Some Expectative Aspects of Income Recognition Related to Asset Valuation.

John Murray Wannamaker

Louisiana State University and Agricultural & Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_disstheses

Recommended Citation
https://digitalcommons.lsu.edu/gradschool_disstheses/1231

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.
SOME EXPECTATIVE ASPECTS OF INCOME RECOGNITION
RELATED TO ASSET VALUATION

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

John Murray Wannamaker
B.S., University of South Carolina, 1950
M.S., University of South Carolina, 1960
August, 1966
ACKNOWLEDGMENTS

I wish to express my sincere appreciation to Dr. Lloyd F. Morrison, the director of my dissertation, for his enthusiasm when this topic was first being considered, his encouragements at subsequent times, and particularly his faith in the success of this venture.

To Dr. James M. Owen, the second reader, and to the other members of my examining committee, Dr. Thomas R. Beard, Dr. Perry F. Boyer, Dr. Leon C. Megginson, and Dr. Stanley W. Preston, I wish to express my appreciation for their interest and assistance.
TABLE OF CONTENTS

ACKNOWLEDGMENTS .................................. ii
LIST OF TABLES ...................................... iv

Chapter
I. THE PROBLEM AND THE CHALLENGE ............. 1
II. SOME EXPECTATIVE ASPECTS OF CONVENTIONAL
    ACCOUNTING ASSET VALUATION METHODS .......... 19
III. SOME EXPECTATIVE ASPECTS OF CURRENT
    COST ASSET VALUATION METHODS ............... 36
IV. SOME EXPECTATIVE ASPECTS OF THE
    ECONOMIC PRESENT VALUE ASSET
    VALUATION METHOD ............................. 61
V. MEASURING EXPECTATIONS ........................ 72
VI. SUMMARY AND CONCLUSIONS .................... 113
BIBLIOGRAPHY ...................................... 126
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Projected Cash Flows</td>
<td>80</td>
</tr>
<tr>
<td>2.</td>
<td>Achieved Annual Net Cash Inflow</td>
<td>83</td>
</tr>
<tr>
<td>3.</td>
<td>Recapitulation of Annual Cash Flow Projections and Achieved Annual Cash</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Flows to Be Correlated for Projection-Achievement Probabilities as of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>December 31, 1965</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Recapitulation of One-Year Projection-Achievement Experiences by Project</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Number Showing Estimating Equation Values and Standard Error of Estimate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Each Project and for All Projects Combined</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Recapitulation of Two-Year Projection-Achievement Experiences by Project</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>Number Showing Estimating Equation Values and Standard Error of Estimate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Each Project and for All Projects Combined</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Showing Expected (Computed) Cash Flow for All Projects Combined</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Computation on December 31, 1965, of</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>The Present Value of Projected Cash Flows Expected to Be Achieved</td>
<td></td>
</tr>
</tbody>
</table>
ABSTRACT

Asset valuation methods are examined in conventional, current cost, and economic present value accounting in order to determine expectative aspects. Conventional accounting generally has no expectative aspects but could be modified to account for prospects by extending the accrual and disclosure concepts. No expectations are involved in current cost methods unless future replacement costs are used to depreciate assets.

The economic present value method values enterprise assets at the discounted value of their future net receipts. Period income is the difference between expectations at the beginning and end of the period. Although fully expectative, this method would not measure changes in enterprise wealth but only changes in expectations.

A method of evaluating management's expectations is proposed which uses regression analysis for one-year, two-year, three-year, four-year, and n-year projection-achievement experiences. Since achievement is assumed to occur on December 31 of each year, a one-year projection-achievement experience is the experience involved in projecting
at December 31, 1961, the cash flow to be generated during 1962 for a project and experiencing actual cash flow for that project during 1962. A two-year projection-achievement experience is one involving the projecting at December 31, 1961, the cash flow to be generated during 1963 for a project and experiencing actual cash flow for that project during 1963. Daily business activities are regarded as being transactions assignable to a project.

One-year projection-achievement experiences are statistically related for each project and for all projects combined to derive $a$ and $b$ values for the estimating equation $Y_c = a + bX$ for one-year projection-achievement experiences. Values for $a$ and $b$ may be derived similarly for two-year, three-year, four-year, and n-year experiences. The derived values are used to evaluate management's projected annual cash flows to determine the amount of projected cash flows which is expected to be achieved based on management's experience in achieving its past projections. Annual cash flows expected to be achieved are discounted to the present using an arbitrary interest rate and summed in order to ascertain the total present value of the enterprise. To the extent that the total present value thus
determined exceeds at any point in time the cost of the assets necessary to generate those expectations, an expectative income exists and may be reported as unrealized owners' equity.

The proposed system incorporates a provision which permits management to revise formally its annual net cash flow projections for each project on December 31 of each year. Since only the most recent experiences are used to compute values for the estimating equation, changes in management and its abilities are constantly reflected in the values used in the estimating equation to evaluate management's cash flow projections.

