</td>
</tr>
<tr>
<td></td>
<td>Replacement Costs</td>
<td>Cost</td>
<td>Cost</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$ 1,500 $ 1,748 $ 1,800</td>
<td>$ 1,800 $ 2,097 $ 2,160</td>
<td>$ 3,300 $ 3,845</td>
</tr>
<tr>
<td>Insurance-other than</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>payroll</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,290 1,303</td>
<td>1,303</td>
</tr>
<tr>
<td>Totals*</td>
<td>$49,148 $49,396 $49,448</td>
<td>$61,199 $61,509 $61,572</td>
<td>$110,347 $110,905</td>
</tr>
</tbody>
</table>

*Abbreviated schedule. The reader is referred to Chart 13 for the additional accounts with their balances. Unless listed in the current chart, the account balance does not need to be adjusted for price-level changes or replacement costs.
Chart 16  
A B Y Z Construction Company, Inc.  
Balance Sheet, December 31, 1962

<table>
<thead>
<tr>
<th>Description</th>
<th>Historical Costs</th>
<th>After Price-Level Adjustments</th>
<th>After Price-Level Adjustments and Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CURRENT ASSETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$ 37,800</td>
<td>$ 37,800</td>
<td>$ 37,800</td>
</tr>
<tr>
<td>Receivables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due on Completed Projects (Chart 12)</td>
<td>$ 53,500</td>
<td>$ 53,500</td>
<td>$ 53,500</td>
</tr>
<tr>
<td>Due on Incomplete Projects (Chart 12)</td>
<td>145,626</td>
<td>145,626</td>
<td>145,626</td>
</tr>
<tr>
<td>Excess of Construction Costs and Recognized Income Not Yet Billed Over Related Billings (Chart 12)</td>
<td>99,315</td>
<td>99,996</td>
<td>99,996</td>
</tr>
<tr>
<td>Bid and Blueprint Deposits</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Advances to Subcontractors</td>
<td>40,150</td>
<td>348,591</td>
<td>40,030</td>
</tr>
<tr>
<td>Inventories of Materials, Tools and Supplies</td>
<td>28,320</td>
<td>29,020</td>
<td>29,910</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>10,500</td>
<td>10,500</td>
<td>10,500</td>
</tr>
<tr>
<td>Supplies (Office)</td>
<td>5,080</td>
<td>5,080</td>
<td>5,080</td>
</tr>
<tr>
<td>Total Current Assets</td>
<td>$430,291</td>
<td>$431,552</td>
<td>$432,442</td>
</tr>
<tr>
<td><strong>FIXED ASSETS (net)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/utility Deposits not Currently Returnable</td>
<td>$ 1,800</td>
<td>$ 1,782</td>
<td>$ 1,782</td>
</tr>
<tr>
<td>Deferred Period Costs</td>
<td>595</td>
<td>589</td>
<td>589</td>
</tr>
<tr>
<td>Cash Bonds not Currently Returnable</td>
<td>15,000</td>
<td>14,851</td>
<td>14,851</td>
</tr>
<tr>
<td>Due from DEX Bonding Company (disputed claim on subcontractor default during 1961; in litigation)</td>
<td>21,400</td>
<td>21,188</td>
<td>21,188</td>
</tr>
<tr>
<td>Total Other Assets</td>
<td>38,795</td>
<td>38,410</td>
<td>38,410</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$746,586</td>
<td>$792,462</td>
<td>$802,852</td>
</tr>
</tbody>
</table>
### Chart 16 (Continued)

