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Generally accepted accounting principles and procedures that reduce the comparability of net incomes between firms in the same and in different industries

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GENERALLY ACCEPTED ACCOUNTING PRINCIPLES AND PROCEDURES
THAT REDUCE THE COMPARABILITY OF NET INCOMES BETWEEN
FIRMS IN THE SAME AND IN DIFFERENT INDUSTRIES

by

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION.</td>
<td>1</td>
</tr>
<tr>
<td>Accounting Principles and Influencing Factors</td>
<td>2</td>
</tr>
<tr>
<td>Definition of generally accepted accounting principles and procedures</td>
<td>2</td>
</tr>
<tr>
<td>Influence of the corporate form of organization</td>
<td>4</td>
</tr>
<tr>
<td>Periodicity</td>
<td>5</td>
</tr>
<tr>
<td>Conservatism</td>
<td>5</td>
</tr>
<tr>
<td>Consistency</td>
<td>7</td>
</tr>
<tr>
<td>Materiality</td>
<td>7</td>
</tr>
<tr>
<td>Governmental influences</td>
<td>8</td>
</tr>
<tr>
<td>Comparability</td>
<td>9</td>
</tr>
<tr>
<td>Need for comparability and uniformity</td>
<td>10</td>
</tr>
<tr>
<td>Disadvantages of uniformity</td>
<td>15</td>
</tr>
<tr>
<td>Acceptance of Accounting Principles</td>
<td>17</td>
</tr>
<tr>
<td>Early developments</td>
<td>17</td>
</tr>
<tr>
<td>Statements by the American Accounting Association</td>
<td>18</td>
</tr>
<tr>
<td>The Accounting Procedures Committee</td>
<td>19</td>
</tr>
<tr>
<td>The Accounting Principles Board</td>
<td>20</td>
</tr>
<tr>
<td>Scope</td>
<td>23</td>
</tr>
</tbody>
</table>

II. TIMING FOR THE RECOGNITION OF REVENUE AND EXPENSE | 24 |
| Income Determination | 24 |
| Definition of terms | 24 |
Allocation of overhead........................................ 58
Standard costs............................................. 60
Full absorption costing.................................... 62
Direct costing.................................................. 63
Summary.......................................................... 70

IV. DEPRECIATION................................................. 71
Depreciation Expense.......................................... 71
Straight-line method.......................................... 73
Service-hours method........................................ 74
Productive-output method................................. 75
Declining balance method.................................... 76
Sum of the years-digits method............................ 77
Composite rate method....................................... 78
Comparison of methods....................................... 78
Asset Cost....................................................... 80
Tax-free exchanges.......................................... 82
Self-construction of assets................................ 83
Market value.................................................... 85
Price Level Adjustments.................................... 86
Summary.......................................................... 92

V. OTHER ALTERNATIVE PRACTICES INFLUENCING NET INCOME........................................... 93
The All-Inclusive Versus the Current Operating Performance Income Statement.......................... 93
Allocation of Income Taxes.................................. 97
Providing for Pension Plan Liabilities...................... 101
Treatment of Unamortized Bond Discount on Bonds
Refunded ........................................... 103
Research and Development Costs .......................... 105
Other Examples ............................................ 106
Summary ..................................................... 108

VI. CONCLUSION ........................................... 110

BIBLIOGRAPHY ............................................. 116
An investor wants to compare the earning potential of two companies—Company A and Company B. In his examination of the two firms, he finds that they have similar physical plants, make a similar product, and have nearly equal production and sales volumes. Their income statements for the year, however, show that Company A had a net income of $50,000 while Company B reported a net income of only $25,000. May the investor assume, therefore, that Company A is the more profitable of the two firms and accordingly the better one in which to make an investment? Or could the difference in the net incomes of the two firms be attributed to some other factor; for example, the generally accepted accounting principles and procedures employed by each in determining its net income for the year.

From the array of accepted accounting principles and procedures, a business must select those it will use in keeping its accounts and in its external reports. Presumably the firm's executives will select from the alternative generally accepted accounting principles those which in their judgment will best interpret and report the firm's business activities. Due to this freedom in selecting the principles and procedures to be used, however, two companies may apply different generally accepted accounting principles to a similar situation, and
the principles selected may cause a significant difference in their reported net incomes. In fact, they may make the difference between reporting a net profit or a net loss.

ACCOUNTING PRINCIPLES AND INFLUENCING FACTORS

Definition of generally accepted accounting principles and procedures. In accounting literature, the term accounting principles is used in several ways. Some writers use the term to apply to ideas other writers would call postulates; while in other cases the term may refer to rules or methods of procedure. The reader must, therefore, determine how the author is using the term. One of two definitions is generally used. The first defines accounting principles as "a fundamental truth or proposition on which many others depend; a primary truth comprehending or forming the basis of various subordinate truths."¹ This definition is used by other writers for the word postulate. The second definition, which describes what most accountants mean by the term, is "a general law or rule adopted or professed as a guide to action; a settled ground or basis of conduct or practice. . . ."²

Under the first definition, accounting principles would not be subject to change and would be universally applicable. No deviation from or conflict in principles would be possible. Acceptance of the

¹American Institute of Certified Public Accountants, Accounting Research and Terminology Bulletins (Final Edition, New York, 1961), Terminology Bulletin No. 1, p. 11. (All page references to Accounting Research and Accounting Terminology Bulletins are from this publication.)

²Ibid.
second view would permit principles to evolve and change to meet the needs of society. It would also be possible for more than one principle to apply to the same subject matter. Since a discussion of the comparability of income statements is concerned with rules to be applied in measuring and reporting income, the second definition of principles would seem to apply in this case.

When is a principle or procedure generally accepted and how is this determined? Due to the similar meanings of the terms "accounting principles" and "accounting procedures," the two are often used interchangeably. The term "accepted principles of accounting" evolved in 1934 from discussions between the American Institute of Accountants and the New York Stock Exchange. A generally accepted principle or procedure is one having substantial authoritative support. Since more than one procedure may have such support it is possible to have two or more conflicting generally accepted procedures in a given area. Authoritative support is given to a practice through the usage of business, the views of authors, the expressions of technical committees, and/or the opinions of governmental officials. Principles are developed and come to be accepted through an evolutionary process. A new procedure will be used by business for internal purposes, suggested by writers, or dictated by governmental regulations. If the procedure should gain wider use by businessmen and receive the approval of a technical committee of a national accounting organization, it will

become a generally accepted accounting procedure. When a procedure becomes widely recognized as the most desirable or useful method, it has reached the stage of development where it can be termed a principle.\(^4\) Although the other factors may contribute to the acceptance of a procedure, the last two—general use by business and approval by a major accounting organization—are essential for a procedure to become an accepted procedure or principle of accounting. In the past, this has meant approval by an appropriate committee of the American Accounting Association or by the Accounting Procedures Committee of the American Institute of Certified Public Accountants. In this evolutionary process, some generally accepted accounting principles and procedures may lose their acceptability as new procedures are developed and business needs change. In this paper, the term "generally accepted" will apply to principles and procedures that are used in business and that have been accepted by the appropriate committee of either the American Accounting Association or the American Institute of Certified Public Accountants.

Influence of the corporate form of organization. The general acceptance of accounting principles has become more important with the growth of the corporate form of organization. Under the proprietorship and partnership forms of organization, each business could select the method of reporting that best met its needs. Since all owners were in close contact with the business, there was little danger of their being misled by the reporting practices followed. The growth

\(^4\)Ibid., p. 2.
of absentee ownership under the corporate form of organization, however, created a need for greater uniformity in the accounting principles used to report the corporation's activities to its owners. In an evolutionary process to meet this need, old accounting procedures have been rejected and new ones have been accepted in their place. As will be discussed later, generally accepted accounting principles and procedures must continue to be improved if the needs of the stockholder are to be fully met.

**Periodicity.** Many of the alternative accounting procedures discussed in this paper would not be needed or used if the net results of a business were measured only after it had ceased to exist. Since it is desirable to have a periodic measurement of net income, accounting procedures have been developed to allocate revenues and expenses between periods. The problems of deciding when income should be recognized, how inventory costs are to be matched against revenue, and how to charge the cost of fixed assets to expense result from the need to measure net income period by period. The procedures used in determining periodic net income should do so as accurately as possible; even though income cannot be measured exactly until the entity ceases to exist. Also the principles employed should allow for comparison of the periodically measured income of firms in the same industry.

**Conservatism.** Conservatism is usually thought of as recognizing all probable losses but not anticipating gains until actually realized. The lower of cost or market valuation of inventories is a good example of the application of this theory. Losses occurring when the market
value of the inventory is less than cost are recognized immediately; whereas increases in inventory values are not recognized until the goods are sold. This practice, as can be seen, results in an inconsistent treatment between gains and losses. The concept of conservatism has had a great influence on the development of generally accepted accounting principles and procedures. As a result, alternative procedures may often reflect different degrees of conservatism. For example, the last-in, first-out inventory method will usually give a more conservative report of net income than will the first-in, first-out method.

A firm desiring to be conservative would avoid "overstating" income by recognizing all expenses as soon as possible. This type of conservatism is illustrated by the accelerated depreciation methods. A firm's management would not follow conservative policies if its main desire was to show the greatest net income possible; since conservative procedures can usually be expected to reduce net income. Management, therefore, may select accounting procedures that will reflect the degree of conservatism it prefers rather than those that best reflect the actual facts. An investor's evaluation of a firm will be affected by the degree of conservatism inherent in the accounting procedures used by the company.

Conservative practices may not always result in lower net incomes, however. Emergency facilities that were acquired under certificates of necessity were depreciated over a period of sixty months. If these assets were used after the sixty month period, no further depreciation could be taken. Through use of this conservative
procedure, net incomes were reduced during the sixty month period, but after that net income was greater than it would have been had less conservative depreciation methods been used. Therefore, a given procedure may be conservative under one set of circumstances but become unconservative as conditions change, or conversely, a procedure that tends to be unconservative may become conservative under different circumstances.

**Consistency.** The consistent application of accounting principles is essential if year to year comparisons within a firm are to be significant. For this reason, one could contend that consistent application is more important than the principles and procedures employed. If accounting is to progress, however, the accounting procedures must be reviewed and changed whenever it is evident a change would result in a clearer reflection of net income. Consistency, therefore, should not be used to justify the continued use of poor or unsound accounting procedures. Adherence to the practice of consistency may delay the acceptance of new procedures which may make comparisons between firms more meaningful, but it will not prevent their eventual adoption.

**Materiality.** As used in accounting, the meaning of the terms "significance" and "materiality" are very much the same. One definition of materiality is "the characteristic attaching to a statement, fact, or item whereby its disclosure or the method of giving it expression would be likely to influence the judgment of a reasonable
person.\(^5\) Another source states that "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."\(^6\) An item is significant if it is "likely to influence judgments or decisions" or is "of sufficient magnitude, as measured by a departure from some norm or standard, to raise doubt that the deviation is the result of chance."\(^7\) Both terms are, therefore, concerned with the relative importance attached to an item. An amount may be immaterial in one set of circumstances, but the same amount might be considered material or significant under different circumstances. As discussed above, the choice of alternative generally accepted accounting principles can have a significant or material effect on the results that are reported in the income statement.

**Governmental influences.** Accounting principles and practices have been influenced by legislation and by governmental regulatory agencies. In some areas, primarily public utilities and railroads, the controlling agencies have actually dictated the accounting to be followed. For most profit-making concerns, with which this paper is concerned, the influence of government has been less direct. The Securities and Exchange Commission has prescribed certain reporting

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\(^7\)Kohler, *A Dictionary for Accountants*, p. 436.
practices to be followed in reports submitted to it but has usually confined its activity to exerting pressure on the accounting profession to adopt better corporate reporting practices.

The greatest governmental influence on generally accepted accounting principles has been in the area of income taxation. The Internal Revenue Code states that income for tax purposes is to be determined in accordance with generally accepted accounting principles. There are, however, several exceptions to this rule. Wherever discrepancies between tax procedures and accounting procedures exist, there is pressure on the profession to adopt the tax method as a generally accepted principle of accounting. The accounting profession has yielded to this pressure in several cases, for example, the acceptance of last-in, first-out inventory pricing and of accelerated methods of computing depreciation. Although some of these procedures have merit from an accounting point of view, it should be recognized that income tax statutes and regulations are not intended to establish sound accounting principles for financial reporting purposes, and that such statutes and regulations do not necessarily reflect sound accounting principles.®

COMPARABILITY

Management, stockholders, and other users of the financial statements need to compare the operating results of different firms. Such comparisons may be misleading, however, due to the effects on

net income resulting from the use of alternative accounting procedures. To make comparisons more meaningful and useful, greater uniformity in the accounting principles or procedures to be applied in similar circumstances is needed. Although the most useful comparisons could be made under conditions of complete uniformity, this would not be desirable because of the rigidity and inflexibility that accompany such a system.

Need for comparability and uniformity. Even though statements are not now prepared in a manner that permits accurate comparisons of the statements of different firms, such comparisons are being made. An investor or potential investor in determining the profitability of an investment in a particular company will compare its net income or compare other computations based upon net income, such as earnings per share, with those of firms in the same and in different industries. Accountants point out that such comparisons of the net income figure may be misleading and that undue importance should not be placed on a single figure of net income, but many investors make such comparisons and consider only the net income figure. They may be unable to make a more complete investigation; however, because the data disclosed in the stockholder's annual report may not permit a detailed analysis of the company's activities. For example, even an experienced accountant is unable to determine the cost of sales figure from the income statement included in many stockholder reports. The income statement in one 1961 stockholder report showed cost of sales, selling, general and administrative expenses as a single amount. There is no way for the
reader of this statement to determine how much of the total is attributable to the cost of the goods sold. Other 1961 reports showed cost of goods sold and general administrative, and selling expenses as separate items and disclosed by a footnote the depreciation expense that had been charged against revenue. Here too, the reader's analysis can be hampered since he does not know if the depreciation expense has been allocated among manufacturing, administrative, and selling activities. Reporting services also may not supply the data needed for a complete analysis. Often only summarized totals are reported by the services. When the investor is deprived of statement analysis as an aid in decision making, he will be forced to give the net income figure primary consideration and to confine comparisons between different firms to the net income amount and/or to computations based upon net income.

Another area where comparisons are now being made is in the compiling and publishing of industry statistics. One of the rules of mathematics is that only like things can be added together. Since the amounts for a particular classification from all the companies included in the study are added together, one should be able to assume that each component of the total was computed in the same way and thus is comparable with the other items in the total. Such statistics may be misleading because the amounts included in a total have not been computed in the same way and are not therefore strictly comparable.

Many accountants argue that the use of alternative generally accepted accounting principles is permissible as long as full disclosure is made by means of footnotes, parenthetical expressions, and
supplementary statements. They maintain that the accountant's duty is to present the data and to let the reader of the statement interpret it to meet his needs. Such disclosure often will not be satisfactory from the investor or potential investor's point of view for several reasons. First, he may not understand that the use of alternative principles can make a significant difference in the reported results. Even if he does know the results can be influenced by the principles selected, he may not be qualified to make the adjustments necessary for the statements of different firms to be put on a comparable basis. Second, the information needed for making the adjustments may not be made available to the user of the statement. The American Accounting Association has suggested that "when alternative practices in common use give materially different results, the practice adopted should be stated and the data required to achieve reasonable comparability should be supplied." 9 The supplying of such data, however, may cast doubt upon the validity and accuracy of the accounting practices used by a company and from that standpoint may be undesirable. Further, the company would usually have to keep additional records or make additional computations to supply such information. This may not be done. In addition, reporting services, newspapers, and similar reporting groups may not publish the footnotes or supplementary statements furnishing the needed information. Third, the footnotes may not be read by the investor. He may not know that the footnotes are an integral part of the financial statements, and he may think he would be unable to understand them if

he did read them. Also the more voluminous the footnotes become, the less inclined one is to read them, especially a person not familiar with the field of accounting. Fourth, the users of the financial statements expect the accountant to give them the information and conclusions they need in a form they can easily use. One such user has said,

I need a high degree of consistency and comparability within the same industry. I want this boiled down to simple terms that I can grasp in a hurry; . . . I want the expert accountant to make his own decisions as to the impact of various forces and facts upon these ultimate indicators. I do not want to have to hire another expert to interpret the accountants' statements for me. . . . I do not have available facts that he has. I want to press the accountant to draw informed conclusions from what he knows and not leave me in the distressing position of wondering . . . if the fine print in the footnotes taketh away what the large print in the statement granteth.

As a consumer of accounting data, I feel that such data should be prepared for me and my purposes. . . . It is the accountants' task to interpret their [businesses] operations in financial terms for the benefit of those who have legitimate interest in them. . . . and in terms that these people. . . can understand.10

Investors have pointed out that if the accountant who has access to all of the information available cannot reach a conclusion how can he expect the reader of the financial statement, who has only the limited amount of data disclosed, to make a decision on the very same matter. Disclosure, therefore, can help make comparisons more valid, but it does not reduce the need for greater uniformity of generally accepted accounting principles.