Following the system advocated, management would disclose in qualitative and quantitative terms the goals (production of goods and services) to whose accomplishment it has committed wealth in a time sequence of annual periods extending from the present as far into the future as management may project its plans. The projection-achievement experience system provides a quantitative measure of management's ability to achieve goals and to cope with change and uncertainty. However, if the investor desires he can modify subjectively the results produced by the system to include changes he may foresee which may affect management's future ability to achieve goals.
CHAPTER I

THE PROBLEM AND THE CHALLENGE

Introduction

Accounting is concerned primarily with recording, summarizing, reporting and interpreting the financial nature of transactions between an enterprise and the outside world. Since the financial effects of many transactions may take a relatively long time to work themselves out, and since test readings of the effects of economic activity on the enterprise must be taken while the entity is still in existence, some point in time must be designated at which theoretically to stop the continuing financial effects of all transactions, in order that the past effects of the transactions can be conveniently differentiated from the future effects.\(^1\)

\(^1\)A. C. Littleton and V. K. Zimmerman speak of "splitting" transactions in Accounting Theory: Continuity and Change (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1962), p. 57. If a transaction is viewed as a calculus of horizontal lines moving from left to right as time elapses, a splitting might signify that some of these lines continue through time while others terminate at various points on the
Conventional accounting seems to have concentrated its attention on the past and the financial effects of past transactions, while de-emphasizing the future and the financial effects of continuing transactions. Recently, much emphasis has been placed by accountants upon the income statement—a report of past results. The elevation of the income statement and its eclipse of the balance sheet seem to be an indication that the accountant's primary function is to be time-oriented toward the past.

The past, however, cannot be changed by any machinations which accountants can contrive. The sole thing which can be done with historical data is that they can be arranged in an almost infinite time spectrum. A stopping, which I view as a vertical line, would necessitate a momentary cessation of time so that all horizontal lines which comprise the transaction line could be measured. The difference, then, between splitting and stopping transactions at a measuring point in time, would turn on whether a transaction continues from beginning to end as one unit or whether some parts of a transaction cease to exist before the transaction itself can be said to have terminated.

George R. Catlett says that there is a tendency to overemphasize precedent and view problems in retrospect in "Factors That Influence Accounting Principles," The Journal of Accountancy, CX (October, 1960), 44.
number of different presentations, with each presentation offering many possible interpretations. It is the interpretation involving attempts to link the past with the future with which accountants are so very much concerned. They feel that the future can be divined to some extent by extrapolating the past results of operations, when actually the two may have only a tenuous connection. Accountants apparently fail to recognize that one of their important statements, the balance sheet, is really a report of the viability of the enterprise. If the entity is capable of economic life, the use made of its potential economic power determines whether the enterprise will grow, hold its own, or stagnate.

It is here contended that rather than extrapolate past results in order to arrive at a prognostication of future income, that those who manage the enterprise wealth should be required to reveal, as specifically as possible, plans showing the future uses which will be made of the present enterprise economic potential. If the uses to which the wealth managers are to apply the enterprise

---

3It is usually thought that accounting income over a series of years may yield some basis on which future income may be projected. W. B. Hirschmann and J. R. Brauweiler in "Investment Analysis: Coping with Change," Harvard Business Review, XLIII (May-
capital have less present value than the current liquidating value of the capital, the entity should be liquidated.

It is possible that another management may be able more profitably to employ the economic resources than the existing management. If the prospective management can employ the existing wealth more profitably than the existing management, then the stockholders may wish to replace the existing management, particularly if the prospective management has a history of achieving its carefully designed plans.

The prime point involved here is that one important factor seems to be overlooked by the accounting profession in discussing the current value of wealth to a wealth producing enterprise, that is, the use to which existing wealth is to be put. Conventional accounting says, in effect, that the future value of any enterprise wealth depends upon a past cost and a past usage, but never upon future usage.

June, 1965), 62-72, recommend that cash flow trends be extrapolated for investment projects rather than making a series of annual forecasts. They maintain that considerable experience indicates that such trends, once established, tend to persist.
This idea of venerating the past has even gone so far in the field of applied accounting that the American Institute of Certified Public Accountants has a provision in its code of professional conduct which prohibits any member from associating his name with a future plan, if such association remotely implies that the accountant is vouching for the authenticity of such plan.⁴

Another manifestation which indicates that practicing accountants ignore the future and exalt the past is the de-emphasis which has been put on the balance sheet and the added emphasis given the income statement during the past several decades.⁵ It is the balance sheet which contains the financial representations of those things called assets which are valuable in the present and/or future, but conventionally this balance sheet is merely a statement of unamortized past cost.


⁵David Solomons, "Economic and Accounting Concepts of Income," The Accounting Review, XXXVI (July, 1961), 383. Solomons concludes that income, either prospective or historical, is being or has been superseded by cash and fund flows, and he predicts that the next twenty-five years will witness the twilight of income measurement, just as the last half century saw the income statement displace the balance sheet.
Accountants try to defend their recording of assets at cost by saying that costs are objective, and that at the time of the transactions, cost and value were approximately equal or else the transaction would not have taken place. That a transaction between unrelated parties is objective can scarcely be denied, but the assertion that cost and value are identities at the time of the transaction is not so readily acceptable.

