A Study of Selected Cost Concepts of Economics and Accounting.

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A STUDY OF SELECTED COST CONCEPTS OF ECONOMICS AND ACCOUNTING

A Dissertation

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

in

The Department of Accounting

by

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENT</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
</tr>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>Definition of problem</td>
</tr>
<tr>
<td>Method of investigation</td>
</tr>
<tr>
<td>Limitations of study</td>
</tr>
</tbody>
</table>

## CHAPTER

### I. THE RELATIONSHIP OF ACCOUNTING AND ECONOMICS

- Early relationship of accounting and economics | 3
- Comments on some conceptual differences | 7
- Income | 8
- Valuation | 10
- Capital | 10
- Views of some mutual criticisms | 12
- Current relationship of accounting and economics | 15
- Conclusions | 20

### II. COST IN ECONOMICS AND ACCOUNTING

- Cost in economics | 26
- Physical and mental sacrifice | 28
- Utility and opportunity sacrifice | 32
- Monetary sacrifice | 33
- Cost in accounting | 35
- Sacrifice | 40
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>40</td>
</tr>
<tr>
<td>Monetary expression</td>
<td>42</td>
</tr>
<tr>
<td>Comparison of the economic and accounting concepts of cost</td>
<td>43</td>
</tr>
<tr>
<td><strong>III. SELECTED COST CONCEPTS OF ACCOUNTING</strong></td>
<td>53</td>
</tr>
<tr>
<td>Cost basis and related cost concepts</td>
<td>55</td>
</tr>
<tr>
<td>Period convention and related cost concepts</td>
<td>62</td>
</tr>
<tr>
<td>Manufacturing costs and related cost concepts</td>
<td>64</td>
</tr>
<tr>
<td>Cost estimation and related cost concepts</td>
<td>66</td>
</tr>
<tr>
<td>Cost assignment and related cost concepts</td>
<td>73</td>
</tr>
<tr>
<td>Cost control and related cost concepts</td>
<td>80</td>
</tr>
<tr>
<td>Cost behavior and related cost concepts</td>
<td>83</td>
</tr>
<tr>
<td>Business alternatives and related cost concepts</td>
<td>88</td>
</tr>
<tr>
<td>Concluding comments</td>
<td>97</td>
</tr>
<tr>
<td><strong>IV. SELECTED COST CONCEPTS OF ECONOMICS</strong></td>
<td>98</td>
</tr>
<tr>
<td>Common cost concepts and their use</td>
<td>101</td>
</tr>
<tr>
<td>Nature of cost in economics and related cost concepts</td>
<td>103</td>
</tr>
<tr>
<td>Theory of the firm and related cost concepts</td>
<td>111</td>
</tr>
<tr>
<td>Short-run costs</td>
<td>114</td>
</tr>
<tr>
<td>Long-run costs</td>
<td>118</td>
</tr>
<tr>
<td>Cost assignment and related cost concepts</td>
<td>123</td>
</tr>
<tr>
<td>Decision-making and related cost concepts</td>
<td>126</td>
</tr>
<tr>
<td>Concluding comments</td>
<td>132</td>
</tr>
<tr>
<td><strong>V. A SYNTHESIS AND CLASSIFICATION OF THE SELECTED COST CONCEPTS</strong></td>
<td>134</td>
</tr>
<tr>
<td>Synthesis of the cost concepts</td>
<td>138</td>
</tr>
<tr>
<td>Common cost concepts</td>
<td>139</td>
</tr>
<tr>
<td>Synonymous cost concepts</td>
<td>144</td>
</tr>
<tr>
<td>Varied-meaning cost concepts</td>
<td>148</td>
</tr>
</tbody>
</table>
### Classification of the cost concepts

Present schemes of classification

Cost concept opposites

Business decisions and appropriate cost concepts

Proposed scheme of classification

Cost characteristic 1--
  the notion of sacrifice

Cost characteristic 2--
  the cost-incurring unit

Cost characteristic 3--
  the cost basis

Cost characteristic 4--
  time periods

Cost characteristic 5--
  cost behavior and activity changes

Cost characteristic 6--
  cost assignment

Cost characteristic 7--
  cost planning and control

Cost characteristic 8--
  total cost

Cost characteristic 9--
  cost in decision-making

### VI. SUMMARY AND CONCLUSIONS

### SELECTED BIBLIOGRAPHY

### VITA
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.  Selected Cost Concepts of Economics and</td>
<td>136</td>
</tr>
<tr>
<td>Accounting</td>
<td></td>
</tr>
<tr>
<td>II.  Selected Cost Concepts of Economics and</td>
<td>152</td>
</tr>
<tr>
<td>Accounting, Reduced Listing with Synonyms</td>
<td></td>
</tr>
<tr>
<td>FIGURE</td>
<td>PAGE</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>1. Short-run Total Cost Curves</td>
<td>117</td>
</tr>
<tr>
<td>2. Short-run Average (per unit) Cost Curves</td>
<td>119</td>
</tr>
</tbody>
</table>
ABSTRACT

The word "cost" in economics and accounting stands as the language representation of a highly complex phenomenon of economic activity. For this reason, it is one of the most elusive and ambiguous words in accounting and economics, and it gives rise to significant problems of communication.

This study deals with a group of one hundred twenty-two specialized, or modified, cost concepts of economics and accounting, including fixed cost, variable cost, marginal cost, disutility cost, escapable cost, incremental cost, opportunity cost, and real cost. These cost concepts have been evolved by both economists and accountants to improve the transfer of knowledge and information concerning cost. But, while these specialized concepts tend to move the language closer to the reality of cost, they, too, by their abundance and varied usage, lead to misunderstandings and miscommunications.

The objective of this study is to discover an approach to organizing and classifying the several specialized cost concepts considered that will serve as a useful device for improving understanding of the many facets of cost as
well as a useful vehicle for improving communications about cost in economics and accounting.

First, consideration is given to the relationship of economics and accounting. Because these two disciplines had independent origins and developed quite separately for some time, this examination provides some insight into the present terminological difficulties. This is followed by an examination of the general notion of cost as it appears in economics and accounting.

Fifty-nine cost concepts selected from the literature of accounting on the bases of their usefulness and the relative frequency of their appearance are then identified, defined, and examined as to their characteristics and usefulness. This is followed by a similar examination of sixty-three concepts of cost, selected from the literature of economics on the same bases.

Present schemes of organizing and classifying the specialized concepts of cost are found to be useful, but they do not provide an efficient device for treating large numbers of cost concepts. The objective of this study is accomplished as follows:

1. Identifying those cost concepts commonly used in economics and accounting.

2. Identifying those cost concepts that are mere synonyms of other cost concepts included in the study.
3. Citing those cost concepts, as overhead cost, that bear identical names but that have different meanings in accounting and economics.

4. Organizing and classifying the specialized cost concepts on the basis of characteristics of cost itself, rather than on the basis of the characteristics of the specialized concepts.

This approach enables one to recognize the fact that cost in economics and accounting is a concept that exhibits many characteristics; that the several specialized concepts of cost are attempts to focus attention on a particular one of these characteristics or to abstract the one of these characteristics of cost that is especially useful in the matter under consideration.

Nine characteristics of cost are identified which include: (1) notion of sacrifice; (2) identification of the cost-incurring unit; (3) cost basis of accounting; (4) time periods; (5) cost behavior in activity changes; (6) cost assignment; (7) cost planning and control; (8) total cost; and (9) cost for decision-making. The identification of these nine characteristics provides a frame of reference to which each of the several specialized cost concepts included in this study may be readily attached.

This scheme is efficient, provides for synonyms and varied-meaning cost concepts, and is capable of
including an even greater number of cost concepts than those included in this study. It serves as a device for improved understanding of cost and as a vehicle of better communications concerning cost.
INTRODUCTION

A real understanding of the many facets of cost is essential to a useful knowledge of economics and accounting, for concepts of cost lie at the heart of economic and accounting analysis.

In the economics of free markets, cost underlies the determination of supply, which, in conjunction with demand, provides the elements of the pricing mechanism which is the main organizing force in the economic system. Prices determine what is to be produced, play a major role in the distribution of products, serve to ration goods over a very short period of fixed supply, and are an element in providing for economic maintenance and progress.¹ Furthermore, "The maximization of the excess of income over cost is the fundamental economic principle, the essence of rational management of the economic activities of an individual or a community," and "To the extent that men act in accordance with this principle they choose of two or more alternative methods of obtaining a given

objective that involving the smallest cost.\(^2\) This behavior plays an important role in the allocation of resources, the organization of production, and the location of industry. Even where the mechanisms of the free market have been abandoned in favor of control by governmental regulatory agencies, cost plays a major role in the determination of rates and prices. It is not surprising, then, that J. M. Clark felt "that a graduate class in economic theory would be a success if the students gained from it a real understanding of the meaning of cost in all its many aspects."\(^3\)

Similarly, the concept of cost is basic to a philosophy and theory of accounts, and provides "both an approach to and a tool for the solution of a number of heterogeneous problems faced by the accountant."\(^4\) The periodic determination of net income, the formulation of financial plans, the control of operations, and the solutions to a wide variety of business problems turn in part


on the appropriate determination of costs or a comparison of costs. And, as Clark expressed the importance of an understanding of cost in economics, Benninger similarly expresses the significance in accounting, saying: "A knowledge of such concepts brings to the accountant the full heritage of developments in accounting during the past century," and "To render maximum service, the accountant must understand modern concepts of cost and value."^5

I. DEFINITION OF PROBLEM

Though widely used and widely useful, however, cost remains one of the most elusive and most confusing concepts used in economics and accounting. Accountants and economists alike have found "that it is necessary to precede or follow the term 'cost' by other words in order to help convey a clear understanding of the term."^6 In so doing, they have produced an almost limitless number of specialized cost concepts by which they have attempted to pinpoint the elusive meanings of cost with such descriptions as direct, indirect, prime, opportunity, fixed, variable, replacement, historical, actual, sunk, differential, standard, controllable, joint, product, period,

^5Ibid.

estimated, and future. Each modification implies a certain attribute of cost which is important to the accountant or the economist who uses the concept. Unfortunately, however, this mass of specialized cost concepts has been developed somewhat independently by accountants and economists and is abundant with cost types that have been formulated by various individuals to suit their particular needs and literary style. Consequently, one is able to find identically named concepts of cost having meanings that are quite different to the economist and the accountant. In addition, one is able to find the use of several different names to denote a single concept of cost. The unhappy result is often further bewilderment, considerable misunderstanding, and continued miscommunication.

It is the purpose of this thesis to examine certain of these several cost concepts which have evolved in accounting and economics, with the ultimate objective of presenting a synthesis and classification of the concepts that will facilitate communication and promote understanding between economists and accountants, as well as within each of the two disciplines.
II. METHOD OF INVESTIGATION

The literature of accounting and economics provides the materials for this study.

Since the study encompasses the subject matter of two areas of study, initial consideration is given to the relationship of accounting and economics. This provides the background essential to an understanding of the similarities as well as the differences in the concepts of cost evolved by accountants and economists. This portion of the study is followed by a discussion of the meanings of the word "cost" as it appears, unmodified, in economics and accounting.

These preliminaries are followed by a survey of selected cost concepts that appear in the literature of accounting, and a separate study of selected cost concepts that appear in the literature of economics. The study concludes with a synthesis and classification of the selected cost concepts of both disciplines into a single, useful structure of cost concepts.

III. LIMITATIONS OF STUDY

Since concepts of cost lie at the heart of economics and accounting, a study of cost concepts necessarily touches upon several of the problem areas in both
fields. For example, in economics the definition of cost is basic to the problem of rate setting in the regulation of public utilities by governmental agencies. Also, the appropriate computation of cost provides at least one measure of the desirability of government owned and operated activities in lieu of privately owned and operated activities. Similarly, different concepts of cost are essential to an understanding of the problem of price-level changes and in the choice between the absorption and the direct methods of costing in accounting. While problems of this kind are cited in connection with the descriptions of the cost concepts appropriate to each, it is not the purpose of this study to consider these related problem areas in detail.

People who are concerned with the study of costs in one way or another include engineers and statisticians as well as accountants and economists. While the viewpoint of this study is that of the accountant and the economist, appropriate attention is given to the views of the engineer or the statistician where their contributions seem to be appropriate to the objectives of this study.

The concepts of cost selected for inclusion in this study are limited to those concepts that are the most useful and the most likely to cause problems of
misunderstanding and miscommunication. Consequently, a number of relatively apparent cost concepts, including material cost, labor cost, pension cost, service-department cost, office cost and warehouse cost, which identify the cost associated with a given productive factor or a given functional division of the business, are excluded from this study.

Finally, a complete bibliography for this study might well include all of the publications in the areas of accounting and economics, since little is written in either field without some consideration of cost. Since the majority of contemporary works in economics draw from a selected number of outstanding and pioneering works in their treatment of cost, the bibliography is, to some extent, limited to those items generally regarded as the more basic. The same limitation of bibliography, to a lesser degree, applies to the materials included from the field of accounting.
CHAPTER I

THE RELATIONSHIP OF ACCOUNTING AND ECONOMICS

The question of the precise relationship of accounting and economics has long been a matter of discussion. For the most part, the results of such discussion have been a variety of opinions, ranging from the suggestion that accounting is appropriately a branch of economics,\(^1\) to the suggestion that the two are basically different.\(^2\)

These differing opinions are apparent even today in our institutions of higher learning where one is able to find: (1) both the economics department and the accounting department closely allied in the college of commerce or business administration, or (2) the accounting department in the college of commerce or business administration and the economics department quite separately.


located in the college of arts and sciences or letters and sciences. In addition to these possibilities, there has been at least one strong plea for an independent school of accountancy.3

But accounting and economics are both rapidly developing fields, and "the growth of each of these two areas has included new developments which have led to increasing cooperation between them."4 Thus, it is very likely that the relationship between accounting and economics, like the development within each of the fields, is in a state of continual change, and what may once have been an appropriate view of the issue is, at present, an inappropriate opinion. Furthermore, what may be an appropriate view at this time is likely to be invalidated at some time in the future.

Fortunately, it is not crucial to the purposes of this investigation that the precise relationship between accounting and economics be discovered. What is important to the purpose of this study, however, is the fact that a


brief examination of the question of the appropriate relationship of accounting and economics will lead to a better understanding of the differences, as well as the similarities, that surround the accountant's and the economist's conceptions of costs.

First, the early relationship between accounting and economics is viewed. This is followed by a discussion of some of the conceptual differences that have resulted, and a view of some of the criticisms that accountants and economists have aimed at one another. Finally, the current relationship of accounting and economics will be considered in view of the new developments that have taken place in each of these growing fields.

I. EARLY RELATIONSHIP OF ACCOUNTING AND ECONOMICS

While the origins of accounting and economics have been traced back for many centuries, the professions of economics and accounting had independent origins, and the early development of each was quite independent of the other. For centuries, "the people in one field had little knowledge or interest in the other," and "many concepts were being developed in economics that had counterparts in accounting but few people if any knew this."\(^5\)

\(^5\)Ibid., p. 46.
At the time of its beginnings economics was regarded as a learned, deductive philosophy, and in the period of its early development economics remained largely deductive in nature. Canning says:

The economists from the time they began to show a group consciousness, ... considered their subject to be a branch of social philosophy. They concerned themselves from the first with the phenomena of social problems and gave little thought, in their early works, to the problems of the individual. Like their learned parent they sought to develop from a body of (more or less) self-evident propositions about human behavior, entire systems of thought and to develop their systems largely by deductive methods.6

With regard to the terminology employed by the early economists, Canning feels that "it may well be supposed that the economists' wish to influence public affairs through making their words available to lay readers has led them to shun a systematic and peculiar terminology and to employ common words instead."7

"Unlike the early economists, who from their very beginning have followed a learned profession, early writers in accounting were mostly without academic training."8 At the time of its early development, accounting was considered to be a tool of business, and George O. May,

6Canning, op. cit., p. 6.
7Ibid., p. 8.
8Ibid.
in Twenty-Five Years of Accounting Experience, points out that the development of accounting, like the development of business law, was determined largely by the practices of businessmen. Consequently, the early works of accountants were primarily descriptions of practices of record keeping that had come to their attention or of the devices that they had devised for a particular business enterprise.9

Canning has further described the activities of the early accountants, saying:

Whether they were describing the long-known and employed double entry scheme or cruder practices, they made little showing of any systematic thought, though they were sticklers for unswerving adherence to the technical procedure shown. Like many trade or occupational groups, their data was amazingly positive and their argument was amazingly inconsequential.10

Early accountants, as well as the early economists, adhered closely to a vocabulary of common usage.

"The early controversies between accounting and economics were generally regarded as being caused by the differences in viewpoint."11 The economist was regarded as having the social point of view, and his interest in viewing the transactions of particular enterprises was

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9 Ibid.
10 Ibid.
11 Wheeler, op. cit., p. 43.
said to be in order to determine the fundamental principles and the social consequences of markets, prices, production, consumption, and distribution.12 “On the other hand, the accountant, employed by the management of a business or its creditors,” analyzed business transactions, “with the express object of interpreting their effect on a particular business enterprise.”13 Of the early writers in accounting theory and economic theory, Canning maintained:

(1) that they adopt wholly different modes of analysis; (2) that they take into account a vastly different scope of subject matter; (3) that their major topical division in systematic writings have almost nothing in common; (4) that they concern themselves almost entirely with diverse problems; and (5) that the points of view taken toward method, subject matter, and specific problems have little in common.14

The results of this independent early relationship between accounting and economics linger today in the form of misunderstandings and miscommunications. Paton, after a careful consideration of the relationship between economics and accounting, concluded that, due to the differences in point of view, “concepts and terms entirely valid

13 Ibid., p. 10.
14 Canning, op. cit., p. 52.
in one field cannot be transferred to the other without, at any rate, very careful consideration.\textsuperscript{15}

At this point it is appropriate to give brief consideration to some of the conceptual differences that have resulted from the independent origin and early development of accounting and economics.

II. COMMENTS ON SOME CONCEPTUAL DIFFERENCES

Many of the past disagreements which still persist between accountants and economists today are in large measure terminological, and they are often caused by a misunderstanding of the particular use being made of the terms in dispute.\textsuperscript{16} In a like manner, disagreement within each of the two fields is often caused by a similar misunderstanding of the terminology used. "Such terms as capital, capital stock, income, expense, assets, cost and value are notorious for their multiple meanings in economic literature," and "there is an equally great diversity, though not equally notorious, in the meaning of these same terms in the texts and treatises in accounting."\textsuperscript{17} This


\textsuperscript{16}Wheeler, \textit{op. cit.}, p. 49.

\textsuperscript{17}\textit{Ibid.}, p. 49.
state of affairs is no doubt responsible for much of the misunderstanding and misuse of accounting data by economists, and for much of the inability of accountants to appreciate fully the value of economic analysis. While the central theme of this study concerns these difficulties as they surround concepts of cost, the following brief comments with respect to conceptual differences of income, capital, and valuation indicate that such difficulties are, indeed, very widespread.

**Income**

In economics income is used to designate not one but a family of concepts which includes such branches as national income, personal income, real income, and business income. Thus, when the economist speaks of income, his discussion may be with respect to the business income of a given enterprise, or he may extend his interest beyond the boundaries of the individual firm to the whole of economic society. Consequently, the economist concerns himself with such matters as where income comes from, what economic functions it performs, and to what factor or factors of production does it accrue. With these social aspects of income, the accountant has had little to do.

From an economic standpoint income is the excess of capital values recognized over the capital values
consumed for a given time period. Since capital value is clearly dependent on earning expectations, the definition of business income which has gained rather wide acceptance among contemporary economists is that "net income can be measured as the maximum amount that can be distributed in dividends (theoretically from now into the indefinite future) without impairing the company's earning power."\(^{19}\)

In accounting, on the other hand, the primary concern is the periodic determination of income for a given enterprise, and the notion that income involves the excess of revenues earned over expenses, arising primarily through explicit monetary transactions, is generally accepted. Variations in application, however, lead to a wide dispersion of numerical results.

On the matter of the economist's and the accountant's problem of income, Canning concluded that they "are very unlike both with respect to what is included and what is excluded; the primary objects of their analysis are different;" and that "the relative importance properly


attached by each of the professions to what appear to be elements common to their problems is different.\textsuperscript{20}

\textbf{Valuation}

In economics an asset is valued by discounting to present value the stream of revenues that the asset is expected to produce. "Each separate asset consists of the present value of a separate bundle of services expected in the future."\textsuperscript{21}

In accounting, while there has been much thought and discussion given to some of the resulting shortcomings of their analysis, the valuation process is, for the most part, based on the record of past transactions with certain allowable adjustments (mostly downward) for asset expiration, estimated losses, and permanent market declines. Thus far, accountants, for the most part, have been unwilling to give recognition to asset appreciation.

\textbf{Capital}

The economist, as in his concepts of income, applies the term capital at all levels of economic activity. When applied to the economy as a whole, capital

\textsuperscript{20}\textit{Canning, op. cit.,} p. 91.

is a stock concept, having resulted from the flow of investment. At the level of the firm, capital assumes the role of a factor of production which enters into the determination of the optimum combination of productive resources and the maximization of profits.

To the accountant, the concept of capital represents the owner's equities, or rights, in the properties of a business enterprise. Under the proprietary theory, capital is viewed as the excess of the assets of the firm over its liabilities. Proponents of this theory feel that the purpose of accounting is to account for the rights of the proprietor (or common stockholders in the case of the corporation). This theory leads to the following balance sheet equation: Assets - Liabilities = Capital. Under the entity theory, the accountant believes that the business should be treated as separate and distinct from its owners, and that the purpose of accounting is to account to outsiders for all property entrusted to the business from without, regardless of the source. The entity theory produces the following balance sheet equation: Assets - Investments, where investments consist of funds made available by creditors (liabilities) and funds made available by investors (capital).
III. VIEWS OF SOME MUTUAL CRITICISMS

In addition to the misunderstandings and miscommunications that have existed and still exist between accountants and economists, due in part to their independent origins and early development, there has been an abundance of mutual criticism.

Due to their "reluctance at submerging the long-developed techniques related to double entry accounts and historical cost," accountants "are sometimes charged with being unbending traditionalists," and their persistence in adhering to a system built primarily on the record of past transactions has brought a number of similar criticisms. Dean charges that "to an accountant, net income is essentially a historical record of the past," while, "to an economist, net income is essentially a speculation about the future." Since the success of business enterprise is largely dependent upon an ability to speculate accurately about the future, this criticism is one that accountants cannot readily ignore.