The public's lack of confidence in corporate income reports is another reason for reducing the number of alternative acceptable prac-

Many laymen believe corporate incomes are deliberately understated. They are also confused as to whether the reports reflect real occurrences in the business entity or are the result of accounting techniques. The non-accountant cannot understand why equally acceptable alternative treatment of the same situation should be allowed. Should not the accounting profession be able to resolve differences and accept a single procedure to be applied in similar situations by majority vote if by no other means? This is what is done when there is a difference of opinion in other situations familiar to the layman. The best way to restore the public's confidence and to eliminate confusion is to reduce the number of alternative generally accepted accounting principles that can be applied to a given situation.

In examining the financial statements, a stockholder wants to evaluate the effectiveness of management's stewardship of the business. Although accounting principles and procedures cannot be changed yearly, unscrupulous management can make the stockholder's evaluation more difficult by selecting those accounting procedures that will tend to overrate management's accomplishments and to cover up mismanagement. Scrupulous management, on the other hand, will tend to select accounting principles that will give a more conservative picture of operating results. Often, the stockholder is unable to distinguish between the accounting influence and the results due to management's stewardship.

Management wants its reports to compare favorably with those of other firms. It may often be forced to use accounting procedures it

does not otherwise approve of in order to do this since other firms are using principles that will give the most optimistic results possible. Stockholders, too, want the results for their corporation to compare favorably with others in order to keep the market value of their stock as high as possible.

Under present accounting theory, alternative generally accepted accounting principles can be applied to identical situations with significantly different results. It is true that in the real business world identical situations do not occur. However, if significantly different results can occur in identical situations, the same thing occurs when the circumstances are not identical but are only similar. It appears, therefore, that there is a need to reduce the number of alternative generally accepted accounting principles and procedures so that the same principle or procedure will be selected by all accountants under similar circumstances.

Disadvantages of uniformity. One of the principal arguments against uniformity is that judgment must be used in applying accounting principles. As pointed out above, no two situations are identical; thus, there must be some freedom for management to select the accounting procedures that in its judgment most fairly report the firm's transactions. In order to achieve the best standard of reporting, some flexibility in the rules, to meet specific situations, must be allowed. Complete uniformity of accepted accounting principles would not allow for the exercise of judgment in adjusting the principles to meet specific needs and so would be undesirable.
A second disadvantage of complete uniformity results from the fact that accounting is a dynamic field. If accounting is to develop to meet the changing needs of the business community, principles and procedures must be able to change as conditions change. That this is not likely to happen when complete uniformity is imposed can be seen by examining the accounting in industries where uniform principles have been imposed by government fiat. For example, accelerated depreciation or amortization of emergency facilities has been a generally accepted accounting procedure for several years; however, until early in 1963, the Interstate Commerce Commission, who prescribes the accounting procedures to be used by railroads, did not approve of this method for use by the railroads.\(^{12}\) The freedom to adopt new principles and procedures or to discard old ones as conditions change would be hampered when complete uniformity exists; because a new idea would have to displace an old one before it could be accepted or a new procedure would have to be available before an old one could be discontinued. There would be a reluctance to replace procedures since the advantages and disadvantages of the replacement could not have been determined through practice before the procedure was adopted.

Although complete uniformity of acceptable accounting principles and procedures is undesirable, greater uniformity than now exists should be achieved. The desired goal would be to limit alternative choices so that all accountants would apply the same accounting principles and procedures in similar circumstances.

Early development. Prior to World War I, little was written about accounting principles. Growth of the corporate system emphasized a need to create more uniform principles and procedures. In 1917, the American Institute of Accountants at the request of the Federal Trade Commission prepared a pamphlet on accounting principles called "A Memorandum on Balance Sheet Audits." It was published by the Federal Reserve Board in the Federal Reserve Bulletin of April, 1917. A revision of this pamphlet was prepared by the American Institute of Accountants in 1929, again under the auspices of the Federal Reserve Board. This much improved booklet was called "Verification of Financial Statements."

The American Institute of Accountants and the New York Stock Exchange started correspondence on accounting principles in 1932. Five principles of accounting, that both groups considered of primary importance, resulted from this exchange of views. In 1934 at its annual meeting, the membership of the American Institute of Accountants formally adopted these five principles plus one other that the special committee on co-operation with stock exchanges had recommended. These principles were originally included in Accounting Research Bulletin No. 1 and were incorporated in Accounting Research Bulletin No. 43, as chapter 1. The principles agreed to with the New York Stock Exchange were (1) that unrealized profits should not be credited to income until a sale in the ordinary course of business is effected; (2) that capital surplus should not be used to relieve
(3) that the retained earnings of a subsidiary that were created before acquisition are not part of the parent's consolidated retained earnings and dividends declared out of such retained earnings are not income to the parent; (4) that dividends on a firm's own stock held in its treasury are not income to the corporation; and (5) that receivables due from officers, employees, or affiliated companies must be shown separately. The sixth principle adopted by the American Institute of Accountants in 1934 stated that when stock is issued nominally in exchange for property under an agreement whereby part of the stock will be returned to the corporation as a donation, the par value of the stock cannot be used as the cost of the property, and if the donated stock is subsequently sold, the proceeds cannot be credited to the surplus account.¹³

Statements by the American Accounting Association. The first statement—a "Tentative Statement of Accounting Principles Affecting Corporate Reports"—by the American Accounting Association was published by its executive committee in 1936. This statement, as have the later ones, attempted to cover the entire area of accounting principles. A revision entitled "Accounting Principles Underlying Corporate Financial Statements" followed in 1941. The next revision, "Accounting Concepts and Standards Underlying Corporate Financial Statements," was published in 1948. A revision to the 1948 statement

¹³Accounting Research Bulletin No. 43, Chapter 1, Section A, pp. 11-12.
appeared in 1957 under the title "Accounting and Reporting Standards for Corporate Financial Statements."

Until recently, these statements by the American Accounting Association were the only attempts at formulating a comprehensive statement of accounting principles. An examination of the statements will reveal the changing emphasis and development of accounting thought since 1936. For example, the balance sheet was the main financial statement in 1936; whereas in later statements, the income statement has become more important. Since the statements cover such a wide area, their use as a guide in the specific application of accounting principles has been limited. The purposes of the 1957 Statement are:

- to present the concepts fundamental to accounting, and to suggest standards to which general-purpose reports to stockholders and others interested in corporate business enterprise should conform, and by which existing accounting practice may be judged.\[14\]

Instead of being statements of the accepted accounting principles currently in use, these publications have proposed what accepted principles of accounting ought to be.

The Accounting Procedures Committee. Special committees were formed by the American Institute of Accountants in 1933 and in 1936 to study accounting principles. The Accounting Procedures Committee was established in 1938. During its 21-year life, the committee issued 51 Accounting Research Bulletins on the acceptability of different accounting principles. In 1953, the first 42 bulletins were restated and issued as Accounting Research Bulletin No. 43. On August 31, 1959, the committee was superseded by the Accounting Principles Board.

Early in its history and again in 1950, the committee discussed the desirability of preparing a comprehensive statement of accounting principles that would be virtually all-inclusive but rejected the proposal. It decided instead to deal with specific areas of difference. The objective of the committee was to narrow areas of difference and inconsistency in accounting practices, and to further the development and recognition of generally accepted accounting principles, through the issuance of opinions and recommendations that would serve as criteria for determining the suitability of accounting practices reflected in financial statements and representations of commercial and industrial companies. In this endeavor, the committee has considered the interpretation and application of such principles as appeared to it to be pertinent to particular accounting problems.  

The Bulletins, which will remain in effect until action concerning them is taken by the Accounting Principles Board, have been recognized as authoritative by the profession, by businessmen, by government agencies, and by the courts.

The Accounting Principles Board. The Accounting Principles Board was formed in order to undertake more extensive research on accounting principles than had been possible under the organization of the Accounting Procedures Committee. It is to determine what constitutes generally accepted accounting principles, as a guide for use by accountants and businessmen. This will include not only a survey of existing practice but also an effort to determine appropriate practice and to narrow the areas of difference and inconsistency in practice. The first job of the Board's staff will be to conduct studies on the postulates of

accounting, which are the basic assumptions on which principles rest, and on a broad set of co-ordinated accounting principles. This second study is similar to the statements on principles issued by the American Accounting Association. Both the postulate and the principles studies would serve as a framework for the solution of detailed problems. Consideration will be given to all points of view by the staff conducting a particular research study. Upon completion of a study, its conclusions will be published, under the name of the director of research and those engaged with him in the project, for consideration by the public and by the Accounting Principles Board. Depending on the circumstances, the Board will accept the study as the basis for a statement on generally accepted accounting principles, reject it, or lay it over for future attention.16

The study on the broad set of accounting principles was published in April, 1962, as Accounting Research Study No. 3, "A Tentative Set of Broad Accounting Principles for Business Enterprises." This study recommends some radical changes from present generally accepted accounting principles. These recommendations will be discussed where appropriate in the following chapters. Concerning the studies on the postulates and principles of accounting, the Accounting Principles Board has made the following statement:

In the opinion of the Director of Accounting Research, these two studies comply with the instructions of the Accounting Research Division to make a study of the basic postulates and broad principles of accounting. . . . The Board feels that there is ample room for improvement in present generally accepted accounting principles

16"Report to Council of the Special Committee on Research Program," The Journal of Accountancy, CVI (December, 1958), 62-64.
and a need to narrow or eliminate areas of difference which now exist. It hopes the studies will stimulate constructive comment and discussion in the areas of the basic postulates and the broad principles of accounting. Accounting principles and practices should be adapted to meet changing times and conditions, and, therefore, there should be experimentation with new principles and new forms of reporting to meet these conditions. The Board believes, however, that while these studies are a valuable contribution to accounting thinking, they are too radically different from present generally accepted accounting principles for acceptance at this time.

After a period of exposure and consideration, some of the specific recommendations in these studies may prove acceptable to the Board while others may not. The Board therefore will await the results of this exposure and consideration before taking further action on these studies.17

Some people have endorsed the principles' study while others fear that compliance with its recommendations may result in misleading financial statements. The proposals have been criticized because they have not been proven in practice, that an acceptable means of transition between the proposals and present practice was not provided, and that the results obtained from the use of the proposed principles would be too subjective for financial statement purposes. It has also been suggested that a study of present practice should have been made before making proposals on what generally accepted principles should be.18

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The influence of alternative accounting principles and procedures on the income statements of profit making non-regulated businesses and how they reduce comparability between such firms will be discussed in the remainder of this study. The timing of the recognition of revenue and expenses for statement purposes is the subject of chapter two. Chapter three will be concerned with inventory pricing and valuation methods that influence the amount to be reported as cost of goods sold. Methods of computing depreciation and asset valuation will be discussed in chapter four, and other alternative accounting practices that reduce comparability of net incomes are summarized in chapter five.
CHAPTER II

TIMING FOR THE RECOGNITION OF REVENUE AND EXPENSE

Revenue is earned throughout the production process, however, its recognition in the accounts will not, in most cases, conform with its earning pattern. A business will select the time to recognize revenue that best measures its net income. This may be at any time from the start of production on a product to the actual receipt of cash from its sale. Usually, the point of sale is used as the criterion for recognizing the receipt of revenue. Expenses are also incurred throughout the production process. Except when the cash basis is used, most of these expenses will be matched against the revenue they helped to create. In order to match expenses with revenue, costs are placed in inventory until the revenue is recognized.

INCOME DETERMINATION

Definition of terms. Revenue is the amount received for goods or services offered for sale in the regular course of business. In order to be able to produce the goods or service, costs must be incurred. The price paid for a fixed asset represents a cost that will be carried forward over several periods; whereas other costs, such as labor, are consumed in the period in which they are purchased. The words "cost" and "expense" are used interchangeably as the two terms
have similar meanings. Costs or expenses for a period are matched against revenue recognized during the period to determine the periodic net income or loss. A net operating loss occurs when recognized expenses exceed the revenue recognized during the period.

Economists have suggested that net income for a business be defined as the amount that can be distributed to its owners while permitting the business to be as well off at the end of the year as it was at the beginning. This definition of income would include the accounting income defined above plus gains or less losses due to changes in the value of the dollar, asset appreciation, increases or decreases in the value of inventories, and other such value changes. Following the concept of conservatism, declines in the value of inventory are recognized in the accounts, but gains and losses due to the other changes are not presently given recognition. The proposal that changes in value resulting from fluctuations in the value of the dollar and that increases in the value of inventories should be recognized in the accounts will be discussed in chapter three with regard to inventories and in chapter four for depreciation. The recommendation from the principles study to recognize increases in the value of inventories as income is discussed below.

**Cash versus the accrual basis of accounting.** When the cash basis of accounting is followed, revenue is recognized when the cash from a sale is received, and expenses are recorded when cash is disbursed for their payment. Under an accrual basis, however, revenue is recognized when a sale is made or when revenue is earned and costs are recognized in the period in which they are incurred. For most profit-
making concerns, the accrual basis is to be preferred. Only under very unusual circumstances would a pure cash basis be acceptable; although a modified cash basis is acceptable in certain cases. Under a modified cash basis, some items are recognized on the cash basis and others on the accrual basis. Usually depreciation and some expense items will be accounted for by the accrual basis while revenue is recognized on a cash basis. Under a pure cash system, however, no exceptions to the cash basis are made.

The data reported in statements based on a cash basis may be misleading and are subject to manipulation by management. In addition, there may be no relationship between the revenue and expenses reported in a given period. For example, if a firm's production costs were paid for and recognized in the accounts in one period but if the actual production and the receipt of revenue were delayed to the next period, there would clearly be no relationship between the expense and revenue reported in each period. Such a situation could be misleading because income, assuming no offsetting effect from a similar situation in other periods, would be understated in the first period but overstated in the second one. Due to the danger of a pure cash basis income report being misleading when depreciation is a major expense item, the cash basis is usually modified to permit the taking of depreciation. Under a pure cash basis, the total cost of an asset is charged to expense in the period in which it is purchased regardless of the number of periods it will be used by the business. Thus, income in the period of purchase would be significantly decreased, while income for future periods would be overstated. This is shown by the second
example presented below. An investor examining any one of a series of income statements for periods following the period of purchase could be misled concerning the sustained earning power of a company. By controlling the timing for the receipt of revenue and the payment of expenses, management can manipulate the results reported on a cash basis statement. In order to show a greater net income, payment for expenses incurred near the end of a period could be delayed until the following period which results in a shifting of recognized expense from one period to the other. It is true that an offsetting effect will occur in the next period; however, for purposes of this paper, offsetting effects can be ignored because the fact that such an effect may occur should not influence the selection of accounting principles.

To illustrate the differences in income reported under the accrual and cash bases, assume that at the end of its first year of operations a firm has received cash payments from sales of $55,000 and has paid expenses of $45,000, all of which have been consumed during the period. It also has made sales on account amounting to $5,000 and has incurred but not paid expenses of $10,000. The net income reported under each basis would be as follows:

<table>
<thead>
<tr>
<th></th>
<th>Cash Basis</th>
<th>Accrual Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$55,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>Less expenses</td>
<td>$45,000</td>
<td>$55,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$10,000</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

This example shows that a significant difference in income can be reported by the two methods; however, offsetting effects could increase or eliminate such differences in other cases. A more useful report of net income results from the accrual basis because revenue and expense
relating to current activity are compared. Therefore neither revenue nor expense is understated as is the case in this example with the report on a cash basis.

An even greater influence on the reported net income results when long-term assets are used by the business. If fixed assets of $30,000 had been purchased during the year, results for the year of purchase and for succeeding years would be as shown below. Net income except for the charges relating to fixed assets is assumed to be $10,000 under each basis. Depreciation is computed by the straight line method on an estimated useful life of 10 years with no salvage value.

<table>
<thead>
<tr>
<th></th>
<th>Cash Basis</th>
<th>Accrual Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year of purchase</td>
<td>Succeeding years</td>
</tr>
<tr>
<td>Income except for fixed charges</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Charge for fixed assets</td>
<td>30,000</td>
<td>0</td>
</tr>
<tr>
<td>Net profit (loss)</td>
<td>($20,000)</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

The matching process. The costs of producing a product should be charged against the revenue derived from the sale of that product. This procedure, which is fundamental in current accounting theory, is referred to as the matching process. Although it is impracticable to match all costs or expenses against the corresponding revenues, whenever an acceptable means of allocation has been developed, the practice of matching is followed. During the period, the expenses incurred are recorded in the appropriate accounts. At the end of the period, costs applicable to the goods remaining on hand are removed from expense and allocated to inventory; while inventory costs associated
with goods sold during the period are charged to expense. Some costs, such as direct labor and materials, can be allocated easily to different segments of production. For other costs, however, determining a satisfactory basis for allocation is more difficult and in some cases cannot be found. The extent to which matching can be usefully employed, then, is determined by the existence of a satisfactory basis for allocating expense to specific items of production.

The theory of matching has limited application for indirect factory, general and administrative, and selling expenses. In a retail firm, most costs, with the possible exception of certain advertising costs, are incurred to make current sales so can be properly matched against current revenue. Such costs for a manufacturing concern, however, are not necessarily related to current revenue. An attempt is made to allocate indirect factory and overhead costs to production, but the concept of matching is usually ignored for administrative and selling expenses. Since an attempt at allocation would in most cases, be completely arbitrary, a better measure of net income can be attained by charging these expenses against current revenue regardless of the fact that future revenues will probably be benefited by the expenditure. It would, of course, be desirable to allocate selling and administrative expenses if a satisfactory basis for allocation could be devised.