If cost and value were identical when the transaction was made, why did the acquiring business enterprise consummate the deal? It appears that if the allegation is true, then the acquiring enterprise would have been indifferent as to whether to acquire or not to acquire. The fact that a transaction was freely entered into by the acquiring enterprise seems clearly to indicate that it was not at the point of indifference, but that it had plans to employ this asset in an endeavor which would yield something more than the next best alternative considered. It was the use to which the enterprise was to put the asset which made the acquisition potentially profitable. It is not the intrinsic (market) value of an asset which makes it valuable to a viable enterprise. It is the vicarious (use) value which tempts an enterprise to cost incurrence.
The planned intention is to use the object thus acquired to produce future real wealth which can be exchanged for monetary wealth, the present value of which is greater than the present outlay, considering the return to be received in a low risk investment.\(^6\)

It is realized that one interpretation which may be placed on this proposal is that all management will be required to do is to plan for the use of resources, and that such planning fulfills management's responsibility both to society in general and to the stockholders in particular. As acknowledged in Chapter Four, this appears to be the major criticism of the economic present value method of asset valuation. Planning, however, is just one major function of management, and plans without deeds are useless.

The accountant's present system appears to over-emphasize achievement and ignore planning. Some valuation methods take the opposite tact and over-emphasize planning and forget all about the

\(^6\)Robert E. Witschey, "The Business Need for Better Accounting Principles," The Journal of Accountancy, CXVII (January, 1964), 30-31. Witschey believes that it has been the shift from wealth conservation to wealth creation which has been the main reason for the shift in emphasis from the balance sheet to the income statement (p. 28).
fruition of plans. It seems that a balanced approach would put approximately equal emphasis on both the planning and the achievement functions. It is this balanced approach which is the objective of the accounting system proposed in Chapter Five.

Another indication that it is future prospects which give an enterprise value might be inferred from the idea that in the case of impending bankruptcy, a business should be preserved as a going concern to prevent a sacrifice of values. In the case of minor capital readjustments, the fact that all affected equity holders voluntarily agree to relinquish either completely or partially some legal financial advantage, seems to offer some indication that at least under conditions of financial stress and strain, equity holders do recognize that it is future prospects which are important, not past costs and past property rights.

---

7 William L. Raby, "The Two Faces of Accounting," The Accounting Review, XXXIV (July, 1959), 460. Raby contends that from the viewpoint of the entity, accounting is historical only, and that the entity can only act but does not plan. It appears to this writer that if any entity cannot plan, then neither can it act. Action without a plan would be meaningless activity. Entity activity must be management directed. Entity activity being management directed, to be meaningful, must also have been management planned.

Another observation which tends to offer unsubstantiated support to the idea that expectations of an enterprise may be associated with present management, is that there seems to be a disinclination on the part of those equity holders who possess a legal right to do so, to change management in time of financial difficulty such as a quasi-reorganization. If this idea holds true in the real world, one conclusion may be that legal owners of the enterprise wealth believe, rightly or wrongly, that their most advantageous position would be to stick with the management which planned the economic use of at least a part of the existing enterprise assets.

When the situation is highly uncertain, if equity holders do evaluate their present financial position by considering expectations, is there any reason why a different standard of gauging financial position should be used when the course of financial events is proceeding normally? It appears that each and every time an enterprise management makes an economic decision which is material to the entity, it is in effect making a decision which leads to future financial results, either favorable or unfavorable to equity holders. The sum of the future effects of these individual decisions is the composite financial condition of the enterprise at any
one point in time.

An alternative standpoint from which a business enterprise may be viewed is that of society in general. Society looks at the business enterprise as the producer of goods and services which its members desire. In a complex society such as ours, where the price of business failure is borne not only by the investors of capital, but also by society in general in the loss of potential goods and services which could have been produced, it seems that society then has an important stake in the future plans of business enterprise. Society's interest seems to include allocation of resources and efficiency in combining the resource factors. If business enterprises were to reveal future plans, the composite of such plans would indicate prospective resource allocation. Planning errors might be discovered and rectified before they become operational errors.


10 Bunji Aoyagi, "Sociological Accounting," The Journal of Accountancy, CVI (July, 1958), 51-55. Aoyagi mentions (1) equitable distribution of product (purchasing power); and, (2) reduction in inequalities of wealth and income distribution.
Revelation of future plans would also reveal management's intended efficiency against which actual efficiency may be compared for separate periods of time. Revelation of future plans may bring to bear on management a consensus of stockholder opinion which may compel management to take a broader view of its responsibilities.

There is also a legal aspect of corporate existence which tends to bear out the assertion that society values the future goods and services of an enterprise more than it values rigid legal adherence to past commitments of wealth. The amendments to the Bankruptcy Act seem to indicate that a going enterprise is either more valuable to society in general and/or to equity holders in particular than is a liquidated enterprise, and that present management may be more desirable than a new management.