23 Dean, op. cit., p. 13.
Similar attacks have been aimed at the accountant's determination of cost. These have been summarized as follows:

1. Accounting costs do not include an estimate of what the owner could obtain if employed elsewhere.

2. Accounting costs do not include the interest that the owner's capital could earn elsewhere.

3. Dividends are not regarded as costs though similar to bond interest.

4. Accounting costs include an improper determination of depreciation.

5. In accounting capital gains and losses are not recognized until they are realized through sale or other disposition.

6. Historical costs are of limited usefulness.24

The financial statements too have been the object of various criticisms, typified by Dean who suggests that the balance sheet would be more useful in the comparison of balance sheets method of determining income if accounting balance sheets were replaced by economic balance sheets.25

24James L. Dohr, "What They (Economists) Say About Us (Accountants)," The Accounting Review, XXVIII (1953), 171.

25Dean, op. cit., pp. 14 and 15.
To these few examples of the criticisms that economists have made of the practices of accountants, a host of others could be added.\textsuperscript{26}

Partly in defense of their practices and procedures, accountants have voiced numerous criticisms of economic analysis. The most often expressed criticism of economists by accountants is that economists are, to a large extent, vague, unrealistic and impractical, and that the conclusions of their abstract theorizing have little if any usefulness in the practical business situation. Generally included as a part of the criticism is the assertion that few of the economist's concepts, even though theoretically sound, are reducible to a basis of objective measurement.

For the most part these criticisms seem to stem from the fact that economists and accountants alike have had only a vague understanding of and little appreciation for the activities and work of the other. There is some evidence that economists have failed to comprehend what accounting is about, what service it renders to business,

\textsuperscript{26} For an extended discussion of the economist's criticisms of accounting, as well as the replies of an accountant, see Dohr, \textit{op. cit.}, pp. 167-175.
and how the product of the accountant's work should be used. For example, J. M. Clark, in his Studies in the Economics of Overhead Costs, views financial accounting as being

... primarily concerned with recording absolute income and outgo, noting every separate bit of either, and adding them up to correct totals. It has two underlying and elementary purposes which are probably dominant. The recording of every transaction makes it harder to steal the funds of the concern, and the finding of correct totals tells how much income is available for dividends at the end of the fiscal period.

In a like manner those criticisms that the accountants have expressed with respect to economics seem to stem in part from misconceptions regarding the method, scope, purposes and concepts of economics.

IV. CURRENT RELATIONSHIP OF ACCOUNTING AND ECONOMICS

Recent years have brought rapid expansion in both economics and accounting, and the state of relative independence that once existed between the early economists and the early accountants is rapidly becoming more and more difficult to recognise.

Evidences of this narrowing gap between accounting and economics may be found in several places. First, an

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27 Dohr, op. cit., p. 167.
28 Clark, op. cit., p. 36.
examination of the current literature of economics and accounting reveals a number of articles on the subject of economics in the leading accounting periodicals and a similar inclusion of articles on accounting matters in the leading economic publications. Similarly, accountants make frequent reference to economic literature and economists find an increasing need to refer to the writings of accountants and to use accounting data in their work.

Second, there have been some outstanding contributions by individuals who have tried to bridge the gap between accounting and economics. John B. Canning's *The Economics of Accountancy*, J. M. Clark's *Studies in the Economics of Overhead Costs*, *Cost Behavior and Pricing Policy*, and publications of the Study Group on Business Income have been major contributions in this direction. Finally, universities and colleges have required that students of economics and accounting be better prepared in the subject matter of each other's field of study.

29Canning, op. cit.

30Clark, op. cit.


The economist of today is very unlike the following earlier description of him by Arthur F. Burns, himself an economist, who served as Director of the National Bureau of Economic Research and as one of the President’s advisors on economic matters. Burns said:

For centuries the economist was an armchair observer, a bit on the gloomy side, with a rather limited knowledge of the world of affairs; he speculated broadly on such things as the theory of value, the tariff, the property tax, the state of the currency, the devious ways of monopoly, the corn laws, the evils of overpopulation, and the activities of the labor organizations. Generally, he deplored poverty and monopoly. His outstanding tool for investigation was marginal analysis. His statistics were limited to a few areas like commodity prices, foreign trade, immigration, and the security markets. He was preoccupied with what he called state of equilibrium; he ignored the principles of cumulative change; he was baffled by accounts and accounting. The sum total of his knowledge was obviously inadequate for coping with society’s ills.\(^{33}\)

The modern economist is willing to undertake the management of the economy, particularly what he now refers to as the dynamic economy, and to participate actively in the management of the economy’s business institutions. To this end, economists have developed new methodologies which have greatly expanded the subject matter of economic analysis. Part of this development has been a number of

empirical cost studies made by Joel Dean, Theodore Yntema and others, where the cost data of particular corporations have been analysed in order to develop a set of empirical cost curves which may be compared to those cost curves used by the theoretical economists. Studies of this kind have led to the development of a whole new branch of economics known as econometrics in which the economist "tries to piece together the fundamental aspects of economic behavior by looking at the interrelationships of the quantitative magnitudes generated historically, and then tries to extrapolate past behavior into the unknown future."  

This kind of analysis and other similar techniques of special interest to business managers have been incorporated into a new branch of economics known as managerial economics. To enhance his ability in this respect, the


economist has adopted such quantitative tools of analysis as statistics, linear programming, game theory, and a variety of mathematical decision-making models.

The modern accountant has extended his realm beyond that of preparing the periodic financial statements to activities which play a vital role in nearly every activity of business operation. While the preparation of financial statements and the periodic determination of income are the major objectives of his efforts, the expanding role of cost accounting and the advent of managerial accounting have produced major changes in the attitude and the role of the accountant. Cost accounting extends beyond the traditional financial accounting "when, in addition to providing data for financial accounting, it provides management with a host of cost measurements pertinent to problems of control and decisions relating to alternatives."36 Managerial accounting de-emphasizes the bookkeeping mechanics of record-keeping and concerns itself with such things as the preparation of budgets, the use of accounting data for decision-making, and the role of accounting in the control of operations.

These developments in economics and accounting have made it quite difficult to distinguish between that which is appropriately and exclusively economics and that which is appropriately and exclusively accounting. The purposes and methodology of managerial accounting and managerial economics have much in common, and the use of economic analysis by managerial accountants and accounting analysis by managerial economists has brought close contact of accounting and economics in the modern business society.

V. CONCLUSIONS

Despite their independent origins and a lengthy period of relatively independent development, there is a very great interrelationship of accounting and economics today, and while the possibilities for mutual helpfulness long escaped the attention of both economists and accountants, it seems inevitable that this closer relationship should have come about.

Several have called attention to the fact that the subject matter of the two fields is essentially the same: "Accountants are dealing with value facts, the stuff of which economic science is made."\textsuperscript{37} Likewise,

"we can see now to be sure, that from the very beginning
the professions were virtually interested in much subject
matter in common."\textsuperscript{38} And, "Accounting follows and regis-
ters economic events."\textsuperscript{39} Littleton, after representing
the whole of man's knowledge as a five segmented pie,
successively eliminates letters and arts, biological
science, and physical science, and concludes that account-
ing is orientated most closely to economics (social science)
and statistics (abstract science).\textsuperscript{40} He concludes that
"the subject matter of accounting is inescapably economic
and its basic methodology is unquestionably statistical in
character."\textsuperscript{41}

At the same time the fact that accounting is con-
cerned with only a part of the social problems of economics,
and that it deals with that part from a different viewpoint
is frequently expressed: "There is much economic truth
outside of accounting, especially truths about man's re-
actions to the changing conditions that surround him and

\textsuperscript{38}Canning, \textit{op. cit.}, p. 310.

\textsuperscript{39}Luis V. Manarara, "We Are Dragging Our Anchor -
The Drift From Historical Cost," \textit{N.A.C.A. Bulletin}, \textbf{XXXI}
(1949), 244.

\textsuperscript{40}A. C. Littleton, \textit{Structure of Accounting Theory}
(American Accounting Association Monograph No. 5, Ann
Arbor, Michigan: American Accounting Association, 1953),
p. 8.

\textsuperscript{41}\textit{Ibid.}, p. 8.
and about the choices (valuations) he makes among alternative goods and services.\textsuperscript{42} Also, "The point of view of the economist is that of society; the point of view of the accountant is that of the individual business unit."\textsuperscript{43}

Although the limitations of scope and the difference of viewpoint of accounting is still of some importance today, there is a danger that it may be regarded as being more significant than it should be. The accountant has broadened his interests, and today is more likely to consider the social implications of his activities than he has been in the past. At the same time, the broadening of economics has been primarily into the realm of the individual business firm.

It is from this closer relationship of economics and accounting that problems of misunderstanding and miscommunication with respect to concepts of cost arise. While the conceptual differences that surround such terms as income, valuation, and capital produce some difficulty, the differences in the accountant's and the economist's conceptions of cost produce even greater difficulty. Very often the accountant and the economist find that their investigations are of an identical problem, but they are not

\textsuperscript{42}\textit{Ibid.}, p. 12.

\textsuperscript{43}\textit{Saliers, op. cit.}, p. 296.
able to understand or to appreciate the other's methodology merely because they associate somewhat different phenomena with identical terms. Concepts of cost are basic to such analytical tools as break-even analysis and variable costing which are used both by economists and accountants, but the transfer of information and the mutual assistance that should evolve from such common grounds of economics and accounting are often impeded by the fact that accountants and economists fail to recognize or to understand the other's basic concepts of cost.

It is to further the present closer relationship of economics and accounting, through facilitating understanding of cost and reducing miscommunication about cost, that this study of selected cost concepts is undertaken. It is now appropriate to turn to the consideration of the accountant's and the economist's basic concept of cost.
"Cost" has previously been cited as one of the most elusive and one of the most misunderstood terms that appears in economics and accounting. This contention is supported by Matz, Curry, and Frank, who assert that "An abstract definition of cost is not sufficient for an understanding of the term";¹ by Cole, who claims "that there is no such thing as an abstract cost, a mere cost";² and by Boulding, who states that "the expression cost of production is extremely ambiguous even in ordinary speech."³

At the same time it was pointed out that both economists and accountants have attempted to clarify the specific meaning of cost to which they are referring in any given situation by attaching an appropriate modifier or modifiers to the word cost.


Nevertheless, cost in its unmodified form, or in the generic sense, appears quite frequently in the literature of economics and accounting, and the concept of cost plays a fundamental part in the analysis of both accounting and economics. It is essential, therefore, to give some consideration to the various aspects of cost as it appears unmodified in economics and accounting prior to turning to a consideration of certain of the specialized (modified) concepts of cost appearing in economics and accounting.

As might be expected, cost, like income, capital, valuation, and other concepts used jointly in accounting and economics, does not represent an identical concept to both economists and accountants. Furthermore, cost has not enjoyed a single meaning within each of the two fields. Consequently, the various aspects of cost as they appear in economics are first examined. This is followed by a consideration of the nature of cost as it is viewed and used by accountants. Finally, after having viewed the concepts of cost as they appear separately in economics and accounting, the similarities as well as the differences of cost as viewed by the economist and by the accountant are considered in order that the similarities and the dissimilarities may become more apparent.
I. COST IN ECONOMICS

"The interest of economic theorists in cost has until recent years been largely confined to the relationship of cost of production to competitive price," and the question of what forces act in the determination of price has long been a matter of primary interest to the economist. In fact, "Economics is sometimes defined as the science which treats phenomena from the standpoint of price." Thus, the concept of cost is truly fundamental in economic analysis. One author, J. M. Clark, has gone so far as to say that the backbone of economic science is the balancing of value and cost. With this ultimate objective of understanding and explaining the role of cost in the determination of price, economists have evolved elaborate theories of cost in which they have sought to discover the "true" nature of cost as well as to understand how cost operates as a price determinant.

In popular usage costs have always been viewed as being pecuniary in nature. "The sums which the entrepreneur gives up in order to obtain the resources needed

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4Viner, op. cit., p. 467.
6Clark, op. cit., p. 17.
in his business are indeed costs from his point of view. They consist of payments which must be made for the various essentials of production as materials and labor. Economists, while they have not denied the validity of pecuniary cost, have tried to explain such outlays in terms of more fundamental factors. For the theory of value, economists have found that it is necessary to seek some ultimate "real" or "physical" costs underlying these monetary outlays. Since it is the purpose of value theory to explain what fixes the prices of commodities, little is accomplished in the way of explanation to say that prices depend in some way upon costs if those costs, upon further examination, are found to consist only of prices themselves. Similarly, in those elementary instances where a man, owning his own agents of production, produces a product fashioned by his own hands and places it in the hands of the ultimate consumer, it is necessary to seek cost in the form of something more basic than the monetary outlays. In this case the man would not have spent a cent in producing the commodity for the consumer, but no economist would agree that there has been no incurring of cost.

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As a result, the concept of cost as formulated in economics has involved a consideration of the non-monetary as well as the monetary aspects of cost.

All of the facets of cost as viewed by the economist can be summed up in the single word sacrifice, since some sacrifice must be made if production is to take place. "The essence of cost is sacrifice incurred in order that economic utilities may be created." The kinds of sacrifices that give rise to cost in the economic sense include: (1) the physical or mental sacrifice, or disutility, of painful labor, irksome waiting, and risk-taking; (2) the sacrifice of utility or alternative opportunity which occurs when a decision is made to take a given course of action rather than an available alternative action; and (3) the sacrifice of value in the form of money or some other property. These are considered in turn.

Physical and Mental Sacrifice

When viewed as physical or mental sacrifice, cost consists of some action or some procedure which in itself involves a discomfort or disutility. In this sense the cost of producing a commodity includes "the exertions of

all the different kinds of labor that are directly or indirectly involved in making it; together with the absti-

nences or rather the waitings required for saving the capital used in making it.\(^{10}\) In addition, cost of pro-
duction includes the mental anxiety and the discomfort of the risk-taking that must be assumed by the entre-

preneur.\(^{11}\) In economics, these kinds of cost have been popularly referred to as the "real" cost of production since they are identified without reference to monetary outlays.

Traditionally, the economist has grouped those things that are required for producing a commodity into a somewhat functional classification of production which he refers to as the factors of production. These include land, labor, capital, and the entrepreneur, and each has been treated in terms of physical and mental sacrifice.

The disutility or pain cost associated with labor is the most obvious and was the first to receive the attention of economists. For the most part, the early classical economists viewed the cost of a commodity as


being based upon the quantity of labor required to produce it at the margin of cultivation. Hours of labor or amounts of labor pain were believed to be capable of expression in monetary terms, and the differences in the prices of commodities were believed simply to reflect the different amounts of labor required to produce them.

The disutility associated with supplying capital is generally formulated in terms of abstinence or waiting. Senior first called attention to the fact that the savings of capitalists, also essential to production, had to be paid for as well as the efforts of labor. Although the man who furnishes capital doubtless gets back the full equivalent of what he invests, he must incur the sacrifice, or the disutility, of waiting which involves a period of abstinence. Mill chose to demonstrate that the waitings of the capitalist were indeed an economic cost by converting the cost of capital to a labor cost on the grounds that payment for capital was payment for the old labor which had earned the capital.

The function of the entrepreneur is to assume the responsibility for the process of production. In most

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12Bye, op. cit., p. 31.
13Ibid.
14Viner, op. cit., p. 468.
instances the entrepreneur is not able to induce others to supply capital unless he has property which can be pledged to insure the outside capitalists against loss. In so doing the entrepreneur assumes the risk of losing his property in whole or in part, and the mental anxieties and stress that he must bear are a cost of production.

The classical economists believed that land rents played no part in the fixing of values because the latter were fixed at the margin where rents did not appear. But when land is wanted and the quantity of it is scarce in relation to the need for it, land does have value like anything else that is scarce and will satisfy wants. When land has such value, the owning of it means the foregoing of some immediate present form of wealth and the assumption of the risk that the value of the land may decline. Consequently, owning the land involves the disutilities which attach to capital, that is waiting, and risk-taking.

The physical and mental costs associated with the production of a commodity, then, include: (1) the pain or irksomeness of labor, (2) the abstinence associated with the waiting of capital and land, and (3) the

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15 Bye, op. cit., p. 31.
16 Taylor, op. cit., p. 48.
psychological burdens of anxiety and worry associated with the risk-bearing that must be assumed by the entrepreneur and the owner of land. Though the disutility theory of value as set forth by the classical economists has been convincingly discredited, the concept of cost in economics continues to be associated with such physical and mental factors as labor pain, abstinence and risk-taking.

Utility and Opportunity Sacrifice

In economics a thing possesses utility if it is capable of bringing satisfaction. Cost in the sense of the sacrifice of utility is "a sacrifice which consists of relinquishing one utility to gain another." In modern economic theory the cost associated with sacrificing one utility to gain another is most popularly formulated in terms of the sacrificing of alternatives. Robbins says: "The concept of costs in modern economic theory is a conception of displaced alternatives: the cost of obtaining anything is what must be surrendered in order to get it." Thus, the supplying of any one of the factors of production involves a utility or lost

17Ibid., p. 44.

opportunity cost since any one of them might have been put to different uses, and the cost in their present use is represented by the utility that would have been created or the opportunity that would not have been foregone in any of the other uses.

Monetary Sacrifice

Physical and mental sacrifices as well as the sacrifice of utility or opportunity are conceived of as sacrifices made by persons actually taking part in the process of production. These are often referred to as real costs or simply costs, since no monetary outlays are required for the existence of the cost. Since the rendering of the same service or the sacrifice of the same utility may inflict greater pain upon one person than the other, cost in the sense of physical and mental sacrifice and cost in the sense of utility and opportunity sacrifice are subjective in nature and exist without expression in quantitative terms.

The compensation that must be paid for such sacrifices, however, can be expressed in terms of money or other property that must be given up in order to carry on the process of production. Cost in the sense of a monetary sacrifice is the third sense in which the economist views cost. "The sums of money that have to be paid for
these efforts and sacrifices will be called either its money cost of production, or, for shortness, its expenses of production.\footnote{19} The amounts of these payments, however, do not necessarily correspond to the real cost of production since in the short run such payments are more a reflection of the relative scarcity or abundance of the factors in relation to the demand for them. While Marshall and others attempted to preserve this distinction by referring to the real costs of production as costs and the pecuniary outlays for production as expenses, the word cost is generally applied to each in the contemporary literature of economics.

As viewed by the economist, money costs "must be interpreted so as to make money costs include any sum which the entrepreneur allows himself for factors or services which he might have bought but which, in fact, he himself supplies."\footnote{20} Thus, if the entrepreneur himself performs a service in the business, the compensation for his services should be included in the money costs of production even though no outlay is required. Likewise, if he has capital invested in the business, the interest

\footnote{19}{Marshall, \textit{op. cit.}, p. 399.}

\footnote{20}{Taylor, \textit{op. cit.}, p. 50.}
cost, though not paid to outsiders, should be included in the money costs of production.

While the preciseness with which the monetary outlays, made to bring forth the necessary factors of production, represent the real sacrifices of production is subject to some difference of opinion, money costs have assumed a greater significance in economic science than real costs since they are the only costs that can be quantitatively expressed in terms of a common denominator. While a knowledge of the physical and the mental aspects of cost is important, "it is plain that we can get such knowledge only by assuming that the extent of the sacrifice is expressed in the money prices which we have to pay to get men to undergo such sacrifice."  

II. COST IN ACCOUNTING

From its earliest beginnings, the determination of net income has been a central objective of the accounting process. While the methods of the accounting determination of income have undergone significant changes since Paciolo's stress on a record of receipts and disbursements and the related determination of excess receipts over disbursements for a given business venture, still,  

\[21\text{Ibid.}\]
"the purpose of accounting is strongly orientated to
efforts in the enterprise to produce income," and the
central objective of the accounting process is to measure
this income.

There have been periods in the development of ac-
counting in which the balance sheet was believed to be
more useful than the income statement to the users of
financial statements who wished to reach an informed judg-
ment of the success of a business enterprise. The methods
of contemporary accounting, however, point toward a more
accurate determination of net income, in some instances
at the expense of the appropriateness of the related
effect on the balance sheet, in accordance with the view
that an informed estimate of earning potential rather than
a view of balance sheet values is a more significant guide
to users of the financial statements. This view is

22W. A. Paton and A. C. Littleton, An Introduction
to Corporate Accounting Standards (American Accounting
Association Monograph No. 3. Columbus: American Account-


24The widespread use of LIFO inventory procedures
is perhaps the best example of the attempt on the part of
accountants to provide a better representation of net
income which may lead to an adverse effect on the balance
sheet. Thus, this procedure, while providing a matching
of "more" current costs with current revenues, may lead to
a corresponding understatement of inventory on the balance
sheet.
expressed by Littleton, who concludes that it "seems probable that the idea of income is more fundamental in accounting than the idea of capital, of assets, or of financial statements." Littleton states further that:

The central purpose of accounting is to make possible the periodic matching of costs (efforts) and revenues (accomplishments). This concept is the nucleus of accounting theory, and a benchmark that affords a fixed point of reference for accounting discussions.

The purpose here, however, is to establish the fact that the idea of net income is at least a fundamental aspect of the entire accounting procedure, and not to establish the fact that it is necessarily the most fundamental aspect of the accounting process. And with the view that net income is at least fundamental in the process of accounting and, consequently, a matter of vital interest to the accountant, there can be no quarrel. Further, having recognized the importance of the determination of net income in accounting, it follows that the concept of cost in accounting lies at the foundation of accounting analysis since, "while net income is important for its own sake, its underlying constituent elements are

25 Littleton, Structure of Accounting Theory, p. 20.
26 Ibid., p. 30.
more important still since net income can be what it is only because of what costs and revenues are.**27

In addition to the vital role that the concept of cost plays in the determination of accounting net income, cost provides the accounting basis of valuation for the majority of the balance sheet items. Though there has been much recent concern as to whether or not the "cost basis" provides an adequate representation of the financial condition of a business organization at a given date, the concept of cost in accounting continues to provide the basis upon which the majority of the balance sheet items are reported.

With the ultimate objectives of income determination and of the accounting basis for the reporting of the majority of asset items, accountants have formulated definitions of cost which accommodate each of these ultimate uses. The Committee on Terminology of the American Institute of Certified Public Accountants, which serves as the official spokesman for practicing CPAs, defines cost as follows: "Cost is the amount, measured in money, of cash expended or other property transferred, capital

27Ibid., p. 22.
stock issued, services performed, or a liability incurred, in consideration of goods or services received or to be received. "28 Similarly, "Cost is a foregoing, measured in monetary terms, incurred or potentially to be incurred to achieve a specific objective."29 According to Kohler in his Dictionary for Accountants, cost is:

An expenditure or outlay of cash, other property, capital stock, or services or the incurring of a liability therefor, identified with goods or services purchased or with any loss incurred, and measured in terms of the amount of cash paid or payable or the market value of the other property, capital stock or services given in exchange.30

In more recent literature, cost has been defined as "a foregoing, a sacrifice made to secure benefits, and is measured by an exchange price."31

From these representative definitions of cost as the term is used in accounting, certain characteristics


may be noted that enter into the concept of cost as used in accounting. These include the notion of sacrifice, the requirement of measurement, and the related expression of this measurement in monetary terms.