<table>
<thead>
<tr>
<th>Description</th>
<th>Historical Costs</th>
<th>After Price-Level Adjustments</th>
<th>After Price-Level Adjustments and Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIABILITIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes Payable</td>
<td>$40,000</td>
<td>$40,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>78,800</td>
<td>78,800</td>
<td>78,800</td>
</tr>
<tr>
<td>Due to Subcontractors</td>
<td>76,050</td>
<td>76,050</td>
<td>76,050</td>
</tr>
<tr>
<td>Income Taxes Payable</td>
<td>26,680</td>
<td>25,716</td>
<td>29,872&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Accrued Liabilities</td>
<td>25,900</td>
<td>25,848</td>
<td>25,848</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td><strong>$247,430</strong></td>
<td><strong>$246,414</strong></td>
<td><strong>$250,570</strong></td>
</tr>
<tr>
<td><strong>Long-term Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortgage Payable</td>
<td><strong>112,000</strong></td>
<td><strong>106,667</strong></td>
<td><strong>106,667</strong></td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td><strong>$359,430</strong></td>
<td><strong>$353,081</strong></td>
<td><strong>$357,237</strong></td>
</tr>
<tr>
<td><strong>EQUITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Stock (17,500 shares of $10 par)</td>
<td>$175,000</td>
<td>$175,000</td>
<td>$175,000</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>212,156</td>
<td>210,741</td>
<td>216,975</td>
</tr>
<tr>
<td><strong>Appraisal Capital Arising from Price-Level Adjustments</strong></td>
<td><strong>53,640</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td><strong>53,640</strong></td>
<td><strong>53,640</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>TOTAL EQUITY</strong></td>
<td><strong>$387,156</strong></td>
<td><strong>$439,381</strong></td>
<td><strong>$445,615</strong></td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES AND EQUITY</strong></td>
<td><strong>$746,586</strong></td>
<td><strong>$792,462</strong></td>
<td><strong>$802,852</strong></td>
</tr>
</tbody>
</table>

<sup>a</sup> The appraisal capital is computed by comparison of the assets and liabilities before and after price-level adjustment, plus the decrease in net income of $1,415 due to price-level changes.

<sup>b</sup> $4,156 of this amount pertains to holding profits and is not currently payable to tax authorities.
## A B Y Z Construction Company, Inc.
### Schedules to the Balance Sheet
#### December 31, 1962

### Schedule 1 - Fixed Assets

<table>
<thead>
<tr>
<th>Item</th>
<th>Historical Cost</th>
<th>Accumulated Depreciation**</th>
<th>Net</th>
<th>After Price-Level Adjustment</th>
<th>Accumulated Depreciation</th>
<th>Net</th>
<th>After Price-Level Adjustment, with Use of Replacement Cost</th>
<th>Accumulated Depreciation</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Duty Equipment*</td>
<td>$345,000</td>
<td>$194,400</td>
<td>$150,600</td>
<td>$400,945</td>
<td>$225,924</td>
<td>$175,021</td>
<td>$412,753</td>
<td>$232,575</td>
<td>$180,178</td>
</tr>
<tr>
<td>Autos and trucks</td>
<td>183,000</td>
<td>92,150</td>
<td>90,850</td>
<td>212,675</td>
<td>107,093</td>
<td>105,582</td>
<td>218,938</td>
<td>110,247</td>
<td>108,691</td>
</tr>
<tr>
<td>Power tools</td>
<td>116,750</td>
<td>88,800</td>
<td>27,950</td>
<td>135,682</td>
<td>103,199</td>
<td>32,483</td>
<td>139,678</td>
<td>106,238</td>
<td>33,440</td>
</tr>
<tr>
<td>Office equipment</td>
<td>19,050</td>
<td>10,950</td>
<td>8,100</td>
<td>22,139</td>
<td>12,725</td>
<td>9,414</td>
<td>22,791</td>
<td>13,100</td>
<td>9,691</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>$663,800</td>
<td>$386,300</td>
<td>$277,500</td>
<td>$771,441</td>
<td>$448,941</td>
<td>$322,500</td>
<td>$794,160</td>
<td>$462,160</td>
<td>$332,000</td>
</tr>
</tbody>
</table>

*Covered by mortgage securing long-term equipment loan.

**All items are being depreciated by the declining balance method except office equipment, which is being depreciated at a composite rate of 7.5 per cent per annum.