All of these indications seem to signify that the present financial condition of an enterprise is judged almost completely in terms of future prospects by practically all interested parties except accountants.

---


12 Guthmann and Dougall, op.cit., p. 642.
Purpose
The purpose of this study is to explore some aspects of income recognition related to asset valuation. The emphasis is on those aspects which deal with the future. Conventional accounting, as has been pointed out, is sometimes said to adhere to historical costs, implying that the methods of valuation currently in vogue deal only in past costs which are the results of past transactions.

Following this line of thought, the closest point at which accepted accounting theory approaches the future is in the going concern idea.

This concept seems at first glance to say that accountants recognize that there is such a thing as the future and are willing to let this factor play its proper role in the development of accounting. When it is found, however, that the going concern idea for the most part plays a somewhat limited role in the accepted theoretical structure, then it is realized that the role assigned to it in practice does not in any manner match its potential contribution.\(^{13}\)

\(^{13}\)Reed K. Storey, "Revenue Realization, Going Concern and Measurement of Income," The Accounting Review, XXIV (April, 1959), 233.
The main role which the going concern convention plays is that role which prohibits other than a cost valuation of fixed assets, since it assumes that such assets are to be used and are not to be sold, and that the entity under consideration will be in existence long enough to utilize fully these long-term assets.

In application, the going concern idea is completely static, and its potential theoretical usefulness is limited, since it will not countenance any future expectations about the assets, other than to say that they will not be sold but will be utilized. It would seem that the very nature of recognizing that the entity will stay in existence long enough to utilize all long-term assets would demand implicitly, if not explicitly, that plans for the profitable use of such assets must have been formulated.

If the assumption of plans is inherent in the going concern idea, and if the idea were permitted to be operative both positively and negatively, then the recognition of planned usage of assets would appear to be an integral part of the going concern convention. Asset valuation would be based on expected usage and not on the fact that assets are
valuable because other assets were exchanged for them in some past transaction.

An enterprise without expectations is dead—it is not a going concern. A lifeless enterprise needs neither a balance sheet nor an income statement; all it needs is a statement showing liquidating values of assets and the marshalled claims against those assets. The conventional balance sheet makes no effort to establish such liquidating values. Therefore, the conventional balance sheet does not purport to show either a going concern or a liquidating concern.

An examination of conventional-accounting, asset-valuation methods is undertaken to determine the extent to which expectations, if any, are utilized in arriving at such valuations. It is seen that expectations are not utilized consistently, requiring the question to be explored as to whether there are any accepted concepts in the conventional accounting toolbox which may be extended or enlarged into a theoretical support for the recognition of future expectations in asset valuations.

In addition to conventional-accounting, valuation methods, what, if any, are the expectative aspects of the current cost method of asset valuation
and the economic present value method? Would the adoption of either of these methods orient accounting value to future expectations? What, if any, are the major objections to these two methods of valuation? Is there an in-between method of asset valuation which might put equal emphasis on both the planning and the achieving functions of management, thereby accepting the fact that values are determined by future expectations, but tempering these expectations with results of past performance? It is this dual role of accounting valuation which prompts the writer to attempt to integrate both the planning and the achieving aspects into one overall accounting system.

Scope and Limitations

This study is theoretical in nature and as a necessary evil, in most instances, is pursued at a high level of abstraction, although hopefully, the theoretical system to be recommended could prove to be operationally feasible. While recognizing that the theory recommended has not been worked out in all of its minute specific applications, it is assumed that the broad framework proposed lays the necessary groundwork for further enlargement of the
theory, while at the same time it represents a real effort to meet some of the pressing needs of financial accounting for conveying to the investor and prospective investor some measurement of managerial activity in planning for wealth production and in executing these plans.

Justification

In the "Accounting and Reporting Standards for Corporate Financial Statements, 1957 Revision" by the Committee on Accounting Concepts and Standards of the American Accounting Association, the statement is made that the value of an asset is the money equivalent of its service potentials. Further, this Committee concluded that this value is the sum of the future market prices of all streams of service to be derived, discounted by probability and interest factors to their present worths. The Committee further stated that this conception of value is an abstraction which yields but a limited practical basis for quantification, therefore, the measurement of assets is commonly made by some more practical means.¹⁴

If the present value of future service potential is the ideal method of valuing assets, it seems that attempts should be made to create a system of accounting which would at least approach the ideal as closely as possible. It is just such a system of accounting which is proposed in this paper. Furthermore, it is believed that the system proposed would be practical since it would utilize price-level-adjusted, conventional-accounting valuation with an additional asset, representing the future expected receipts discounted by a probability and an interest factor. The difference of such discounted net receipts over the historical cost of assets would be reported as an asset, thus causing the total valuation to be based on future expectations. It is often said that the value of the going concern, that is, all assets combined as a wealth producing factor, is greater or less than the sum of the individual values of its parts. It is the present value of the future wealth to be produced by an investment in excess of the actual cost of the individual assets which would be reported as the additional asset value. If an agreed upon ideal is conceptually possible, an endeavor should be made to translate that concept into a theoretical framework. This is what is attempted in this study.
Historical Perspective