The timing for the recognition of expense is, therefore, greatly influenced by the matching concept. Generally accepted accounting principles have been determined by the desirability of complying with the concept in a given case. Thus, it is a generally
accepted accounting principle that direct labor and material costs plus indirect factory costs be matched against revenue, through the allocation of these costs to the product, but that selling and administrative expenses be treated as period costs. Alternative generally accepted accounting principles and procedures relating to the timing and amount of expense to be recognized will be discussed in the following chapters.

REVENUE RECOGNITION

Revenue may be recognized at several points during the business cycle. The point of sale is the most accepted time for revenue recognition, but another time may be selected if this will result in a better reflection of net income, for example the receipt of cash or during production. Installment sales or other situations where the actual receipt of the revenue is extremely doubtful call for a delay in the recognition of revenue until cash is received. On the other hand, when production on a project takes place in two or more periods, as often occurs in the construction of buildings, bridges, or special facilities, revenue recognition during production will result in a better periodic measure of net income.

Official positions. Revenue recognition at the point of sale, with exceptions for special cases, has been a generally accepted accounting principle for many years. The first generally accepted principle of accounting agreed to by the American Institute of Accountants and the New York Stock Exchange in 1932 stated:
Unrealized profit should not be credited to income account of the corporation either directly or indirectly, through the medium of charging against such unrealized profits amounts which would ordinarily fall to be charged against income account. Profit is deemed to be realized when a sale in the ordinary course of business is effected, unless the circumstances are such that the collection of the sale price is not reasonably assured. An exception to the general rule may be made in respect to inventories in industries (such as packing-house industry) in which owing to the impossibility of determining costs it is a trade custom to take inventories at net selling prices, which may exceed cost.19

With regard to inventory pricing, the American Institute of Certified Public Accountants has said that generally income accrues only at the time of sale and may not be anticipated by reflecting assets at their current sales prices. However, an exception to this rule may be made for certain inventories such as those for gold and silver when there is an effective government-controlled market at a fixed monetary value and those for agricultural, mineral, and other products, the units of which are interchangeable and have an immediate marketability at quoted prices.20 Recommendations from the study on broad accounting principles21 would reverse this rule by making it permissible to take into income increases in the value of inventory as soon as they can be measured objectively. The Institute has also accepted a departure from the point of sale rule in the case of long-term construction contracts where income may be recognized during production if reasonable estimates of total costs and percentage of completion can be made.

19Accounting Research Bulletin No. 43, Chapter 1, p. 11.
20Ibid., Chapter 4, p. 34.
21See Chapter 1, p. 21.
The statement on accounting principles by the American Accounting Association states two accepted methods for revenue recognition—the point of sale and during production for long-term construction contracts. The nonacceptance of the cash and installment bases of revenue recognition is implied. In explanation the statement states:

If a tangible product is furnished by the enterprise to its customers, revenue should normally be recognized at the time of sale. An extended collection period or the necessity for substantial effort by the enterprise subsequent to sale may create problems of measurement without affecting the propriety of recognizing revenue on the basis of the sale. In the manufacture of special items on a contract basis, revenue may be recognized as appropriate to the progress of the work and the terms of the contract. If a service is furnished by the enterprise to its customers, revenue normally should be recognized at the time of performance.22

Sales basis. Sales provide the best measure for revenue recognition in most business enterprises. By marking the completion of the transaction, which is one of the primary objectives of the organization, the sale gives evidence that revenue has been earned. It is accompanied by an exchange of assets which provides an independent and objective measure of the revenue to be recognized. The possibility that the product will not be sold due to a lack of market demand has also been removed. Finally, a major portion of the costs to produce and to sell the product has been incurred; so matching can be most effective at this time. The retention of these costs in inventory and a delay of revenue recognition do not have a useful purpose. From the legal point of view, a sale is completed with the passage of title to the purchaser. Except for special cases, such as sales on consignment,

22 American Accounting Association, p. 5.
title is assumed to have passed and the sale is recorded with the acts of invoicing and of shipment of the product to the buyer. The principal objection to using sales as a criterion for revenue recognition is that until cash is received the final outcome of the transaction is unknown; since the cash may not be received, or additional costs may be incurred after the sale. In most cases, however, such costs will not be large and appropriate allowances for them, based on past experience, can usually be made. Only in circumstances such as those described in the next two sections can a departure from the sales basis of revenue recognition be in accordance with generally accepted accounting principles.

Cash basis. In early accounting theory, only the cash received was considered to be revenue. This view derived from the fact that the receipt of cash usually marked the termination of a venture with the distribution of cash and the remaining assets to the owners. When an enterprise is of a continuing nature however, the delay of revenue recognition until cash is received is an undesirable postponement of income. Since only revenue is recognized on a cash basis with expenses usually being reported on an accrual basis, an overstatement of the firm's assets will result when perpetual inventories are kept and income will be understated when the periodic inventory method is used. Perpetual inventories will include the cost of goods the business has sold; consequently the business will not have possession

of or title to some of the items included in its inventory. Periodic inventories, on the other hand, will include only the cost of those items on hand at the time the inventory is taken with the cost of the items sold being charged against revenue. Income will be understated because expenses will be recognized in the period of sale but revenue will not be recognized until cash is received. The cash basis does, however, eliminate the possibility of subsequent losses due to uncollectable accounts and of an overstatement of income due to the failure to recognize billing and collection costs resulting from the sale. Usually reasonable allowances can be made for these contingencies; so there is no need to delay the determination of income from the transaction.\(^2\)

Enterprises furnishing services instead of goods may use a cash basis for recognizing revenue. The character of their professional services may be such that total costs and billing are not known until the work is done, and there may be only a small time lag between the furnishing of the service and the receipt of cash. Also since the service cannot be recovered, as is the case with goods, it may be believed that revenue is not assured until cash is received. Legally, however, claims based on the rendering of services have the same validity as those based on the sale of goods. As an accounting principle, therefore, the cash basis cannot be accepted unless the receipt of cash and the performance of the service occur at approximately the

\(^2\)Ibid., p. 240.
same time. 

**Installment sales.** Revenue from sales in which the purchase price is paid in a number of installments may be recognized at the time of sale as with regular sales or at the time cash is received. When the second alternative is followed, profit is usually recognized on what is known as the installment basis. Under this method, each collection is treated as both a return of cost and a realization of profit in the ratio in which these two elements are found in the original sale. As in most situations where the cash basis of revenue recognition is employed, expenses are recognized in full by the accrual method in the period in which they are incurred. This basis, then, gives a conservative picture since expenses will not be understated nor can profit be overstated.

Several arguments are advanced in favor of the installment basis when payments are received over a number of periods. First, some contend that since an installment contract is not a liquid asset, revenue should not be recognized. Revenue, under this argument, would be defined as amounts received from the sale of goods that give or soon will give purchasing power to the business. Second, the longer the collection period the greater is the possibility that the total sales price will not be collected. In addition, the costs of repossessing the goods when payments are not made may be high. A third argument states that costs incurred after the sale, for example bookkeeping, billing, and collection costs, are higher than with other sales; thus

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25 W. A. Paton and A. C. Littleton, *An Introduction to Corporate Accounting Standards*, (Columbus, Ohio, 1940), p. 57.
these costs should be included when determining the profit on a sale. Revenue recognition by the installment basis, therefore, would seem to have the objective of not overstating profit on delayed payment sales. In opposition to the installment basis, critics point out that the downpayment is usually large enough to cover any repossessions or additional costs and that appropriate allowances, such as bad debts, can be provided for expected losses or additional expenses. The American Accounting Association in the statement quoted above said that installment sales situations created problems of measurement but did not affect the propriety of recognizing revenue when the sale was made.

Revenue recognition at the completion of production. In certain special cases, revenue may be recognized when the production process is completed. For such recognition to be in accordance with generally accepted accounting principles, the sales price that will be received must be either fixed or easily determined and additional expenses to sell and deliver the product should be small. Production that fills orders already received at an agreed price best meets this criterion. Mineral or agricultural products that are sold in government controlled markets at a fixed monetary value or other situations where there is immediate marketability at quoted prices may also meet the above requirements. Since revenue can be estimated and all major expenses have been incurred, income can be determined before the sale is made. Revenue recognition upon completion of production, however, has very limited application and may not be appropriate in many cases.

26 Ibid., p. 58.
that would seem to be included in the above general examples.

Revenue recognition during production--recommendations from principles study. The study on a broad set of accounting principles has recommended that revenue be recognized as soon as it can be measured objectively. The recommendation is based on "the clear recognition that profit is attributable to the whole process of business activity, not just to the moment of sale, and . . . that 'realization at point of sale' will give satisfactory results only when the flow of product is reasonably uniform." Instead of being considered an exceptional principle, as described above, revenue recognition during or at the end of production, according to the recommendation, would be the preferred method whenever it could be objectively measured.

Profit would be of two types--operating and holding. Operating profit would measure the difference between the revenue received and the replacement cost of the items sold; while holding gains or losses would measure the change in value while the inventories were on hand, or in other words, the difference between original cost and replacement cost. Holding gains or losses would result from price changes for the cost items included in inventory, by changes in the value of the monetary unit, and by increases or decreases in the utility of the goods while in inventory. Except for products with fairly stable market values, operating profits would not be recognized until the sale had been made. Holding profits, however, would always be measured before the sale.

Prior to a sale or at the end of the period, the current replacement

\[27\] Sprouse and Moonity, p. 114.
cost of the inventory items would be compared with their recorded costs. The difference between the two amounts would be charged or credited to the revenue account as a holding gain or loss. This procedure would change the lower of cost or market principle to the lower of replacement cost or market by recognizing increases as well as decreases in inventory values, and would mark a departure from the concept of conservatism which has been followed for inventory valuation.28

The proposal has the advantage of a better matching of revenue and expense due to the recognition of increases as well as decreases in the value of inventory. Also revenue would be recognized as it was earned for products whose market value could be objectively determined. The expense and time needed to make the computations are the major objections to the recommendations. Since new computations of replacement cost would have to be made as goods were sold, the costs entering the product would have to be continuously redetermined during the period. If new amounts were not used in the computations as replacement costs changed, the procedure would be of little use and could give misleading results. A price index could be used, but such indexes are usually constructed from average data. The index used, therefore, probably would not measure accurately the replacement cost in a specific case. The usefulness of the suggested procedure, then, would depend on the suitability of the methods used to determine replacement costs.

28The above recommendations are discussed at several places in the principles study report by Mr. Sprouse and Mr. Moonity, however, attention is directed toward the discussion on pages 27 to 32 and 46 to 48.
Long-term construction contracts. Revenue recognition on long-term construction projects may be computed on a percentage-of-completion basis or on a completed-contract basis. Since the work on such jobs occurs in two or more fiscal periods, the question of the best time to recognize revenue arises. Under the percentage-of-completion method, income is recognized as work on the project progresses. The amount recognized in any period is either the percentage of estimated total income that costs incurred to date bear to the most recent estimate of total costs or the percentage of estimated total income as indicated by some other measure of progress toward completion which gives due regard to the work performed. The periodic recognition of income on a current basis rather than irregularly as contracts are completed and the reflection of the status of incomplete contracts provided through current estimates are the principal advantages of the percentage-of-completion method. Its main disadvantage is that accruing income is based upon estimates of ultimate costs which are subject to the uncertainties inherent in long-term contracts. Under the completed-contract method, as the name would indicate, income is recognized only after construction is completed. This method has the advantage of measuring income from results as finally determined rather than from estimates. The principal disadvantage of the completed-contract method is that current performance is not reflected when contracts extend into more than one accounting period which may result in the irregular recognition of income. When should each method be used? The Accounting

29Accounting Research Bulletin No. 45, pp. 4-7.
Procedures Committee suggested the following guidelines:

The committee believes that in general when estimates of costs to complete and extent of progress toward completion of long-term contracts are reasonably dependable, the percentage-of-completion method is preferable. When lack of dependable estimates or inherent hazards cause forecasts to be doubtful, the completed-contract method is preferable.\textsuperscript{30}

The effect of each method on reported net income can be seen from the following example. Assume that a firm has a contract to construct a bridge for $800,000 and that total estimated costs are $720,000. If costs to date of $180,000, $540,000 and $720,000 had been incurred at the end of each period, the income reported under each method would be as shown below. Although the total income to be reported on the contract is the same under each method, the periodic income statements report significantly different net incomes.

<table>
<thead>
<tr>
<th>PERCENTAGE-OF-COMPLETION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent complete</td>
</tr>
<tr>
<td>Contract price (allocated)</td>
</tr>
<tr>
<td>Costs incurred</td>
</tr>
<tr>
<td>Income to date</td>
</tr>
<tr>
<td>Less income recognized in other periods</td>
</tr>
<tr>
<td>Reported net income</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPLETED-CONTRACT METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract price</td>
</tr>
<tr>
<td>Recognized costs</td>
</tr>
<tr>
<td>Reported net income</td>
</tr>
</tbody>
</table>

CONCLUSION

The fact that revenue can be recognized at different times in the operating cycle does reduce the comparability of the net incomes of

\textsuperscript{30}\textit{Ibid.}, p. 7.
different firms. The selection of a uniform point for revenue recogni-
tion would be undesirable, however, because each firm should be able to
select the timing for revenue recognition that best reflects its peri-
odic net income. As shown above, for example, the sales basis for reve-
nue recognition, as illustrated by the completed-contract method, may
distort periodic net income for firms in the construction industry. In
fact, use of the sales basis would destroy the possibility of compari-
sions among firms in the industry or between the construction industry
and other industries. Thus uniformity of the timing for revenue recog-
nition might not increase the comparability of net incomes.

Although complete uniformity in the timing for revenue recogni-
tion is not desirable, similar timing by firms engaged in similar
activity would be desirable. For example, revenue from installment
sales may be recognized either by the sales basis or by the install-
ment basis. For all firms making this type of sale, to use the same
basis would be desirable since the comparability of their net incomes
would be greater. It will be argued that for each firm market condi-
tions, the risk of loss, and the ability to estimate costs will differ;
therefore, each firm should be able to select the method that will best
reflect its particular situation. That the determination of the degree
of risk, of whether or not costs can be estimated, and of other areas
where uncertainties exist are matters of judgment and that the judg-
ment of different people may not always be the same should be pointed
out. Thus it is possible for two equally qualified people to reach
different conclusions from the same set of facts due to differences in
the judgment exercised by each. Perhaps, then, efforts should be
directed toward making the most accurate estimates possible of expected costs instead of emphasizing whether or not such projections can be made. Only when reasonable estimates of costs could not be made would the delay in revenue recognition be permissible. Under this approach, the installment basis probably would not be an accepted principle of accounting because management using past experience as a guide should be able to make reasonable predictions of expected losses and additional costs from installment sales. Past experience probably would not be as good a guide in the construction industry because for each job conditions may be different, prices may fluctuate, and exogenous forces, such as the weather, may influence costs. Estimates of expected costs, therefore, may have to be based almost entirely on expected future conditions. When reasonable estimates based on future expectations cannot be made, the completed-contract method must, of course, be used.

The suggestion from the study on broad accounting principles, to recognize income as it is earned, would not increase the comparability of incomes between firms. Since no procedures for implementing the recommendation have been suggested, some firms would follow it while others would not, and those that did would use various methods to make the computations. Such a situation would decrease rather than increase the comparability of income statements among firms. From the point of view of increasing uniformity, therefore, acceptance of this method for recognizing revenue should be delayed, at least, until some fairly uniform rules for complying with the recommendation are suggested and are found to be acceptable.
CHAPTER III

COST OF GOODS SOLD

The major cost classification for firms engaged in the manufacture and/or sale of a product is cost of goods sold or cost of sales. This classification measures the purchase price plus freight for the goods sold during the period by a retail or wholesale business and the cost for materials, direct labor, and an appropriate share of manufacturing overhead for products sold by a manufacturing enterprise. If all the goods purchased for resale or manufactured during the period were sold by the end of the period, the difficulty of measuring periodic net income would be reduced. Usually, however, some goods are on hand or in the process of production at the end of the period. An allocation of costs between the goods sold during the period and those remaining on hand in inventory must be made if a matching of revenue and expense is to occur. The costs attaching to the items in inventory are usually determined, with the remaining costs being charged to cost of goods sold. Several procedures for determining the value of inventory are generally accepted. The method selected, in a particular case should be the one which, considering the circumstances, most clearly reflects periodic net income. In a given situation, total costs will be the same for all methods, but the costs retained in inventory and those charged to cost of goods sold will vary. The effect
on net income will be directly proportional to the difference in inventory value under each method. Since net income will vary with the use of different inventory methods, the usefulness of comparisons of net income among firms is reduced because different results for the same situation may be obtained through the use of different inventory methods.

INTRODUCTION

Composition of inventory. The amount shown as inventory represents the value assigned to the merchandise owned by the business at the end of a period. Title to the goods rather than possession is the criterion used to determine the items to be included in inventory. From the point of view of income measurement, "inventories are essentially unrecovered costs of materials, labor, and other assigned charges," and thus "represent that portion of the stream of costs incurred in acquiring and producing goods which can reasonably be applied to revenues of the future."\(^{31}\) Although the nature of the inventory components will differ from firm to firm, total inventory can be divided into

those items of tangible personal property which (1) are held for sale in the ordinary course of business, (2) are in process of production for such sale, or (3) are to be currently consumed in the production of goods or services to be available for sale.\(^{32}\)

These three classifications correspond to finished goods, work in process, and raw materials, respectively.