### Schedule 2 - Statement of Retained Earnings

<table>
<thead>
<tr>
<th></th>
<th>Historical Cost</th>
<th>After Price-Level Adjustment</th>
<th>After Price-Level Adjustment and with Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance, January 1, 1962</td>
<td>$192,475</td>
<td>$192,475</td>
<td>$202,476</td>
</tr>
<tr>
<td>Add: Net income for year</td>
<td>39,990</td>
<td>38,575</td>
<td>34,808</td>
</tr>
<tr>
<td>Available for dividend declaration</td>
<td>$232,465</td>
<td>$231,050</td>
<td>$237,284</td>
</tr>
<tr>
<td>Less: Dividends declared and paid</td>
<td>20,309</td>
<td>20,309</td>
<td>20,309</td>
</tr>
<tr>
<td>Balance, December 31, 1962</td>
<td>$212,156</td>
<td>$210,741</td>
<td>$216,975</td>
</tr>
<tr>
<td>Description</td>
<td>Historical</td>
<td>After Price-Level Adjustments</td>
<td>After Price-Level Adjustments and Use of Replacement Costs</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Assets:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$ 40,200</td>
<td>$ 40,200</td>
<td>$ 40,200</td>
</tr>
<tr>
<td>Receivables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due on Completed Projects</td>
<td>$ 22,600</td>
<td>$ 22,600</td>
<td>$ 22,600</td>
</tr>
<tr>
<td>Due on Incomplete Projects</td>
<td>87,000</td>
<td>87,000</td>
<td>87,000</td>
</tr>
<tr>
<td>Excess of Construction Costs and Recognized Income over Related Billings</td>
<td>108,900</td>
<td>109,640</td>
<td>109,640</td>
</tr>
<tr>
<td>Bid and Blueprint Deposits</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Advances to Subcontractors</td>
<td>38,743</td>
<td>267,243</td>
<td>38,627</td>
</tr>
<tr>
<td><strong>Inventories of Materials, Tools and Supplies</strong></td>
<td>29,600</td>
<td>30,331</td>
<td>30,800</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>9,300</td>
<td>9,300</td>
<td>9,300</td>
</tr>
<tr>
<td>Supplies (Office)</td>
<td>6,210</td>
<td>6,210</td>
<td>6,210</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>$352,553</td>
<td>$353,908</td>
<td>$354,377</td>
</tr>
<tr>
<td><strong>Fixed Assets (net)</strong></td>
<td>293,800</td>
<td>333,800</td>
<td>350,000</td>
</tr>
<tr>
<td><strong>Other Assets:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Deposits not Currently Returnable</td>
<td>$ 2,200</td>
<td>$ 2,183</td>
<td>$ 2,183</td>
</tr>
<tr>
<td>Deferred Period Costs</td>
<td>195</td>
<td>193</td>
<td>193</td>
</tr>
<tr>
<td>Cash Bonds not Currently Returnable</td>
<td>14,000</td>
<td>13,889</td>
<td>13,889</td>
</tr>
<tr>
<td>Due from DEX Bonding Company (disputed claim on subcontractor default during 1961; in litigation)</td>
<td>21,400</td>
<td>21,230</td>
<td>21,230</td>
</tr>
<tr>
<td><strong>Total Other Assets</strong></td>
<td>37,795</td>
<td>37,495</td>
<td>37,495</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$684,148</td>
<td>$725,203</td>
<td>$741,872</td>
</tr>
<tr>
<td>Description</td>
<td>Historical Costs</td>
<td>After Price-Level Adjustments</td>
<td>After Price-Level Adjustments and Use of Replacement Costs</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------</td>
<td>-------------------------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>LIABILITIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes Payable</td>
<td>$ 45,000</td>
<td>$ 45,000</td>
<td>$ 45,000</td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>82,143</td>
<td>82,143</td>
<td>82,143</td>
</tr>
<tr>
<td>Due to Subcontractors</td>
<td>79,010</td>
<td>79,010</td>
<td>79,010</td>
</tr>
<tr>
<td>Income Taxes Payable</td>
<td>20,140</td>
<td>20,100</td>
<td>26,768</td>
</tr>
<tr>
<td>Accrued Liabilities</td>
<td>24,380</td>
<td>24,341</td>
<td>24,341</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>$250,673</td>
<td>$250,594</td>
<td>$257,262</td>
</tr>
<tr>
<td><strong>Long-term Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortgage Payable</td>
<td>116,000</td>
<td>110,476</td>
<td>110,476</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>$366,673</td>
<td>$361,070</td>
<td>$367,738</td>
</tr>
<tr>
<td><strong>EQUITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Stock (12,500 shares of $10 par)</td>
<td>$125,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>192,475</td>
<td>192,475</td>
<td>202,476</td>
</tr>
<tr>
<td>Appraisal Capital Arising from Price-Level Adjustments</td>
<td></td>
<td>46,658</td>
<td>46,658</td>
</tr>
<tr>
<td><strong>TOTAL EQUITY</strong></td>
<td>$317,475</td>
<td>$364,133</td>
<td>$374,134</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES AND EQUITY</strong></td>
<td>$684,148</td>
<td>$725,203</td>
<td>$741,872</td>
</tr>
</tbody>
</table>
A B Y Z Construction Company, Inc.  
Statement of Source and Application of Funds  
For the Year ended December 31, 1962