Since the "Accounting and Reporting Standards for Corporate Financial Statements, 1957 Revision" is the first official pronouncement by a committee of the American Accounting Association that has advocated the use of the economic present-value method of asset valuation, the historical perspective of this research in the accounting literature is concentrated on the period beginning in 1956 and continuing to the present. The principal research materials used are the official periodicals of the American Accounting Association (The Accounting Review) and The American Institute of Certified Public Accountants (The Journal of Accountancy), along with such other publications which are helpful in gaining an understanding of the specific area under research, that is, expectative income as related to asset valuation.
CHAPTER II

SOME EXPECTATIVE ASPECTS OF CONVENTIONAL ACCOUNTING ASSET VALUATION METHODS

When the historical cost approach of asset valuation in conventional accounting is contrasted to the forward looking concept of economic present value, there appear at first glance to be few similarities between the two. Actually the specific application of the accountant's so called historical cost approach is really not as historical as some would believe. In fact, some of the valuation methods followed in conventional accounting direct their main emphasis toward the future rather than toward the past.

The valuation of receivables in accounting is made by determining the number of dollars which all debtors owe after deducting those dollars which are not expected to be collected for various and

sundry reasons. Such valuation is in terms of future flows of dollars and has nothing at all to do with what it costs to acquire the claims for money.

One factor which is not taken into consideration in valuing receivables is the time value of dollars from the valuation date until the date of the expected inflow of the asset cash. To be theoretically justifiable, a future flow of cash should be discounted by an interest rate which should include a factor for the foregoing of the present use of the dollars and a factor for uncertainty. In determining allowances for estimated uncollectibles, the accountant quantifies the uncertainty factor in his allowance, but usually makes no determination of the pure interest factor. The pure interest factor is usually not considered material in the valuation process except where extended periods of time are involved. The fact that an estimated future flow of cash is the basis for the net value of receivables shown as an asset makes this valuation method an expectative one.

Since the accountant is usually dealing with inflows of cash which will be forthcoming within a relatively short period of time, not exceeding one year in the majority of cases, he usually does not
refine his valuation method to include the time value of money—the pure interest factor. The fact that the accountant does not include an interest factor in his valuation of receivables does not signify that he disregards the future, but merely that he regards the increase in accuracy gained by such incorporation to be insignificant, relative to the magnitudes with which he is dealing.

Another area in conventional accounting in which expectations are used is in inventory valuations. Generally, no item is inventoried simply because there has been some cost incurred in acquiring or producing it. In addition, an item to be inventoried must have the characteristics necessary to produce a future favorable effect on income. It may have such a favorable effect on income by either possessing the ability to command a future inflow of cash or by possessing the ability to decrease a future outflow of cash. In either case the net effect is the same, since the inventoriable item must possess the characteristics necessary to increase future cash inflows. This forward looking characteristic of inventory valuation says that future benefits must be embodied in an object before it is considered to be inventory. This asset valuation approach may be regarded as common sense,
and that it may well be, but it is also an attempt to use something other than cost as a criterion for including an item in inventory.

There seem to be implicit assumptions concerning expectations in the various cost flows that might be used in inventory valuation. Using the first-in, first-out flow (FIFO) is equivalent to saying that the future usefulness of any inventory on hand at any point in time is more closely approximated by the most recent cost of goods than by those costs which are of a more remote origin. It may be difficult for an accountant who uses this cost flow to realize that he is in effect making an assumption about future expectations when he chooses it, but he nevertheless values any ending inventory by his choice of cost flow. He may choose to look at this process not as a valuation process, but merely one of cost flow determination. The effect, however, cannot be denied.

The assumption of a last-in, first-out cost flow (LIFO) has an expectative effect which seems to be somewhat contrary to logic. This effect is that the future usefulness of goods on hand at the end of any accounting period approaches the usefulness of goods on hand when this cost flow method was adopted,
assuming that in the interim the quantity of inventory on hand has never been less than what it was when last-in, first-out (LIFO) was instituted. In a rising market this would mean understated or negative expectations and the opposite on a falling market.

The lower of cost or market rule in inventory valuation also has expectative aspects, but since it is applied only to downward shifts in market away from cost, the applications of this rule decrease expectations when the replacement cost of an item falls. Without some modification of this general rule, it was discovered by accountants that such an application might transfer realized profit from one period to another if the selling price of the goods did not decline along with the replacement cost price. This inconsistency was remedied by the Institute's (AICPA) rule which would reduce an asset valuation to replacement; but this rule set net realizable value as the upper limit of replacement cost and net realizable value minus a normal profit as the lower limit of replacement cost. The use of expectations, especially in the modification of the rule, is clearly evident.