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\(^{31}\)Paton and Littleton, p. 77.

\(^{32}\)Accounting Research Bulletin No. 43, Chapter 4, p. 27.
The items in each group should be valued at original cost unless the utility of the goods is no longer as great as cost. When replacement cost is less than original cost, the lower of cost or market rule is used to value inventories. Cost, with regard to inventories, is defined as the "sum of the applicable expenditures and charges directly or indirectly incurred in bringing an article to its existing conditions and location." Under the present methods of determining inventory values on a cost basis, current costs can be either matched against current revenue or charged to inventory. Only in a period of stable prices can current costs be used to determine both the inventory and cost of goods sold amounts. The merits of the various procedures for pricing, valuing, and computing inventory components will be discussed in the major sections of this chapter.

Inventory records. Inventories may be accounted for either on a periodic or a perpetual basis. When the periodic basis is used, a physical count is made periodically to determine the quantity of goods in inventory. Under a perpetual system, the balance of the inventory account in terms of quantity or quantity and cost is kept throughout the period by recording additions and withdrawals as they occur. Costs are assigned to the units in ending inventory in accordance with one of the inventory pricing methods when the periodic or perpetual, quantity only, basis is used. When both quantity and cost are kept on the perpetual basis, one of the pricing methods is still used, but it is applied as changes occur during the period. Thus, a new average is

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\[33\text{Ibid.}, \text{p. 28.}\]
computed after each addition to inventory when that method is being used, or the cost to be transferred to cost of goods sold is determined as the withdrawal is made when the last-in, first-out method is employed. A periodic count should be made at least yearly to confirm the perpetual record and to make corrections to bring the book record into conformity with the physical count. Both bases will give a similar inventory cost, but the perpetual basis aids management in its control over inventories and decisions concerning them. In order to simplify computations, the examples in this chapter will assume the periodic method of recording inventory.

INVENTORY PRICING METHODS

The costs relating to the product or products sold by a business are assumed to enter inventory as they are incurred. Manufacturing costs will remain in inventory but will move from one classification to another as production progresses. When the product is sold, its cost flows from inventory to cost of goods sold. The cost to be transferred will depend on the inventory pricing method used by a company. The specific identification method traces the actual costs of the product through inventory. If this method is not used, some assumed flow of inventory costs must be employed. Three of these—first-in, first-out, weighted average, and last-in, first-out—will be discussed in this section.

Specific identification. When the specific identification method of inventory pricing is used, the specific costs identified with an item are matched against the revenue received from its sale.
The exact matching of revenue and expense and the simulating of the actual flow of goods from inventory are the chief advantages of this method. Although the specific identification of cost with items in inventory is highly desirable, for the above reasons, its use will be impracticable in many cases. When inventory is composed of a large number of similar items, the records needed, the time taken, and the cost for specific identification will outweigh the advantages of the method. Also, when inventory items are identical, it will be impossible to identify the items sold with their costs. In cases where the items are interchangeable, profits may be manipulated through the choice of the units to be delivered. Use of the specific identification method of inventory pricing is, therefore, limited to situations where products are manufactured to fill specific orders or where the inventory items have a high unit value and can be differentiated from each other, for example automobiles for a franchised new or used car dealer.

First-in, first-out. The first-in, first-out inventory pricing method assumes that costs will flow out of inventory in the same order in which they entered it. Thus, the first goods to enter inventory or a classification thereof will be the first ones to leave. The inventory, therefore, will be stated at the cost of the latest items to be placed in it. The inventory value, also, will be the same under either the periodic or the perpetual basis.
<table>
<thead>
<tr>
<th></th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Units</td>
<td>Cost</td>
<td>Units</td>
</tr>
<tr>
<td>Beginning Inventory</td>
<td>200</td>
<td>$10</td>
<td>200</td>
</tr>
<tr>
<td>Purchase One</td>
<td>200</td>
<td>$12</td>
<td>500</td>
</tr>
<tr>
<td>Purchase Two</td>
<td>400</td>
<td>$9</td>
<td>100</td>
</tr>
<tr>
<td>Purchase Three</td>
<td>300</td>
<td>$10</td>
<td>400</td>
</tr>
<tr>
<td>Purchase Four</td>
<td>100</td>
<td>$11</td>
<td>200</td>
</tr>
<tr>
<td>Units Available</td>
<td>1,200</td>
<td>$11</td>
<td>1,400</td>
</tr>
<tr>
<td>Sales</td>
<td>1,000</td>
<td>$15</td>
<td>1,200</td>
</tr>
<tr>
<td>Ending Inventory</td>
<td>200</td>
<td>$10</td>
<td>200</td>
</tr>
</tbody>
</table>

If the above purchases and sales, which will be used to illustrate all of the assumed flow methods, were made, the inventory at the end of each period priced on the first-in, first-out basis would be:

<table>
<thead>
<tr>
<th></th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 units at $11 $1,100</td>
<td>200 units at $15 $3,200</td>
<td>200 units at $8 $1,600</td>
</tr>
<tr>
<td></td>
<td>100 units at $10 $1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>$2,100</td>
<td>$3,200</td>
<td>$1,600</td>
</tr>
</tbody>
</table>

As can be seen, the inventory figure will increase as prices rise and will become lower as prices decline. The cost of goods sold and net income for each period is shown on page 53.

For most businesses, the flow assumed under the first-in, first-out method corresponds closely with the actual flow of goods through inventory so can be expected to match actual cost with the revenue received for the product. On the balance sheet, inventories will be valued at the cost of the most recent purchases and, thus, will in most cases reflect the current replacement cost of the goods in inventory. Other advantages of this method are that it is simple to understand and that computations are relatively easy to make. Its failure to match current cost with current revenue in periods of changing prices is the principal objection to the first-in, first-out pricing method. When this method is followed, cost of goods sold on the income statement will be indicative of current
replacement costs only in periods of relatively stable prices. In periods of falling or rising prices, first-in, first-out costs will lag behind current costs.

**Weighted average.** Either a weighted or a moving average can be used to determine the distribution of costs between inventory and cost of goods sold. The average cost must be recomputed after each addition to inventory when a moving average is used; while for the weighted average, the computation is made only at the end of the period. Using the above data, the computation of the inventory for each period by the weighted average method can be illustrated as follows:

<table>
<thead>
<tr>
<th>Units</th>
<th>Period 1</th>
<th>Units</th>
<th>Period 2</th>
<th>Units</th>
<th>Period 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 at $10</td>
<td>2,000</td>
<td>200 at $10.08</td>
<td>2,016</td>
<td>200 at $13.30</td>
<td>2,660</td>
</tr>
<tr>
<td>200 at 12</td>
<td>2,400</td>
<td>500 at 12.00</td>
<td>6,000</td>
<td>300 at 14.00</td>
<td>4,200</td>
</tr>
<tr>
<td>400 at 9</td>
<td>3,600</td>
<td>100 at 14.00</td>
<td>1,400</td>
<td>100 at 12.00</td>
<td>1,200</td>
</tr>
<tr>
<td>300 at 10</td>
<td>3,000</td>
<td>400 at 15.00</td>
<td>6,000</td>
<td>400 at 11.00</td>
<td>4,400</td>
</tr>
<tr>
<td>100 at 11</td>
<td>1,100</td>
<td>200 at 16.00</td>
<td>3,200</td>
<td>300 at 8.00</td>
<td>2,100</td>
</tr>
<tr>
<td><strong>1,200</strong></td>
<td><strong>$12,100</strong></td>
<td><strong>1,100</strong></td>
<td><strong>$18,616</strong></td>
<td><strong>1,300</strong></td>
<td><strong>$14,860</strong></td>
</tr>
</tbody>
</table>

Weighted average = \( \frac{1,200 \times 10 + 1,100 \times 10.08}{2,300} \) = $10.08

Ending inventory = 200 units at $10.08 = $2,016

The same average unit cost will be used to determine the cost of the goods sold during the period.

Average unit costs, as can be seen from the illustration, will be less than current replacement cost in periods of rising prices and greater than current costs in periods when prices are falling. For statement purposes, neither inventories nor cost of goods sold will be stated in terms of current prices since the unit cost does not reflect current
Also, inventory values will be perpetually influenced by the cost of earlier acquisitions although this influence will be very small after a few periods. When there is an intermingling of the goods in the inventory, this method may parallel actual flow in the sense that any item in inventory may be the one used to fill a sale's order. Both the weighted and moving averages are free from the possibility of management manipulation, and neither inventory nor cost of goods sold will be greatly influenced by a sudden change in prices near the end of the period as can occur under the other two assumed flow methods.

**Last-in, first-out.** Under the last-in, first-out inventory pricing method, the latest goods to enter inventory are assumed to be the first ones to leave. Thus, inventory will be stated in terms of early cost; while cost of goods sold will reflect current replacement cost. In the above problem, the ending inventory in each of the three periods, under the last-in, first-out pricing method, would be 200 units at $10 for a total inventory value of $2,000. To illustrate the computations for this method when inventory quantities change, assume that the inventory at the end of periods two, three, four, and five were 300 units, 400 units, 350 units, and 250 units respectively. Using the data on page 148, the inventory at the end of period two would consist of the beginning inventory, 200 units at $10, plus 100 units from the first purchase in the period, 100 units at $12, for an ending inventory balance of $3,200. The ending inventory for period three would be composed of the beginning inventory, 200 units at $10
and 100 units at $12, plus 100 units at $1\frac{1}{2}$, which were included in the first purchase in period three. As inventory quantities decline, the cost of the most recent additions to inventory are the first charged to cost of goods sold. Thus, the ending inventory in period four would consist of 200 units at $10, 100 units at $12, and 50 units at $1\frac{1}{2}$, while that of period five would be made up of 200 units at $10$ plus 50 units at $12$.

The principal advantage claimed for the last-in, first-out inventory pricing procedure is that current costs are matched against current revenue. Therefore, net income will be neither understated nor overstated in periods of changing prices; however, inventory on the balance sheet will be understated when current prices are greater than the early inventory costs and will be overstated when they are under the early cost. The understatement of inventory values is particularly serious; since it decreases the working capital position of a firm and thus may adversely affect the availability of credit to the firm. The fact that the last-in, first-out method may tend to smooth the profit curve, has been claimed as an advantage of the method. This argument is irrelevant, however, because the purpose of accounting is to report what has happened, not to spread income evenly over several periods.

Another disadvantage of this method is that the assumed flow will not, in most cases, conform to the actual flow of goods from inventory.

This is one of the few times that accounting for tax purposes has had a direct influence on the general acceptance of an accounting principle or procedure. The federal income tax law requires that when the last-in, first-out method is used for tax computations it must also
be used for book purposes. Not to accept the last-in, first-out method as a generally accepted procedure of accounting, therefore, would deprive a business of the tax benefits to be derived from its use in periods of generally rising prices or would cause firms to depart from generally accepted accounting practice in order to receive the benefit of the lower taxes as computed under this method. Although tax regulations should not dictate generally accepted accounting principles and procedures, their influence, particularly in this case, cannot be ignored.

Comparison of assumed flow methods. The net incomes computed from the data in the above examples for the first-in, first-out, weighted average, and last-in, first-out inventory pricing procedures in each of the three periods is shown on page 53. When prices are relatively stable, as occurred in period one, each method will result in similar net incomes. The first-in, first-out method of pricing results in a higher net income in period two, which represents a period of rising prices; whereas, in a period of falling prices, the last-in, first-out method, as shown by period three, will give the greatest net income. Whether general prices are rising, falling, or steady, the weighted average method can be expected to result in a net income that is between those of the other two methods.

If the illustration on page 53 represented the net incomes of three different firms each using a different inventory pricing method, would their net incomes be comparable? Since the same data were used for the computations under each method, the differences in net income are due entirely to the alternative accounting procedures used for pricing inventory. Therefore, a comparison made between the net incomes
of two firms using different inventory pricing procedures may be of little value and may even be misleading because the net incomes may be influenced in part by the accounting methods employed instead of by the company's earning power or by management's ability.

**Period 1**

<table>
<thead>
<tr>
<th></th>
<th>First-in, First-out</th>
<th>Weighted Average</th>
<th>Last-in, First-out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>$15,000</td>
<td>$15,000</td>
<td>$15,000</td>
</tr>
<tr>
<td><strong>Beginning inventory</strong></td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>Purchases</strong></td>
<td>10,100</td>
<td>10,100</td>
<td>10,100</td>
</tr>
<tr>
<td><strong>Cost of goods available</strong></td>
<td>$12,100</td>
<td>$12,100</td>
<td>$12,100</td>
</tr>
<tr>
<td><strong>Less ending inventory</strong></td>
<td>2,100</td>
<td>2,016</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>Cost of goods sold</strong></td>
<td>$10,000</td>
<td>$10,084</td>
<td>$10,100</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>$5,000</td>
<td>$4,916</td>
<td>$4,900</td>
</tr>
<tr>
<td><strong>Other expenses</strong></td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$3,000</td>
<td>$2,916</td>
<td>$2,900</td>
</tr>
</tbody>
</table>

**Period 2**

|                | $21,600             | $21,600          | $21,600           |
| **Sales**      |                     |                  |                   |
| **Beginning inventory** | $2,100 | $2,016 | $2,000 |
| **Purchases**  | 16,600              | 16,600           | 16,600            |
| **Cost of goods available** | $18,700 | $18,616 | $18,600 |
| **Less ending inventory** | 3,200 | 2,660 | 2,000 |
| **Cost of goods sold**  | $15,500             | $15,956          | $16,600           |
| **Gross profit** | $6,100              | $5,644           | $5,000            |
| **Other expenses** | 3,000              | 3,000            | 3,000             |
| **Net income**  | $3,100              | $2,644           | $2,000            |

**Period 3**

|                | $17,600             | $17,600          | $17,600           |
| **Sales**      |                     |                  |                   |
| **Beginning inventory** | $3,200 | $2,660 | $2,000 |
| **Purchases**  | 12,200              | 12,200           | 12,200            |
| **Cost of goods available** | $15,400 | $14,880 | $14,200 |
| **Less ending inventory** | 1,600 | 2,286 | 2,000 |
| **Cost of goods sold**  | $13,800             | $12,574          | $12,200           |
| **Gross profit** | $3,800              | $5,026           | $5,400            |
| **Other expenses** | 1,000              | 1,000            | 1,000             |
| **Net income**  | $2,800              | $4,026           | $4,400            |

Which inventory method should be used by a company? The Accounting Procedures Committee of the American Institute of Certified Public
Accountants has said that any of the above pricing procedures may be used, but "the major objective in selecting a method should be to choose the one which, under the circumstances, most clearly reflects periodic income." The American Accounting Association has suggested three objectives to be met by an inventory pricing method:

1. report in current terms the cost of products and services transferred to customers during the period;
2. report in current terms the costs present in inventories at the end of the period;
3. identify the gains or losses resulting from price changes.

The last-in, first-out method meets the first objective but not the other two. A parenthetical statement of replacement value used with last-in, first-out inventories would fulfill the second objective but would still not meet the third one. The first-in, first-out and in many cases the average method will meet the second objective but fail to meet the first one. Although the first-in, first-out and average methods reflect the effect of price changes, this information is buried in the cost of goods sold figure. In Supplementary Statement No. 6, the American Accounting Association concluded, that artificial LIFO has some usefulness at the present time provided adequate standards of disclosure are utilized. However, strong effort should be applied to experimentation with techniques of price-level adjustment and if techniques eventually are commonly adopted for reflecting in accounting reports the impact of price level changes, the artificial LIFO method should be abandoned entirely in favor of a realistic flow assumption.

From the point of view of comparing the net incomes of various firms, the last-in, first-out approach would seem to be preferred because

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31 Ibid., p. 29.
35 American Accounting Association, p. 6.
36 Ibid., p. 40.
current costs would be used by all firms in matching revenue and ex­
pense to determine net income. However, if price level adjustments,
which are discussed below, are developed, the first-in, first-out or
average method plus the adjustments would be preferable, since all
three objectives suggested by the American Accounting Association could
then be met.

INVENTORY VALUATION

Lower of cost or market. A long accepted principle of accounting
has been that inventories should be valued at the lower of cost or mar­
ket, market in this case meaning current replacement cost. Therefore,
if the utility of the items in the inventory decreases or if their re­
placement cost drops, the inventory should be valued at an amount below
original cost. However, in applying this rule, a loss should not be
recognized unless the evidence clearly indicates that it has been sus­
tained. Thus, in cases where it can be expected that original cost
plus a normal profit margin will be recovered from sales in the ordi­
nary course of business, no loss should be recognized even though the
replacement cost or value of the goods is lower than original cost.37

The rule of lower of cost or market may be applied either to
each item, to each major category, or to the total inventory. The one
used will depend on the circumstances in each case. The most common
method is to apply the rule to each item in the inventory. However,
the total inventory approach may be more significant when there is only

37Accounting Research Bulletin No. 43, Chapter 4, pp. 30-31.
one end product, or the major category application may be more appropriate when there are a number of items in inventory.\textsuperscript{38}

The conservative aspect of the lower of cost or market rule has been the main reason for its wide acceptance. Since losses due to a decline in inventory values are recognized in the period in which they occur, inventories are conservatively stated at realizable value and net income is not overstated as it would be if the losses were not recognized. The lower of cost or market rule calls for the recognition of inventory losses in the period in which they occur, but gains due to an increase in inventory value above original cost are not recognized in the accounts until the period in which the goods are sold. This lack of consistency in the treatment of market values above and below original cost is the main criticism of the lower of cost or market principle. Also the fact that market is a subjective value makes it possible for profit and inventory amounts to be manipulated by management when this method is followed. If an ultra-conservative approach to lower of cost or market is employed, management will write down inventory whenever there is any indication of a decline in its value. When the loss does not materialize, as often happens, profits are understated in the period in which the "loss" was recognized and overstated in the period in which the "written down" inventory is sold.