<table>
<thead>
<tr>
<th>Source:</th>
<th>Historical Costs</th>
<th>After Price-Level Adjustments</th>
<th>After Price-Level Adjustments and Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>$56,290</td>
<td>$49,875</td>
<td>$52,808</td>
</tr>
<tr>
<td>Sales of common stock at par</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Return of non-current utility deposits</td>
<td>400</td>
<td>401</td>
<td>401</td>
</tr>
<tr>
<td>Recognized through price-level adjustments</td>
<td></td>
<td>7,024</td>
<td>7,024</td>
</tr>
<tr>
<td><strong>Total Funds Provided</strong></td>
<td><strong>$106,690</strong></td>
<td><strong>$107,300</strong></td>
<td><strong>$110,233</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application:</th>
<th>Historical Costs</th>
<th>After Price-Level Adjustments</th>
<th>After Price-Level Adjustments and Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration and payment of dividends</td>
<td>$20,309</td>
<td>$20,309</td>
<td>$20,309</td>
</tr>
<tr>
<td>Payment on long-term mortgages</td>
<td>4,000</td>
<td>3,809</td>
<td>3,809</td>
</tr>
<tr>
<td>Increase in amount of cash bonds - not currently returnable</td>
<td>1,000</td>
<td>962</td>
<td>962</td>
</tr>
<tr>
<td>Payment of period costs to be deferred</td>
<td>400</td>
<td>396</td>
<td>396</td>
</tr>
<tr>
<td><strong>Total Funds Applied</strong></td>
<td><strong>25,709</strong></td>
<td><strong>25,476</strong></td>
<td><strong>25,476</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Increase in Working Capital (Funds) during year</th>
<th>Historical Costs</th>
<th>After Price-Level Adjustments</th>
<th>After Price-Level Adjustments and Use of Replacement Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Net Income After taxes</td>
<td>$39,990</td>
<td>$38,755</td>
<td>$34,808</td>
</tr>
<tr>
<td>Depreciation charged - to be added back</td>
<td>16,300</td>
<td>11,300</td>
<td>18,000</td>
</tr>
<tr>
<td><strong>Total Provided by Operations</strong></td>
<td><strong>$56,290</strong></td>
<td><strong>$49,875</strong></td>
<td><strong>$52,803</strong></td>
</tr>
<tr>
<td>(b) Appraisal Capital Increase</td>
<td>$6,982</td>
<td>$6,982</td>
<td>$6,982</td>
</tr>
<tr>
<td>Decrease in Deferred Asset-Due from DEX Bonding Co.</td>
<td>42</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$7,024</strong></td>
<td><strong>$7,024</strong></td>
<td><strong>$7,024</strong></td>
</tr>
</tbody>
</table>
While detailed reports similar to those illustrated above are often prepared for use within the company, it is important that the published reports to stockholders and potential investors also reflect price-level changes and holding profits or losses. A realistic picture of the firm is not obtainable otherwise.
Summary

In the current chapter the primary financial statements of a long-term construction-type contractor have been examined under each of the bases of revenue recognition. Examples have been formulated to illustrate the postulates and principles involved.

In the opinion of this writer, most of the deficiencies presently existing in contractor's financial statements can be eliminated by use of the accrual basis statements. It appears that, as a minimum, the contractor should prepare statements under the percentage-of-completion basis and show price-level changes in supplementary statements. Otherwise, sufficient information on which a sound decision can be based is not available to the readers of the statements.
CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

Nature of Problem. The accountant is traditionally given the task of recording and classifying the monetary effect of business transactions and events on an accounting unit, with the purpose of reporting and interpreting the results to a variety of interested parties.