In valuing an investment in a bond, if more than par is paid for the bond, an accountant uses
expectations. He does this by recognizing that at each interest payment date the entire amount received is not interest income, but that a prorata share of this coupon interest amortizes the excess in the bond investment account to reduce it to par value at the maturity date. If the cost principle were strictly followed, then it seems that the accountant would view all periodic interest payments as income and would say at the maturity that there was a lost cost, to the extent that the par value of the bond did not return what was originally paid for the bond. Similarly, without expectations, a bond purchased between interest dates would not be segregated into its components of bond investment and accrued interest.

In the valuation of fixed assets, the original cost is set up in the accounts, but from that point in time forward, expectations are involved to a great extent. In the case of land, the future services are assumed to be indestructible, but depreciation, amortization, and depletion methods for other fixed assets are all attempts to measure

---

expectations. All three of these cost assigning devices are defined as systematic methods of assigning the cost or other value to expense over the expected useful life.

The straight-line method assumes that future expectations are to be yielded up in an equal manner for each unit of life of the asset. The rapid depreciation methods seem to view the embodied services in an asset in precisely the same fashion that the present value concept views them. That is, the services which are going to be released by an asset are more valuable in the near future than such services which are to be yielded up in the remote future.

Following this idea, then, services to be yielded in successive years are more valuable from some given point in time than services to be rendered in later years. If the sum of the present values is regarded as the total cost of the asset, then the present value, representing each successive year of services, is less valuable than each preceding year. The present values, representing the discounted service potential used up in each year, become the scheduled depreciation charge for each year of life.
of the asset. Of course, if such present values were accumulated to the year of use, the actual charge for depreciation would be a constant amount. However, this would violate the cost principle since more than the cost of the asset would be charged over its useful life.

Decreasing charge depreciation represents at least an attempt to apply an economic method to fixed assets, even though the constraint of the cost factor does not permit a complete application. The complete application of this method, if equal bundles of services were involved, would assign a constant proportion of the cost of an asset over the expected useful life and then would accumulate interest from the date of purchase to the date of use.

In the case of intangible assets, such as patents and leaseholds, there is a close correspondence between valuation and future expectations. While patents are valued at cost, originally, changes in valuation are recognized, as the patent's legal validity is established or repudiated. In addition, the period of time during which a patent is valuable

---

is established by its estimated economic useful life and not by its legal life.

In the case of leasehold improvements, the accountant establishes a valuation at original cost and amortizes the asset over its expected economic useful life, using neither the life of the asset nor the life of the lease as controlling factors. It is future expectations which are controlling, even though the accountant's method may leave something to be desired as far as accuracy is concerned.

The recording of accretion and discovery value at some conservative estimate appears to be evidence that the accountant certainly does not always adhere to cost in the face of reasonably objective economic reality.

Aside from the specific applications of some vague tendency toward the use of expectations in the valuation of assets, accountants have two powerful, but almost unused concepts in their accounting theory. These ideas are the accrual concept and the disclosure concept. Of course, some of the preceding specific instances of using a forward looking viewpoint are in obedience to one or both of these so called principles of accounting; but not much has been done to orient these two concepts
into the overall scheme and to develop for them their proper place in accounting theory and practice.

This study is not intended to be a comprehensive treatment of these two ideas in any respect, but it will show how these two concepts might become the vehicles of conventional accounting theory which could be used to recognize any type of expectation which may present itself.

Conventional accountants seem to find particular merit in their recognition of only those value changes which are represented by exchanges with those outside the enterprise. How, then, can an accountant justify making entries for accrued revenue and accrued expense? Having defined one of his main objectives as measuring income for a period of time for a particular business entity, he records a revenue which has been earned, but has not been received because it is earned revenue for that particular period of time.

Also, a transaction is not necessary for accountants to recognize the amortization of a bond premium or discount for an investment in bonds. It might be rationalized that the bond is a contract, and that at its maturity a known amount of cash will be exchanged for the bond. There seems, however, to
be a question of what the accountant is really doing. He seems to be recognizing that an event which has a financial impact has occurred, and that it is being recorded.

In this case the passage of time causes changes both in the proximity and magnitude of the future inflow of cash. It is simply a recognition in the accounts that the true accounting representation made at one moment of time is not necessarily the true representation of this transaction at some later point in time. If such value changes can be recognized as valid for one type of asset, it seems that consistency would dictate that all such value changes should be so recognized. There seems to be no substantial difference between value changes of fixed assets and value changes of long-term investments in bonds, except in the degree of uncertainty.

The accrual concept might be given its full meaning in accounting theory and practice by using it as a basis for recognizing value changes of an intra-transactional nature. These changes are those that occur between the instigation of a transaction

---

and the culmination of the same transaction. For instance, an investment in a depreciable fixed asset is initiated when the asset is purchased, and it will be culminated when the asset is discarded. This idea carries the notion that an investment in an asset is a sub-venture or a venture within a venture. Conventional accounting appears to regard investments in fixed assets as a venture, because accounting theory does not recognize any external factor outside the venture as affecting anything within the venture. Accounting will only recognize intra-venture changes—that is the using up of the asset by the whole venture.