Recommendation from the Accounting Principles Study. An extension of the lower of cost or market rule to recognize both gains and

\textsuperscript{38}Ibid., pp. 32-33.
losses has been recommended as a result of the study on broad accounting principles. Whenever the measurement could be objectively made, net realizable value would be the preferred method of valuing inventories. In all other cases, current replacement cost would be used. Use of such inventory values would eliminate the need to assume an inventory flow, since the current cost of inventories is the same for all of the pricing methods. This procedure would also point out the fact that the value of an item increases as production takes place and the utility of the good increases. In addition, a distinction would be made between profits from operations and those due to changing prices or other changes in inventory values not resulting from production activity. Finally, both inventory and cost of goods sold would be valued in terms of current costs, and gains and losses due to changing prices would be segregated, thus meeting all of the objectives suggested by the American Accounting Association for inventory pricing. As discussed in chapter two, the main difficulty in implementing the study's recommendation is the finding of a satisfactory means to measure net realizable value and current replacement costs.

Adoption of the recommendation, assuming a satisfactory method of computing inventory values was used, would increase the comparability of net incomes of different firms. Variations in net income resulting from the use of alternative accounting procedures, such as those illustrated above, would be eliminated since cost of goods sold

\[\text{\footnotesize \cite{Sprouse and Moonitz, A Tentative Set of Broad Accounting Principles for Business Enterprises, Accounting Research Study No. 3.}}\]

\[\text{\footnotesize \cite{Ibid., pp. 27-30.}}\]
for all firms would be stated in terms of current prices.

ASSIGNMENT OF COSTS TO INVENTORY

Direct labor, direct materials, and manufacturing overhead are the cost elements assigned to inventory. Direct labor and materials can be identified with or traced to the product at the time the cost is incurred. The data for prime costs—direct labor and materials—are obtained from source records and do not usually present a problem of cost allocation. Manufacturing expense or overhead measures the cost of indirect labor, indirect material, and all other manufacturing costs that cannot conveniently be charged directly to specific units, jobs, or products. A means for making a direct measurement of overhead cost may not be available or the process may be too costly if a means does exist. Since a direct measure cannot be used, some method of allocating costs to the product must be developed. The rest of this chapter will be devoted to a discussion of the various methods or means of allocating manufacturing costs to inventory and expense.

Allocation of overhead. Overhead is made up of three types of cost—variable, semivariable, and fixed. Variable costs, such as power or supplies, will vary in direct proportion to changes in volume of production or activity; while fixed costs, for example property taxes and depreciation, do not vary with business volume in the short-run. Fixed costs may fluctuate but due to factors not associated with the current volume of production. Semivariable costs, on the other hand, will vary with changes in production volume but not in direct proportion to the change. The variability of overhead costs must be
considered when selecting a method or methods for charging overhead to expense. This is also the major reason for the present controversy about accounting principles in this area.

Overhead costs are allocated to production by some basis or index that varies with indirect costs but that can be directly measured. Direct labor hours is the basis most widely used. This method gives fairly accurate results when labor is an important factor of production. Another advantage is that the data for computing the direct labor hours are usually available from production time sheets. In some cases, the machine hour basis will give a more reliable basis for cost allocation. This is especially true when a plant is highly mechanized and one operator can run several machines. Special computations and additional collection of data, however, may have to be made in order to use this basis. Usually, an index based on direct labor cost and/or direct material cost will not give a satisfactory basis of allocation because these costs are not directly related to the time factor. When such a basis can be used, for example in cases where all direct labor is paid at the same hourly rate, the data for computations can be taken directly from the accounts. Allocation according to the number of units produced will give valid results only when a single product is produced. For all of the above methods, the cost of making the allocation or applying the method will be a major consideration in determining whether or not it will be used by a particular company. After considering the conditions surrounding a firm's operations, the bases of allocation used will be the ones that most fairly distribute overhead to production. A different basis of
allocation may be used by the same firm for each type or category of overhead costs in order to obtain the best distribution of these costs. When the allocation bases, applied to the same data, do not result in similar unit costs, income comparisons between firms using different means of allocation will be hampered.

The allocation of overhead may be made from data on the actual volume of production and actual overhead costs for the period. This method is usually unsatisfactory because the computation of product costs must be delayed until the close of the period. Also fluctuations in the per unit product cost may occur due to temporary variation in the volume of production or from extraordinary changes in the cost included in overhead. Usually a predetermined burden or overhead rate will give a more satisfactory allocation of overhead and will in addition help management control costs by pointing out departures from expected cost levels.

Standard costs. A standard cost system may be used for charging all costs of production to the units manufactured or only for overhead. A standard unit cost is established by determining the expected or normal volume and the expected level of total costs for the period or periods. The cost applied to units produced during the period will be this unit cost plus the cost of material and labor if they are not already included in the unit cost. Cost data can be derived either from scientific cost studies or from estimates based on past experience and future expectations. The data obtained from scientific studies will probably be more accurate; however, the cost of such a study may be prohibitive. In such cases, standards
developed from estimates will usually be satisfactory for most purposes. Use of standard costs for inventory purposes is acceptable provided the standards are adjusted at reasonable intervals to reflect current conditions. Many companies make an annual review of their costs and expected volume in order to revise standards to reflect changing conditions. When a standard cost system is in use, variances between applied costs and actual costs will occur. These variances are either charged against revenue as a period cost or allocated between cost of goods sold and inventory. When the latter method is followed, inventories will be valued in terms of actual costs. The disposition of the variance should depend on the reason for its occurrence. If the variance is due to inadequate standards, an allocation between cost of goods sold and inventory would seem proper; whereas, when the variance results from extraordinary circumstances, a more conservative approach would be to treat the variance as a period cost.

The use of standard costs gives management a basis from which to evaluate actual performance. By finding the reasons for the variances between standard and actual costs, management can exercise better control over costs. Another advantage of this method, over historical costing, is that interim and product line income statements can be prepared from unit production reports without waiting until the actual cost data is available. Thirdly, by comparing actual prices as they are incurred with the standard set for the item,

\[\text{Accounting Research Bulletin No. 43, Chapter 4, p. 30.}\]
management may become aware of increasing or decreasing costs more quickly, and thus be able to assure normal profit levels by making adjustments to selling prices or by directing sales activity towards the more profitable products during the period. Finally, costs can be reduced. Since some of the detailed inventory records necessary for allocation of actual costs will not have to be kept, clerical costs will be less. Another cost saving results from analyzing only those cost classifications where significant variations from standard occur. The cost of establishing and revising standards may, however, in some cases, prohibit their use. Also it may be difficult to establish representative standards. Unless variances are allocated between the two, both cost of goods sold and inventory levels will be misstated when standards do not correspond closely to actual costs.

If variances are allocated between inventory and cost of goods sold, standard and historical costing will give the same result. Even when variances are charged to expense as period costs, the difference between historical and standard costs would not usually be great enough to reduce the comparability of net income of different firms, assuming, of course, that the standard rates in use are representative of actual costs.

Full absorption costing. Direct labor, direct material, and manufacturing expense are allocated to the product under present accounting practice, while selling and administrative expenses are treated as period costs. This procedure is known as absorption costing. Under a full absorption approach, selling and administrative expenses would not be treated as period costs but would be allocated to the
product in a manner similar to that used for manufacturing expense. Such a procedure would result in a better matching of revenue and expense since administrative and selling costs which are incurred in order to manufacture and market the product would be allocated to that product and would be charged to expense in the period in which the product was sold. Failure to inventory these costs results in the understatement of present income due to the overstatement of present expenses. Income in the period in which the product is sold is overstated, since some of the costs relating to the product have been charged to expense in a prior period. The main objection to full absorption costing is that a satisfactory basis of allocation in most cases cannot be found. The incurrence of administrative and selling expenses is generally independent of production rates; therefore, there is little correlation between the two on which to base a system of allocation. Selling expenses are also excluded from inventory on the basis that these costs are incurred after production has been completed. In addition, the effect on net income will usually be insignificant because the failure to allocate selling and administrative expenses to inventory in one period will be offset by the reactions to a similar failure in the preceding period.

**Direct costing.** Representing the other extreme in product costing is the procedure known as direct costing. Under this plan, only prime costs--direct material and direct labor--plus variable overhead are charged to the product. Fixed overhead is charged to expense as a period cost. Variable costs are those that vary with
changes in the volume of production; all other costs are classified as fixed. For semivariable costs, the variable portion must be determined and segregated from the fixed portion. Fixed costs reflect decisions regarding the ability to produce and sell, which are unaffected by short-run variations in volume. Examples of this type of costs are depreciation on buildings and equipment, salaries of executives and other key management personnel, property taxes, advertising and other sales promotion, and research expenditures. Variable costs, on the other hand, result from decisions concerning the current quantity of production. The difference between the revenue received during a period and the variable costs incurred is called marginal income. This represents the amount available to cover fixed costs and to provide a profit.

Although direct costing has been used for various purposes since the turn of the century, it still has not been generally accepted for external reporting purposes. While not specifically naming direct costing, both the American Institute of Certified Public Accountants and the American Accounting Association have expressed disapproval of the method. In Accounting Research Bulletin No. 43, the Accounting Procedures Committee stated:

It should also be recognized that the exclusion of all overheads from inventory costs does not constitute an accepted accounting procedure.\(^4^2\)

With regard to product costing, the statement of accounting principles by the American Accounting Association suggests that:

\(^4^2\)Ibid., p. 29.
the cost of a manufactured product is the sum of the acquisi-
tion costs reasonably traceable to that product and should
include both direct and indirect factors. The omission of any
element of manufacturing cost is not acceptable.43

Under a direct costing system, inventories include only variable
costs. This results in the following advantages. First, the problems
of allocating overhead, that were discussed earlier in this chapter,
are reduced. Since fixed costs are not included in inventory, a basis
for their allocation does not have to be determined. Fixed costs are
the same, within certain ranges, for each volume of production. Under
an absorption cost system, therefore, the production volume for the
period must be determined before a burden rate can be established.
Whenever the volume used in setting the standard rate is in error,
variances between actual and standard costs will result. Since the
burden rate for variable costs is usually the same at all levels of
output, the expected volume of production does not have to be esti-
mated when a direct costing system is used thus simplifying the problem
of allocation. Second, clerical costs will be reduced due to the elim-
ination of complicated allocations of fixed costs to the product and
of special analyses needed for absorption cost data. Third, direct
costing helps management make decisions concerning inventory because
the costs included in inventory correspond closely to the cash that
will have to be expended to increase inventory levels or the cash that
can be saved by decreasing the amount of inventory. Special analyses
must be made to obtain this information when an absorption cost system
is in use. Fourth, financial analysts and others can tell from the

43American Accounting Association, p. 4.
accounting records the amount of cash tied up in inventories. Again a special analysis is needed to tell this under an absorption cost system. Opposing the theory of direct costing is the fact that fixed costs are necessary to produce the product and, therefore, should be considered a cost of the product. The failure to inventory these costs results in an understatement of the inventory reported by the company. This situation has the adverse effect of lowering the working capital position of the company which in turn may make it difficult for it to obtain credit. A solution that is used to eliminate this disadvantage is to allocate to the inventory at the end of the period its share of the fixed costs that have been charged to expense.

The principal advantage of a direct costing system is the aid it gives management in making decisions. (1) Cost-volume-profit data are available from the regular accounting statements. Thus, management does not have to have separate reports made to show how changes in price, costs, or volume of sales will affect net profit. For example by knowing the variable costs of the product, management can tell if a proposed sale below normal prices will increase marginal income. (2) Profits will not be influenced by changes in inventory levels. Other things being equal, profits will increase as sales volume increases and decline as sales decrease. Under absorption costing, profits will not necessarily follow sales because of the absorption of fixed costs in inventory. Unit costs will be less in periods of high volume than in periods of low production, since the total fixed costs to be allocated to the items produced is the same in either case. Profits, therefore, will be influenced by the number of units produced
rather than by the units sold. (3) Management finds reports based on
direct costing easier to understand and use than conventional income
statements. The fact that profits move in the same direction as sales,
for example, conforms to management's thinking; and thus the report is
easier for them to understand. In addition, the data needed for manage­
ment purposes can be obtained directly from the financial statements
which makes them easier to use. (4) Fixed costs are emphasized be­
cause the total appears as one lump sum on the statement. Better con­
trol of these costs will result, because management is more aware of
them. Under conventional costing methods, fixed costs tend to remain
hidden in total costs, and management may be unaware of their impact
on total costs. (5) Appraisal of products, territories, and divisions,
the preparation of budgets, and other internal procedures are facili­
tated by the use of direct costing, since fixed costs have been segre­
gated and can be considered separately in the above analyses and com­
putations.

The concept of direct costing assumes that an exact segregation
of fixed and variable costs can be made. In practice, this cannot be
done. Certain semivariable costs fall in the borderline area where
under certain conditions they will exhibit the characteristics of
variable costs and at other times those of fixed costs. Classifica­
tion of these costs as fixed or variable is completely arbitrary.
When only variable costs are charged to the product, there may be a
tendency to ignore fixed costs, which may be permissible in some
instances, when setting selling prices and making other decisions. In
the long-run, however, all costs, both fixed and variable, must be
covered by sales revenue if the firm is to remain in business.

To justify the use of direct costing for external reports, one group has pointed out that investors also must make decisions. By defining assets as consisting of costs that do not have to be reincurred in the future and thus have future service potential, this group contends that fixed factory overhead cannot be included in inventory. The costs for direct labor, direct material, and variable factory overhead of the goods on hand at the end of the period will not have to be reincurred and, thus, may be included in inventory. Inventory items on hand at the end of the period, however, do not reduce fixed factory overhead in the next period; therefore, fixed costs do not meet the test of cost avoidance. Since only costs which can be avoided under alternative decisions are useful in decision-making, external reports should be prepared on a direct costing basis. From the reports, the investor can make his own decisions regarding the service potential of fixed costs and can obtain information on cost behavior. He is then able to forecast the minimum cash needs for fixed expenses requiring current outlays and can relate fluctuations in cash flow with changes in sales volume. When using conventional accounting reports, the investor is unable to make such analyses for himself.

To accept the above argument, one must agree that future cost avoidance is of primary importance in valuing inventory and in making decisions. Since all costs are necessary in the revenue making process, however, revenue producing potential would seem to be a better test for

determining the costs to be included in inventory. It is true that fixed costs are not important to decisions concerning current operations, but they will influence future operations and results and should be taken into consideration when decisions concerning the future are made. It is also true that both management and investors make decisions; however, the nature of their decisions is not the same. Management decisions relate to the firm as it exists, with given fixed costs that cannot be avoided. Investors, on the other hand, want to know if an investment in the firm will be profitable. All the costs incurred to produce a unit of product are more important in determining future earning potential than the costs that can be avoided due to their incurrence in a past period. To the investor, then, fixed costs are useful in decision-making.\textsuperscript{45}

It would seem that direct costing is a useful tool for management's internal use, but that conventional costing is more appropriate for external reporting purposes. Whether direct costing, absorption costing, or full absorption costing is best for external reports is irrelevant as far as comparing net incomes of different firms is concerned. What is important from this point of view, however, is that all firms use the same method. For example, the reports of two companies each using direct costing would be comparable; while the reports would not be comparable if one was prepared on the basis of direct costing and the other by absorption costing.

SUMMARY

The usefulness and appropriateness of the above accounting principles and procedures will depend on the purpose or needs of the user of the financial data. Inventories priced on the first-in, first-out basis will be stated in terms of current cost. If the purpose is to show cost of sales at current costs, however, the last-in, first-out pricing method would be more appropriate. If a conservative income statement is desired, the lower of cost or market rule, direct costing, and the last-in, first-out method should be followed. It has also been shown that direct costing has advantages for internal purposes, whereas, absorption costing better meets the needs of the external users of the financial statements. These are just a few examples of why it will be difficult to establish uniform accounting principles in this area. To be acceptable, a uniform accounting method would have to meet a large majority of the various needs and purposes of the users of the data. Perhaps a step in the direction of uniformity and thus comparability can be taken when some acceptable method of adjusting inventory and cost of goods sold to reflect current costs is developed.
CHAPTER IV

DEPRECIATION

Depreciation is another expense area where the use of alternative generally accepted accounting principles and procedures reduces the comparability of the net incomes of firms in the same and in different industries. Depreciation accounting is defined by the American Institute of Certified Public Accountants as

a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit... in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year.\(^6\)

The alternative principles and procedures used to compute the annual depreciation expense and to determine the cost or other basic value assigned to the depreciable asset will be discussed in this chapter. The proposal that the effect of price changes on fixed asset values and depreciation expense be recognized in the accounts will also be explored.

DEPRECIATION EXPENSE

When should the cost of an asset be charged against revenue?