**Sacrifice**

The concept of cost in accounting as in economics includes the basic idea of sacrifice. In the accounting conception of cost, this notion is expressed in such words or phrases as expended, transferred, issued, services performed, liability incurred, foregoing, loss incurred, and the word sacrifice itself which occur in the above representative definitions of the concept of cost as it appears in accounting. The nature of the things that are sacrificed include: cash, other property, capital stock, services, or the incurrence of an obligation which is the sacrifice of future cash, property, stock or services.

**Measurement**

Each of the representative definitions of cost as used in accounting indicates the necessity of cost measurement for accounting purposes. Further, both the accounting expression of net income and the statement of balance sheet values require that accounting costs be measured and expressed in terms of the monetary unit. Thus, it is the dollar that serves as the common
denominator which ties together the vast number of heterogeneous transactions entered into by a business entity into a single expression of net income and balance sheet items. Not only is the requirement of measurement essential to the accountant's concept of cost, but the further requirement that the magnitude of such costs be capable of objective determination is adjacent to the recognition of costs by accountants.

When a transaction involves the expenditure of cash, and the bargained price is the result of the "simultaneous action of two independent parties motivated by self interest," the measurement of cost is readily made in terms of the bargained price. In those instances where cash is not given or where the transaction is not the result of arm's-length bargaining between genuinely independent parties, the measurement of cost is more difficult to ascertain. In these cases accountants have turned to such measures as market prices or appraisal values in their attempt to derive an objective measurement of the cost involved. At the same time, however, the requirement of objective measurement has caused accountants to be reluctant to include as cost such items as the wages that the owner could earn in alternative

\[32\text{Paton and Littleton, op. cit., p. 26.}\]
employment or the interest that could be earned if the capital employed in the business were invested in an alternative opportunity. In any case, however, the accountant is compelled to seek and to establish an expression of the cost inherent in a transaction in monetary terms.

**Monetary Expression**

Closely related to the characteristic of measurement is the requirement that accounting cost be capable of expression in monetary terms. While there are many factors that affect the economic well-being of a business organization—for example, the capability of the firm's management—the accounting process is confined to those matters which are capable of expression in monetary terms, and only those costs that are capable of such expression are included in the accounting concept of cost. In recent years there has been growing concern as to the suitability of the dollar as the basis of accounting measurement. Unlike other units of measure as the ton, inch, or pound, the dollar has not represented the same amount of purchasing power at different periods of time, and the ability of many firms to exist indefinitely has led to a questionable mixture of "different" dollars in the accounts. While this problem has produced much discussion and has
resulted in some rather elaborate methods of adjusting the "different" kinds of dollars to a single base in order to restore the comparability of accounting data, the result is still an expression in terms of money. Thus, while the results of these investigations may eventually lead to the periodic adjustment of initially recorded cost figures, it is unlikely that the characteristic of the monetary expression of cost in accounting will be disturbed.

III. COMPARISON OF THE ECONOMIC AND ACCOUNTING CONCEPTS OF COST

Having considered the basic concept of cost in economics and cost in accounting, it is now possible to review the two simultaneously and, in this manner, to discover the similarities as well as the differences that exist in the concept as formulated in economics and accounting.

Economic cost has been described in terms of three somewhat different senses. These were: (1) as physical pain or psychological discomfort; (2) as the sacrifice of utility or opportunity; and (3) as releases of value, primarily money. These different senses of cost in economics are clearly set forth by Viner, who defines cost in economics as "the surrender or destruction of value or the
performance of some irksome activity as a means to the production of commodities or the acquisition of income." Viner further states that cost

... may consist of an expenditure of money, of goods for which money could be obtained, of manual or mental effort irksome at the margin; or it may involve the assumption of a physical or a financial risk, the acceptance of a role carrying with it social disesteem, the choice of less attractive of alternative ways of employing time or resources, although none of the alternatives need be of itself displeasing or irksome.

On the other hand, the accounting concept of cost is characterized by the notion of sacrifice, the requirement of measurement, and the related expression of the cost in terms of money. These aspects of cost in accounting may be identified in the previously cited report of the Committee on Cost Concepts and Standards of the American Accounting Association which defines cost as "a foregoing, measured in monetary terms, incurred to achieve a specific objective." This brief review of the concept of cost in economics and accounting suggests some immediate conclusions regarding the similarities and the differences in the

33 Viner, op. cit., p. 466.
34 Ibid., p. 467.
concept of cost as formulated by the accountant and the economist. An immediately apparent similarity may be cited from the fact that both the economic and the accounting concepts of cost include the general notion of sacrifice. This unifying characteristic of the concept of cost in both economics and accounting is recognized by Spencer and Siegelman who assert that "the general idea of cost covers a variety of meanings, but there is one meaning that is common to all types of costs and is summed up in the single word 'sacrifice'."36 Devine, also recognizing this similarity, states that "the core of meaning which is common to all types of cost may be summed up by the word sacrifice."37

But while the notion of sacrifice characterizes both the accounting and economic concept of cost, there is a significant difference in the kinds of sacrifices that are included in the economic concept of cost and the accounting concept of cost. This difference is quite apparent, too, in the preceding review of what cost is in each of the areas of accounting and economics.


37 Devine, op. cit., p. 557.
As previously indicated, the economist's concern with the concept of cost arises primarily out of his desire to explain prices. Further, it was pointed out that, because of this ultimate objective of explaining prices, it has been necessary for the economist to seek factors more basic than money costs to avoid the somewhat meaningless line of reasoning that prices depend at least partially on costs, and costs are nothing more than prices paid. As a result, the economist, while recognizing as cost such monetary outlays or expenditures as may be demanded as compensation by those who render service, has expanded his definition of cost to include those non-monetary or real sacrifices that underlie these payments. In accordance with the economist's concept of cost the nature of the sacrifice may be tangible or intangible, objective or subjective. Thus, economic cost includes such sacrifices as: mental or manual effort, assumption of risk, social disesteem, choice of the less attractive of alternatives, abstinence associated with waiting, or any other type of disutility. This kind of cost is incapable of measurement, and since the rendering of the same service may inflict greater pain upon one person than upon another, the cost is necessarily subjective. 38

38 Cox, op. cit., p. 290.
To the accountant, who is primarily concerned with measuring the effects of certain business transactions on a given business entity, these general kinds of sacrifice are of no immediate use. For accounting purposes it is essential that the general concept of sacrifice be simplified in such a way that it can be represented in terms of monetary expression in the accounts. Though the economist may claim that payment to the various factors conceivably represents but a monetary expression of the more basic sacrifices, the accountant has felt little need to probe beyond the exchange price arising from the bargain made in the market place.

The concept of economic cost has also been formulated in terms of the monetary outlays that must be made to induce the employment of the required factors of production, and it is in this sense that the economic and the accounting concepts of cost come to be more nearly alike. Despite this similarity, however, there are some significant differences in conception that need to be noted in this discussion of the similarities and differences of the cost concept in economics and accounting.

In his consideration of the costs incurred by a particular business firm, the economist usually starts with those money outlays, paid or payable, that the firm must make for resources used to produce its product.
This is essentially the definition of cost as used by accountants. However, every economic decision involves a choice between alternatives and the economist would prefer to measure the cost of any action in terms of what has to be given up for it. In many instances, this is the same as the price paid in the market, for all that one has to give up to use an extra ton of steel, for example, is the price of that ton. As long as goods are readily available and bought in a market, this will be the case.

But monetary outlays do not represent the complete cost picture of the firm to the economist. To the monetary outlays, the economist would add certain costs for which no monetary expenditure ever needs to be made. Included in this non-monetary category of cost would be one or more of the following, depending upon whether the firm in question were a corporation, partnership, or sole proprietorship:

1. The entrepreneur's wages (which he could earn by working for someone else).

2. Rental income on land employed in the business (which the owner could receive by leasing the property to another firm).

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3. A minimum normal profit (which would be just enough to compensate the owner for his investment and which he could presumably earn by putting his money to work in somebody else's business at equivalent risk). 40

A final discrepancy, though the cost is included in both the accounting and economic description of the cost for a given firm, arises in connection with the difference in the amount of cost recognized in the expiration of long-lived properties used in the business. For the most part, accountants make such allocations on the basis of the amount of the past outlays, whereas past outlays are of only partial significance to the economist and such outlays must be modified by current facts. 41

In the brief consideration of differences in the accounting and economic concepts of income, valuation, and capital in the preceding chapter, it was noted that the economist's concept of income applied not only at the level of the firm but also to larger segments of the economic community as well as to the entire economy itself.


41Ibid.
At the same time, it was noted that the accountant's concept of income is formulated only in terms of application to a given business enterprise. This same difference of the levels at which the concept of income is applicable in economics and accounting is true also of the concept of cost. Accounting is concerned with the effective return to the individual owner, and this is the resultant of costs and prices as associated within an individual business unit.\(^4\) While the economist, especially in the more recent years, has taken more of an interest in the costs associated with a given firm, his conception of cost is formulated primarily with the somewhat imaginary functional classification of production as land, labor, capital, and the entrepreneur.\(^5\) And, moreover, the economist's discussion of cost may be with respect to a firm, a group of related firms, or an industry, or with respect to the entire economy.

Another significant difference with respect to application rather than to matters of what is included in the concept of cost regards the role that the element of time plays in the accounting concept of cost and the economic concept of cost. From the beginning accountants

\(^4\) Cox, op. cit., p. 297.

\(^5\) Ibid., p. 289.
have formulated many of their principles and concepts in accordance with business practice. Since business practice has for many years demanded a periodic reckoning of income and financial position, the concept of the time period has assumed a vital role in connection with the accounting concept of cost. In keeping with the desire of businessmen for such periodic reckonings, accountants have evolved an elaborate system of rules and conventions regarding the inclusion of particular cost elements in a given period, usually a fiscal year. Economists, on the other hand, being primarily interested in costs as they enter into the determination of prices, have found that it is quite unnecessary to consider costs in connection with precise time periods. With respect to time, economists speak not of a year but rather of the short-period or the long-period, conceptions that are quite elusive from a strictly time viewpoint, but quite useful when defined in terms of changes made to the basic productive facilities or "plant."

The many aspects, the similarities, and the differences in the general concept of cost in economics and accounting signify the need to attach other words to the term "cost" in order to help convey a clear understanding of the specific meaning of cost intended. The consideration
of certain of these specialized concepts of cost that have evolved in economics and accounting presents the major problem of this investigation, which at this point appropriately turns to a study of selected specialized cost concepts of accounting.
CHAPTER III

SELECTED COST CONCEPTS OF ACCOUNTING

The general concept of cost in accounting has been formulated in terms of the ultimate objective of preparing the periodic financial statements of a business enterprise. But with the expansion of cost accounting and the related emphasis on the managerial point of view in accounting, the concept of cost in modern accounting encompasses an added number of cost concepts, which, though many are not incorporated into the system of double-entry accounts, have become an essential extension of the basic knowledge of accounting. These extensions of the general notion of cost enable the accountant to be of greater service, particularly to management, in the related activities of planning and controlling, and in providing appropriate cost analysis essential in a wide variety of decision-making situations.

Since an all-inclusive study would be an almost endless undertaking, the following consideration of selected cost concepts of accounting falls short of including all of the specialized concepts of cost that are
to be found in the literature of accounting. Thus, as indicated in the introduction to this study, a number of relatively apparent cost types, as labor cost, material cost, pension cost, etc., are excluded. The following discussion does, however, encompass those specialized concepts of cost in accounting that are the most significant, based upon the usefulness of the concept and the relative frequency with which the concept occurs in accounting literature. Upon these bases, the following cost concepts of accounting are included in this study:

Absorbed
Acquisition (Original)
Actual
Allocated (Prorated)
Alternative
Amortized
Book
Budgeted
Common
Controllable
Conversion
Current (Present)
Differential
Direct
Estimated
Expected
Expired
Fixed
Full
Future
Historical
Imputed
Incremental
Indirect
Invested
Joint

Marginal
Market value
Noncontrollable
(Noncontrollable)
Normal
Opportunity
Out-of-Pocket (Outlay)
Overhead
Past
Period (Time)
Prime
Product
Programmed (Committed)
Responsibility
Replacement
Semi-variable (Semi-fixed)
Semi-variable (Semi-fixed)
Separable
Standard
Standby
Sunk
Traceable
True
Unexpired
Unit
Variable
These concepts have been grouped in the discussion that follows, but the grouping here is for convenience and ease of discussion and does not represent an attempt to synthesize or classify the several concepts considered, since this is the objective of Chapter V. The purpose here, then, is to identify, to define, and to discuss the nature of the various concepts of cost, as well as to note their usefulness in the accounting function as it exists in the modern complexity of business activity.

I. COST BASIS AND RELATED COST CONCEPTS

"Cost is the measure used for accounting for assets acquired by purchase and, ultimately, for asset expirations chargeable to expense."¹ This statement is popularly referred to in accounting as the "cost principle" or "cost basis" and provides the general guide for the recording of accounting transactions. Cost is considered to be the best basis for recording transactions, since it is capable of objective measurement and rests upon the visible facts of a business transaction. The following specialized concepts of cost in accounting are related to the cost basis of accounting:

Acquisition (Original) Cost  
Actual Cost  
Historical Cost  
Past Cost  
Invested Cost  
Market Value

While, at the time of this writing, the cost basis, in terms of the above concepts of cost, provides the acceptable basis of accounting for the purposes of financial statements, serious objections have been raised concerning the continued adherence to the cost basis. These objections and the suggested alternatives generally include reference to the following concepts of cost:

Current (Present) Cost  
Reproduction Cost  
Replacement Cost

Historical cost and actual cost "refer to a concept which has to do with the measurement of economic factors of production insofar as such factors are represented by cash outlays or their equivalent."2 As previously indicated, these concepts of cost are significant in that they represent the concepts of cost upon which the financial statements prepared by the accountant are presently based.

2Lawrence J. Benninger, op. cit., p. 290.
"Historical cost is measured by actual cash payments or their equivalent at the time of the outlay," and is sometimes referred to as original cost or acquisition cost, which has been defined as "the cash or cash equivalent released on the acquisition date to acquire services." Thus, the cost amount that is initially recorded in the books of account is appropriately referred to as the historical, original, or acquisition cost. This amount usually is the amount of the bargained price as measured by the cash given or promised in exchange, although in transactions involving the acquisition of properties in exchange for non-cash properties, other bases, as the fair market value of the property given in exchange may serve as representative of the cost amount involved. In general, the initial amount recorded includes not only the invoice price but also all other costs incidental to acquiring the property and for placing it in position to serve its intended purpose.

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5Paton and Littleton, op. cit., p. 31.
Though common in use, the concept of actual cost is difficult to define if taken to mean something other than the amount actually given in exchange. Sometimes the term actual cost is used in connection with the cost of producing a given product. This use of actual cost, however, is inadvisable since in most cases a number of cost factors are assigned to products on a more or less arbitrary basis, and the computation of an actual product cost under the complex methods of modern production is practically impossible. The use of actual cost in this way suggests a realism that is more illusionary than useful in most cases.

Historical, original, acquisition, and actual costs have no relevance to management decisions with respect to the future except to the extent that they may serve as a guide in the estimation of future costs.

Since, under presently acceptable methods of accounting, acquisition cost, historical cost, original cost, and actual cost that have not been consumed in the production of revenues are carried forward to ensuing accounting periods, these concepts of cost are all considered to be past costs or invested costs.\(^6\)

\(^6\)For an example of the use of the concept of invested cost as well as an excellent defense of the cost principle, see Littleton, "The Significance of Invested Cost," pp. 167-173.
Market value is appropriately considered in this discussion of cost concepts since, as previously indicated, a market value sometimes serves as the amount initially recorded in the accounts and is eventually taken into the measurement of income. A further example of an instance in which market value replaces cost and becomes cost for future purposes is the application of the cost or market, whichever is lower, rule to inventory valuation.

In recent years there have been vigorous objections to the determination of net income and the valuation of assets based upon concepts of past cost. The essence of these objections revolves about the fact that the value of the dollar, which serves as the unit of measurement in accounting, has steadily declined, and that, therefore, past cost amounts lose their significance and become a misleading basis for financial analysis. The most serious single objection raised in this respect is that the amounts currently reported as accounting net income often include portions that are in reality returns of capital, since many costs may be understated in terms of current conditions.

Presently acceptable methods of accounting include some provision for this difficulty in that the last-in, first-out, or LIFO, method of inventory valuation partly provides for a matching of current costs, or the costs of
the most recent purchases, with current revenues. Also, the acceptable methods of accelerated depreciation are thought to bring depreciation charges more into line with the current costs of production than the straight-line or other acceptable methods. Each of these modifications, however, is within the framework of the historical cost basis in that there is no adjustment of the cost amount initially recorded, but rather only a taking of larger initial portions of the amount into net income. The total amount to be ultimately charged to income is still the amount of the original cost at the time of acquisition.

Suggested modifications of historical cost as a basis for income determination and asset valuation are replacement cost and reproduction cost. The use of these concepts in the accounting process would involve periodic adjustments of the previously recorded amounts. Replacement costs have been defined in two different senses:

First, "Replacement cost is historical cost measured in terms of the current purchasing power of the standard monetary unit."7 In this sense, replacement cost may be thought of as an adjusted historical cost or as a current cost since current cost, in addition to the above conception of the term, is sometimes conceived of as "cost

7Benninger, op. cit., p. 290.
at present-day price levels. . . obtained by applying to historical cost one or more index numbers. 8

Replacement cost is also defined as "cost in the present market." 9 In this sense, replacement cost is not adjusted historical cost, but it may still be thought of as a current cost since the concept of current cost is sometimes taken to mean the prices "currently prevailing of equivalent goods and services." 10 This conception of replacement cost recognizes the view that the value of an asset may change for a number of reasons: technological innovations and changes in supply and demand in addition to changes in the general price level.

The concept of replacement cost is generally associated with the idea of replacing an asset with equivalent, though not identical assets. When assets are thought of as being replaced by identical assets, the concept of replacement cost is generally referred to as reproduction cost.

Accountants have been reluctant to take such concepts of cost as current cost, replacement cost, or reproduction cost into the accounts since this departure from

8 Kohler, op. cit., p. 150.
9 Benninger, op. cit., p. 291.
10 Kohler, op. cit., p. 23.
the historical cost basis would involve a sacrifice of present objectivity in cost measurement in favor of appraisals and other subjective methods of determining the cost amount.

II. PERIOD CONVENTION AND RELATED COST CONCEPTS

The period convention in accounting breaks up the entire life of a business into units of time, the most common unit, or period, being that of a year. The period convention underlies the accounting determination of net income and gives rise to the following specialized concepts of accounting cost:

- Expired Cost
- Unexpired Cost
- Amortized Cost
- Book Cost
- Out-of-Pocket (Outlay) Cost

At the time of cost incurrence, a cost is identified either with the production of revenues of the current period, with the production of revenues in future periods, or partly with the production of revenues of the current period and partly with the production of revenues of future periods. Those costs properly identified with the production of revenues of future periods are regarded as unexpired costs, or assets, and may be viewed as costs in suspense, awaiting eventual consumption in the revenue-producing activities of the firm. On the other hand, those
costs that are regarded as having entered into the revenue-producing activities of the firm are said to be expired costs, or expenses, since the productive services that they represented upon acquisition have been consumed.

The concept of amortized cost is related to the concepts of expired costs and unexpired costs, and arises from the fact that many productive facilities, or initial costs incurred, span more than a single accounting period. Thus, it is often necessary to defer a portion of the cost of an asset, as an unexpired cost, since the services that the cost represents will not be used currently. As portions of this deferred cost are associated with the production of revenues, they become expired cost and enter into the matching of costs and revenues which ultimately leads to net income. Amortized cost, then, is a net concept in that it is represented by the unexpired cost initially recorded, reduced by the amount of this cost that has expired, or entered into the matching process.

Book costs enter into the accounting determination of net income, but do not involve a current or future expenditure. Book costs are generated by the end-of-period adjusting entries, and represent that portion of a previously unexpired cost, or asset, that is now deemed to be consumed. The provision for depreciation serves as the best illustration of a book cost.
Most authors distinguish book costs from out-of-pocket, or outlay costs, which "are those costs which with respect to a given decision of management give rise to cash expenditures." An understanding of this distinction is necessary in the preparation of the funds statements and various analyses of cash flows. The distinction is also significant in the consideration of the costs that would have to be met in connection with a given decision of management. Book costs, since they involve no current or future outlay of funds, do not enter into the preparation of the funds statement or cash-flow analysis. Nor should they, except for the tax consequences associated with their amounts, be considered in the cost analysis pertinent to a given management decision.

III. MANUFACTURING COST AND RELATED COST CONCEPTS

In cost accounting, which was developed originally for use in manufacturing activities, it has long been the practice to divide the total manufacturing cost into three elements: (1) direct material, (2) direct labor, and (3) manufacturing overhead. This traditional division is still popular and results in three related

concepts of costs which are still prevalent in accounting literature. These are:

Prime Cost
Conversion Cost
Overhead Cost

"Prime costs are the labor and material costs directly traceable to a unit of output." Thus, in terms of the above components of total manufacturing cost, prime cost is the summation of the direct labor and direct material costs. In its earlier use, prime cost was considered as synonymous with the direct costs of a product, but with refined techniques of cost measurement, other costs, in addition to direct materials and direct labor, may be regarded as direct costs (a concept of cost treated later in this chapter). Consequently, prime cost does not necessarily include all of the direct costs.

Overhead cost, or manufacturing overhead, "is a catch-all category which includes all costs but direct labor and direct materials. A positive definition would be: all costs that cannot be traced or are not worth while tracing to units of output." Overhead, to accountants, then, may include costs that are either direct

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12Ibid., p. 177.

or indirect, though in the allocation of overhead costs to products or departments, all overhead costs are treated as though they are indirect in nature.

The term **conversion cost** is used to designate the total cost of direct labor and overhead, since this sum is conceived of as the cost of changing the direct materials into a finished product.