It seems that the accrual concept can and should relax this stringent intra-venture restriction. There are changes not only within the venture confines of the investment, but there are also changes beyond the venture boundaries, in which the actions, activities, and dealings of the venture synchronize with economic forces and events outside of the venture. It is through the extension or perhaps the uninhibited application of the accrual concept that conventional accounting has its theoretical basis for recognizing value changes in assets, as those values are determined by a multitude of economic
forces with which the business enterprise has to contend. To do otherwise would appear to deny that changes can and do take place in the medium on which or through which the entity must proceed in its intended direction.

Using this intra-venture interpretation of the accrual concept, conventional accountants, then, could recognize current values in the accounts. This appears to be about as far as this particular principle in accounting theory could be extended. To push beyond the present in the time medium will take some other theoretical justification.

Such a justification exists in the framework of accounting theory. This idea, which would enable conventional accountants to reach out beyond the present toward the future, is called disclosure. It is generally agreed that disclosure requires accountants to reveal all pertinent and material information in a financial report which is not already revealed in the regular pattern of these reports.

Basically, the financial statements themselves are disclosures, but the disclosure concept

---

is usually thought of as the additional bits and pieces of information inserted on financial statements that reveal methods of valuation, cost flows, and contingencies. This seems like a minor role, indeed, for a construction, which when allowed to exert its full influence upon conventional accounting, could transform current financial reports into meaningful representations of both future expectations as well as results of past performance.\(^6\)

This idea of disclosure is not in the least permissive, but is completely compulsory. The independent auditor certifies when he renders an unqualified opinion that nothing of a material nature which pertains to the business has been withheld.\(^7\)

It is here contended that the failure of accountants to reveal the future expectations of the management of an entity is tantamount to withholding material

---


\(^7\)Holmes, op.cit., p. 53.
information. At least, if such future plans were revealed in sufficient detail, the stockholder or prospective stockholder could draw his own conclusions as to the management's ability to realize its expectations.

To issue a statement purporting to represent the financial position of a going concern and not to reveal any information concerning the management's plans for the future seem to make the conventional financial position statement more akin to a statement of affairs, rather than relating it to an enterprise which fully expects to be in business for an indefinite future period.

The independent auditor finds support both in the audit report itself and in the rules of professional conduct for the unqualified opinion he renders on conventional accounting reports which fail to disclose expectations.

The audit report generally states that the financial statements have been prepared in accordance with generally accepted accounting principles which have been applied on a basis consistent with the application of those principles the preceding year. If the statements of the preceding year did not disclose any expectations, then the auditor may feel
that it is consistent not to show expectations for any subsequent year. The fallacy of this interpretation is that it tends to perpetuate the status quo.

The rules of professional conduct state that a member shall not permit his name to be used in conjunction with an estimate of earnings which is contingent on future transactions, if such use would lead to the belief that the member is vouching for the accuracy of the forecast. In the same rule, also, is found the stipulation that a discreditable act is performed if a material fact known to the auditor is not disclosed, if lack of disclosure would tend to make the statements misleading.  

These two statements on professional conduct appear on the surface to be completely antithetical, and some accountants have expressed concern. However, it seems that no dichotomy exists when it is considered that the accountant who reports future expectations is not necessarily vouching for their accuracy, but merely imparting information of an extremely important nature to the stockholder and investor.

8Ibid.

If there is a choice of loyalty to be made by the independent auditor, it seems that the interests of society as a whole would be given more weight than the apparently contradictory ethical rules promulgated by the group of which he is a member. Any other interpretation would seem to say that such a group has appointed itself as the guardian of the type of financial information which the public is to receive, and that it is all right if vital material information is withheld from those who need it to make investment decisions.

Summary

Although the conventional accountant says that he is adhering to the historical cost idea, in reality, he departs from this basis and uses future expectations to modify his so-called cost basis of conventional accounting.

An extension of the accrual and disclosure concepts might be used in accounting theory and practice to admit current values and/or expectations into the accounts formally. The present theoretical structure could be extended to support either or both of these values.
CHAPTER III

SOME EXPECTATIVE ASPECTS OF CURRENT COST ASSET VALUATION METHODS

In a recent article on a historical survey of replacement cost the writer concluded that if history is any indication of what will happen in the future, then theoreticians will devote considerable attention to the subject of replacement cost, but practicing accountants will largely ignore it. ¹ On the other hand, it has been stated that practicing accountants really have accepted the replacement cost approach for cost of sales when last-in, first-out costing (LIFO) is used and for depreciation of assets when accelerated depreciation methods are used. ²

These views seem to represent two extremes of a spectrum as it pertains to the use of replacement cost in practice. It appears that just as


these writers have almost diametrically opposed views, the concept of replacement cost itself has an analogous spectrum of possible interpretations ranging from replacement of a specific asset resulting from a historical transaction to the future replacement of the bundle of services which an asset is capable of rendering.