One suggestion, which was illustrated in chapter two by the pure cash

\(^6\)Accounting Terminology Bulletin No. 1, p. 25.
basis, is to expense the entire cost of the asset in the period in which it is purchased. This proposal is based on the theory that profit is not available for distribution to the owners of a business until the investment in fixed assets is recovered from past or future earnings. At the other extreme is the suggestion that the entire cost of the asset be charged to expense in the period in which the asset is retired. This approach is advocated by some railroads and public utilities for assets, such as roadbeds, which do not decline in value or service life; since normal maintenance keeps the assets operating as efficiently as when they were first placed in operation.\footnote{Carl T. Devine, "Asset Cost and Expiration," Handbook of Modern Accounting Theory, ed. Morton Backer (Englewood Cliffs, New Jersey, 1953), pp. 341-342.} Generally accepted accounting principles, however, require that the cost of a fixed asset be allocated to expense as equitably as possible during the periods it is used by the business.

The criterion to be applied when selecting a method of computing depreciation will be discussed as each method is considered below. Regardless of the method selected, the asset's cost, its salvage value, and its estimated useful life will have to be determined. The determination of cost will be discussed later in this chapter. The salvage value of an asset is its estimated sales price, trade-in, or scrap value less costs of removal at the time it will be retired. In cases where salvage values are relatively small, they are often ignored in actual practice. Wear and tear, other physical deterioration, inadequacy, and obsolescence are important factors in estimating an asset's
useful life. These last two are becoming more important, since assets may become useless long before they are physically worn out. A new machine may do the same job more efficiently or technological developments or changes in customer demand may make an asset's useful life shorter than its physical life. The firm's policy towards maintenance and repairs also must be considered when estimating useful life. A high standard of maintenance will increase useful life; whereas a low standard will reduce it. Of the many methods for computing annual depreciation, the methods discussed below are the ones that are most generally used. A business may select a different method for each asset or group of assets, but the method should not be changed once it has been selected for a particular asset. Usually the same method will be selected for most of the firm's assets. Whenever the depreciation computed for tax purposes is not materially different from the amount computed by using generally accepted procedures, the tax method often will be used due to the advantages of keeping tax and book records on the same basis. This is particularly true in the case of small businesses.

**Straight-line method.** The straight-line method allocates the cost of an asset on the basis of time. Each period during the life of an asset is charged with an equal amount of depreciation. For an asset costing $20,000 with an estimated salvage value of $5,000 at the end of its useful life of 5 years, the annual depreciation expense in each of the 5 years would be $3,000. The chief advantage of this widely used method is its simplicity and ease of application. When the use of an
asset over its useful life does not vary, this method will give an equitable allocation of depreciation. However, when asset use is not proportional to time, the straight-line method will overstate depreciation in periods of low activity and understate it in periods of greater use with a converse effect on net income. Another disadvantage is that the method fails to equalize depreciation plus maintenance charges over the life of the asset. In order to do this, depreciation would have to decrease as maintenance cost increased in the latter part of an asset's life.

**Service-hours method.** When the use of an asset varies from period to period, the service-hours method may give a better periodic allocation of an asset's cost. In applying this method, the total number of hours the new asset is expected to be used must be estimated. Dividing the asset's cost less salvage by the estimated hours of service will give the depreciation rate to be applied for each hour of use. To illustrate, assume the asset in the above example is estimated to have a service life of 50,000 hours. The depreciation in each of the five years would be:

<table>
<thead>
<tr>
<th>Year</th>
<th>Service Hours</th>
<th>Hourly Rate</th>
<th>Depreciation Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20,000</td>
<td>$.30</td>
<td>$6,000</td>
</tr>
<tr>
<td>2</td>
<td>8,000</td>
<td>.30</td>
<td>2,400</td>
</tr>
<tr>
<td>3</td>
<td>12,000</td>
<td>.30</td>
<td>3,600</td>
</tr>
<tr>
<td>4</td>
<td>7,000</td>
<td>.30</td>
<td>2,100</td>
</tr>
<tr>
<td>5</td>
<td>3,000</td>
<td>.30</td>
<td>900</td>
</tr>
<tr>
<td>Total</td>
<td>50,000</td>
<td></td>
<td>$15,000</td>
</tr>
<tr>
<td>Salvage</td>
<td></td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Asset cost</td>
<td></td>
<td></td>
<td>$20,000</td>
</tr>
</tbody>
</table>

The estimation of expected service-hour life is more difficult than the determination of useful life in terms of years, but once the
service hours have been estimated the method is easy to apply, depreciation is based on operations and thus fluctuates with variations in the use of the asset. Since depreciation expense varies with activity, a better matching of revenue and expense results. Besides the difficulty of estimating future services, additional clerical effort and expense may have to be incurred to determine the actual number of service-hours in each period. In addition, the service-hours method does not recognize that depreciation is a constant process, which takes place whether or not an asset is being used, due to the factors of obsolescence and inadequacy.

**Productive-output method.** The advantages and disadvantages of the productive-output method are similar to those for the service-hours method. The procedure is the same for each method with the substitution of the expected units of output for service-hours under the productive-output method. This method will be used when production output is a better measure of a machine's activity or when production units are easier to determine than the hours of use for computing the annual charge for depreciation. Usually the two methods can be expected to result in similar periodic expense. If the above asset was expected to produce 100,000 units during its useful life, depreciation would be as follows:
### Declining balance method

By charging to expense a fixed percentage of the difference between the cost of an asset and the depreciation allowed to date, the declining balance method results in a decreasing allocation of an asset's cost to expense. Since maintenance costs can be expected to be low in the early life of an asset when depreciation is high and to increase as the asset becomes older and depreciation decreases, the sum of the annual charges for depreciation and maintenance should be relatively even throughout the asset's life. This method also provides for the early obsolescence of the asset by allocating a major part of the asset's cost to expense in the early part of its life, thus reducing the amount of unrecovered cost should the asset become useless earlier than expected. Depreciation for the five years on the above asset by the declining balance method is shown on the next page. It should be noted that salvage is deducted from the asset's cost when determining depreciation under the other methods but that salvage does not enter the computation when the declining balance method is used. An asset should not be depreciated below its salvage value, however.

<table>
<thead>
<tr>
<th>Year</th>
<th>Units Produced</th>
<th>Unit Rate</th>
<th>Depreciation Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45,000</td>
<td>$.15</td>
<td>$6,750</td>
</tr>
<tr>
<td>2</td>
<td>18,000</td>
<td>.15</td>
<td>2,700</td>
</tr>
<tr>
<td>3</td>
<td>22,000</td>
<td>.15</td>
<td>3,300</td>
</tr>
<tr>
<td>4</td>
<td>10,000</td>
<td>.15</td>
<td>1,500</td>
</tr>
<tr>
<td>5</td>
<td>5,000</td>
<td>.15</td>
<td>750</td>
</tr>
<tr>
<td>Total</td>
<td>100,000</td>
<td></td>
<td>$15,000</td>
</tr>
</tbody>
</table>

Salvage $5,000

Asset cost $20,000
In Accounting Research Bulletin No. 44, the Accounting Procedures Committee said:

The declining-balance method is one of those which meets the requirements of being "systematic and rational." In those cases where the expected productivity or revenue-earning power of the asset is relatively greater during the earlier years of its life, or where maintenance charges tend to increase during the later years, the declining-balance method may well provide the most satisfactory allocation of cost. The conclusions of this bulletin also apply to other methods, including the "sum-of-the-years-digits" method, which produce substantially similar results.

Use of this method therefore is appropriate only if maintenance costs increase as the asset becomes older, if the asset's physical efficiency decreases, or if obsolescence is an important factor in valuing the asset and its production.

Sum of the years-digits method. Another means of allocating a declining amount of depreciation to expense is by use of the sum of the years-digits method. Applying this method to an asset with a 5 year life costing $20,000 less salvage of $5,000 results in the charges to depreciation expense as shown at the top of the next page. The computation is made by applying a declining fraction, the denominator of which is the sum of the life periods and the numerator of which is the number

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of years of estimated useful life remaining at the beginning of the period, to the asset's cost less salvage value, if any. The advantages and limitations of the sum of the years-digits method are similar to those for the declining balance method. As can be seen by comparing the examples, the two methods will result in similar depreciation charges throughout the asset's estimated useful life.

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Cost</th>
<th>Rate</th>
<th>Depreciation Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$15,000</td>
<td>5/15</td>
<td>$5,000</td>
</tr>
<tr>
<td>2</td>
<td>15,000</td>
<td>4/15</td>
<td>4,000</td>
</tr>
<tr>
<td>3</td>
<td>15,000</td>
<td>3/15</td>
<td>3,000</td>
</tr>
<tr>
<td>4</td>
<td>15,000</td>
<td>2/15</td>
<td>2,000</td>
</tr>
<tr>
<td>5</td>
<td>15,000</td>
<td>1/15</td>
<td>1,000</td>
</tr>
<tr>
<td>Total</td>
<td>15/15</td>
<td></td>
<td>$15,000</td>
</tr>
</tbody>
</table>

Salvage $5,000
Asset cost $20,000

Composite rate method. In applying the composite rate method, the individual straight-line depreciation rates for the assets in a group or department are averaged, and the single rate is applied to the total value of the assets in the group. The composite rate, which is set by an analysis of the items in the group, usually will not be revised unless a significant change occurs in the composition or the useful lives of the assets making up the group. The use of this method saves clerical time and effort since once the composite rates have been established, the number of computations is reduced. However, the accuracy obtained by making individual computations is not achieved under the composite rate method.

Comparison of methods. Each of the depreciation procedures illustrated above results in an acceptable allocation of an asset's
cost over its estimated useful life. The following comparison shows, that although the total depreciation allowance under each method will be the same, the annual charge in any given period may vary greatly. Net income, other things being equal, will vary inversely to the differences in depreciation expense as computed by each method.

<table>
<thead>
<tr>
<th>Year</th>
<th>Method</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Straight-line</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$15,000</td>
</tr>
<tr>
<td></td>
<td>Service-hours</td>
<td>6,000</td>
<td>2,400</td>
<td>3,600</td>
<td>2,100</td>
<td>900</td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>Production-output</td>
<td>6,750</td>
<td>2,700</td>
<td>3,300</td>
<td>1,500</td>
<td>750</td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>Declining balance</td>
<td>4,800</td>
<td>3,648</td>
<td>2,772</td>
<td>2,107</td>
<td>1,602</td>
<td>14,929</td>
</tr>
<tr>
<td></td>
<td>Sum of the years-digits</td>
<td>5,000</td>
<td>1,000</td>
<td>3,000</td>
<td>2,000</td>
<td>1,000</td>
<td>15,000</td>
</tr>
</tbody>
</table>

If the depreciation on each line in the above example represented the charges made by different firms for a similar asset under similar circumstances, the resulting net incomes would not be comparable. A valid comparison would result, however, if each line represented an asset having the same original cost, salvage value, and estimated useful life but for which the circumstances surrounding its use justified the depreciation method illustrated. In this latter case, any differences would be due to the manner in which the asset was used rather than being attributable to accounting differences as in the first case.

Which procedure should be used? From a comparative point of view, any one would give satisfactory comparisons as long as all firms employed the same method for similar assets. A single method to be applied to all assets, however, would not appear to be acceptable because supposedly the circumstances surrounding the use of an asset determine the procedure that will be used. Therefore, when an asset is used evenly over its useful life, the straight-line method is appropriate; while either the declining-balance or the sum of the
years-digits methods would be selected if obsolescence is an important factor affecting the asset's usefulness or if maintenance costs increase noticeably as the asset becomes older. When actual use of the asset is the major factor influencing its value, the service-hours or production-output methods may give a better allocation of an asset's cost. The reason net incomes are not comparable derives from the fact that factors not pertaining directly to the asset, such as income tax considerations, are given primary consideration in selecting depreciation procedures to be used. The absence of comparability, therefore, appears to be due to inappropriate application of accounting procedures rather than due to the availability of alternative generally accepted accounting principles and procedures. Net incomes would be comparable even when different depreciation procedures were used if all businesses followed the criteria set out above and thus used the same method when the circumstances surrounding the use of an asset were similar.

**ASSET COST**

Since generally accepted accounting principles require that all assets be valued at cost, there would not appear to be a problem affecting comparability in this area. The determination of cost, however, is subject to several alternatives. These include the selection of the items to be included in an asset's cost and, in some cases, the means of determining cost. When the cost or other basic value assigned to similar assets varies significantly, the allocation of these costs to depreciation expense, regardless of the method used, will reduce the comparability of net incomes. For example, if an asset is purchased by one firm for $60,000 and an identical asset is acquired by another
firm through self-construction at a cost of $50,000, assuming both assets have an estimated useful life of 10 years, the straight-line depreciation would be $6,000 annually in the one case and $5,000 in the other. The cost assigned to these identical assets would cause a $1,000 annual difference in the net income of the two firms.

The cost of an asset is generally considered to be its purchase price in cash, the fair market value of noncash consideration, or the asset's fair market value if the other two means cannot be used. All expenditures for transportation, installation, and other incidental cost incurred before an asset is usable for the purpose for which it was acquired are properly included in its cost. When a firm constructs its own capital assets, property taxes, financing charges, insurance, and applicable overhead costs during the construction period may be properly capitalized.

Since the comparability of net incomes can be affected by the cost assigned to an asset, the alternative generally accepted accounting procedures that may be used in determining an asset's cost and the difficulty of setting market value are discussed below. Uniformity in accounting procedures would not correct the disparity caused by differences of opinion on the market or appraisal value of an asset. Most firms will follow a similar policy in assigning cost to self-construction projects; therefore, uniform accounting procedures would not seem to be needed. The establishing of a uniform policy with regard to the cost assigned to exchanged assets would increase comparability. The purpose of the following discussion, however, is to point out some of the factors that can influence the cost assigned to an asset.
**Tax-free exchanges.** For federal income tax purposes, a gain or loss may not be recognized when an asset held for productive purposes is exchanged for a like asset. The tax basis of the new asset is adjusted for any gain or loss on the exchanged asset, and depreciation is computed using the adjusted basis. For book purposes, the gain or loss may be recognized in the accounts and the new asset recorded at its acquisition cost or the tax basis may be used. Use of the income tax method cannot be supported in theory because the recognition of the gain or loss on an asset should occur when the asset is disposed of by the business and not spread over the life of the new asset as occurs when this method is used. Due to a reduction in the number of computations and other advantages of keeping a firm's tax records and its general accounting records on the same basis, the tax method is often used in practice, however.

To illustrate the effect on depreciation expense of these alternative methods of determining cost, assume that an asset having an original cost of $50,000, for which accumulated depreciation of $25,000 has been recorded, is traded-in on its replacement. The new asset is acquired in exchange for the old asset, for which a trade-in allowance of $30,000 is given, plus cash of $30,000. The $5,000 gain may be recognized in the accounts in the period of exchange with the new asset being recorded at a cost of $60,000 (trade-in allowance of $30,000 plus $30,000 cash), or the tax basis of $55,000 (book value of old asset $25,000 plus the cash payment of $30,000) may be recorded as the new asset's cost. If the new asset has an estimated useful life of 10 years,
the annual straight-line depreciation would be $6,000 under the first method and $5,500 under the tax method. The difference in net income would be $1,500 ($5,000 gain less $500 difference in the depreciation charge) in the year of exchange and $500 in succeeding years.

**Self-construction of assets.** When an asset is constructed by a company for its own use, materials and labor directly attributable to the construction activity are included in the asset's cost. There is a difference of opinion, however, on how much overhead should be charged to the project. Some contend that the construction activity should be assigned a proportionate share of the normal factory overhead; while others insist that the new asset should be charged with only the increase in total overhead specifically incurred as a result of the construction activity. Proponents of the first view contend that all the activities of a business must carry their fair share of the overhead. Self-construction is not an exception to this rule. To the extent costs are not increased, future periods will benefit from the self-construction of a firm's assets; therefore, part of the normal overhead should be deferred and matched against those benefits. Opponents of this view argue, however, that the fixed overhead would have been incurred whether or not the self-construction had been in process; hence, only the increase in overhead or extra costs due to the project represent costs of the asset that should be capitalized. By reducing temporarily the amount of overhead charged against production, the allocation of normal overhead to the construction activity will increase profits during the construction period. Although either view can be
theoretically supported, practice, on the basis of balance sheet conservatism, has favored the assignment of only the increase in general factory overhead to construction activities.\textsuperscript{49}

When the asset being constructed is financed through the issuance of interest bearing obligations, the interest charges paid or accrued during the construction period may be capitalized as part of the asset's cost. These charges represent a cost of the asset that should be deferred and matched against the revenue created through use of the asset. On the other hand, interest costs result from the means chosen by management for financing the project. Since this cost could have been avoided if another means of financing had been selected, interest charges should be treated as an expense item. New firms that have not, as yet, started earning profits and public utilities, whose rates are based on the recorded value of their assets, are usually the only firms that capitalize interest charges during an asset's construction phase.

The final cost of a self-constructed asset may be more or less than the purchase price of the same asset from an outside source. When the construction cost is less than the outside purchase price would have been, the difference is a savings which is recognized over the life of the asset through a lower depreciation charge against periodic revenue. If the cost is greater than the maximum purchase price probably would have been, a consistent policy would be to spread the excess over the life of the asset in the same manner a savings would have been treated. A more conservative approach, however, would be to recognize

the excess as an extraordinary loss in the period in which the asset is completed. Under this approach, neither the asset's recorded cost nor the annual charge for depreciation is inflated by costs that could have been avoided.50

By following different policies with regard to the above items, several cost bases could be established for the same asset. To the extent different firms follow different policies in assigning these costs to their self-constructed assets, the comparability of net income will be reduced. Due to the annual charge for depreciation, net income will be influenced by the costs assigned to a fixed asset. This has already been shown by the examples cited in the above sections.