In the execution of the assigned task, the ingenuity and knowledge of the accountant is taxed by an industry with special accounting problems; i.e., the long-term construction-type industry. Most of these extraordinary accounting problems are related to the determination of income each fiscal period, and are due to the fact that the operating cycle of a long-term construction-type contractor is often more than one year. This paper is an examination of the long-term construction-type industry and its accounting problems of income determination and financial reporting.

Approach to Study. As an approach to the problem, consideration is given to the applicability, or lack of applicability, of generally accepted accounting principles and postulates to the long-term construction-type industry. However, a prerequisite to a determination of this kind is the ascertainment of the composition of generally accepted accounting principles and postulates. Such a
frame of reference is essential for a clear understanding of the material related to the long-term construction industry which follows. The last statement is especially pertinent in view of the recent studies on accounting principles and postulates by the American Institute of Certified Public Accountants, which disagreed completely with some of the previously accepted concepts of accounting.

Recognition of Revenue. Paton, supported by many other writers, has stated, "The basic element in income determination is revenue." Therefore, the specific approach to the central problem of income determination in this study is an examination of the bases of revenue recognition, with appropriate assignment of costs and expenses.

The bases considered are: (1) cash; (2) sales; (3) completed-contract; (4) appreciation; (5) accretion; (6) percentage-of-completion; and (7) accrual. As each basis is examined, the applicable postulates and principles are given consideration as to their effect on net income or loss.

Financial Reporting. Financial reporting of the long-term construction-type contracts, one of the major duties of the accountant, is considered under each of the revenue recognition bases. In the preparation and presentation of the financial statements, emphasis is placed on the compliance, or the lack of compliance, of the statements to generally accepted accounting principles and postulates.

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1Paton and Paton, op. cit., p. 274.
Conclusions

Prior to the determination of applicability, or lack of applicability, of accounting principles and postulates to the long-term construction-type industry, the composition of accounting principles and postulates is considered. These principles and postulates, as seen by this writer, are given below.

The exchange concept is merely the recognition of the distribution of goods and/or services through the process of exchange.

The purchasing power of the dollar in the United States has decreased during the past decades. Thus, to effect the use of a stable unit of measurement, price-level changes must be recognized.

Another basic idea, the entity concept, gives recognition to the fact that the accounting unit is the business enterprise and not the owners of the enterprise.

A proposition generally accepted by accountants, the continuous existence concept, states that the accounting entity shall be viewed as remaining in operation indefinitely unless there is evidence to the contrary.

The underlying supposition of the accounting period doctrine is that the results of enterprise operations may be assigned to specific periods of time, which in turn implies that revenues, costs and expenses may be assigned to specific periods of time.

Objectivity, as used in this paper, means the use of unbiased estimates and judgment, subject to verification by another competent investigator.
Consistency is pertinent to accounting procedures and methods in the sense that the procedures and methods selected and applied should provide results comparable with the results of the same entity measured in prior periods. The requirement not only demands consistent application, but the selection of methods which provide comparable results.

Conservatism, in its proper treatment, is a counsel of caution, requiring the accountant to give adequate consideration to the uncertainties and risks inherent in business situations.

The axiom of disclosure requires that all assets and liabilities should be recorded and reported, that the owner's equity should be clearly reported, and that a comprehensive statement of the results of enterprise operations should be made.

Materiality represents the use of accounting judgment in the determination of significance or insignificance of items to be considered.

Cash Basis. The cash basis is, in its purest form, a recognition of revenue upon the receipt of cash and a recognition of costs and expenses upon the payment of cash. Such an application is rarely made.

A modified cash basis is more prevalent than the pure form, with the modification based on the assumption that revenue is the controlling factor and that costs and expenses are to be assigned to fiscal periods in a manner which will match revenue with related costs and expenses.
Most of the postulates and principles listed earlier are violated by the use of either form of the cash basis. The accounts and financial statements of the contractor fail: (1) to reflect a stable unit of measurement; (2) to match revenues earned with costs and expenses incurred each accounting period; (3) to produce results which are comparable with results of prior periods; (4) to fully disclose the components of assets, liabilities and owner's equity of the firm; and (5) to reflect valid operating results which are objectively determined by the accountant. The cash basis is also akin to the venture concept of a few centuries ago, in which the time involved was uncertain and no attempt was made to follow the accounting period concept. If the firm has a continuous life, operations during each accounting period should produce revenues as well as incur costs and expenses. Yet, the cash basis does not recognize revenues during the life of the venture (contract), and thus reflects doubt on the continuous existence assumption.