**IV. COST ESTIMATION AND RELATED COST CONCEPTS**

Cost estimation has played an increasingly important part in the development of accounting techniques that better serve management decision-making and the management functions of planning and controlling. Every cost that enters into a decision regarding the future necessitates some estimate of what the costs will be, and a number of cost concepts of accounting that enter into this kind of analysis, are formulated in terms of a cost projection or estimation into the future. In addition to the estimation of costs for decision-making purposes, other concepts of costs that are estimated have been developed and are included as an integral part of the entire system of accounts. These costs serve to aid and to guide management in the planning and controlling of operations. The following concepts of cost will be
considered in connection with the expanded role of cost estimation in the methodology of accounting:

Future Cost  
Expected Cost  
Budgeted Cost  
Estimated Cost  
Normal Cost  
Standard Cost  
True Cost

"Future costs are costs expected to be incurred at a later date."  

Decisions of management concerning future operations must be based upon future costs, since costs of prior periods are significant only to the extent that they enable management to predict, with varying degrees of certainty, what the costs of future periods will be. In the comparison of alternatives involving the estimation of future costs at different time periods in the future, it is necessary to reduce each of the estimated future costs (and revenues) associated with the alternative to a common basis of time by applying appropriate interest rate factors which compensate for the time preference of money. Such comparisons may be made

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on the basis of annual cost, present worth, or rate of return.15

There is no distinguishable difference between the concepts of future costs and expected costs. * Past experience modified by future expectancy may be stated as a general rule for the most satisfactory determinations of expected cost.*16 Thus, both future cost and expected cost are of the family of cost concepts that are predetermined in accounting analysis, and there is no difference as to the method of their determination.

Murley advocates the use of expected cost as a common denominator of costs for pricing, control, and planning.17 According to Murley, the expected cost concept permits the presentation of costs for all purposes on the same basis and in the same amounts, thereby assuring a common understanding at all management levels.18


17 See above article by Murley.

18 Ibid., p. 307.
Budgeted costs are cost estimates that are incorporated into the budgetary procedure which serves to unify the planning efforts of the entire organization. Budgeted costs usually receive the approval of top management, after which they serve as the official guides by which the results of operations may be judged. Budgeted costs may be injected into the double-entry system of accounts or they may be prepared and maintained as a part of the accounting analysis which supplements and supports the formal record-keeping procedures. In governmental accounting and other systems of fund accounting, the budgetary costs usually enter into the accounts where they serve as "a schedule of authorizations and expenditures." 19

"Estimated costs refer to predetermined costs that are less scientifically developed than normal costs, the estimates usually reflecting historical experience." 20

As a cost type there is little to distinguish estimated costs from future costs, expected costs, or budgeted


costs except that the concept of estimated costs has been popularly used in accounting in conjunction with estimated cost systems wherein the estimated costs enter into the accounts as credits to the various manufacturing accounts.

In an estimated cost system the charges to the manufacturing accounts represent costs that are actually incurred, whereas the credits are entered as estimates of the costs expected to be incurred. As a result, the end-of-period account balances and variances developed in the operation of the system represent the differences between actual and estimated costs, and may serve as useful guides to management in the appraisal of operations for the period.

The concept of normal cost is closely related to and enters into the concept of standard cost. Normal costs are developed through the application of overhead to products on the basis of a rate determined by management to represent the normal capacity or normal utilization of the capacity over a relatively long period of time.21

The cost of a product based upon the inclusion of a normal overhead rate is considered to be more meaningful

and representative of the cost, since it is not subject to the distortions caused by volume fluctuations or by the erratic behavior of several of the many costs that are included in the overhead grouping.

Standard costs are almost exclusively a cost accounting concept and refer to costs that "are scientifically predetermined costs, normally developed through engineering or time study analysis."22 In practice, care must be taken to understand the type of standard which is being used, since some standards may be more or less an expression of ideal costs which represent an estimate of what costs would be if near perfect conditions were approximated. On the other hand, standards may be set on the basis of what costs are expected to be under current conditions. More often, standards represent what costs should be, based upon an average or normal set of operating circumstances.

Standard costs enter into the books of account as the actual costs or as what actual costs should be. Variations from standard are set out in a series of variance accounts, "are analyzed carefully, and, with localized responsibility, attempts are made to account for and correct

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22 Hennessy, op. cit., p. 336.
the inefficiencies. Standard costs serve management in a variety of ways. They enter into the consideration of pricing problems, they serve in the planning function, and they play a significant role in the controlling of operations. To some authors, the standard cost of a product is the true cost of the product, since the standard cost is not affected by the periodic oscillations in various of the cost factors.

Van Voorhis, Dunn, and McCameron contrast estimated cost systems and standard cost systems as follows:

First, standard costs—if properly set—are likely to be more scientific than estimated costs. Second, the main purpose of an estimated cost system is to get a close approximation of the actual cost of production without the more elaborate work of a complete historical cost system; whereas in a standard system the primary purpose is to establish a "true" cost that can be used as a measure of performance. Third, the variances from standard cost are viewed as differences between what actual costs were and what they should have been. The primary purpose of the variance accounts in estimated cost systems, on the other hand, is to show the amount by which the estimates are in error and hence should be corrected.

Hennessy, in considering the advantages of the predetermined cost systems, estimated costs and standard

\[23\] Devine, op. cit., p. 570.

costs, provides an appropriate summary of the usefulness of such cost estimation in the organization:

**Planning.** With the aid of a predetermined cost system, management can easily develop projections of future earnings based on realistic evaluations of costs.

**Control.** Predetermined cost systems permit the automatic preparation of control reports based on the principle of exception, highlighting only those facts that require management action.

**Pricing.** (a) Improvements in operating methods are immediately reflected in the variance accounts, enabling management to respond quickly to any price advantage if the product markets are reasonably elastic. (b) With an accurate picture of the contribution that each product makes to fixed costs, management is able to make intelligent and selective price-volume decisions. (c) Costs are not distorted by temporary changes in volume. (d) Management is not misled into changing prices when higher or lower costs result merely from non-recurring shifts in efficiency levels or unusual procurement situations.25

V. COST ASSIGNMENT AND RELATED COST CONCEPTS

Ideally, as costs expire and pass into the matching process of income determination, they all attach to units of output since all of the efforts, represented by costs, within a business are undertaken with the ultimate objective of producing some unit of output. The assignment of all costs to a particular unit or units of production, however, in most cases, represents a theoretically ideal

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objective that in practice meets with impossibility or impracticability. Thus, in present practice, costs are identified with or assigned to products or services, departments, or time periods. Specialized cost concepts used in accounting in connection with the assignment or attaching of costs include:

- Direct Cost
- Traceable Cost
- Indirect Cost
- Absorbed Cost
- Full Cost
- Allocated (Prorated) Cost
- Period (Time) Cost
- Product Cost
- Joint Cost
- Separable Cost
- Common Cost

"Direct costs are those costs obviously traceable to a unit of output or segment of business operations." 26

There is no distinguishing difference between the concept of direct costs and traceable costs, since traceable costs also refer to costs that can be traced to a unit of output or segment of the business. Direct costs are distinguished from indirect costs, which are costs "not readily identifiable or incurred as the result of the production of specific goods or services, but applicable to a productive

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activity generally.\textsuperscript{27} Indirect costs are commonly thought of as being identical with overhead costs since in accounting, overhead items are treated as indirect costs. As noted above, however, overhead generally includes items that are direct in nature and could be treated as such, if practical.

At present the concept of direct and indirect cost leads to some confusion, since the advocates of direct costing often use the term direct costs to designate costs that vary with activity. This usage of direct costs is unfortunate, since the cost concepts involved in direct costing are those of fixed costs and variable costs, rather than direct costs and indirect costs. While it is very often true that the direct costs are also variable in nature, the concepts of direct costs and variable costs do not represent an identical concept.

Direct costs have varied usefulness to management. From the standpoint of accurate costing, it is desirable to have as large a part of the total cost of the product directly measured as possible. Control of departmental activities centers on those costs that are direct with respect to that segment of the business. Finally, direct

\textsuperscript{27}Kohler, op. cit., p. 254.
costs enter into the computation of costs relevant to a variety of business decisions.

On the other hand, however, the practical application of the direct cost concept often leads to difficulties, and certain costs that are direct by characteristic are treated as indirect in practice due to the expense or difficulty encountered in the attempts to account for them.\(^{28}\) The relativity of the terms direct cost and indirect cost should be clearly understood. Whether a cost is direct or indirect in nature is not an absolute matter, but must be determined within the particular situation under consideration. \(^{29}\) "Whereas certain costs may be indirect relative to product, they may be direct to other objects, such as machine, an operation, or a department."

"An absorbed cost is the amount of cost that is assigned as a cost of the product."\(^{30}\) This concept of cost arises in connection with the method of absorption costing in which all elements of manufacturing overhead

\(^{28}\)Benninger, op. cit., p. 293.


are accumulated as a cost of the product as well as the direct labor and direct materials, and are included in the resulting inventory cost. This approach is frequently referred to as full costing, since the cost of the product reflects the total of the manufacturing cost. The concept of full cost and the related theory of full costing, however, extend beyond the consideration of manufacturing costs and "envisages a process wherein more and more of the expenditures of the firm commonly classified as selling and administrative, will be more precisely related to inventories and cost of goods sold."\(^{31}\)

The concept of allocated costs refers to those cost elements that cannot be identified with a product or activity within the business but that, nevertheless, are charged to a product or department on some reasonable basis. This concept of cost arises in connection with the present-day need to incur a wide variety of costs in the manufacturing process that do not have a direct bearing on a given product or department. Allocated cost bears a close relationship to indirect cost, since indirect costs are the cost type usually allocated. But the concept of allocated cost and the related process of cost allocation may be applied to direct costs as well as

\(^{31}\)Benninger, op. cit., p. 281.
indirect costs as it is in the production of joint products. Allocated costs are also referred to as pro-rated costs in the literature of accounting.

"A period cost is an expense that attaches to the period," and "A product cost is one that attaches to the product and is inventoriable."32 Period, or time, costs are incurred regardless of the volume of production and are viewed as a function of time, since it is impossible or impractical to identify such costs with particular units of production. In the income statement, period costs are deductions from gross profit rather than a portion of the cost of goods sold. As previously indicated, ideally, from a costing viewpoint, there would be no period costs, and all costs would attach to a product as product costs.

The nature of the manufacturing operations or the characteristics of production of a particular product or products often leads to difficulties of attaching or identifying costs with particular units of production. "A joint cost originates when two or more distinguishably different products are created from a single cost factor."33


33Matz, Curry, and Frank, op. cit., p. 416.
The major characteristic of the joint cost is the fact that the cost of the several different products is incurred in a total indivisible sum for all of the products and not for each product individually. Joint costs are to be distinguished from separable costs, which are costs that may be identified with a particular product.

Joint costs are frequently taken to be the same as common costs, which are "the costs of facilities or services employed in the output of two or more operations, commodities, or services." The significant difference between the two concepts is that joint costs are indivisible, whereas common costs are capable of division and allocation among products or services since each of the individual products or services could have been obtained without the simultaneous production of the two or more products or services.

The process of allocating joint costs to specific products jointly produced cannot be made on the basis of responsibility or benefit which serve as the usual accounting bases of allocation and assignment of costs.

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34 Ibid.
35 Kohler, op. cit., p. 434.
36 Ibid., p. 102.
37 Mats, Curry, and Frank, op. cit., p. 410.
Thus the methods designed for the allocation of joint costs are defended by other considerations. The following methods have been used in the accounting allocation of joint costs:

1. The market value method, based on the relative market value of the individual product.
2. The quantitative or physical unit method, based on some physical measurement such as weight, linear measure, or volume.
3. The average unit cost method.
4. The weighted average method, based on predetermined standards of production.\(^\text{38}\)

VI. COST CONTROL AND RELATED COST CONCEPTS

The extension of the general notion of cost in accounting was said to enable the accountant to be of greater service to management in the related activities of planning and controlling. The role of the concepts of estimated and standard costs in the controlling function have already been discussed. Three further cost concepts which bear on the control of enterprise activities need to be considered at this time. These are:

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\begin{align*}
\text{Controllable Cost} \\
\text{Noncontrollable (Uncontrollable) Cost} \\
\text{Responsibility Cost}
\end{align*}
\]

\(^{38}\text{For a discussion of these methods, see Matz, Curry, and Frank, op. cit., p. 417.}\)
"Controllable costs are those costs subject to direct control at some level of management supervision," whereas, "Uncontrollable costs are those costs not subject to control at some level of managerial authority." The controllable-noncontrollable concepts of costs are relative concepts that must be taken with respect to time as well as with respect to organizational level of activity. Over long periods of time, all costs approach controllability since, if the time period is extended to be the entire life of the business, all costs would come into the controllable category. At the same time, a cost may be uncontrollable at one organizational level, whereas it may be controllable at the next higher level in the organization.

These concepts are most useful at the first or middle levels of management where the costs of an activity include three groups of cost items:

1. Items originating solely in that department.

2. Service items, the use of which is determined by the operation, but the unit cost of which originates solely in another department.

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40 Devine, op. cit., p. 568.
3. Prorated items, the amount and cost of which originates in another department.\(^1\)

The department manager can properly be held responsible only for the cost of items originating solely in his department and for the amount (but not the unit cost) of services used from other departments. Prorated items are beyond the control of the departmental manager.

Controllable costs are not the same as variable costs, and noncontrollable costs are not the same as fixed costs, since certain fixed costs can be controlled at their source. Examples of the feasibility of controlling certain fixed costs are given by Henrici.\(^2\) At the same time, certain variable costs may not be controllable with respect to a given activity due to the impracticability of measuring the costs to specific departmental areas.

Closely related to the concept of controllable costs is the concept of responsibility costs. The usefulness of this concept depends on the view that cost minimization and control depend on the organization of cost


data in terms of the persons directly responsible for the
incurrence of the costs. In accordance with this view,
authority to incur costs implies a simultaneous responsi-
bility to follow through to determine the resulting pro-
ductivity. Clearly, the application of "responsibility
accounting" must rest on the distinction of controllable
and noncontrollable costs, for there can be no responsi-
bility for costs that are outside the realm of controlla-
bility within a particular activity.

VII. COST BEHAVIOR AND RELATED COST CONCEPTS

Some of the most useful cost concepts of accounting
are related to the manner in which costs behave with re-
spect to changes in the level of firm activity. This
useful group of cost concepts includes:

Fixed Cost
Variable Cost
Semi-Variable (Semi-Fixed) Cost
Standby Cost
Programmed (Committed) Cost

The concepts of fixed cost and variable cost are
probably the most useful of the specialized accounting
concepts of cost, and are fundamental in the discussions

^Clement L. Stanford, "Cost Minimization and
Control as a Function of Cost Accounting," The Accounting
Review, XXIII (1948), 33.

^Ibid.
of almost all modern accounting literature. "Fixed costs are those costs which do not change in total as the rate of output of a concern or process varies," and "Variable costs are those costs which do change in total with changes in the rate of output."\(^{45}\) The terms fixed and variable, as applied to cost as a function of volume, must be conceived of as relative rather than absolute terms. If a sufficiently large change occurs in the volume of output, almost all costs will vary. On the other hand, if there is a small change, it may be difficult to identify and measure any change in the total cost. Fixed and variable costs are not to be regarded as functions of capacity, and, consequently, are understood to apply in any given case to an assumed or relevant range of output. Thus, a cost designated as fixed with respect to volume often varies with respect to plant size or capacity. Fixed costs, then, should not be regarded as costs that do not fluctuate or vary, but as costs that do not fluctuate or vary with respect to volume or activity.

The terms semi-variable or semi-fixed are often used by accountants to designate costs that vary, but not in direct proportion to volume. Since few costs except

direct material costs conform to the concept of proportional variation, it seems that it is more suitable to recognize the fact that variable costs may vary in widely differing degrees, and to thereby include the concepts of semi-variable and semi-fixed costs in the general definition of variable costs.\textsuperscript{46} In practice, costs that behave in a manner such as to indicate that elements of variability as well as invariability are included may be resolved into their fixed and variable components by statistical methods.\textsuperscript{47}

Since the total of fixed cost remains constant as volume changes, the fixed cost per unit varies inversely with the volume of production. This behavior is significant in the analysis of idle capacity and provides an insight into decisions affecting the utilization of plant facilities. On the other hand, since the total of variable costs varies as volume varies, the unit variable cost may be constant if the total change is proportional, or it may be somewhat irregular, depending on the behavior of the total change as activity varies.

\textsuperscript{46}This is in accordance with the view taken by the Committee on Cost Concepts and Standards of the American Accounting Association.

\textsuperscript{47}These methods include the high-low average method, the scattergraph, and the method of least squares. For a discussion of these methods, see Matz, Curry and Frank, \textit{op. cit.}, pp. 535-543.
In conjunction with the concept of fixed costs, accountants have produced at least two concepts of costs that are fixed in nature, though not normally related to activity. These are the concepts of programmed costs, which are sometimes referred to as committed costs, and standby costs. "Programmed costs are incurred for certain time periods by specific managerial policy decisions." Examples of such costs, that are fixed as a function of management decision rather than volume, are research and development costs and advertising expense. Costs of this kind are not incurred directly for production and operations and are budgeted and controlled by means of appropriations. "Standby costs are costs that management designates as necessary to continue even at 0 volume of activity, provided that a return to normal operating levels is expected within two or three months." The total of standby costs would be relatively fixed, as is illustrated by the costs that would be continued during an extended strike.


49 Ibid., p. 466.
The application of direct costing demands a separation of fixed and variable costs, and "Direct costing should be defined as a segregation of manufacturing costs between those that are fixed and those which vary directly with volume." It would seem, then, that variable costing would be a more appropriate name for the method of direct costing. Additionally, the concepts of fixed and variable costs "provide a picture of how the enterprise is set up costwise for operations." And this picture is essential to the consideration of such matters as:

1. The determination of break-even points and related cost-volume analyses.

2. The determination of the relative profitability of different products, branches, classes of customers, and salesmen.

3. The determination of how much can be profitably spent on additional selling, merchandising, and advertising effort.

4. The determination of operating efficiencies, minimum prices, and product costs.

5. The formulation of the flexible budget which serves in the analysis of standard cost variances.

6. The determination of contribution to profit and related matters of shutdown or discontinuing products and departments.


\(^{51}\)Terry, \textit{op. cit.}, p. 361.
While it has become a general conclusion that the fixed and variable concepts of cost are a practical tool, and, as previously indicated, the concepts assume a central role in accounting literature, it is appropriate to note that some accountants have recognized some of the limitations of the fixed-variable concept in practice. 52

VIII. BUSINESS ALTERNATIVES AND RELATED COST CONCEPTS

In recent years the accountant's role in the decision-making processes of the firm has become increasingly important. In order to prepare themselves better for providing the appropriate cost analysis essential to a wide variety of decision-making situations, accountants have become increasingly interested in a group of related cost concepts which, though some were initially formulated in the realm of economics, have become an essential extension of the general concept of cost in accounting. This final group of cost concepts includes:

- Unit Cost
- Imputed Cost
- Opportunity Cost
- Marginal Cost
- Differential Cost

Incremental Cost
Alternative Cost
Sunk Cost

Though inappropriate as a member of the group of other cost concepts included in this section, the concept of unit costs is considered at this time due to the fact that unit costs are an inappropriate guide to most business decisions and stand as a misleading alternative to the other cost concepts considered. In broad usage the concept of a unit cost, of course, refers to the result obtained by dividing a total cost by the number of units produced or other related base. More specifically, unit cost refers to the total manufacturing cost, including direct materials, direct labor, and manufacturing overhead associated with a unit of output or other unit of production, as machine hours, that is most closely associated with the incurrence of the cost.

Unit costs are particularly pertinent to the preparation of the financial statements in that they are utilized in establishing inventory values and in the determination of periodic net income. In addition, unit costs provide a basis for comparative cost analysis of different periods, and for the comparison of actual operations with predetermined standards. However, unit costs are inadequate for decision-making, since a unit cost figure is materially affected by volume of output, length of costing
period used, and abnormalities in incurred costs and operating conditions within the particular costing period.\(^5\)

An **imputed cost** "is the amount assigned for the use of any productive service or benefit that has not been established by an objective independent transaction between supplier and user."\(^5\) Imputed costs do not involve an actual cash outlay, but are, nevertheless, a foregoing on the part of the person or persons whose costs are being calculated. Interest on proprietary investment, rent on company-owned facilities, and salaries of owner-operators of sole proprietorships or partnerships are the leading examples of imputed costs.

While accountants have been unwilling to take imputed costs into the accounts, they have recognized the significance of imputed costs in making certain business decisions.\(^5\) Imputed costs should be considered in any decision involving a difference in future investment and should be taken into consideration in decisions involving the replacement of equipment. Also, imputed costs are significant in the "choice between alternative new

\(^5\)Clement L. Stanford, *op. cit.*, p. 32.

\(^5\)Van Voorhis, Dunn and McCameron, *op. cit.*, p. 309.

investments and comparisons of departments or divisions of a business where the investments in facilities, equipment, and inventories are different. 56

Imputed costs are not precisely measurable in terms of an actual cash outlay or the incurrence of an actual liability. For this reason the foregoing are often measured as opportunity costs.

The concept of opportunity cost was developed in the area of economics and was briefly treated in the discussion of the economic concept of cost. Accountants have adopted the concept, however, and define opportunity cost as "the measurable advantage foregone as a result of the rejection of alternative uses of resources." 57 Like imputed costs, opportunity costs are not taken into the conventional accounting records and do not involve cash outlays at any time. "Accountants confine their history to those alternatives selected rather than to those alternatives rejected, primarily because it is either


impractical or impossible to accumulate meaningful data on 'what might have been.' 58

Nevertheless, since a decision to employ resources for one purpose usually involves a rejection of some alternative use, the concept of opportunity costs, even though difficult to calculate, provides at least "vague guideposts pointing to desirable action." 59 As indicated, the concept of opportunity cost may serve as a guide to the measurement of imputed costs—the amount to be imputed as rent on company-owned facilities, for example, is indicated by the rental income that could have been earned had the facilities been leased to another party.

The concepts of marginal costs, differential costs, and incremental costs are a group of closely related cost concepts used in the consideration of problems and decisions related to activity. Marginal cost, which is used primarily by economists, relates changes in cost to infinitesimal changes in activity, and will be further considered in the following chapter. Since cost work seldom requires the refined precision of marginal analysis,


59 Devine, op. cit., p. 568.
accountants have preferred to designate the basic idea of marginal cost as incremental or differential costs.