**Market value.** When an asset is acquired without a stated money consideration being set, the cost of the asset is considered to be the market value of the consideration given or the market value of the asset received. If neither of these can be used, an appraisal by a qualified person may have to be made in order to determine the cost to be assigned to the asset. Fair market value is the amount that could have been received if the item had been sold for a cash consideration. Recent transactions involving identical or similar items are usually used to indicate current market value. Often, however, there may not be a determinable market value for either the consideration or the asset acquired. A recent transaction may not have taken place from which market value can be judged, or recent transactions may not be indicative of the fair market value of the items traded. For example,
the exchange price of a few shares of stock may not be representative of the market value of a much larger number of shares. Also the price in a particular transaction may be influenced by special considerations, such as the location of a building or the need for the asset. These special circumstances may not be present in the transaction for which the market value is being estimated. Due to differences in judgment, the cost assigned to an asset by different groups each using market values or independent appraisals as a guide may vary significantly. As has been pointed out above, when the cost assigned to an asset varies depreciation expense and net income will also vary.

PRICE LEVEL ADJUSTMENTS

Traditionally accounting theory has assumed a stable monetary unit. Rising price levels and the consequent decline in the purchasing power of the dollar have shown this assumption to be false. Different uses of the term "replacement cost" have been responsible for much of the confusion and many of the arguments surrounding this problem. In some cases, the term refers to the market value of the asset presently held; whereas in other cases, it means the cost of the asset that will replace the present asset. The proposal to be discussed in the remainder of this chapter, however, is that of making price level adjustments to the original cost of the present asset in order to restate that cost in terms of current purchasing power. This adjusted cost may or may not be equal to the market value of the asset since factors other than price changes can affect market value. Depreciation based on the adjusted basis would withhold from income purchasing power equal to that invested in the asset. Also, depreciation would be stated in terms of
current dollars as are most of the other items on the income statement.

Both the American Institute of Certified Public Accountants and the American Accounting Association have studied on various occasions the problem of fluctuating price levels. The Accounting Procedures Committee in Accounting Research Bulletin No. 43 said management could meet the problem of providing for the replacement of facilities at higher price levels by appropriations of net income or retained earnings but that increasing depreciation was not a satisfactory solution to the problem. The committee stated that the usefulness of the accounting reports would be reduced if some firms based depreciation on adjusted values while others adhered to cost; therefore, any change should be delayed until the dollar is stabilized at some level and all firms can make the change at the same time.

The committee on accounting procedure has reached the conclusion that no basic change in the accounting treatment of depreciation of plant and equipment is practicable or desirable under present conditions to meet the problem created by the decline in the purchasing power of the dollar.

... The committee believes that such a change would confuse readers of financial statements and nullify many of the gains that have been made toward clearer presentation of corporate finances.

Stockholders, employees, and the general public should be informed that a business must be able to retain out of profits amounts sufficient to replace productive facilities at current prices if it is to stay in business. The committee therefore gives its full support to the use of supplementary financial schedules, explanations or footnotes by which management may explain the need for retention of earnings.51

51 Accounting Research Bulletin No. 43, Chapter 9, Section A, pp. 68-69.
In its statement on accounting principles, the American Accounting Association said:

Until reasonably uniform principles of adjustment for price changes are commonly accepted, investors should be furnished such supplementary data as would be helpful in evaluating the significance of price fluctuations in the interpretation of financial reports of the particular enterprise. Supplementary data may be reported to reflect the effect of price changes in the specific assets held by the enterprise during the period, to show the effect upon the enterprise of movements in the general price level, or to achieve both purposes. Adjustment for individual price changes may be affected by determinations of replacement cost or by the use of specific price indexes; adjustment for changes in the general purchasing power of money requires the use of general rather than specific price indexes.52

The Accounting Principles Board of the American Institute of Certified Public Accountants has directed that a research study to investigate the problem of price level changes and to recommend means of disclosing the effects of price level change on the financial statements be conducted. The results of this study should be available in the near future.53

Matching revenue expressed in current dollars against depreciation stated in terms of past dollars can give a misleading impression of a firm's net earnings. If depreciation had been stated in terms of current purchasing power, the reported net income would have been reduced to an amount available for dividends or other purposes without impairing the firm's capital investment. Capital investment represents the value or the purchasing power contained in the presently owned

52 American Accounting Association, p. 9.
53 Sprouse and Moonitz, pp. 17-18.
plant and equipment. Additions to plant and equipment or the purchase of improved models when assets are replaced will increase the capital invested in fixed assets. In periods of rising prices, additional dollars will be needed to maintain the value of the invested capital because of the declining value or buying power of each dollar. Thus, the number of dollars required to purchase an asset identical to one now owned will have increased. When depreciation is based on original cost, part of the revenue that will be needed to maintain the firm's investment in depreciable assets is reported as net income. In periods of rising prices, therefore, the net income reported by conventional accounting procedures will tend to be overstated. Since many stockholders and employees are not familiar with accounting, they may believe that the charges for depreciation are sufficient to maintain the firm's capital investment. They may, therefore, demand, in view of the firm's reported income, greater dividend payments or higher wages than the firm's "real" income would warrant. A further disadvantage of conventional procedures is that business capital is being taxed as ordinary income; since in effect the difference between depreciation charges in terms of past dollars and in terms of current purchasing power, which is reported as income, is a return of capital.

The main objection to the acceptance of price level adjustments for general reporting purposes appears to be the absence of an objective means of making the adjustments. The use of a general price index, such as the Bureau of Labor Statistics' consumer price index, or a specific price index for a certain area of the economy have been suggested. The change in a general price index, which measures prices
for the whole economy, may not be representative of the change in prices for a particular industry of which a specific company is a member. A specific price index, on the other hand, may be more representative of the change in prices for a specific industry or for a certain type of equipment but may be less reliable than a general index. In addition, for many pricing areas, a specific index is not constructed. Due to the nature of indexes, therefore, some of the objectivity claimed for the historical cost method would be lost by price level adjustments. A further argument against price level adjustments is that the break from the traditional use of cost on the financial statements would be confusing to the users of these statements. It is hard to see, however, how the use of current prices in the financial statements would be any more confusing than the presentation of supplementary statements to show this data. The cost of making the price level adjustments may prohibit their use in some cases. Since the greatest reliability would be obtained by making adjustments for each asset as its price level changed, it would follow that the more reliable the adjustments are the more the procedure is likely to cost.

The basing of depreciation on historical cost that had been adjusted to reflect changing price levels would increase the comparability of the net incomes of different firms. Assume, for instance, that a building that had been built 10 years ago at a cost of $500,000 was sold today for $750,000. The depreciation on the same building would be based on $500,000 for the original owner and on $750,000 for the new owner. If the building originally had a 20 year life, the straight-line depreciation would be $25,000 annually for the original
owner, but an annual charge of $75,000 for the 10 remaining years of the asset’s life would be made by the purchaser. The net incomes in the above case certainly would not be comparable. A similar discrepancy occurs whenever similar assets are purchased at different price levels. By eliminating the variations in depreciation expense which are caused by the effect of changes in the purchasing power of the dollar on the recorded cost of the asset, price level adjustments would make the net incomes of different firms more comparable.

One method of accounting for depreciation on the basis of current cost is to multiply the original cost of the asset by a fraction for which the cost index of the current year is the numerator and the cost index of the year of acquisition the denominator. The depreciation rate is applied to the adjusted base. If the asset had an estimated useful life of 10 years, 10 per cent of the adjusted base would appear as the charge to depreciation expense on the income statement. The amount of the depreciation charge representing depreciation on the original cost of the asset would be credited to the allowance for depreciation account. The difference between depreciation based on original cost and that based on adjusted cost would be charged or credited to a capital adjustment account which would be placed in the capital section of the balance sheet. This difference would be removed from the capital adjustment account when the asset was sold. 51

The methods of computing depreciation, the cost assigned to fixed assets, and the changing value of the dollar can reduce the comparability of net incomes. As was discussed in this chapter, the use of alternative methods of computing depreciation for assets used under different conditions and having different characteristics will not reduce comparability. Only when different methods are applied to similar assets employed under similar conditions will comparability be affected. Net income will also be affected by the cost assigned to fixed assets. Although comparability can be influenced, this rarely occurs because, as was discussed in the chapter, most firms will select the same alternative procedure for valuing assets. The changing value of the dollar will reduce comparability in that identical assets purchased in periods of different price levels will be assigned different cost bases. Depreciation taken on these costs will result in different depreciation expenses and thus in different and uncomparable net incomes. Some method of adjusting historical cost to reflect the changing value of the dollar is needed in order to make the net incomes of different firms more comparable.
CHAPTER V

OTHER ALTERNATIVE PRACTICES INFLUENCING NET INCOME

The preceding chapters have discussed the major alternative generally accepted accounting principles and procedures affecting net income. Some of the other alternative procedures that may have a significant effect on net income will be discussed in this chapter. Most of these are concerned with the timing of expense recognition. The greater the amount of expense charged against revenue in any one period the smaller will be that period's net income, and conversely, income will be increased when the amount of expense charged against revenue is reduced. Whenever one firm includes certain types of revenue and expenses in arriving at its net income and another firm does not include the same type of items, the comparability of their net incomes will be reduced. Although the effect on net income from any one of the following alternatives may be relatively small, their combined effect may have a significant influence on the comparability of reported net incomes.

THE ALL-INCLUSIVE VERSUS THE CURRENT OPERATING PERFORMANCE INCOME STATEMENT

Should extraordinary gains and losses be reported separately on the statement of retained earnings or should they be added to or deducted from operating income on the income statement in arriving at net income for the period? When extraordinary items do not appear on the
income statement, it is called a current operating performance income statement; while the term all-inclusive income statement is used when such items are included in net income. Operating income and charges "are generally defined as recurrent features of business operation, more or less normal and dependable in their incidence from year to year;" while extraordinary or non-operating gains and losses "are generally considered to be irregular and unpredictable, more or less fortuitous and incidental."

The American Accounting Association favors the all-inclusive income statement; whereas the American Institute of Certified Public Accountants has expressed a preference for the current operating performance statement. In summarizing the American Accounting Association's position, Kohler said:

A final section of the income statement may be employed for material items of nonrecurring income and expense, extraordinary losses, gain or loss from the discharge of an obligation at less or more than its recorded amount, ... Net income (or loss) is what remains after all these items have been taken into account. Under this concept no income, expense, or loss may be credited or charged direct to earned surplus or to a contingency reserve.

The Institute expressed its position as follows:

... it is the opinion of the committee that there should be a general presumption that all items of profit and loss recognized during the period are to be used in determining the figure reported as net income. The only possible exception to this presumption relates to items which in the aggregate are material in relation to the company's net income and are clearly not identifiable with or do not result from...
from the usual or typical business operations of the period. Thus, only extraordinary items such as the following may be excluded from the determination of net income for the year, and they should be excluded when their inclusion would impair the significance of net income so that misleading inferences might be drawn therefrom:

(a) Material charges or credits (other than ordinary adjustments of a recurring nature) specifically related to operations of prior years, such as the elimination of unused reserves provided in prior years and adjustments of income taxes for prior years;

(b) Material charges or credits resulting from unusual sales of assets not acquired for resale and not of the type in which the company generally deals;

(c) Material losses of a type not usually insured against, such as those resulting from wars, riots, earthquakes, and similar calamities or catastrophes except where such losses are a recurrent hazard of the business;

(d) The write-off of a material amount of intangibles;

(e) The write-off of material amounts of unamortized bond discount or premium and bond issue expenses at the time of the retirement or refunding of the debt before maturity.\(^7\)

By excluding extraordinary items, the current operating performance income statement shows the operating results for the period under prevailing conditions undistorted by unusual gains and losses or the correction of errors of past periods. A reader is thus able to evaluate management's current performance and form an opinion as to the firm's annual earning power. When the all-inclusive statement is used, however, a series of income statements will give the financial history of the organization since all items of income, expense, gain, or loss will have been reported on the income statement. Poor management performance in past periods, as indicated by excessive write-offs and frequent adjustments to prior year's profits that reflect poor decisions by management, will be shown on the income statement and not on

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\(^7\) Accounting Research Bulletin No. 43, Chapter 8, p. 63.
the statement of retained earnings where they may be overlooked by the
reader of the income statement. Management can through the all-inclusive concept, however, cover up an operating loss or tend to equalize income for several periods; since in certain situations, management has the prerogative of choosing when an extraordinary gain or loss will be recognized. Even when management cannot affect the occurrence of an extraordinary gain, an operating loss may be concealed. For example, a windfall gain may reduce or eliminate an operating loss. The same thing could happen, by choice, if some of the firm's bonds were reacquired at a discount. In either case, the reader of the current operating performance income statement could be misled as to the accomplishments of management under current circumstances.

Due to the difficulty in many cases of distinguishing between ordinary and extraordinary items, the all-inclusive income statement will reduce suppression and bias in income reporting by including all items in net income. In borderline cases, net income will not be influenced by variations in judgment as to the proper treatment of special items. All of the information will be made available to the reader of the statement who can then include or exclude extraordinary items to meet the needs of his analysis. The reader of the statement, however, may not be able to exclude those items that for his purposes will distort net income. He may not have the training necessary to satisfactorily make the eliminations, and/or secondly, he may not be given the necessary data. It is impossible to report to the reader all of the facts necessary for making a well-considered classification or elimination. Management or the independent auditor is in a better
position due to training and a better knowledge of the circumstances surrounding the transaction to judge whether or not a particular item is of an extraordinary nature. When a current operating performance income statement is used, management will decide which items should be included in net income.

Net income would be defined as the net result of all income, expense, gain, and loss recognized in the accounts during the period when the all-inclusive concept is followed. The current operating performance point of view, however, would define net income as the net result of income and expense incurred as a result of operations for the period. The better concept for comparative purposes will depend on whether a historical or a current comparison of net income is desired. If the net incomes of two firms over several periods are being compared, the all-inclusive income statement will probably give a more valid comparison; while the current operating performance statement will give a better comparison of a single period's net incomes. The usefulness of any comparison will be reduced if one firm prepares an all-inclusive income statement and the other firm prepares a statement based on the current operating performance concept.

ALLOCATION OF INCOME TAXES

Net income determined in accordance with generally accepted accounting principles and procedures may at times be materially different from net income as computed for federal income tax purposes. The difference is due to the variation in timing for the recognition

58 Ibid., pp. 61-62.
of certain revenue and expense items. These items may be recognized in one period for tax purposes and in a different period for book purposes. When such a variation occurs, the question arises of whether income tax expense for book purposes should be the amount of tax actually payable or should the tax expense be computed on the income reported on the income statement. The American Accounting Association has said that the income tax expense recorded in the accounts should be the amount reported on the company's federal income tax return. The American Institute of Certified Public Accountants has stated, however, that the income tax expense for the period should relate to the income reported for book purposes. When the tax for federal income tax purposes is greater than that computed on book income, the excess should be deferred and matched against the extra taxable income when it is recognized in the accounts. If book income is greater than taxable income, the excess will be deferred until the extra book income is included in taxable income at which time the deferred tax will be used to offset the difference between the income tax on book income and on taxable income.

The position of the American Accounting Association is that

The "provision for taxes" appearing in an income statement reflects actual payments of taxes or the best available estimate of taxes to be paid because of events and conditions that have already occurred. No part of the tax expense should be allocated against any item of income or expense not common to both the income statement and the tax return; instead, disclosure by footnote is adequate if there are material differences between taxable income and net income as reported to stockholders.59

The Accounting Procedures Committee of the American Institute of Certified Public Accountants said in Accounting Research Bulletin No. 43, that

Income taxes are an expense that should be allocated, when necessary and practicable, to income and other accounts, as other expenses are allocated. What the income statement should reflect under this head, as under any other head, is the expense properly allocable to the income included in the income statement for the year.  

With regard to allocation the committee said,

The difficulties encountered in allocation of the tax are not greater than those met with in many other allocations of expenses. . . . In the committee's view, all that is necessary in making an allocation is to consider the effect on taxes of those special transactions which are not included in the income statement.  

Concerning the computation of the tax effect, the committee said,

In most cases, it is appropriate to consider the tax effect as the difference between the tax payable with and without including the item in the amount of taxable income. In certain cases the tax effect attributable to a particular transaction for the purposes indicated above may be computed directly as in the case of transactions subject to the capital gains tax. There may also be cases in which it will be appropriate to use a current overall effective rate or, as in the case of deferred income, an estimated future tax rate. The estimated rate should be based upon normal and surtax rates in effect during the period covered by the income statement with such changes therein as can be reasonably anticipated at the time the estimate is made.  