Another disadvantage attached to this method of revenue recognition is the possibility of a larger sum of income tax to be paid on the contract. When all the revenue of the contract is recognized in one accounting period, a greater portion of the total profit is subject to surtax if the contractor is incorporated, or to a higher tax rate if the contractor is not incorporated.

The cash basis does fulfill the principles and postulates of: (1) the use of exchanges as the basis of transactions;
(2) the entity as the accounting unit; and (3) conservatism. However, the application of conservatism appears to overwhelm some of the other concepts such as disclosure and consistency which, in this writer's opinion, must take precedence over conservatism.

Since more reliable bases of revenue recognition are available, the cash basis is not recommended for the long-term construction-type contractor.

Sales Basis. Inasmuch as the sales basis is essentially the same as the completed-contract basis, the conclusions reached for the completed-contract basis are applicable to both methods. An elaboration of those conclusions is given below under the completed-contract basis.

As will be shown below, many disadvantages are attached to the sales basis applied to long-term construction-type contractors, and therefore the sales basis is not recommended for usage.

Completed-Contract Basis. The completed-contract method recognizes income only when the contract is substantially complete. Thus, during most of the contract life, no earned revenue is recognized and costs and expenses are accumulated in deferred asset accounts. When the contract is complete, or substantially so, the matching process may occur.

The fulfillment or violation of accounting principles and postulates by use of this basis tends to be similar to the cash basis, though not providing the same degree of fulfillment of violation that the cash basis yields.
Postulates and principles fulfilled by the completed-contract method include: (1) the exchange concept; (2) the entity as the accounting unit; and (3) conservatism. As in the cash basis, however, the exaggerated use of conservatism usually destroys the validity of such concepts as disclosure, consistency and the utilization of the accounting period.

Violations of accounting principles and postulates by the completed-contract basis embody: (1) the failure to use a stable unit of measurement; (2) the failure to match revenues earned with costs and expenses incurred each accounting period; (3) the failure to produce results which are comparable with results of prior periods; (4) the failure to fully disclose the components of assets, liabilities, and owner's equity of the firm; and (5) the failure to reflect valid operating results which are objectively determined by the accountant. In addition, the completed-contract basis reflects doubt as to the continued existence of the enterprise by refusing to recognize revenues, costs and expenses prior to substantial culmination of the venture (contract). Such procedure is hardly in keeping with the generally accepted procedure of recognizing revenue when earned and costs and expenses when incurred.

The possibility of a larger total amount of income tax is inherent in the completed-contract basis just as it is in the cash basis. Recognizing income only at the completion of the contract will subject a larger percentage of the income to
surtax when the contractor is incorporated, or will subject the income to a higher tax rate when the contractor is not incorporated.

The completed-contract basis has little to offer the long-term construction-type contractor. Other possibilities exist which are more favorable to the task of the accountant; i.e., to provide full disclosure by reporting all assets and liabilities of the firm along with the revenues and expenses of the period.

Appreciation Basis. Used in association with some other method, appreciation provides for recording assets at current replacement cost rather than historical cost.

The only advantage that the addition of this basis has over the completed-contract basis applied alone is an attempt to recognize holding profits or losses and price-level changes. Since appreciation does not specify what portion of the excess or deficit of current costs to historical costs is due to price-level changes and what portion is due to the holding of assets, the forenamed advantage may not be of much value. A stable unit of measurement is not necessarily provided.

An elaboration of appreciation is a step in the direction of providing a stable unit of measurement. That elaboration must consist of the separation of holding profits or losses from the effects of price-level changes. Then appreciation used in association with some other basis of revenue recognition is recommended.
Appreciation does not, and is not intended to, solve any of the other deficiencies related to the cash or completed-contract bases. Employment of another basis is necessary to eliminate these disadvantages.