"Differential cost is the difference in cost of operating at one level of output as contrasted to operating at some other level of output." Incremental cost is defined as the change in total cost "that accompanies the addition or subtraction of a unit of output." Differential cost is sometimes regarded as being identical with the concept of alternative cost which is considered below, and accountants sometimes use the concepts of differential cost and incremental cost interchangeably. The above definitions are somewhat more precise in that differential cost and incremental cost are distinguished from alternative cost by the fact that differential or incremental costs are specifically related to activity. These definitions also allow a distinction to be made between differential cost and incremental cost in terms of the size of the change in activity. The single unit change in activity associated with incremental cost makes the concept very near the economist's marginal cost concept. The larger-than-a-single-unit changes associated with the concept of differential cost make this concept

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60 Benninger, op. cit., p. 296.

more useful in practical accounting analysis, since volume changes are most often considered in terms of amounts larger than a single unit.

The differential costs or incremental costs associated with any given output would typically include both "direct and indirect costs, although direct costs would probably in most cases comprise a larger percentage of the total." Similarly, the differential or incremental costs associated with any given output would consist of both fixed and variable costs, but the variable costs would comprise the greater percentage of the total. In fact, in many situations, the variable cost will represent the total of the differential cost.

Alternative cost is "the cost under conditions other than those currently obtaining, as from a change in production method, the use of a more efficient machine, the substitution of one raw material for another, a modification on a product specification or increase or decrease, whatever the cause, in one or more component costs." Thus, in accordance with the definitions previously given,

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63 Mats, Curry, and Frank, op. cit., p. 762.
64 Kohler, op. cit., p. 29.
differential or incremental costs are special instances of alternative cost, specifically related to the volume factor in a business. The alternative cost concept, then, is a broader concept relating changes in cost to a wide variety of factors.

Marginal, differential, incremental, or alternative costs do not lend themselves to compilation in the regular system of accounts, nor do the conventional accounting records directly provide the amounts associated with these concepts of cost. However, cost analysis utilizing these cost concepts provides a useful insight into a variety of business problems, some of which are:

1. Whether or not to process a by-product further.
2. Whether to change production methods.
3. Whether to make or buy equipment, parts, or materials.
4. Whether to replace assets.
5. Whether to accept an offer to buy a lot, requiring additional activity, at a reduced price.

Whatever the problem under consideration, it is essential that the relevant cost factors be identified and accorded appropriate treatment in view of the present or assumed set of future conditions which are the environment of the problem under consideration.
A final cost concept of accounting that may be considered in this category of costs related to business decisions is the concept of sunk cost. "Sunk costs are historical costs which are irrecoverable in a given situation." More precisely, sunk costs are the unexpired or unamortized costs that are irrecoverable in a given situation. The cost of drilling a dry oil well is often cited as the best example of a sunk cost. When an investment is made in any productive asset, the intention is to recover the asset through the production of net income or from the proceeds of the eventual sale of the asset. When the amounts received are less than the amount invested, "an unrecovered balance, or sunk cost, remains." Sunk costs are not pertinent to decisions involving future alternatives, since they involve no future expenditure nor do they represent a property from which funds can be realized. Sunk costs are commonly encountered in problems of replacing existing facilities or equipment where they are generally irrelevant or insignificant except as to certain tax considerations.

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66 Van Voorhis, Dunn, and McCameron, op. cit., p. 306.
IX. CONCLUDING COMMENTS

As initially indicated, the cost concepts of accounting considered herein do not represent a complete listing of all the possible accounting concepts of cost. Nor has the treatment of those concepts included been an exhaustive study of the many implications of each. The preceding discussion does, however, identify and define, as well as indicate, some of the uses of the several concepts considered and will serve as a basis for synthesizing and classifying these cost concepts of accounting with those selected from the literature of economics that are treated in the chapter that follows.
The economist's initial consideration of the general concept of cost, as previously noted, was for the purpose of understanding and explaining the forces that enter into the determination of prices, or value. As a result, the general concept of cost in economics was found to be conceived more broadly than the general concept of cost in accounting. Whereas the accountant's concept of cost is confined to expression in terms of monetary outlays, or their equivalent, the economist's concept of cost reaches beyond the mere monetary exchanges to the more basic matters related to human behavior and human desires. While some attention was given to certain of these more basic expressions of economic cost in Chapter II, the discussion, at that time, was undertaken with the conscious effort to avoid the use of any of the modified concepts of cost that appear in economics. But now, since this study turns to an examination of several of the specialized concepts of cost in economics, it is appropriate to consider, again, the matter of cost in economics and to examine certain of the modified
concepts of cost that appear in economic literature and
that represent different approaches to the general concept
of cost in economics.

In addition, the expansion of the subject matter
of economics, as in accounting, has led to the formulation
and use of an added number of cost concepts related to the
theory of the firm and to the successful management of
business enterprises. These extensions of the general
notion of cost in economics enable the economist to take
a more active role in the management of business activities
and to state, more precisely, his theories of economic behavior. Also, these extensions of the basic
notion of cost enable him to identify, to examine, and to
test the validity of theory in the complexity of modern
business activity.

As in the consideration of cost concepts of ac-
counting, an all-inclusive study of cost concepts of econ-
omics would be almost endless, and the cost concepts
selected for discussion at this point include those
specialized concepts of cost in economics that are the
most significant, based upon the usefulness of the concept
and the relative frequency with which the concept occurs
in economic literature. Using these same criteria, then,
the following cost concepts of economics are included in
this study:
Abandonment
Actual
Alternative-product
Average (Unit)
Average-fixed
Average-variable
Book
Common
Controllable
Current
Decision-making
Differential
Direct
Disutility
Escapable
Explicit
Fixed (Constant)
Future
Historical
Implicit (Implied)
Incremental
Indirect
Inescapable
(Unavoidable)
Joint
Joint-product
Long-run
Marginal
Money
Non-Controllable
Opportunity (Alternative)
Original
Out-of-Pocket (Absolute)
Overhead
Past
Postponable
Private
Prime (Special)
Real
Replacement
Residual
Semi-variable (Semi-fixed)
Separable
Short-run
Shutdown
Social
Specific
Sunk
Supplementary
Total
Total-fixed
Total-variable
Traceable
Urgent
User
Utility
Variable
Also, as in the previous chapter, the above concepts have been grouped in the discussion that follows for convenience and ease of discussion. But again, these groupings do not represent an attempt to synthesize or classify the several concepts considered, since this is the objective of the chapter that follows. As previously, then, the purpose here is to identify, to define, and to discuss the nature of these various concepts of cost, as well as to note their usefulness in the role that economics plays in modern society.
I. COMMON COST CONCEPTS AND THEIR USE

Several of the above specialized concepts of cost in economics have already been examined in the preceding chapter as specialized concepts of cost in accounting. Since there are no distinguishable differences in the meanings or the nature of the concepts as they are used in economics, it is unnecessary to re-examine, in detail, the following cost concepts of economics that are included in the above selection:

- Actual
- Book
- Controllable
- Current
- Differential
- Future
- Historical
- Incremental
- Direct
- Indirect
- Non-Controllable
- Original
- Out-of-Pocket (Absolute)
- Past
- Replacement
- Separable
- Sunk
- Traceable

The economist's concepts of differential and incremental cost are subject to the same variations of meaning found in the literature of accounting. On the one hand, Clark describes the differential cost of a given amount of business as follows:

When a decision has to be made involving an increase or decrease of n units of output, the difference in cost between the two policies may be considered to be the cost really incurred on account of these n units of business, or any similar n units. This may be
called the differential cost of a given amount of business.¹

Spencer and Siegelman follow the usage of Clark in considering differential and incremental costs to be associated with changes in volume.² Dean, on the other hand, considers incremental costs to be "the added costs of a change in the level or nature of activity," and further states that, "They can refer to any kind of change: adding a new product, changing distribution channels, adding new machinery."³

It is significant to note that Dean's concept of incremental cost is in accordance with the accountant's conception of alternative cost, that is, cost under any conditions other than those presently prevailing, while Clark's and Spencer and Siegelman's concepts of differential costs are in accordance with the accountant's concept, that is, related exclusively to changes in volume. This difference seems to stem in part from the fact that economists have used the concept of alternative cost in a somewhat different manner from the accountants. This difference will be noted in the ensuing discussion.

¹Clark, op. cit., p. 49.
²Spencer and Siegelman, op. cit., p. 237.
³Dean, Managerial Economics, p. 267.
In addition to the preceding consideration of some differences in the usage of differential and incremental cost, it is significant to note that though many of the above costs are conceived of as representing the same concepts in accounting and economics, the emphasis has been quite different in each of the fields. In economics the emphasis has been on those concepts of cost that relate to current or future costs, whereas in accounting, the emphasis has been on those concepts of cost that relate to past or historical costs. In fact, much of the criticism of the historical cost basis of accounting has originated from economists who, using concepts of current or replacement cost, point to the greater significance of "economic" balance sheets and statements of "economic" income as compared to original-cost-based balance sheets and income determination.  

II. NATURE OF COST IN ECONOMICS AND RELATED COST CONCEPTS

In Chapter II, cost in economics was said to be represented by three kinds of sacrifice: (1) physical and mental sacrifice; (2) utility and opportunity sacrifice; and (3) monetary sacrifice. Each of these three

kinds of sacrifice represents different approaches to the general concept of cost which may now be considered in terms of the following special cost concepts of economics.

- Real Cost
- Money Cost
- Disutility Cost
- Utility Cost
- Opportunity (alternative) Cost

Also, the concept of cost in economics, like the concept of income in economics, was said to be applicable at the level of the total economic society as well as at the level of the individual firm or group of firms. The application of the concept of cost at these different levels of economic activity leads to the two following concepts of cost in economics that will be considered at this time:

- Private Cost
- Social Cost

The concept of real cost is used in two different respects in the literature of economics. First, the concept of real cost is used to designate, "the quantities of resources or their services consumed in producing a given amount of output."\(^5\) Similarly, real cost in this sense refers to the human efforts and sacrifices which

are involved not only in putting the factors to use but often as well in merely making them available for use.\textsuperscript{6}

When used in this way, then, real cost refers to economic cost in terms of physical units or in terms of the more basic factors of cost as human effort, abstinence, or assumption of risk. This use of the concept of real cost distinguishes real cost from money cost, which is "the compensation in money or its equivalent which is paid in order to induce the making available or the putting to use of such factors,"\textsuperscript{7} as are required in the production of a given output.

As previously indicated, the early economists used this concept of real costs to escape the somewhat useless reasoning that price depended on supply and that supply, in turn, depended on cost—which was, upon further examination, price to the purchaser of a factor. The real cost concept is also useful at the level of the total economy, where money costs are of no consequence since cost to a purchaser is exactly equal to the revenue of the supplier and, in terms of the total society, there has been no money cost but only real cost in some form.


\textsuperscript{7}Ibid.
The concept of real cost is also used in economics to refer to money costs "in terms of some measure of prices obtaining on a base or comparison date."\(^8\) Real costs in this sense are useful and necessary in the statistical treatment of economic data. The statistical evaluation of economic time series, for example, is generally of little value unless the variations in the data due to changes in the general price level have been removed.

"A disutility cost means a sacrifice which consists of some action, some procedure, which in itself involves discomfort."\(^9\) Disutility costs include such sacrifices as the irksomeness of labor when continued beyond a certain point, the loss of leisure, the sacrifice of waiting, and the assumption of risk. Utility cost, on the other hand, is "a sacrifice which consists of relinquishing one utility to gain another."\(^10\) Goods possess utility if they are capable of satisfying human wants, and the release of anything that possesses utility is clearly a cost. These concepts of cost may be regarded as two classes of the concept of real cost, since they are

\(^8\)Kohler, op. cit., p. 406.

\(^9\)Taylor, op. cit., p. 45.

\(^10\)Ibid., p. 44.
expressed in non-monetary terms. It is interesting to note that the same cost may be either a disutility cost or a utility cost, depending on the attitude or purpose of the person incurring that cost. For example, the effort that one would expend painting his house may be regarded as a disutility cost because it is irksome or painful; but this same effort may instead be regarded as a utility cost, since the effort could have been applied instead to the building of a garage.

The concept of opportunity or alternative cost may be regarded as a particular kind of utility cost. According to the opportunity or alternative cost doctrine:

\[ \ldots \text{the cost of producing any commodity } A \text{ is the amount of commodity } B \text{ which might have otherwise been produced with the same expenditure of resources; or stated somewhat differently, the cost to be assigned to the use for specific purposes of any factors of production is what is foregone by their not being applied to their best alternative use.} \]

Opportunity cost, while referring to sacrifices of utility, finds expression in terms of sacrificed

11 The concept of opportunity cost seems to have been developed by David I. Green in his article "Pain-cost and Opportunity Cost," which appeared in The Quarterly Journal of Economics, Volume VIII, pp. 218-299, in January, 1894. At about the same time, the concept seems to have been worked out independently by H. J. Davenport, who published his article, "The Formula of Sacrifice," in the Journal of Political Economy, Volume II, pp. 561-573, in September of 1894.

12 Viner, op. cit., p. 469.
alternative uses rather than in terms of presently-held utilities given up. This concept of cost is useful as a basis for assigning costs to the use of personal services and capital of the entrepreneur within the business, and is often regarded as best representing the basic concept of cost in economics, as indicated by Robbins, who states that:

The conception of cost in modern economic theory is a conception of displaced alternatives; the cost of obtaining anything is what must be surrendered in order to get it. The process of valuation is essentially a process of choice, and costs are the negative aspect of this process. In the theory of exchange, therefore, costs reflect the value of things surrendered. In the theory of production they reflect also the value of the alternative uses of production factors - that is of products which do not come into existence because existing products are preferred. 13

In practice, concepts of real cost, while useful in the understanding of the basic nature of cost, are of limited usefulness since they are subjective in nature and incapable of precise measurement. While the precise relationship between the real sacrifices and the eventual money costs is not known, modern economists use money costs in most of their analysis, since they are the only available expressions of the more basic real costs. Similarly, the concept of opportunity or alternative cost,

13 Robbins, op. cit., p. 2.
while recognized by most modern economists as the most useful concept of cost, is difficult to ascertain and apply in most instances. And, again, the economist turns to the monetary outlay and regards this as representative of the opportunity cost for as long as goods and services are bought in the market and are readily available, the price paid may be regarded as being just enough to attract a particular factor away from its next most attractive alternative use.

Since economists have treated the concept of cost as it applies to the individual firm as well as to the economy as a whole, they have, in their writings, distinguished between private cost and social cost. Private cost refers to "the sacrifices made by the firm as measured in money terms," and it is "the only cost which the firm will presumably take into account in decision-making." Private cost may be distinguished from social cost "which applies to the cost to society of producing a given output." The private cost to the firm of producing any output depends on the physical quantities of resources used and the prices which the firm pays or imputes for them. Private cost, then, is expressed as a

\[ \text{Private cost} = \sum_{i=1}^{n} \text{Quantities of resource } i \times \text{Price of resource } i \]

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14 Bain, op. cit., p. 84.

15 Ibid.
money cost and enters directly into the analysis of firm behavior. However, money costs lose their significance in the analysis of the total economy. Consequently, the concept of social cost is generally formulated in terms of opportunity cost, or "the products that could have been had by their (resources) use in some other direction than the one chosen."¹⁶ Pigou, in his *The Economics of Welfare*, attempted to demonstrate the possibilities of a procedure intermediate between analysis of costs in terms of money outlays and costs in terms of all the cost elements of significance to the whole of society.¹⁷ But he was forced to restrict the range of his analysis to those cost aspects of economic activity which are measurable and, in so doing, suffered a loss in comprehensiveness and finality of conclusions. With respect to the concept of social cost, Viner concludes that:

Attempts to devise a satisfactory and usable concept of social cost and to apply it in a positive and objective way to the analysis of economic process have not as yet made much progress. The main source of the difficulty


lies in the apparent impossibility of finding an objective and homogeneous unit of social cost.18

III. THEORY OF THE FIRM AND RELATED COST CONCEPTS

Many of the specialized cost concepts of economics have been evolved in connection with the economist's formulation of the theory of the firm. Through the use of these related concepts of cost, together with the simultaneous consideration of demand and related revenues, the economist, relying on various sets of assumptions with respect to market conditions, number of products produced, and variation of plant size, is able to determine the resulting price, the profit-maximizing level of output, and the optimum plant capacity. This analysis ultimately leads to an understanding and explanation of the distribution of income to the factors of production and the allocation of resources within the economic society. Cost concepts related to the theory of the firm, which is a substantial part of the whole of economic theory, are:

Total Cost
Explicit Cost
Implicit (Implied) Cost
Average (Unit) Cost
Short-run Cost
Long-run Cost
Fixed (Constant) Cost

18Viner, op. cit., p. 474.
Total Fixed Cost
Average Fixed Cost
Variable Cost
Total Variable Cost
Average Variable Cost
Semi-variable (Semi-fixed) Cost
Overhead Cost
Prime Cost
Special Cost
Supplementary Cost
Marginal Cost

In economics, **total cost** is "equal to the value of inputs used plus the normal profit or interest which the capitalist expects to receive."\(^{19}\) Or, in terms of the opportunity cost doctrine, the total costs of production of a particular product may be regarded as "the value of the foregone alternative products which resources used in its production could have produced."\(^{20}\) While useful as an indication of what the total cost of producing a product really is, these notions of cost are not easily applied, and in practice the economist usually builds up the total cost as follows: first, the **explicit costs**, or those monetary outlays made by the firm, are taken as a starting point. As previously indicated, these outlays may often be considered as an appropriate measure of the opportunity cost involved. To these outlays, the economist adds various **implicit costs** of production,

\(^{19}\) Boulding, *op. cit.*, p. 414.

\(^{20}\) Leftwich, *op. cit.*, p. 137.
which are "those costs of self-owned, self-employed resources which are frequently overlooked in computing the expenses of the firm." These include the salary of a single proprietor who takes no salary but who takes the firm's profits as payment for his services and interest on the investment equal to what the funds could have earned if they had been employed elsewhere in the economy.

Having arrived at total cost, the determination of average (or unit) cost is simply a matter of dividing the total cost by the number of units of output produced during the time period under consideration.

In economic analysis the costs of production of a firm will vary with differences in the period of time under consideration. Economists define the short run as a period of time so short "that the firm does not have time to vary in quantity such resources as land, building, heavy machinery, and top management." Resources such as these are commonly referred to collectively as plant, and the short run is that period of time in which the plant remains fixed. In the long run, the period of time under consideration is long enough to vary the quantities of all resources, and, consequently, the factors generally

\[\text{average (or unit) cost} = \frac{\text{total cost}}{\text{number of units of output}}\]

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21 Ibid.
22 Ibid., p. 140.
regarded as plant in the short run are also variable. The concepts of short run and long run, then, conform to no specific time period, but rather are functional divisions that merely make costs appear in different patterns that are useful in the consideration of particular problems.

This distinction between the short run and the long run gives rise to the concepts of short-run costs and long-run costs which relate to how the cost of production appears in a given situation rather than to what the amounts of the costs are.

**Short-run Costs**

"Short-run costs are costs that can vary with the degree of utilization of plant and other fixed factors, i.e. vary with output, but not with plant capacity."\(^{23}\) In the short run, costs may appear as either a fixed cost or a variable cost—the summation of these two kinds of cost types being equal to the total cost amount. **Fixed costs** are those costs associated with the factors that are fixed in the short run and that, therefore, "do not vary with (are not a function of) output,"\(^{24}\)—or rate of utilization of the fixed plant. **Total fixed cost**, then, refers to the entire obligation per unit of time incurred by

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\(^{23}\)Spencer and Siegelman, *op. cit.*, p. 237.

\(^{24}\)Ibid., p. 235.
the firm for fixed resources.\textsuperscript{25} It is important to note that it is the total of the fixed cost, also referred to as \textit{constant cost}, that remains fixed with respect to volume. It follows, therefore, that the \textit{average fixed cost}, which is the total fixed cost divided by the number of units produced during the time period under consideration, decreases as the number of units produced increases.\textsuperscript{26}

\textbf{Variable costs} are those costs that are associated with the variable factors in the short run and that, therefore, do vary with (are a function of) output in the production period. \textit{Total variable cost}, in any given situation, is the summation of all costs associated with the variable factors. Since the total of the variable costs does not remain constant, \textit{average variable cost}, which is the total of the variable costs divided by the number of units produced during the time period under consideration, may appear in a wide variety of forms, depending on the manner in which increases in activity affect the total variable cost.

\begin{quote}
\textsuperscript{25}Leftwich, \textit{op. cit.}, p. 141.

\textsuperscript{26}The curve of average costs is that of a rectangular hyperbola of the form $xy = c$.

Since $AFC = \frac{TFC}{n}$ and TFC is constant,

By multiplication, $n(AFC) = TFC$ which is of the form $xy = c$.
\end{quote}
The family of short-run total cost curves, together with a note on their relationship, is shown in Figure 1, and the family of average (or per unit) cost curves, with a similar note, is shown as the solid-line curves in Figure 2.

In conjunction with the distinction of fixed and variable costs, economists, as accountants, have recognized that in practice many costs appear as having elements of both fixed and variable costs. These costs, economists refer to as semi-variable costs or semi-fixed costs as do the accountants. For the theory of the firm, however, all costs are assumed to appear as either fixed or variable, and in practice, these cost types are capable of being resolved into their fixed and variable components by statistical methods. It is also necessary to consider the concept of overhead cost in connection with the fixed and variable distinction since "economists almost without fail use overhead cost as synonymous with fixed cost." Finally, it also appears that the use of the concepts of prime costs and supplementary costs in economics are but different terms used to describe the variable and fixed

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27 Spencer and Siegelman, op. cit., p. 236.
28 Devine, op. cit., p. 562.
Figure 1. Short-run total cost curves

Since total variable cost and total fixed cost are subdivisions of total cost, $TFC + TVC = TC$. Geometrically, the vertical summation of the $TFC$ and $TVC$ yields $TC$. 
concepts of cost. This is evident in Marshall, who states that:

Supplementary costs are taken to include standing charges on account of the durable plant in which much of the capital of the business has been invested, and also the salaries of the upper employees: for the charges to which the business is put on account of their salaries cannot generally be adapted to changes in the amount of work for them to do.

From this it appears that there is no distinguishable difference between fixed costs and supplementary costs. Similarly, Marshall states that:

There remains nothing but the (money) cost of the raw material used in making the commodity and the wages of that part of the labor spent on it which is paid by the hour or the piece and the extra wear of plant. This is the special (or prime) cost.

And this indicates that the concept of prime or special cost is difficult to distinguish from the concept of variable cost in the short run.