The matching against revenue of the related tax expense is the principal reason for allocating income taxes. Such matching prevents

60Accounting Research Bulletin No. 43, Chapter 10, Section B, p. 88.
61Ibid.
62Ibid., p. 89.
an under or an overstatement of periodic net income when income is reported in one period and the income tax that will be or has been paid on the income is reported in another period. If, for example, a declining balance method of depreciation was used for computing taxable income and the straight-line method was used for other purposes, net income on the income statement would be greater than taxable income during the first few years of an asset's life. Net income on the income statement would be overstated if the income tax actually payable was used for statement purposes. In later years when taxable income was greater than statement income due to the declining depreciation charges against taxable income, periodic net income would be understated if the taxes on taxable income were charged against the income reported on the income statement. Supposedly, the tax savings resulting from the use of an accelerated method of depreciation for tax purposes will be offset by greater tax liabilities in later years.

When different depreciation methods are used for accounting and for tax purposes, in theory at least, the taxes relating to the income reported on the income statement will become payable at some time in the future. Therefore to achieve a proper matching of revenue and expense, such taxes should be recognized in the accounts in the period in which the income is recognized and then deferred until the taxes become payable. Opponents of income tax allocation point out, however, that the deferred taxes may never become payable. A relatively permanent deferral of income taxes may result, for example, if property additions are fairly uniform from year to year. It is true that the deferred taxes account may be eliminated at some time in the future due to changes in
the tax laws, a change in the company's policy regarding the purchase of assets, or the occurrence of some other contingency. Until such an event occurs, however, net income of past periods has been reduced by taxes that may never be assessed against the company. To eliminate this possibility, only those taxes actually payable should be treated as income tax expense.

The comparability of net incomes will be reduced when some firms follow the practice of allocating income taxes and others do not. The circumstances in each case will determine how net income is affected, however. The net income of a firm which allocates income taxes will be greater than the net income of a firm that does not follow the procedure when taxable income is greater than accounting income, and conversely, the net income of the first firm will be less than that of the second firm when the net income reported on the income statement is greater than taxable income. It would seem that the greatest comparability of net incomes would occur if firms allocated only those taxes relating to accounting net income that are expected to result in an increase or a decrease in the taxes payable within the foreseeable future. At present, the net incomes of firms that allocate income taxes are being reduced by taxes that may or may not become payable.

**PROVIDING FOR PENSION PLAN LIABILITIES**

Many companies have adopted formal pension plan arrangements to provide for employee retirement benefits. There has been, however, little uniformity in accounting for the cost of these plans. Some companies have placed their plans on a full accrual basis while others record as pension plan costs only those amounts paid out for pensions.
With regard to the costs to be recognized for formal pension plans, the Accounting Research Committee of the American Institute of Certified Public Accountants has said:

"it is reasonable to assume in most cases that a plan, though modified or renewed (because of terminal dates) from time to time, will continue for an indefinite period. According to this view, costs based on current and future services should be systematically accrued during the expected period of active service of the covered employees, generally upon the basis of actuarial calculations.\(^6^3\)

The committee considered this method to be the one most likely to effect a reasonable matching of costs and revenues, and therefore considers it to be preferable. However, the committee believes that opinion as to the accounting for pension costs has not yet crystallized sufficiently to make it possible at this time to assure agreement on any one method, and that differences in accounting for pension costs are likely to continue for a time. Accordingly, for the present, the committee believes that, as a minimum, the accounts and financial statements should reflect accruals which equal the present worth, actuarially calculated, of pension commitments to employees to the extent that pension rights have vested in the employees.\(^6^4\)

The above would seem to indicate that while alternative accounting procedures for determining pension plan costs were acceptable for a limited time, the committee intended that alternative practices would gradually be eliminated until only the generally accepted procedure of making systematic accruals remained. The press for profits, however, has caused some companies to abandon the full accrual method and shift to the minimum, less preferred methods. Since the funds accumulated under the accrual method were greater than those required under the

\(^{6^3}\)Accounting Research Bulletin, No. 47, p. 15.

\(^{6^4}\)Ibid., p. 17.
minimum method selected, these companies discontinued charges for costs based on current and past services until the minimum requirements were reached.  

The use of various procedures for determining pension plan costs will reduce the comparability of net income between firms adopting different methods. The validity of comparisons will be reduced even more during periods of transition, such as the one described above, when no pension costs are charged against revenue by some firms. Comparability would result if all firms used the full accrual method because each firm would be using a similar basis for computing its liability.

**TREATMENT OF UNAMORTIZED BOND DISCOUNT ON BONDS REFUNDED**

Often it will be desirable for a firm to retire an existing bond issue before its maturity date and to replace it with a new issue. In such cases, the problem arises as to the best way to dispose of the unamortized bond discount on the old issue. The Accounting Procedures Committee discussed three means of doing this in Accounting Research Bulletin No. 43.

(a) A direct write-off to income or earned surplus,  
(b) Amortization over the remainder of the original life of the issue retired, or  
(c) Amortization over the life of the new issue.

The Committee went on to say that while the first method was acceptable the second method was to be preferred. The last suggestion was not
considered to be in accordance with generally accepted accounting principles. The direct write-off is the more conservative of the two acceptable procedures and is based on the view that the unamortized discount is a cost of terminating the unfavorable borrowing contract. Therefore, the loss should be recognized in the accounts at the time the transaction giving rise to the original discount is terminated.

Preference for the second alternative—amortization over the remainder of the original life of the issue retired—is based on the theory that costs should be matched with the benefits deriving from the transaction. Under this assumption, the unamortized bond discount is considered to be a cost of making a more advantageous arrangement for the unexpired term of the old agreement. The third alternative was not acceptable because the benefits of the refunding operation cannot be expected to extend beyond the maturity date for the old issue.67

Net income for the periods between the date of retirement and the maturity date of the old issue will be influenced by the procedure chosen for disposing of the unamortized bond discount. When the preferred method of amortizing the cost over the life of the old bond issue is selected, net income in each period will be less than if the direct write-off method had been used. A comparison of net incomes will be affected, of course, when two firms have not selected the same treatment for unamortized bond discount resulting from their refunding operations. The uniform use of either method would eliminate this obstacle to greater comparability of net incomes between firms in the same and in different industries.

67Ibid., pp. 130-131.
RESEARCH AND DEVELOPMENT COSTS

The accounting for research and development costs is another area when two alternative accounting procedures are equally acceptable. These costs are incurred to discover new ideas and to place these ideas on a commercial basis. One company may capitalize research and development costs; while another company doing research and development under similar circumstances may treat these costs as period expenses. Research and development costs can be capitalized when an asset of value can reasonably be expected to result from the incurrence of these costs. In all other cases, research and development costs should be treated as expense items. Holmes summarized the prevailing view as follows:

Many companies conduct their own research and development work, with the fundamental thought of developing patents, products, and processes that will become valuable income-producing adjuncts of the business. The results of research and developmental work are hard to interpret in terms of subsequent assets. The tendency toward charging such items to expenses, as opposed to their capitalization, should prevail. It is perfectly proper to capitalize these costs when patents of value are produced, but the optimism shown by capitalizing these items before patents are granted and proved is outside the range of good judgment.68

Net income will be influenced by the accounting treatment given to research and development costs. When the annual expenditures in this area are relatively uniform, either method will give approximately the same net income; since the amortization of costs of past years should be similar in amount to the annual outlay for this purpose. Significant differences in net income may occur, however, if large variations occur in the expenditures from year to year. The use of alternative generally

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accepted accounting procedures for research and development costs, therefore, may or may not affect the comparability of net income. If all firms followed the same policy with regard to the items to be capitalized or expensed, net incomes would be comparable because the accounting treatment would be the same by all firms for costs incurred under similar circumstances.

**OTHER EXAMPLES**

Three additional areas where alternative generally accepted accounting procedures may be followed will be discussed in this section. Although each area has a relatively minor effect on net income and usually would not be expected to affect the comparability of net incomes between firms, this brief discussion is presented in order to complete the study of alternative practices influencing the computation of net income.

An estimate of bad debt losses computed on the amount of sales for the period or on the amount of receivables is the generally accepted accounting procedure usually used to account for bad debt expense. Since the estimate is charged against revenue in the period in which the sale is made, this method has the advantage of matching the bad debt expense with the corresponding revenue. As a result, the income from current sales is not overstated. It is also acceptable, however, to recognize the bad debt loss in the period in which the account is actually determined to be uncollectible. This method is used by small businesses and in cases where reliable estimates of bad debt losses
cannot be made. Due to its simplicity and convenience, this method is frequently used in practice.69

When should property taxes be charged against income and how much should be allocated to each period? Accounting Research Bulletin No. 43 indicates that several alternative answers to this question are acceptable for general accounting purposes. Any of the following methods may be used.

(a) Year in which paid (cash basis),
(b) Year ending on assessment (or lien) date,
(c) Year beginning on assessment (or lien) date,
(d) Calendar or fiscal year of taxpayer prior to assessment (or lien) date,
(e) Calendar or fiscal year of taxpayer including assessment (or lien) date,
(f) Calendar or fiscal year of taxpayer prior to payment date,
(g) Fiscal year of governing body levying the tax,
(h) Year appearing on tax bill.

... the charge to income is sometimes made in full at one time, sometimes ratably on a monthly basis, sometimes on the basis of prior estimates, adjusted during or after the period.

The various periods mentioned represent varying degrees of conservatism in accrual accounting. Some justification may be found for each usage, but all the circumstances relating to a particular tax must be considered before a satisfactory conclusion is reached.

Consistency of application from year to year is the important consideration and selection of any of the periods mentioned is a matter for individual judgment.

Generally, the most acceptable basis of providing for property taxes is monthly accruals on the taxpayer's books during the fiscal period of the taxing authority for which the taxes are levied.70

Several companies have entered agreements with key officers and employees to pay such employees certain compensation after they have

70 Accounting Research Bulletin No. 43, Chapter 10, Section A, pp. 83-84.
Some companies are charging the future costs of these agreements to expense over the remaining period of the employees' active service with the firm. Other companies are not recognizing these costs in the accounts until the payments are made to the employees after their retirement.71

SUMMARY

The timing of expense recognition and the decision as to whether or not certain items will be reported on the income statement will be influenced by the alternative accounting procedures used by a company. This will in turn affect the comparability of net incomes between firms using different alternative procedures. Firms using the all-inclusive concept will report all items of income, expense, gain, and loss on the income statement; whereas those firms following the current operating performance concept will report only those items of income and expense pertaining to operations of the current period. The comparability of the net income of a firm using one concept with that of a firm using the other concept will be reduced because the net income of the one firm will not include extraordinary gains and losses which will be included by the other firm when determining net income. Differences in timing for the recognition of expense will also reduce the comparability of net incomes. This is illustrated by the alternative procedures for recognizing income taxes, pension plan liabilities,

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unamortized bond discount on refunded bonds, research and development costs, bad debts, property taxes, and special compensation plans. Comparability is reduced because different firms may recognize the same type of expense in different fiscal periods.
CHAPTER VI

CONCLUSION

At the beginning of this paper, the question was asked whether or not the difference in net income reported by two firms was due to management's ability or to the generally accepted accounting principles and procedures employed by each firm. The difference could, of course, be due to the skill of the management of each firm and to other factors involved in the operation of each company such as the efficiency of its equipment, its working capital position, or its location. The preceding chapters have shown, however, that the difference could also be due to the generally accepted principles and procedures selected by each firm in determining its net income for the year. As was explained in these chapters, the use of alternative generally accepted accounting procedures could be justified when the circumstances involved in each case were different. The use of alternative methods for computing depreciation expense, as discussed in chapter four, is a good example of this point. But, it was also pointed out that alternative procedures could be selected in identical or highly similar situations. This can be illustrated by the inventory pricing methods discussed in chapter three.

The effect on net income of the use of alternative accounting principles and procedures for each of the revenue and expense items examined was illustrated during the course of the discussion. The
variation in net incomes to be reported by two firms may be increased or decreased by the selection of alternative practices for several revenue and expense items. If one firm consistently selected the more conservative alternatives while another firm selected principles that reported the largest net income possible, the greatest variation would occur in their net incomes. On the other hand, the effect of one procedure may be offset by some other procedure used by the company. For example, the influence of an accelerated depreciation policy may be offset by conservative inventory pricing procedures. Another point to remember is that the exact effect of alternative procedures on net income cannot be stated without qualification. It is true, for example, that the last-in, first-out inventory method will result in a lower net income than the first-in, first-out method but only in periods of rising price levels. When prices are declining, the first-in, first-out method will give the lower net income. A declining balance method of depreciation will reduce net income during the early years of an asset's life; however, in later years, a lower net income will result from use of the straight-line method than from use of the declining balance method.

The variation in net incomes due to the use of alternative generally accepted accounting principles and procedures under identical or nearly identical circumstances will limit the usefulness of income comparisons between firms in the same and in different industries. Use of alternative practices in such cases will alter the net income and consequently the variation that would have resulted if all firms had employed uniform procedures. Only a small variation may occur in the reported net incomes of three different firms. If uniform principles
and procedures had been used, however, it is possible that while the income of one firm remained unchanged the net incomes of the other two firms would have been materially different. One firm could have reported a substantially lower net income or even a net loss; while the other firm's net income could have been greatly increased. Therefore even when net incomes appear to be comparable, the results may be altered substantially by the accounting methods used by each company.

Complete uniformity in the sense of having only one generally accepted accounting procedure for each of the items discussed in the preceding chapters would be undesirable. Such a situation would not, as might at first glance be expected, make comparisons more meaningful. Net income would continue to be influenced by the accounting procedures in use, since the use of judgment in selecting the most appropriate accounting treatment for a particular item would be eliminated. The alternative procedure to be selected will often depend on the circumstances in a given case. The alternative depreciation methods, particularly, illustrate this point. As discussed in chapter four, the characteristics of each asset and the circumstances surrounding its use should be the major considerations in choosing the depreciation method that will be used. Uniformity of accounting principles and procedures in the sense that the same procedure will be selected by all accountants in similar situations or under similar circumstances would seem to be a desirable goal. In this case, accounting principles would be flexible to meet different needs, but at the same time, net income would not be influenced by the alternative practice that was selected. The most useful comparisons could also be made under these conditions.
because differences in net income due entirely to the accounting procedures in use would be reduced to a minimum.

Although uniformity in the use of accounting principles would be desirable, can it be achieved? As discussed in the preceding chapters, each procedure met certain needs, fulfilled certain purposes, or had other advantages. Each also had certain disadvantages. In many cases, it is entirely possible that the advantages of each alternative will be considered more important than the advantages of having greater uniformity. If a certain alternative is to be eliminated, the advantages of the method will also be lost unless a substitute source can be developed. The disadvantages of the method or methods to be retained must also be considered. The development of a new procedure that has some of the advantages of each of the existing methods would seem to be the more likely course leading to greater uniformity. In chapter three, it was suggested that the development of some acceptable means of adjusting both inventory values and cost of goods sold to reflect current costs would be the first step in the direction of greater uniformity in this area. To achieve uniformity under this proposal, new ideas will have to evolve and become universally accepted. All of this will take time. That greater uniformity with regard to accounting policies is gradually being achieved can be seen by comparing the variation in contemporary accounting reports with the many variations that existed in the first accounting reports filed with the Securities and Exchange Commission in 1935 under the Securities Act of 1934.\textsuperscript{72} A further

hindrance to the use of uniform procedure under similar circumstances is that once the criteria for selecting alternative procedures have been established they may not be observed. This point was discussed with regard to depreciation methods in chapter four. The criteria for selecting a depreciation method in a particular case are generally accepted; however, considerations other than these, such as income tax provisions, are given primary emphasis in determining the methods that will be used.

Several reasons for reducing alternative accounting practices were suggested in chapter one. In addition, this discussion indicated that accounting will not meet many of the public's needs for financial data until greater uniformity is achieved. The accounting profession must take the initiative in solving this problem. If the profession fails to solve the problem or refuses to face it, the government or some other organization will take over and solve the problem for the profession. According to Carman G. Blough, the accounting profession is better qualified than are other groups to solve this problem. He presented these arguments in support of his contention:

... the public accounting profession is vitally interested in the fairness and consistency of results in many businesses. Its members have an opportunity to study the problems as they arise in numerous, varying circumstances. No business executive has an opportunity to see so many examples. No government official has the opportunity to get so close to the problems; furthermore, Government rules are often issued to meet special cases and have usually been hard to change with changing circumstances. Professional accountants have a wide knowledge of the facts as to the function of financial reports, the existing conflicts and inconsistencies in practice, the need for differences in accounting under different circumstances, and the

73"Bringing Problems into the Open," The Journal of Accountancy, CXIII (June, 1962), 30.
many problems which develop in the application of principles to specific situations.

The meeting of these challenges would, therefore, seem to be the natural responsibility for the accounting profession to undertake as a body. Any tendency toward bias on the part of a single individual is likely to be challenged by another and, accordingly, group action is usually conducive to sound results. When an entire profession undertakes a project, it is in a position to search out and draw upon the abilities of its best qualified members. It is also best able to obtain the views of all interested and qualified persons and organizations.74

The establishment of the Accounting Principles Board (see Chapter I, page 20) is the first step to be taken towards solving the problem of alternative generally accepted accounting principles and procedures. It is hoped that the group will be able to reduce the areas of alternative accounting practice; however, it is still too early to evaluate the effectiveness of this program. Work by the Accounting Principles Board or any other group that would reduce the areas of conflict and thus increase the uniformity of generally accepted accounting principles and procedures would increase the comparability of net incomes between firms in the same and in different industries.

74Blough, "Challenges to the Accounting Profession in the United States," pp. 41-42.
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