**Accretion Basis.** Growth is the traditional requisite of revenue recognition when applying the accretion basis. Growth, to the contractor, means that the construction project is moving toward completion.

A specific application of the accretion method is made in the percentage-of-completion basis discussed below. Thus, no further comments are necessary in relation to the accretion system.

**Percentage-of-Completion Basis.** When the percentage-of-completion method is utilized, an attempt to recognize income periodically is made by assigning revenues, costs and expenses to each fiscal period. Revenue is normally considered to be the governing factor and is assigned to the fiscal periods on the basis of percentage of completion of the contract. Costs and expenses incurred which are deemed to aid in the earning of the revenue are assigned to the same period in which the revenue is recognized.

The income statement prepared by use of the percentage-of-completion basis shows revenues earned as the construction project moves toward completion. Such recognition generally results in the presentation of revenues on the income statement of most
accounting periods, whereas recognition of revenues by application of the completed-contract basis often results in recognition of large amounts of revenues in some fiscal periods and no revenues at all in other fiscal periods. The latter portion of the previous statement is true, even though work on construction projects occurs throughout each fiscal period.

Many of the postulates and principles which the cash and completed-contract bases failed to satisfy are fulfilled by the percentage-of-completion method. Among these are the periodic recognition of income, consistency in choice and application of accounting concepts to produce results each fiscal period which are comparable with those results of prior periods, and the recognition of continuous existence of the enterprise. The exchange and entity concepts are fulfilled by the percentage-of-completion basis just as they were satisfied by methods previously considered.

The traditional concept of conservatism, i.e., to never recognize any income until the series of transactions related to the earnings process is complete, may be violated by the percentage-of-completion basis. However, if conservatism is given its rightful place, i.e., a counsel of caution, no violation is evident.

The greatest disadvantage of the percentage-of-completion basis is its failure to recognize either price-level changes or holding profits and losses. Historical cost is the basis for all profit or loss recognition, which has the effect of grouping
operating profits and losses, holding profits and losses and price-level changes under one heading.

Such a procedure hardly leads to full disclosure of assets, liabilities and owner's equity, but disclosure is practiced to a larger extent by the percentage-of-completion basis than under any of those bases previously considered. Revenues, costs and expenses, along with related assets and liabilities are assigned to each fiscal period as production progresses. However, no recognition is given to the profits and losses ascribed to the holding of assets, and no recognition is afforded price-level changes.

Since objective evidence, i.e., evidence which is unbiased and subject to verification by another competent investigator, exists in regard to price-level changes as well as holding profits or losses, failure to recognize these latter items is considered failure to be completely objective. Objectivity does exist under the percentage-of-completion method to a larger extent than under the cash or completed-contract methods, since revenues, costs and expenses along with the related assets and liabilities are given recognition on the basis of production increments.

Provided the construction enterprise is profitable, recognition of income each fiscal period may lead to payment of a smaller amount of income tax than if the cash or completed-contract bases were used. If the contractor is incorporated, then the first $25,000 of taxable income each year is exempt from the surtax,
currently 22 per cent. If all the income from a long-term contract is recognized in one year, then only $25,000 of the income is exempt from the surtax. When the contractor is unincorporated, recognition of the entire income from a contract in one year subjects the contractor to a higher tax rate on the progressive income tax table. Recognition of portions of the income each fiscal period will often result in the entire income being subject to a lower tax rate on the progressive income tax table, and will result in total tax savings to the contractor.

The percentage-of-completion basis is by far the most realistic method, as regards the determination of periodic income or loss, that has been considered at this point in the chapter. Additions to the percentage-of-completion basis are necessary to satisfy the recognition of price-level changes and holding profits or losses. When these latter-mentioned problems are solved, the percentage-of-completion basis becomes satisfactory for utilization by the long-term construction-type contractor.

**Accrual Basis.** The satisfaction of the problems of recognizing price-level changes and holding profits or losses without yielding any of the desirable points of the percentage-of-completion basis is the aim of the accrual basis. Accrual accounting, as stated so aptly by Sprouse and Moonitz, "attempts to reflect the financial efforts of business transactions when they occur, rather than at the time of some restricted set of events, such as the receipt or outlay of cash."²

²Sprouse and Moonitz, op. cit., p. 11.
The principles and postulates which the percentage-of-completion method satisfied are also satisfied by the accrual method. These concepts include: (1) the exchange as the basis of accounting entries; (2) the entity accepted as the accounting unit; (3) the continuous existence of the firm; (4) the acceptance of fiscal period accounting; and (5) the fact that consistent methods and procedures which are consistently applied produce financial statements which are comparable one year with another.