**Long-run Costs**

Long-run costs are costs that vary with the size of the plant and other facilities normally regarded as fixed in the short run. Since all factors, including

---

30 Ibid.
The average (or per unit) cost curves are derived from the corresponding total cost curves of Figure 1. as follows:

\[
\begin{align*}
AC &= \frac{TC}{n} \\
AVC &= \frac{TVC}{n} \\
AFC &= \frac{TFC}{n}
\end{align*}
\]

and, \( AFC + AVC = AC \)
the factors commonly regarded as plant, are variable in the long run, all costs in the long run are variable and there are no fixed costs. Consequently, there will be no total-fixed or average-fixed costs in the long-run analysis, and the family of pertinent costs consists of total cost and average cost. Graphically, the average cost curve in the long run would appear as being flatter shaped than the short-run average cost curve.

The concept of **marginal cost** is extremely useful in economic analysis and plays a vital role in the theory of the firm. It appears in the long run as well as in the short run, since it is derived from the total cost which is present in either instance. Marginal cost may be defined "as the amount which is added to the total cost when the output is increased by one unit." Or, more precisely:

> ... marginal cost is a 'rate of change' concept which arises from the assumption that a given rate of activity can be taken for granted in the situation, and the question at issue is how much more or less the total cost may be expected to be if the rate of activity is increased or decreased by some very small amount from the given level.33

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32 Boulding, op. cit., p. 420.

33 William J. Vatter, "Cost in Economic Theory," *The Accounting Review*, XXI (1946), 91. Vatter prefers this definition, since it allows one to apply the concept of marginal cost to cases of joint products. To say that marginal cost is the additional cost of one additional unit assumes away the problem of joint cost.
The concept of marginal cost is often precisely formulated in mathematical terms as being the first derivative of the total cost curve. The marginal cost curve associated with the total cost in the short run is shown as the dashed curve in Figure 2.

Neither the extent nor the existence of fixed cost influences the nature of the marginal cost in any given situation. This may be demonstrated, mathematically, through the use of differential calculus as follows: If \( C_f \) is the average fixed cost for one unit of the total output, \( x \), and \( C_v \) is the average variable cost for one unit of the total output, \( x \), then \( x(C_f + C_v) \) is the total cost of the output. Since the amount of the total fixed cost is constant or fixed, that is \( x(C_f) = c \), and the derivative of a constant is zero,

\[
\text{Marginal Cost} = \frac{d}{dx} x(C_f + C_v) = \frac{d}{dx} x C_v
\]

Consequently, the marginal cost is often regarded as the change in variable cost, since the fixed costs do not enter into the determination of the amount of the variable cost. Further, if the average variable cost does not change as output changes, the marginal cost will be equal to the average variable cost.

The concept of marginal cost plays a vital role in the theory of the firm since, together with the
counterpart concept on the revenue side, marginal revenue, it enables the economist to determine that point to which output should be carried in order to maximize profits of the firm under any given set of market conditions. This point of profit maximization is at the place where the marginal cost of one additional unit is exactly equal to the marginal revenue received for that unit. This analysis also yields the price that should be charged to maximize profits in markets that are other than competitive, and, in the long run, indicates that level of output which is the optimum scale of plant.

To facilitate their treatment of cost as it enters into the theory of the firm, economists have treated various of the concepts considered herein as being precisely measurable and capable of expression in terms of the mathematical relationships of geometry, algebra, and the calculus. While the formulation of these concepts in mathematical terms has greatly aided in economic investigations and in the understanding of the relationships that exist in the theory of the firm, empirical cost investigators have found that it is extremely difficult to resolve the cost structures of a given business enterprise into the precise concepts that are the tools of the theoretical economist. But whatever the practical difficulties encountered, the consideration of the above concepts as
they enter into the theory of the firm provides a valuable insight into a number of complex problems which confront the modern businessman.

IV. COST ASSIGNMENT AND RELATED COST CONCEPTS

"In the broad sense joint cost has been frequently spoken of as any cost incurred for the benefit of the entire business or of a considerable class of business as a whole, and not for its separate parts."\(^{34}\) The concept of joint cost originated, however, in connection with the special problem of by-products, and is used most frequently in economics in this way. The use of the concept of joint cost in this way corresponds to the use of the concept of joint cost in accounting, and for purposes of this study, the concept of joint cost may be regarded as one that is used identically in economics and accounting. There are, however, three additional cost concepts of economics that have not been previously considered and that are related to the concept of joint cost. These are:

- Common Cost
- Joint-product Cost
- Alternative-product Cost

In accounting, direct costs are distinguished from indirect costs on the basis of traceability to

\(^{34}\)Clark, \textit{op. cit.}, p. 58.
different products or segments of the business. In economics, traceability is the source of distinction between common costs and separable costs. "Common costs are used broadly to cover costs that are not traceable to plant, department, and operation, as well as those that are not traceable to final products." Common costs, in economic analysis, may be further classified as joint-product costs and alternative-product costs. "Two products are joint when increasing the output of one product (e.g. hams) necessarily increases the output of the other product (e.g. pork shoulders)." Joint-product cost, then, is a more precise description of the cost concept popularly referred to as joint cost. On the other hand, "If increasing the output of hams should bring a decrease in the output of shoulders, then the products would be alternative," and the cost, in this instance, would be appropriately referred to as an alternative-product cost.

These concepts enter into the understanding and formulation of certain of the economic aspects of joint products that are most significant. For example, in the long run the total selling price of all the products

\[35\text{Dean, Managerial Economics, p. 264.}
\]
\[36\text{Ibid.}
\]
\[37\text{Ibid.}\]
jointly produced must cover the total cost of production (e.g. total economic cost) or firms will be driven from the field, decreasing supply and increasing prices unless there is a corresponding decrease in demand. Further, an increase in the demand for one of the joint products will tend to drive the price of this particular product upward. But the supply of all other products jointly produced will, at the same time, increase, resulting in lower prices for all of the other products jointly produced unless there is a compensating increase in the demand for all of the other products. Finally, some of the products jointly produced will require additional processing after the products have been separated and prior to the sale of the products. The costs associated with each of the products after the point of separation are no longer joint costs, and if the public wants one of these products that requires additional processing, it must be willing to pay the firm at least as much as the additional cost of processing, otherwise the firm would be better off to discard the product at the point of separation. 38

38 This is true in the long run. In the short run, however, some firms may be willing to operate for short periods of time without covering variable costs in order to build up business which they hope will be profitable later.
V. DECISION-MAKING AND RELATED COST CONCEPTS

In more recent years a number of specialized cost concepts have appeared in the literature of economics that are related to the decision-making processes in a business enterprise. Most of these concepts have evolved in the special area of economics commonly referred to as managerial economics. Cost concepts of this kind that appear in economics are commonly referred to as decision-making costs since they are primarily significant for their role in the making of business decisions. The concept of decision-making cost, then, does not refer to any specific kind of cost concept but is a broad designation which includes all of those specific concepts that are useful in the making of business decisions. Many of the cost concepts considered in the previous chapter and certain of the cost concepts that have already been considered in this chapter are appropriately included in the broad concept of a decision-making cost. In this final category of cost concepts of economics to be considered, certain other cost concepts of economics that are of the decision-making variety need to be considered. These are:

- Shutdown Cost
- Abandonment Cost
- Urgent Cost
- Postponable Cost
- Escapable Cost
- Inescapable (Unavoidable) Cost
Residual Cost
User Cost

"Shutdown costs may be defined as those costs that would be incurred in the event of a temporary cessation of activities and which could be saved if operations were allowed to continue."\(^{39}\) This cost concept arises in connection with the widely recognized view that a firm should maintain operations in the short run as long as it is at least covering its variable cost, with any available excess being applied to the recovery of fixed cost. The temporary suspension of activities might involve such shutdown costs as the storing of machines, the boarding of windows, and the construction of shelters for exposed facilities. In addition, further costs are likely to be incurred when operations are resumed, such as the cost of recruiting and training new workers. If shutdown costs are unduly high, there may be less of a loss, in the long run, if a firm is able to continue to offer a few products even if the revenues derived from these products fail to cover variable costs.

While shutdown costs are the costs associated with the temporary suspension of activities, "Abandonment costs are the costs of retiring a fixed asset from service."\(^{40}\)

\(^{39}\)Spencer and Siegelman, op. cit., p. 238.

\(^{40}\)Ibid., p. 239.
The various explicit costs of abandonment are apparent and require no further discussion. However, consideration must be given to implicit interest on the sales value of facilities and to the fact that depreciation must be based on the sales value at the time of abandonment rather than on original cost.

The concepts of urgent costs and postponable costs provide a distinction between those costs "which must be incurred before or during the manufacturing process, and those outlays which may be postponed until convenient."\(^{41}\) The cost of materials must be incurred prior to the time they are consumed in the manufacturing of finished goods, and the labor that works directly on the production of goods must be paid; but the maintenance of buildings, for example, may be postponed, within limits, and done at a time when most expedient to management. More precisely, this distinction of costs is essentially financial in nature, since physical deterioration and obsolescence will reduce the value of the plant whether maintenance is provided for or not. Therefore, it is not really the cost that is postponable, but rather the making of the financial outlay for it.

\[^{41}\text{Devine, op. cit., p. 566.}\]
The concepts of escapable and inescapable costs are closely related to the concept of incremental cost, which has been previously considered. But, whereas incremental costs are usually associated with increases in activity, escapable costs are identified as activity decreases. "A cost that may not only be postponed but may be avoided entirely as a result of a contraction of business activity is called an escapable cost." It is important to recognize that, in ascertaining the total of escapable cost of a decision to reduce activity in some segment of the business, there may be added costs in some other segment of the operations. For example, the escapable cost of closing an apparently unprofitable branch may shift added responsibilities to certain of the other remaining branches, increasing their operating costs. To avoid misleading cost analysis, escapable cost must be viewed as a net concept: the costs that will be avoided in that area where activity is reduced, less any related added cost in other operating areas.

On the other hand, "An inescapable cost (or unavoidable cost) is a cost that must be continued in the face of business retraction." Minimum costs for the

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42Spencer and Siegelman, op. cit., p. 240.
43Ibid.
various utilities used by a manufacturer, for example, must be incurred regardless of the level of activity. Sometimes costs which may at first appear to be escapable may, on further analysis, really be unavoidable, but, at least for the moment, postponed.

All costs that are not assignable as a differential cost may be regarded as a residual cost. In the consideration of the costs associated with operating at a different level of activity, certain items will be unaffected—at least over a certain relevant range of activity—and need not be included in the analysis of the costs associated with the decision to increase activity to some predetermined level.

The concept of user cost was formulated by Keynes, who introduced the concept for the purpose of more precisely defining aggregate income. Presumably, Keynes' theory was that user cost was a first charge on personal income, to be followed by consumption and savings decisions. Keynes' formulation of the concept of user cost can be expressed as follows:

$$\text{User cost} = (G' - G) - B' + A_1$$

---


where $G'$ represents the value that capital equipment would have, had it not been used, and $G$ represents its value after having been used. This net amount is then reduced by $B'$, which represents the optimum outlay on maintenance and improvement if the capital equipment is not used. Thus, "$G'$ overstates the value $G'$ would have had if the equipment were neither used nor maintained." 46

Finally, the amount of the user cost must be increased by $A_1$, which represents the outlay on the purchases from other entrepreneurs. Keynes sums up the above expression of user cost in these words:

> We have defined the user cost as the reduction in the value of the equipment due to using it as compared with not using it, after allowing for the cost of maintenance and improvements which would be worth while to undertake and for purchases from other entrepreneurs. 47

The above expression may be divided into two parts. First, $(G' - G) - B'$ may be designated as the investment, since it shows the amount of change in the value of the equipment that has resulted from use. The second part, $A_1$, is relevant only at the level of the individual firm, since it shows the amount of investment that is purchased from others.

46 Ibid., p. 370.

47 Keynes, op. cit., p. 70.
While Keynes' user cost concept has not formed a satisfactory aggregate in calculating income, it has been modified by Lerner and provides a useful insight into problems of depreciation and serves as a guide in the analysis of management problems regarding output. The concept of user cost, however, continues to be primarily a tool of economic analysis that is seldom, if ever, used in practice. According to Scott, "Finding user cost involves a precision of calculation far beyond the habits or resources of the entrepreneur."  

VI. CONCLUDING COMMENTS

The consideration of those selected cost concepts of economics, though not inclusive of all the specialized concepts of cost that appear in the literature of economics, provides a substantial number of cost concepts in addition to those already considered in the previous chapter on selected cost concepts of accounting. Such an extended list of cost concepts clearly indicates the ambiguity of the word cost itself and the opportunities for misunderstanding and miscommunication when the subject of cost is being considered. Having considered the various

49 Scott, op. cit., p. 368.
selected cost concepts of accounting and economics as they appear in the literature of economics and accounting, it is now appropriate to turn to the synthesis and classification of the several concepts considered with the objective of improving understanding and communication.
CHAPTER V

A SYNTHESIS AND CLASSIFICATION OF THE
SELECTED COST CONCEPTS

The consideration of several of the specialized cost concepts of economics and accounting in the two preceding chapters presents an impressive number of cost concepts at the disposal of accountants, economists, and others who deal with the protean matter of cost in the complexities of modern business activity. Including various synonyms, which have already been given some recognition in the various groupings of cost concepts listed throughout the text, as well as in the discussions of the various cost concepts, fifty-nine cost concepts have been examined from the literature of accounting and sixty-three from the literature of economics, presenting a total of one hundred twenty-two specialized concepts of cost that have been considered. While many modified concepts of cost have escaped inclusion in this study, it is felt that those selected for inclusion represent the ones most frequently encountered and the ones most significant in the understanding of the phenomena of cost in economics and accounting. To refresh the reader's acquaintance with
the concepts considered in the two previous chapters, a listing of the concepts is included as Table I.

The word "cost" itself was found to be very elusive—a word of many meanings that often leads to misunderstanding and miscommunication. These specialized concepts of cost enable the accountant and the economist to state more precisely the particular meaning of cost that they wish to convey, or to identify more specifically the particular characteristic of cost to which they are referring in any given instance. At the same time, however, differences in meaning and usage have occurred in the formulation of certain of the modified concepts of cost which, rather than leading to improved understanding and improved communication, lead to added misunderstandings. Further, the large number of modified concepts of cost found in the literature of economics and accounting occurs not in one or any few works, but is widely dispersed throughout the literature and presents a rather bewildering array of concepts to one who is not able to make an extended investigation of what these concepts are and how they are used.

The purpose of this chapter is twofold: (1) to synthesize the selected cost concepts of economics and accounting into a single group of useful cost concepts; and (2) to suggest a basis of classifying the cost concepts
**TABLE I**

**SELECTED COST CONCEPTS OF ECONOMICS AND ACCOUNTING**

<table>
<thead>
<tr>
<th>Cost Concepts of Accounting</th>
<th>Cost Concepts of Economics</th>
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<tbody>
<tr>
<td>Absorbed</td>
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<td>Acquisition</td>
<td>Implicit</td>
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<td>Actual</td>
<td>Implied</td>
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<td>Allocated</td>
<td>Incremental</td>
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<td>Indirect</td>
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<tr>
<td>Amortized</td>
<td>Invested</td>
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<tr>
<td>Book</td>
<td>Joint</td>
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<tr>
<td>Budgeted</td>
<td>Marginal</td>
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<tr>
<td>Committed</td>
<td>Market value</td>
</tr>
<tr>
<td>Common</td>
<td>Noncontrollable</td>
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<tr>
<td>Controllable</td>
<td>Normal</td>
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<tr>
<td>Conversion</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Current</td>
<td>Original</td>
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<td>Differential</td>
<td>Out-of-pocket</td>
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<tr>
<td>Direct</td>
<td>Outlay</td>
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<td>Estimated</td>
<td>Overhead</td>
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<td>Expected</td>
<td>Past</td>
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<td>Expired</td>
<td>Period</td>
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<td>Fixed</td>
<td>Present</td>
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<td>Full</td>
<td>Prime</td>
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<td>Abandonment</td>
<td>Historical</td>
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<tr>
<td>Absolute</td>
<td>Implicit</td>
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<tr>
<td>Actual</td>
<td>Implied</td>
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<td>Incremental</td>
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<td>Indirect</td>
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<td>Inescapable</td>
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<td>Joint</td>
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<td>Joint-product</td>
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<tr>
<td>Constant</td>
<td>Money</td>
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<td>Controllable</td>
<td>Noncontrollable</td>
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<tr>
<td>Current</td>
<td>Opportunity</td>
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<td>Decision-making</td>
<td>Original</td>
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<td>Abandonment</td>
<td>Replacement</td>
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<td>Sunk</td>
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<tr>
<td>Decision-making</td>
<td>Total-variable</td>
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</table>
TABLE I—Continued

<table>
<thead>
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<th>Cost Concepts of Economics</th>
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<tr>
<td>Direct</td>
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<tr>
<td>Disutility</td>
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<tr>
<td>Escapable</td>
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<tr>
<td>Explicit</td>
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<td>Fixed</td>
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<tr>
<td>Future</td>
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</tbody>
</table>

that will be useful in understanding the many concepts considered and that will, through providing the basis for better understanding, serve to facilitate thought and communications that deal with the elusive concept of cost.

The initial purpose will be accomplished through first eliminating the duplication of those concepts that are found in both economics and accounting, but that have no apparent differences in meaning or characteristic when used in either field. This will be followed by identifying those concepts that are mere synonyms of other concepts included in this study. Finally, it is necessary to consider certain of the concepts that bear the same name but that have different meanings and characteristics, depending on whether they are used in an accounting or an economic sense.

This process of synthesis will yield a single, somewhat reduced, group of cost concepts, lessened by the duplications and the synonyms identified, but including a
double listing of those cost concepts that have more than a single meaning in accounting and economics. This listing of concepts will serve as the group for which various schemes of classification will be considered. After consideration is given to certain classification schemes that are presently used, a new scheme of classification will be proposed that is believed to be more useful and more readily assimilated by those who must deal with the many facets of cost as evolved in terms of the special concepts of cost of economics and accounting.

I. SYNTHESIS OF THE COST CONCEPTS

An immediate aid to understanding and using the many modified cost concepts that appear in economics and accounting is to recognize those concepts that appear in the literature of both disciplines but that have no apparent difference in meaning or characteristic, whether they appear in the literature of economics or the literature of accounting. A second aid to understanding and organizing the cost concepts is to identify and to recognize those concepts that are mere synonyms of other concepts included in the study. Finally, it is essential to recognize that certain of the concepts have different meanings and characteristics, though they bear the same name in economics and accounting, and to identify the
meaning and the usefulness of each of the meanings popularly used.

**Common Cost Concepts**

A review of Table I indicates that thirty of the cost concepts included in the study are common to both economics and accounting. A number of these common concepts for which there is no distinguishable difference in meaning or characteristic were cited in Chapter IV. These were:

- Actual cost
- Book cost
- Controllable cost
- Current cost
- Differential cost
- Direct cost
- Future cost
- Historical cost
- Incremental cost
- Indirect cost
- Noncontrollable cost
- Original cost
- Out-of-pocket cost
- Past cost
- Replacement cost
- Separable cost
- Sunk cost
- Traceable cost

In view of the discussion of Chapter IV, it is now possible to consider the likeness of other of the cost concepts that are used in both economics and accounting.

In economics, **common costs** are those costs that are not traceable to a given activity or product. In
accounting, they are costs employed in the output of more than one operation or the production of more than one product. Though there is some slight difference in definition, the underlying concept is identical in that common cost refers to the sharing of cost by more than one segment of the business or by more than one product. In any case, the cost is not traceable, either because it is impossible or impractical to do so. Thus, the concept of common cost may be regarded as one that denotes the same concept in economics and accounting.

The concept of marginal cost is also used in connection with the same underlying concept in both economics and accounting. In either discipline the concept of marginal cost relates changes in total cost to infinitesimal or very small changes in the level of output. As previously indicated, however, the concept of marginal cost is more popular in economics, since cost work seldom requires the precision of marginal analysis.

Opportunity cost is definitely a product of the economist, and accountants have adopted the concept without modification. When used in either economics or accounting, the opportunity cost concept relates to foregone alternatives. Unlike the economists, however, accountants have not used the concept of alternative cost interchangeably with that of opportunity cost. Consequently,
while the concept of opportunity cost may be regarded as one commonly used, the concept of alternative cost, while found in both economics and accounting, must be considered as one of those concepts enjoying the same name but a different meaning.

Broadly conceived, the concept of joint cost refers to any cost incurred for the entire business or for the benefit of a considerable class of business as a whole. However, in both economics and accounting the concept of joint cost is more commonly associated with the problem of joint products and, as previously indicated, joint cost, in this sense, may be considered as an identical concept in accounting and economics.

The concepts of fixed cost and variable cost are probably the most significant of the specialized cost concepts of accounting and economics. When used in accounting or economics, these concepts relate to an identical characteristic of cost—that is, behavior with respect to the level of activity—and the only difference is the length of the time period under consideration. In economics the fixed and variable classifications of cost arise only in the short run wherein those factors commonly regarded as plant are fixed. The short-run period relates to no specific time period but rather to the ability of the entrepreneur to vary plant factors. The accountant,
on the other hand, generally confines his cost analyses to fiscal periods which are generally of twelve months in duration. For this reason the accountant may view as fixed some costs that the economist would not normally regard as being associated with that complement of factors generally included in plant. The difference, then, is one of degree rather than one of kind, because in both accounting and economics all costs are variable in the long run. Since the underlying concept is identical, the concepts of fixed cost and variable cost will be regarded as common, along with the related concepts of semi-variable and semi-fixed costs.

In economics as well as in accounting, the concept of unit cost results from the division of total cost by the number of units produced. While the economist's concept of the total cost of producing a given output includes certain items that the accountant does not take into account, the concept of unit cost is still that of a total divided by output. In addition, accountants sometimes prefer to regard unit costs as being the summation of direct material, direct labor and manufacturing overhead identified with a unit of output most closely associated with the incurrence of the cost. In any case, however, the procedure should produce the same accounting unit cost as dividing total cost by output. Although, in
any given situation, the accountant and the economist would be likely to arrive at a different unit cost figure due to the inclusion of certain imputed costs on the part of the economist, the underlying concept of a unit cost will be regarded as one that is common in economics and accounting.

Some attention has already been given to the concepts of alternative cost, overhead cost, and prime cost which appear both in economics and accounting. Unfortunately, accountants and economists have associated these titles with differing basic characteristics of cost, and, though the names are identical, the concepts cannot be included among those that are common in accounting and economics. Further consideration will be given to these concepts after a consideration of the synonyms that appear among the selected cost concepts.