The additional advantages derived from the use of the accrual basis are really tied into one concept—the recognition of both price-level changes and holding profits or losses.

When the definition of income chosen for this study\(^3\) is applied, price-level changes must be isolated from both holding and operating profits and losses. Further, if income is recognized when earned and losses when incurred, the necessity for recognition of holding profits and losses becomes evident.

When full recognition is made of all earnings and losses as well as price-level changes, the concept of full disclosure is achieved. In addition to full reporting of assets, liabilities, owner's equity and results of operations, the basis of revenue, cost and expense recognition should be clearly stated. The latter statement is especially true when the accrual basis is utilized, as many accountants fail to accept accrual accounting in its broad application.

\(^3\)Backer, *op. cit.*, p. 216.
Use of objective evidence is made under the accrual method, whereas the objective evidence may be ignored by utilization of some of the other bases of revenue recognition. On the other hand, an item should not be recorded and reported unless objective evidence is available to support the item.

The accrual basis is often criticized as lacking conservatism. However, if the proper definition of conservatism is followed, the accountant may be conservative while using the accrual method of recording and reporting.

In spite of the general lack of acceptance of accrual accounting, this basis has more to offer the long-term construction-type contractor than any other basis considered in this study.

An examination of financial statements prepared for the contractor supports the latter paragraph. Most of the deficiencies presently existing in contractor's financial statements can be eliminated by use of accrual accounting.

The work involved and complexity of the record-keeping system is often greater when accrual accounting is followed than under any other basis. However, the added work and complex system are justified to provide sufficient information on which sound business decisions can be based.
Recommendations

In view of the conclusions cited, this writer recommends that the accrual basis of accounting be instituted by long-term construction-type contractors. Such recommendation does not constitute abandonment of historical costs, but rather the supplementation of historical costs with details of price-level changes and holding profits and losses.

Many accounting systems in use by long-term construction-type contractors are inadequate, and cannot supply the information needed to utilize accrual accounting. These systems must be revised, or in some cases replaced, to enable the accountant to complete the assigned task of full disclosure of assets, liabilities, owner's equity and results of operations. The accountant can provide sufficient information on which to base sound business decisions only when the system in use enables the concept of full disclosure to be fulfilled.

Once the accrual basis is generally accepted, the accounting profession should exert its influence to have price-level changes recognized for income tax purposes. Many contractors are paying substantially more income tax than the total operating and holding profits indicate. The difference, of course, is due to non-recognition of price-level changes by the taxing authorities. However, the accounting profession is in no position to criticize
the tax regulations until postulates and principles based on sound accounting theory become generally accepted. It is hoped by this writer that the study of income determination and financial reporting for long-term construction-type contractors will aid in the general acceptance of sound postulates and principles for the construction industry, and moreover for all economic enterprises.
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Others


VITA

Jackson A. White, son of Mrs. A. J. White and the late Mr. White, was born in Leander, Louisiana, on December 1, 1932. He attended the public schools of Rapides and Vernon Parish and was graduated from Oak Hill High School in May, 1951. He enrolled in Northwestern Louisiana State College in June, 1951, and in August, 1954, he received his Bachelor of Science degree with majors in accounting and business administration. He served two years in the United States Army. He then enrolled in the Graduate School of Louisiana State University in September, 1950, and in August, 1958, he received his Master of Business Administration degree with a major in accounting. He continued in the Graduate School of Louisiana State University until September, 1960, at which time he became Assistant Professor of Accounting at Louisiana State University at Alexandria. In September, 1963, he became Assistant Professor of Accounting at Northeast Louisiana State College. He is now a candidate for the Doctor of Philosophy degree in the Department of Accounting.
EXAMINATION AND THESIS REPORT

Candidate: Jackson A. White

Major Field: Accounting

Title of Thesis: Determination of Income and Financial Reporting for Long-term Construction-type Contracts

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

January 16, 1964