In view of the above discussion, the following concepts may be added to the previous listing of those concepts in which there is no distinguishable difference in meaning or characteristic between their use in economics or their use in accounting:

- Common cost
- Fixed cost
- Joint cost
- Marginal cost
- Marginal cost
- Opportunity cost
- Semi-fixed cost
Synonymous Cost Concepts

Some attention has already been given to cost concepts that are mere synonyms of another cost concept included in the study. First, some synonyms have been included in the various listings of cost concepts that appear throughout the text. These have appeared in parentheses and have immediately followed the cost concept to which they are synonymous. Second, in most instances, synonyms have also been given recognition in the text, either through parenthetical inclusion or as an alternative title for the cost concept being considered.

At this time a review of these synonyms, together with the identification of other synonyms used, will be valuable as an aid in understanding and using the many cost concepts that appear in the literature of economics and accounting.

Certain synonyms have already been accorded sufficient treatment within the text, and no further discussion of them is necessary at this time. These include:

<table>
<thead>
<tr>
<th>Cost concept</th>
<th>Synonym(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current cost</td>
<td>Present cost</td>
</tr>
<tr>
<td>Noncontrollable cost</td>
<td>Uncontrollable cost</td>
</tr>
<tr>
<td>Programmed cost</td>
<td>Committed cost</td>
</tr>
<tr>
<td>Cost concept</td>
<td>Synonym(s)</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Semi-variable cost</td>
<td>Semi-fixed cost</td>
</tr>
<tr>
<td>Average cost</td>
<td>Unit cost</td>
</tr>
<tr>
<td>Allocated cost</td>
<td>Prorated cost</td>
</tr>
<tr>
<td>Period cost</td>
<td>Time cost</td>
</tr>
<tr>
<td>Inescapable cost</td>
<td>Unavoidable cost</td>
</tr>
</tbody>
</table>

The concepts of *imputed cost, implicit cost, and implied cost* all refer to the cost associated with the use of self-owned factors for which no expenditure is required and, therefore, for which no cost amount can be established by viewing an independent transaction between two parties. These concepts are all synonymous and refer to this single cost concept, although accountants seem to prefer the use of imputed costs whereas economists prefer the use of implied or implicit cost.

Reference to the concept of *fixed cost* as a *constant cost* appears to be more popular in economics than in accounting due to the synonymous use of these terms by J. M. Clark in his pioneering work on overhead costs.¹

There should be no confusion in using either fixed cost or constant cost if one is able to recognize the fact that the underlying concept of cost is identical.

¹J. M. Clark, op. cit., pp. 51-54. The term "constant cost industry" is also used in most works on price theory. A constant cost industry is one in which the entry of new firms has no effect on resource prices. Since this expression deals with an industry type rather than a cost type, the concept of constant cost as applied to an industry is not included in this study.
Out-of-pocket cost, absolute cost, explicit cost, and outlay cost all refer to costs that give rise to money expenditures in the time period under consideration. Economists seem to use the concepts of absolute or explicit costs more frequently than do the accountants, but, again, the underlying concept is the same and there should be no difficulty in the interchanging of these terms.

The concepts of historical cost, original cost, acquisition cost and past cost all refer to cost as outlays of cash or cash equivalent released at the date of acquisition. These concepts have developed primarily in the realm of accounting, and economists seem to have adopted them without modification. To these synonyms may be added the concept of actual cost when this term is used to designate the amount actually given in exchange, as recommended in Chapter III.

The concepts of prime cost and supplementary costs in economics appear to be predecessors or earlier names ascribed to the basic notion embodied in the present-day concepts of variable and fixed cost. As previously noted in Chapter IV, this is especially apparent in Marshall's Principles of Economics, which was quoted at that time. In addition, Marshall used the terms special cost and prime cost interchangeably.
In addition to the identification of the above synonyms, it is possible to identify two other instances of synonymous usage of cost concepts that lie exclusively in the area of economics.

First, as previously indicated, the concept of alternative cost in economics is synonymous to the concept of opportunity cost. Second, the concept of overhead cost in economics is synonymous with the concept of fixed cost.

The preceding consideration of additional synonyms that appear among the selected cost concepts of economics and accounting provides the basis for adding the following synonyms to those already listed:

<table>
<thead>
<tr>
<th>Cost concept</th>
<th>Synonym(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imputed cost</td>
<td>Implicit cost</td>
</tr>
<tr>
<td></td>
<td>Implied cost</td>
</tr>
<tr>
<td>Fixed cost</td>
<td>Constant cost</td>
</tr>
<tr>
<td></td>
<td>Supplementary cost</td>
</tr>
<tr>
<td></td>
<td>Overhead cost</td>
</tr>
<tr>
<td></td>
<td>(economic use)</td>
</tr>
<tr>
<td>Out-of-pocket cost</td>
<td>Absolute cost</td>
</tr>
<tr>
<td></td>
<td>Explicit cost</td>
</tr>
<tr>
<td></td>
<td>Outlay cost</td>
</tr>
<tr>
<td>Historical cost</td>
<td>Original cost</td>
</tr>
<tr>
<td></td>
<td>Acquisition cost</td>
</tr>
<tr>
<td></td>
<td>Actual cost</td>
</tr>
<tr>
<td></td>
<td>Past cost</td>
</tr>
<tr>
<td>Variable cost</td>
<td>Special cost</td>
</tr>
<tr>
<td></td>
<td>Prime cost</td>
</tr>
<tr>
<td></td>
<td>(economic use)</td>
</tr>
<tr>
<td>Opportunity cost</td>
<td>Alternative cost</td>
</tr>
<tr>
<td></td>
<td>(economic use)</td>
</tr>
</tbody>
</table>
While it is perhaps possible to recommend the use of a particular term as preferable to its synonym or synonyms, no attempt is made here to identify one as being more appropriate than another. This retention of all of the various modified concepts of cost that appear, though many are mere synonyms, is in accordance with the view of the Committee on Cost Concepts and Standards of the American Accounting Association, which states that "a concept already recognized should be stated in terms in which it has become generally familiar." Such a selective process would greatly reduce the number of cost concepts with which the accountant or the economist would have to familiarize himself, and this could be readily suggested. However, it is unlikely that such a suggestion would receive complete agreement as to which of the several synonyms is the most appropriate, and there is little likelihood that such a proposal would lead to acceptance and further use by all who deal with concepts of cost.

Varied-Meaning Cost Concepts

Much of the discussion with respect to those concepts that have more than a single meaning has already

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been accomplished. It is appropriate, however, to review at this time those concepts of varied meaning and use, since these are the concepts most likely to create problems of misunderstanding and communication. These concepts include:

- Alternative cost
- Overhead cost
- Prime cost
- Real cost

As noted in the previous discussion, alternative cost, as used in economics, is synonymous with the concept of opportunity cost and the two terms are used interchangeably. In accounting, on the other hand, alternative cost differentiates the prospective changes in cost due to any cause from those prospective changes in cost due to an increase in activity which are referred to as incremental or differential costs.

In accounting, the concepts of prime cost and overhead cost added together constitute the total cost, since prime cost consists of direct labor and direct materials. These distinctions are based primarily on the accounting treatment of the cost rather than on the characteristics of the cost. Prime costs in accounting are those materials and labor that the accountant treats as being directly identifiable in the finished product. Other cost elements may be capable of being identified
in the finished product, but may be treated as overhead due to difficulties or costs involved in treating the particular cost item as direct. Consequently, the concept of overhead cost in accounting may include fixed costs as well as variable costs and direct costs as well as indirect costs. In economics, where the problems of application have received less attention, overhead cost is defined as being synonymous with fixed cost and prime cost is identical to variable cost and includes all of the variable costs.

Finally, the concept of real cost was found to have two different meanings. On the one hand, the concept of real cost is used to identify cost in terms of physical units or more basic factors of cost as human effort, abstinence, or assumption of risk. This use differentiates real cost from money cost, which is cost in terms of money or its equivalent. On the other hand, real cost is also used to refer to money costs in terms of some measure of prices prevailing at a particular date or base period. Both meanings of real cost are useful, and one who deals with the concept of cost must be aware of both of these meanings.
II. CLASSIFICATION OF THE COST CONCEPTS

The recognition of several cost concepts that are commonly used in accounting and economics, as well as the recognition of many synonyms that appear in the cost concepts selected for this study, result in a somewhat reduced listing of basic cost concepts to be considered at this time. The list of all concepts included in this study that appeared as Table I at the beginning of this chapter has been revised in view of the concepts commonly used and the concepts identified as synonyms, and appears as Table II. It is this listing of cost concepts that will serve as the basis for considering some of the schemes of classification presently used, as well as for a proposed new scheme of classification that is believed to be more understandable, more readily assimilated, and capable of including even more concepts than those considered in this study.

Present Schemes of Classification

Economists and accountants who have treated more than a few of the specialized cost concepts in a single work have generally attempted to organize or group the concepts in a way that not only facilitates discussion, but also aids in the understanding of the several concepts considered. The two most popular approaches to the
### Table II

**Selected Cost Concepts of Economics and Accounting,**

**Reduced Listing with Synonyms**

<table>
<thead>
<tr>
<th>Economic Concept</th>
<th>Accounting Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abandonment</td>
<td>Noncontrollable</td>
</tr>
<tr>
<td>Absorbed</td>
<td>(uncontrollable)</td>
</tr>
<tr>
<td>Allocated</td>
<td>Normal</td>
</tr>
<tr>
<td>(prorated)</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Alternative</td>
<td>(alternative—as used in economics)</td>
</tr>
<tr>
<td>(as used in accounting)</td>
<td></td>
</tr>
<tr>
<td>Alternative-product</td>
<td>Out-of-pocket</td>
</tr>
<tr>
<td>Amortized</td>
<td>(absolute)</td>
</tr>
<tr>
<td>Average</td>
<td>(explicit)</td>
</tr>
<tr>
<td>(unit)</td>
<td>(outlay)</td>
</tr>
<tr>
<td>Average-fixed</td>
<td>Overhead</td>
</tr>
<tr>
<td>Average-variable</td>
<td>(as used in accounting)</td>
</tr>
<tr>
<td>Book</td>
<td>Period</td>
</tr>
<tr>
<td>Common</td>
<td>(time)</td>
</tr>
<tr>
<td>Budgeted</td>
<td>Postponable</td>
</tr>
<tr>
<td>Controllable</td>
<td>Private</td>
</tr>
<tr>
<td>Conversion</td>
<td>Prime (as used in accounting)</td>
</tr>
<tr>
<td>Current</td>
<td>Product</td>
</tr>
<tr>
<td>(present)</td>
<td>Programmed</td>
</tr>
<tr>
<td>Decision-making</td>
<td>Real—first meaning</td>
</tr>
<tr>
<td>Differential</td>
<td>Real—second meaning</td>
</tr>
<tr>
<td>Direct</td>
<td>Replacement</td>
</tr>
<tr>
<td>Disutility</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Escapable</td>
<td>Residual</td>
</tr>
<tr>
<td>Estimated</td>
<td>Reproduction</td>
</tr>
<tr>
<td>Expected</td>
<td>Semi-variable</td>
</tr>
<tr>
<td>Expired</td>
<td>(semi-fixed)</td>
</tr>
<tr>
<td>Fixed</td>
<td>Separable</td>
</tr>
<tr>
<td>(constant)</td>
<td>Short-run</td>
</tr>
<tr>
<td>(supplementary)</td>
<td>Shutdown</td>
</tr>
<tr>
<td>(overhead—as used in economics)</td>
<td>Social</td>
</tr>
<tr>
<td>Full</td>
<td>Standard</td>
</tr>
<tr>
<td>Future</td>
<td>Standby</td>
</tr>
<tr>
<td>Historical</td>
<td>Sunk</td>
</tr>
<tr>
<td>(original)</td>
<td>Total</td>
</tr>
<tr>
<td>(acquisition)</td>
<td>Total-fixed</td>
</tr>
<tr>
<td>(actual)</td>
<td>Total-variable</td>
</tr>
<tr>
<td>(past)</td>
<td>Traceable</td>
</tr>
<tr>
<td></td>
<td>True</td>
</tr>
</tbody>
</table>
problem have been to consider the cost concepts in pairs, as opposites or alternatives, or to view a variety of business decision-making situations and to treat the cost concepts that are appropriate to the assumed situation under consideration. An example of the first approach is to regard the concept of fixed cost as being the opposite of the concept of variable cost. Using the second approach, one may assume the situation of an offer to buy at a reduced price a special lot, the production of which entails an increase in activity that consumes presently idle capacity. Then one may identify the cost concepts that are pertinent in the cost analysis of the decision whether to accept or reject the offer. These two approaches to organization and classification will be examined in turn.

Cost concept opposites. The consideration of cost concepts as pairs of opposing concepts is popular among writers who give much consideration to the various
concepts of cost. Economists who have adopted this approach include Dean, Spencer and Siegelman, and J. M. Clark. Accountants who use an identical approach include Kohler and Fiske. The application of this approach consists of identifying some basis for making the distinction between the concepts, and then dichotomizing the concepts being considered. Applying this approach to some of the concepts included in Table II produces the following array:

<table>
<thead>
<tr>
<th>Dichotomy</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-pocket v. book</td>
<td>Time of expenditure</td>
</tr>
<tr>
<td>Controllable v. uncontrollable</td>
<td>Controllability</td>
</tr>
<tr>
<td>Direct v. indirect</td>
<td>Identification</td>
</tr>
<tr>
<td>Utility v. disutility</td>
<td>Nature of sacrifice</td>
</tr>
<tr>
<td>Escapable v. inescapable</td>
<td>Relation to reduced activity</td>
</tr>
<tr>
<td>Fixed v. variable</td>
<td>Variation in activity</td>
</tr>
<tr>
<td>Short-run v. long-run</td>
<td>Variation in plant factors</td>
</tr>
<tr>
<td>Real v. money</td>
<td>Nature of sacrifice</td>
</tr>
<tr>
<td>Past v. future</td>
<td>Time of incurrence</td>
</tr>
<tr>
<td>Product v. period</td>
<td>Assignability</td>
</tr>
<tr>
<td>Expired v. unexpired</td>
<td>Time of consumption</td>
</tr>
<tr>
<td>Urgent v. postponable</td>
<td>Degree of urgency</td>
</tr>
<tr>
<td>Private v. social</td>
<td>Degree of aggregation</td>
</tr>
<tr>
<td>Explicit v. implicit</td>
<td>Basis of inclusion</td>
</tr>
<tr>
<td>Common v. traceable</td>
<td>Traceability</td>
</tr>
<tr>
<td>Historical v. replacement</td>
<td>Timing of valuation</td>
</tr>
</tbody>
</table>

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While the consideration of cost concepts in terms of opposing pairs is useful in understanding and using the concepts, this scheme presents certain difficulties. First, the understanding of an opposite concept requires a complete understanding of the paired concept, and unless there is a complete discussion of the paired concept (which there usually is) the listing of opposing concepts contributes little to understanding. Second, not all of the concepts considered may be included in a classification scheme of this kind, since many significant concepts have no opposing counterpart concept. Some examples included in this study are: abandonment cost, user cost, semi-variable cost, semi-fixed cost, responsibility cost, and marginal cost. Finally, the dichotomization of the cost concepts leads to the difficulties inherent in any two-valued or "either-or" scheme—that is, the necessity of excluding anything that may by nature be not one or the other, but a hybrid type that lies somewhere in between the two extremes. This difficulty is apparent in the fixed-variable distinction in that both economists and accountants recognize the fact that most costs do not clearly appear as either fixed or variable cost in practice, but rather as semi-variable cost which consists of portions of each type. Similarly, present cost lies between past and future cost, and the scheme of
dichotomization makes no provision for this "middle-of-the-road" concept.

Thus, while the dichotomization of cost concepts is useful—especially when the number of concepts considered is small—this scheme is of limited usefulness in an attempt to synthesize and classify the large number of concepts included in this study.

Business decisions and appropriate cost concepts. The organization and consideration of special cost concepts through the use of examples of business decision-making situations and the cost concepts that are appropriate to the given situation were probably introduced by J. M. Clark, who labeled one of the chapters in his *The Economics of Overhead Costs, "Different Costs for Different Purposes."* In this chapter, Clark lists several illustrative situations in which special cost compilations, not just routine compilations resulting from the regular operations of the cost accounting system, are needed to fit particular situations. This approach has also been

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5 J. M. Clark, *op. cit.*, Chapter 9, pp. 175-203.

used by a number of writers in accounting who consider the necessity of understanding and using special cost concepts in regard to the purposes for which the costs are being assembled.\textsuperscript{7}

This approach may be illustrated by the situation previously cited—that of deciding whether or not to accept an order for a special lot at reduced prices when the production of the special order entails the use of presently existing idle capacity.

Assume that Company X manufactures product A, which normally sells for $5.00 per unit. At the present time Company X is producing 4,500 units per month, but has a capacity to produce 6,000 units with present plant facilities. The cost of producing a unit of product A, as determined by the cost accounting system, for last month was as follows:

\begin{center}
\begin{tabular}{l c}
Direct materials & $1.50 \\
Direct labor & 2.50 \\
Manufacturing overhead & 0.70 \\
Total unit cost & $4.70 \\
\end{tabular}
\end{center}

This month Company Y offers to buy 500 units of product A from Company X, if Company X is willing to accept a price of $4.50 per unit. Should Company X accept

\begin{footnotesize}
\end{footnotesize}
the offer? The apparent, but as we shall see incorrect, decision would be to decline the offer, since the price offered is less than the cost of producing a unit of product A and acceptance of the offer would appear to result in a loss of $100.00.

This analysis, however, is incorrect and not appropriate to the situation under consideration. Further examination of the pertinent costs in this situation would reveal that the unit cost of producing the additional 500 units would not be $4.70 but rather only $4.10, since the production of 500 more units would require only the additional outlay of $4.10 per unit, as follows:

| Direct materials | $1.50 |
| Direct labor     | $2.50 |
| Increase in overhead | $10 |
| **Total unit cost** | **$4.10** |

The appropriate cost concept illustrated in this situation is the concept of **differential cost**, or the change in cost resulting from the increase in activity. Further identification of special cost concepts involved in this analysis would include the designation of the direct material and direct labor costs of the increase in production as **variable costs**, whereas the overhead cost items that remain constant in the situation would be regarded as **fixed cost**. The direct materials cost and direct labor cost would also most probably be **direct costs**.
whereas the cost elements that result in the $.10-per-unit increase, while being variable, would be regarded as indirect costs and possibly allocated costs. Those overhead items that do not change with the increase in activity and that, therefore, do not enter into the differential analysis may also be appropriately regarded as residual costs.

The production of 500 more units would result in a change in total costs of $2,050. The identification and use of the appropriate cost concepts in this situation lead to a correct decision—that is, to accept the order, since this would result in an increase in profits of $200.00. This treatment of cost concepts "should dispel immediately the notion that conventional accounting practice provides the firm with all its necessary cost information and should drive home the fact that cost concepts differ depending on managerial viewpoints." 

The consideration of the various concepts of cost in connection with an illustrative business decision is extremely useful in the understanding and using of the

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8There are, of course, non-monetary considerations that would bear on this decision. The company would have to be in a position to offer the price differential without "spoiling the regular market" or encountering difficulties under the Robinson-Patman Act.

9Spencer and Siegelman, op. cit., p. 234.
special concepts of cost in economics and accounting. But this approach, too, involves certain difficulties. First, to present illustrations that would encompass more than a few of the concepts considered in this study would require a rather lengthy presentation that would not classify related concepts in any single part of the study. Secondly, this approach is most suitable and useful when used in connection with those concepts of cost that are regarded as decision-making costs. Other categories, such as the concepts that arise in connection with the recording of transactions by the accountant, would require examples from the mechanics of the accounting process. Furthermore, it is not possible to frame such concepts as utility cost, disutility cost, and real cost in precise terms since the measurement of these cost concepts is difficult, if not impossible.

Finally, the popularity of the expression "different costs for different purposes" implies "that the allocation of costs of production is not a matter of fact but a matter of discretion."\(^\text{10}\) This may lead to some loose thinking, for what is really meant is that under various circumstances decisions may be made by those responsible without taking into consideration all

\(^{10}\text{C. R. Noyes, op. cit., p. 485.}\)
of the costs. The economist, for example, "concentrates his attention on fixed and variable costs while formulating a short-run decision as to the optimum combination of price and output for the firm. In making this decision fixed costs are ignored because they are not relevant, not because they are not costs." Thus, in any situation the fact of cost is not altered, nor can it be, and the use of different costs for different purposes is merely a way of concentrating attention on the strategic cost factors in the case.

For these reasons, though the value of such presentations in the understanding and using of the many cost concepts of economics and accounting is recognized, the use of illustrative situations is not deemed suitable or feasible for this study.

**Proposed Scheme of Classification**

At this point, it is the contention of the writer that the most useful approach to the problems of misunderstanding and miscommunication that arise from the use of the numerous specialized concepts of cost of economics and accounting, is one that focuses initially upon the basic concept of cost itself, rather than upon the many

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specialized or modified concepts of cost that appear. This approach is supported by the view that the concept of cost in economics and accounting exhibits a variety of characteristics, though the fact of cost in any given situation is invariable. It is for the purpose of selecting or abstracting certain of these characteristics of the basic concept of cost that are most useful in a particular set of circumstances, or for a particular problem under consideration, that the several specialized concepts of cost have come into being. And, for this same reason, it is reasonable to expect that new concepts will eventually appear. Using this approach it is possible to state a number of the characteristics of the basic concept of cost in economics and accounting, all of which might be included in a comprehensive definition of the word "cost" as used in accounting and economics. It is then possible to include with each of the characteristics stated, the specialized or modified concepts of cost that relate to that characteristic and are attempts to abstract that particular characteristic from the basic concept of cost.

The application of this analysis to the several cost concepts of Table II leads to the scheme of organization and classification described below, which has the advantage of word economy and the use of relatively few
categories of cost types. It is believed that this approach will serve as a vehicle toward eliminating some of the misunderstanding and miscommunication that arises in connection with the many cost concepts considered, as well as with the many that have escaped inclusion in this study.

**Cost characteristic 1—The notion of sacrifice:**
The notion of sacrifice is at the heart of the basic concept of cost, and the nature of the sacrifice assumes a number of different forms.

The accountant is only concerned with sacrifices that give rise to the expenditure of money or money equivalents. But the examination of the basic concept of cost in economics leads one to recognize that the sacrifice may take other forms. Cost concepts which relate to the nature of the sacrifice include:

- **Money cost** - Sacrifice of money or money equivalents.
- **Real cost** - Non-monetary sacrifice.
  
  which includes:
  - **Disutility cost** - Sacrifice of comfort, esteem, or well-being.
  - **Utility cost** - Sacrifice of utility
  - **Opportunity cost** - Sacrifice of alternative opportunity

**Cost characteristic 2—The cost-incurring unit:**
Cost may be ascertained for various segments of the economy as well as for the whole of economic society.
Accountants deal almost exclusively with private cost, or sacrifices made by the firm as measured in terms of money, but private cost may also be calculated for individuals, households, industries, or other segments of the economy. Cost to the whole of economic society, on the other hand, is almost exclusively the concern of the economist and is referred to as social cost.

Cost characteristic 3—The cost basis: Cost, in terms of the money or money equivalents released at the time of acquisition, provides the accounting basis for the recording of transactions and for preparing the financial statements. But cost, in terms of current conditions, sometimes enters into the accounting process and is regarded to be more useful by most economists.

At present the cost basis of accounting prevails, due in large part to the fact that it provides objectively determinable cost amounts. Specialized cost concepts which convey the characteristic of cost at the time of outlay, which is appropriate for accounting, are:

Historical cost = Money cost at time of outlay.
(Original cost)
(Acquisition cost)
(Acctual cost)
(Past cost)

In some instances accountants accept, as a measure of cost, cost in terms of presently prevailing conditions. Economists feel that balance sheets and income statements would be more useful and more meaningful if prepared in terms of current conditions, but the measurement of such
costs injects more objectionable judgment into the accounting records. Related cost concepts are:

- **Market value** - Cost in the present market.
- **Current cost** (present cost) - Cost at the present time.
- **Replacement cost** - Present cost to replace asset with comparable asset.
- **Reproduction cost** - Present cost to replace asset in kind.

Cost characteristic 4--Time periods: Cost may be associated with periods. In accounting, the period is usually a fiscal period of twelve months, or, less frequently, an operating cycle. In economics, the period is identified not with any particular length of time but rather with the entrepreneur's ability to vary the size of plant.

The identification of cost with periods in accounting necessitates the distinction between those costs consumed in the current period and those costs that await consumption in future periods. This gives rise to the following concepts:

- **Expired cost** - Cost consumed currently.
- **Unexpired cost** - Cost awaiting future consumption. (Assets)
- **Amortized cost** - Unexpired cost less expired cost.
- **Invested cost** - Original cost plus any additions less amounts expired.
Out-of-pocket cost - Cost that requires current (absolute cost) outlay.
(explicit cost)
(outlay cost)

Book cost - Previously unexpired cost that expires in current period.

In economic theory a precise identification of costs with time periods is not required, and the distinguishing element of the period is not any specific period of time but rather management's ability to vary the size of the plant. This leads to the following cost concepts:

Short-run cost - Cost in the short run when plant is fixed.

Long-run cost - Cost in the long run when plant can vary.

Cost characteristic 5--Cost behavior and activity changes: Cost is a direct function of activity in that higher levels of activity produce higher costs. This characteristic is closely related to the period characteristic since in a short enough period, only certain costs will increase with activity while others will remain constant.

In both economics and accounting this is perhaps the most useful characteristic of cost, and one that is basic to cost analysis and profit maximization. This behavioral characteristic of cost underlies the following cost concepts:

Fixed cost - Cost that does not vary (constant cost) with activity.
(supplementary cost)
(overhead cost, as used in economics)
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable cost</td>
<td>Cost that does vary with activity.</td>
</tr>
<tr>
<td>(special cost)</td>
<td></td>
</tr>
<tr>
<td>(prime cost, as used in economics)</td>
<td></td>
</tr>
<tr>
<td>Semi-variable cost</td>
<td>Cost that is in part fixed and in part variable.</td>
</tr>
<tr>
<td>(semi-fixed cost)</td>
<td></td>
</tr>
<tr>
<td>Standby cost</td>
<td>Cost at 0 level of activity.</td>
</tr>
<tr>
<td>Programmed cost</td>
<td>Cost fixed by managerial decision.</td>
</tr>
<tr>
<td>(committed cost)</td>
<td></td>
</tr>
<tr>
<td>Total-fixed cost</td>
<td>Summation of all costs that are fixed.</td>
</tr>
<tr>
<td>Average-fixed cost</td>
<td>Total-fixed cost divided by units of output per time period.</td>
</tr>
<tr>
<td>Total-variable cost</td>
<td>Summation of all costs that are variable.</td>
</tr>
<tr>
<td>Average-variable cost</td>
<td>Total-variable cost divided by units of output per time period.</td>
</tr>
<tr>
<td>Escapable cost</td>
<td>Cost avoided by a reduction in activities plus any resulting cost additions in other activities.</td>
</tr>
<tr>
<td>Inescapable cost</td>
<td>Cost that must be incurred in the face of business contraction.</td>
</tr>
<tr>
<td>Marginal cost</td>
<td>Rate of change in total cost as activity increases.</td>
</tr>
<tr>
<td>Incremental cost</td>
<td>Increase in total cost with small increases in output.</td>
</tr>
<tr>
<td>Differential cost</td>
<td>Increase in total cost with increase in activity.</td>
</tr>
<tr>
<td>Residual cost</td>
<td>Cost unaffected by increase in activity.</td>
</tr>
</tbody>
</table>
Cost characteristic 6--Cost assignment: In theory, all cost attaches to units of output, since any effort expended is for the ultimate purpose of producing output. In practice, however, the assignment of all cost to output is often impossible or impractical, and cost is allocated to units of output, segments of the business, or time periods.

This characteristic of cost is highly significant, since the accounting assignment of costs may lead to wide differences in the cost of a unit of output as well as the period net income. The following concepts arise in connection with cost assignment:

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct cost</td>
<td>Cost identifiable in unit of output or segment of operations and so assigned.</td>
</tr>
<tr>
<td>Traceable cost</td>
<td>Cost traceable to unit of output or segment of operations.</td>
</tr>
<tr>
<td>Indirect cost</td>
<td>Cost not identifiable in unit of output or segment of operations or cost not assigned as direct.</td>
</tr>
<tr>
<td>Full cost</td>
<td>Product cost which includes as many costs as can possibly be assigned.</td>
</tr>
<tr>
<td>Allocated cost (prorated cost)</td>
<td>Cost assigned to units of output or segment of the business by allocation.</td>
</tr>
<tr>
<td>Absorbed cost</td>
<td>Cost assigned to units of output.</td>
</tr>
<tr>
<td>Period cost (time cost)</td>
<td>Cost assigned to time period.</td>
</tr>
<tr>
<td>Product cost</td>
<td>Cost assigned to units of output.</td>
</tr>
</tbody>
</table>
Joint cost  -  Cost shared by more than one product or more than one activity.

Joint-product cost  -  Cost shared by joint products.

Alternative-product cost  -  Cost shared by alternative products.

Separable cost  -  Cost capable of being separated and assigned to units of output or segments of the business.

Common cost  -  Cost shared by products or segments of the business that may be separated.

Cost characteristic 2--Cost planning and control:
Cost, in terms of estimated dollar amounts, serves to facilitate financial planning and control. But the responsibility for cost control may be extracted only from those who have the authority to incur cost.

Each of the following concepts of cost is formulated in terms of expected conditions or in terms of some statement as to what operating costs should be under a set of assumed conditions:

Future cost  -  Cost in terms of dollars that are expected to prevail in the future.

Expected cost  -  Cost expected to prevail in the future.

Budgeted cost  -  Cost estimates used in the budgetary procedure.

Estimated cost  -  Cost estimates that enter into the accounts of an estimated cost system.
Normal cost - Cost as it would be under an assumed set of "normal conditions."

Standard cost - Scientifically developed cost estimates.

True cost - Usually the standard cost.

The statement that the responsibility for cost control may be extracted only from those who have the authority to incur costs is an application of the principle of management which states that authority must always accompany responsibility. At the highest organizational level, the chief executive is responsible for all cost incurrence and all costs may be controlled by him. At the lower echelon levels, however, only certain costs are controllable by the manager. This leads to the following cost concepts:

Responsibility cost - Cost identified with the individual responsible for its incurrence.

Controllable cost - With respect to a given individual, the cost that he can control.

Noncontrollable cost - With respect to a given individual, the cost he cannot control.

Cost characteristic 8--Total cost: Accountants and economists differ as to the items that are properly included in total cost, and the designation of cost items that make up total cost may vary.
As previously indicated, the economist often defines total cost in terms of the opportunity cost concept, or, if he builds total cost from the cost elements, he adds to the cash outlays of the accountant certain imputed items. The accountant's concept of total cost is less inclusive and has traditionally been subdivided into direct materials cost, direct labor cost, and manufacturing overhead cost. These characteristics give rise to the following cost concepts:

<table>
<thead>
<tr>
<th>Cost Concept</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost</td>
<td>The total of sacrificed alternatives or the summation of all costs incurred.</td>
</tr>
<tr>
<td>Average cost (unit cost)</td>
<td>Total cost divided by units of output per time period.</td>
</tr>
<tr>
<td>Prime cost (as used in accounting)</td>
<td>The summation of direct materials cost and direct labor cost.</td>
</tr>
<tr>
<td>Conversion cost</td>
<td>The summation of direct labor cost and manufacturing overhead cost.</td>
</tr>
<tr>
<td>Overhead cost (as used in accounting)</td>
<td>All cost not classified as direct materials or labor.</td>
</tr>
<tr>
<td>Imputed cost</td>
<td>Cost of self-owned factors used in the business.</td>
</tr>
</tbody>
</table>

Cost characteristic 2—Cost in decision-making:
Though several of the cost concepts already considered are useful in the decision-making processes of a business enterprise, cost exhibits particular characteristics that are significant only in special sets of circumstances.
Cost concepts which relate to particular characteristics of cost that are useful in decision-making include:

<table>
<thead>
<tr>
<th>Cost Concept</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision-making cost</td>
<td>Generic term applied to all costs that are useful in decision-making.</td>
</tr>
<tr>
<td>Alternative cost</td>
<td>Cost under any other conditions than those presently prevailing.</td>
</tr>
<tr>
<td>Real cost</td>
<td>Money cost adjusted to some base period prices.</td>
</tr>
<tr>
<td>Shutdown cost</td>
<td>Cost incurred in temporary shutdown that would be saved if operations continued.</td>
</tr>
<tr>
<td>Abandonment cost</td>
<td>Cost incurred in connection with the retirement of an asset.</td>
</tr>
<tr>
<td>Urgent cost</td>
<td>Cost that requires outlays prior to or during productive activities.</td>
</tr>
<tr>
<td>Postponable cost</td>
<td>Cost that does not require current outlay.</td>
</tr>
<tr>
<td>Sunk cost</td>
<td>Cost that is not capable of being recovered.</td>
</tr>
<tr>
<td>User cost</td>
<td>Value of equipment had it not been used less value after having been used reduced by maintenance outlays and increased by additions.</td>
</tr>
</tbody>
</table>

This scheme of organizing and classifying the several special cost concepts of economics and accounting included in this study is based upon the characteristics
of the basic concept of cost rather than upon the several specialized concepts themselves, which are symbols that represent some one of the many characteristics of cost. It presents, in an effective and efficient manner, a condensation of all the several concepts included in this study, and, at the same time, is such that it would be possible to include an even greater number of the specialized concepts of cost among the nine cost characteristics identified.

Based upon the nine characteristics of cost included, it is possible to define cost in economics and accounting as follows: cost in economics and accounting may be regarded as the sacrifice inherent in any economic decision which may take a variety of forms and which may be associated with various segments of the economy or the whole of economic society. In terms of the sacrifice of money or money equivalents released at the time of acquisition, it serves as the basis of accounting; in terms of estimated dollar amounts, it serves as a tool of financial planning and control; when associated with particular sets of circumstances, it provides valuable guides that are useful in the solution of a wide variety of business problems. Cost attaches to units of production or to segments of the business activity and is associated with definite periods in order that periodic appraisals of
operations may be made and the most profitable point of operations may be identified. Total cost may vary in any given situation depending on the advisability of including the cost associated with certain kinds of sacrifice, but the behavior of total cost with changes in activity gives rise to a host of tools that are useful in cost analysis and control.
CHAPTER VI

SUMMARY AND CONCLUSIONS

The phenomenon of cost lies at the heart of economic and accounting analysis; yet, it remains as one of the most elusive and most confusing concepts used in economics and accounting. For this reason, accountants and economists alike have produced an abundance of specialized or modified cost concepts by which they have attempted to identify a particular one of the many meanings of cost. This effort has resulted in such descriptive cost concepts as direct cost, indirect cost, inescapable cost, fixed cost, differential cost, sunk cost, marginal cost, disutility cost, opportunity cost, etc. Unfortunately, however, the mass of specialized cost concepts produced has been accomplished somewhat independently by accountants and economists and has resulted in the use of different terms to designate a single characteristic of cost as well as the use of identical terms in connection with entirely different underlying concepts. This, together with the almost unlimited number of specialized cost concepts that appear, often leads economists, accountants, and others who deal with concepts of cost to added difficulties of
understanding and communicating thoughts and ideas that deal with the concept of cost.

It is the purpose of this study to examine several of the specialized or modified concepts of cost which appear in the literature of accounting and economics with the ultimate objective of synthesizing and classifying the several cost concepts considered so that they might be better understood and might better serve to facilitate communications regarding the elusive concept of cost in economics and accounting.

In any study that reaches into the subject matter of two disciplines, it is useful and worth while to consider the relationship of the separate disciplines. In this instance a consideration of the relationship of economics and accounting is especially valuable, for it enables one to discover certain of the reasons for conceptual differences that have long stood as barriers to the efficient and effective exchange of ideas between economists and accountants.

The examination of the relationship of economics and accounting indicates that economics and accounting had separate origins and that they developed quite independently of one another for many centuries. At this early stage of development, economics was considered to be a branch of social philosophy and was regarded as a
learned and deductive discipline. At the same time, on the other hand, accountants labored for the most part without academic training or recognition and confined their interest and efforts to the practices of record-keeping for a particular business enterprise.

One result of this independent early relationship of economics and accounting that is especially pertinent to the purpose of this study is that concepts were developed in one field to serve the purposes of that field while counterpart concepts were being developed in the other field to serve its purposes. But few people, if any, knew this for those in one area gave little attention to the developments in the other. For this reason, in part, economists and accountants of today, while they share the use of such concepts as income, capital, valuation, and cost, are often plagued by the fact that these terms do not represent identical concepts to them, thereby presenting barriers to understanding and communicating and, sometimes, unnecessary mutual criticism.

More recent years have brought rapid development and expansion in both economics and accounting, and the present relationship is such that it is increasingly difficult to determine what is appropriately and exclusively economics and what is appropriately and exclusively accounting. Furthermore, the relationship appears to be
one that is continually moving toward a greater unification of these two fields. This narrowing of the once wide gap between economics and accounting is evident in the frequent reference made to economic literature by accountants, as well as in the frequent use of accounting literature and accounting data by economists. Further evidence of this narrowing gap are the works of Canning, J. M. Clark, and Joel Dean, to which frequent reference has been made in this study.

Modern economics extends well beyond the armchair speculations of its ancestor into the management of economic affairs, the empirical investigations of economic phenomena and the quantitative analysis of business activities. At the same time the realm of accounting has extended beyond the periodic preparation of financial statements to activities which provide management with a host of data pertinent to problems of planning, control, and decision-making. The purposes and methodologies of managerial accounting and managerial economics have much in common and are a part of the current interminglings of economics and accounting.

It is partially from this closer relationship of economics and accounting that problems of misunderstanding and miscommunication with respect to the concept of cost arise, for while it is generally recognized that economics
and accounting are closely related, differences in point of view and purpose, as well as the fondness for concepts developed in their own discipline, often lead accountants and economists to confine their thoughts and expressions to those formulations of the concept of cost that are particular to their own area.

It is also useful in the consideration of selected specialized cost concepts of economics and accounting to examine the basic concept of cost as it is conceived of in economics and accounting, for this, too, is an aid to understanding and using the specialized concepts that appear in each of the fields. Additionally, the word "cost" itself frequently appears unmodified in the literature of economics and accounting.

Until recently, the economist's interest in the phenomenon of cost has been largely confined to an examination of how the cost of production enters into the formulation of price. For this reason the concept of cost as conceived in economics may be viewed as the sacrifice which must be made to create economic utilities. In economics this sacrifice may be of any one of the following kinds: (1) the physical or mental sacrifice of painful labor, irksome waiting, or risk-taking; (2) the sacrifice of utility or alternative opportunity; and (3) the sacrifice of value, primarily money.
On the other hand, the primary interest of the accountant in the concept of cost has been in connection with his attempts to determine periodic net income. Consequently, the concept of cost, as conceived of in accounting, is viewed in terms of the sacrifice of money or money equivalent that is released in exchange for certain benefits and that is capable of measurement in terms of money.

Thus, while the notion of sacrifice lies at the root of both the accounting concept of cost and the economic concept of cost, there is a significant difference in the kinds of sacrifices that each encompasses. The economic concept of cost extends beyond the accounting concept of cost in that economic cost includes those non-monetary or real sacrifices that are incapable of measurement or expression in terms of money but that, nevertheless, are the basic discomforts which are distasteful and are therefore viewed as sacrifice by those who engage in the undesirable activity or suffer the discomforts. For accounting purposes it is essential that the general notion of sacrifice be simplified in such a way that it can be represented in terms of money.

Even when the economist views cost as being the sacrifices of money required to induce the employment of the required factors of production, his concept of cost does not coincide with that of the accountant. The
economist would add to the monetary outlays considered to be the cost by accountants, the costs of self-owned factors used in the business by the entrepreneur.

Finally, the concept of cost in economics and accounting differs as to the level of economic organization to which it applies and as to the time period over which costs are accumulated. Whereas the accountant accumulates the cost to an individual business entity or a segment thereof, the economist may accumulate cost for an individual, a household, a firm, a group of firms, some other segment of the economy or the whole of economic society. Similarly, the accountant takes great pains to associate cost with the revenues of a given period, which is usually a fiscal year, in order that periodic reckonings may be made. But the economist, in his theoretical treatment of pricing, confines his analysis to no particular length of time but rather to time necessary for the entrepreneur to vary the scale of plant.

These differences in the basic concept of cost as formulated in accounting and economics signal the need for attaching other words to the term "cost" in order to help convey a clearer understanding of the particular meaning intended, but the abundance of these modified concepts of cost and their varied use in economics and
accounting often presents further problems of misunderstanding and miscommunication.

The examination of the literature of accounting provides fifty-nine specialized concepts of cost which have been selected on the basis of the usefulness of the concept and the frequency with which the concept appears in the literature of accounting. The identification of these concepts and the discussion of their characteristics and usefulness present a number of valuable cost concepts that are at the disposal of the accountant in his efforts to present periodic financial statements as well as to provide the varied forms of cost analysis that facilitate management planning, control, and decision-making.

A similar examination of the literature of economics provides sixty-three concepts of cost that are selected in the same manner as those selected from accounting. The identification of these concepts and the discussion of their characteristics and usefulness present a variety of cost concepts that enable the economist to state more precisely his theories of economic behavior, to identify, examine, and test the validity of his theories, and to take a more active role in the development of business activities.

The cost concepts selected from accounting, together with those selected from economics provide a total
of one hundred twenty-two concepts of cost from the literature of economics and accounting. While not all-inclusive, these cost concepts are those that are the most useful in economics and accounting and those that appear most frequently in the literature. The large number of cost concepts further emphasizes the ambiguity of the word cost itself and points to opportunities for misunderstanding and miscommunication.

The synthesis of the several selected cost concepts of economics and accounting is most efficiently accomplished by: (1) eliminating the duplication of those concepts that are found in both economics and accounting but that are identically named and have no apparent differences in meaning or characteristic when used in either field; (2) identifying those concepts that are mere synonyms of other concepts included in the study; and (3) noting certain of the concepts that bear the same name, but that have different characteristics and meanings, depending on whether they are used as conceived in economics or as conceived in accounting.

The elimination of duplicate concepts results in the immediate disposal of eighteen concepts that are commonly used. Further examination reveals that nine other concepts may be regarded as duplicates.
Initial consideration of the remaining concepts reveals that eight are synonyms. Further investigation reveals an additional fifteen synonymous concepts.

The remaining seventy-two cost concepts provide a useful group of concepts that may serve to facilitate and improve the thinking and communication of economists and accountants concerning the concept of cost. Of these seventy-two concepts, the concepts of overhead cost, prime cost, and alternative cost are found to have variable meanings. It is also necessary to include the concept of real cost twice in recognition of its two meanings—that of real sacrifices or that of adjusted money costs.

The popular schemes of organizing and classifying cost concepts which include the dichotomization of the cost concepts and the identification of cost concepts as they would occur and be used in a particular business situation are found to be of limited usefulness in classifying the several cost concepts in this study. Dichotomizing the concepts leads to difficulties that arise in connection with those concepts that have no opposite or with those that lie at some point in between a pair of cost concept opposites. Identification of the cost concepts in a series of business situations necessitates numerous examples and encounters some difficulty with some of the concepts of real cost.
For these reasons the writer concludes that an approach that focuses initially on the basic idea of cost rather than upon the several specialized concepts is more useful than other approaches to the problems of misunderstanding and miscommunication that arise from the use of the many specialized cost concepts of economics and accounting. With this approach one is able to recognize the fact that cost in economics and accounting is a multi-characteristic concept that serves a variety of different purposes. Then, one can see that the many specialized concepts of cost are attempts to focus attention on one of the many characteristics of the basic concept of cost or attempts to abstract one of these basic characteristics that is especially useful or pertinent to the matter under consideration.

Nine characteristics of the basic concept of cost are identified, and the selected cost concepts included in this study are readily associated with one of the nine characteristics. These characteristics relate to: (1) the notion of sacrifice; (2) the cost-incurring unit; (3) the cost basis; (4) time periods; (5) cost behavior; (6) cost assignment; (7) cost planning and control; (8) total cost; and (9) cost in decision-making.

This scheme of organization and classification of the several specialized cost concepts of economics and
accounting included in this study is efficient and effective and capable of including an even greater number of cost concepts than those selected. Since the scheme provides for synonyms as well as varied-meaning cost concepts, it serves as a device for improving understanding and as a vehicle of improved communications between accountants and economists, as well as between economists and other economists and accountants and other accountants. This analysis also emphasizes the fact that the economist or accountant who adheres to a unilateral approach to cost will fall short of accomplishing his functions and attaining his full capabilities.
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D. MISCELLANEOUS


VITA

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During the 1951-1952 academic year, he was enrolled at Ashland County Teacher's College, Ashland, Wisconsin, where he pursued a course of study in elementary education.

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He was awarded a three-year National Defense Fellowship in business administration at Louisiana State University beginning in September, 1960. In August, 1961, he received the M.B.A. Degree with an accounting major
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Title of Thesis: A Study of Selected Cost Concepts of Economics and Accounting

Approved:

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Major Professor and Chairman

Max Goodrich
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination: May 6, 1963