Actually there seem to be several points of view from which replacement cost may be viewed. One such point is that the asset itself is to be replaced. A related but different approach is that services embodied in the asset might be replaced. From a temporal standpoint replacement may be viewed as a past acquisition cost, a present replacement cost, or a future replacement cost. Using the normal flow of assets through an enterprise as a basis, replacement cost might pertain to input values or to output values.

Historical cost is what is usually thought of as acquisition cost. As far as being an achievable alternative for replacement, acquisition cost can be dismissed; however, the use of acquisition cost as a reference point upon which valuations at later points in time may be based, cannot be dismissed so summarily.
In establishing an approximation to current replacement cost, acquisition cost may be adjusted by an appropriate index, but the application of an index to a past acquisition cost allows a past cost to influence the determination of an approximation to replacement cost. The longer the period of time intervening between the original acquisition and the time at which an approximation to replacement cost is determined, the less accurate such an approximation will be. To the extent that technological changes occur over a period of time, an index cannot perform an adequate job of representing a hypothetical approximation to replacement cost in cases where technological changes are rapid either in a production process or in the demand for the output of the process.

A current cost should not be tied in any manner to a past cost if such can be avoided, but in some cases independent current costs would not be available and adjusted historical cost may have to be used as the only means of deriving current costs.  

An intermediate point on the time spectrum would be to value assets at their current cost. The present appears to be the reference point in time which most writers have in mind when they speak of replacement or current cost. What would this asset or equivalent service cost today if it were purchased? Critics of historical cost say that this procedure is not forward looking enough, and presumably they would favor a valuation method which helps to remedy that specific criticism. Current cost is a half way step between the past and the future, at least conceptually, if not by measured units of time.

The ultimate position on the time spectrum would be a future replacement cost when the existing asset or bundle of services needs to be replaced. If replacement is to be effected, it seems that this is the sole point in time which can be referred to as a replacement time, hence it appears that one can speak of replacement cost only if and when an asset or service is projected to be replaced. To speak of current replacement cost seems to be a misnomer, unless replacement is anticipated within the current or at least a succeeding accounting period. Hypothetical replacement cost would appear to be a
better name for such a costing technique or merely the designation of current cost.

Replacement cost, in addition to its time classification, may be conveniently broken down into a spectrum ranging from asset replacement on the one extreme to service replacement on the other extreme. Assets are things of value because they contain stored up services which can be called into being at some future time. Some assets are storehouses of universal services and are called monetary assets; that is, the type of future services stored up in this kind of asset can be determined by the asset owner, since it only stores general services.

However, some assets, real assets, are storehouses of more or less specific types of services. For example, a machine designed to stitch leather for shoes probably yields only a stitching service and could not be used to yield another type of service without moderate or substantial alteration cost. Of course, it can probably yield its stitching service on shoes, heavy canvas, and other items, but not on delicate fabrics.

A major problem in replacement cost theory, therefore, revolves around the question of what is to be replaced. If it is the asset itself which is to be replaced, difficulties may be encountered in
areas in which technology has outmoded the service rendered by a particular type of machine, and the new technology has not been adopted in a particular firm. Surely, if the machine is obsolete no such new machines are being produced and marketed, and also there may not be a second hand market.

How then can such an asset be valued at replacement cost? Appraisal value might be a good approximation. If it is the service function which is being valued, then the value of an obsolete machine may be reasonably established by reference to what an equivalent service, under the new technology, would cost. However, if the costs of operations under the new technology are less than the costs of operations using the old technology, the equivalent service valuation might grossly over value the asset whose valuation is being established. Probably the best measure of value for a technologically obsolete asset is the discounted value of prospective output. The use of such a method would push the idea beyond the realm of replacement cost and into the realm of discounted future expectations. This is discussed in Chapter Four.

In the process of valuing inventories a problem arises as to whether to use input or output
values.\textsuperscript{4} If input values are used, costs would be assigned to the various factors necessary to bring the inventory to its present state of completion. This conforms to the conventional accounting theory that costs can be grouped, and that they tend to adhere when various factors are necessary to produce a product.\textsuperscript{5}

The output valuation procedure would value the final product, less any input factors necessary to bring the product to the desired state of completion. This conforms more closely to the economic idea that it is future usefulness which gives a commodity value. The use of output values, however, would violate the accounting convention of realization because it would allow profit to be recognized, before an exchange has occurred and even before the completion of the product, in cases of goods in process. This type of valuation, using either input or output markets would derive values based on the normal flow of goods through an entity.


One problem with respect to raw material or goods in process inventory (if an output market were chosen) would be that a manufacturing enterprise does not normally have unrestricted access to the outlet market. Therefore, a valuation of these items of inventory as well as a valuation of fixed assets would be either on a liquidation cost basis or on an opportunity cost basis.

Likewise, if input values are chosen for the present state of completion of a product, a similar problem would be presented, since a manufacturing enterprise does not normally purchase products at some state of completion or as finished goods. Input values for such goods in process or finished goods would have to be derived on an opportunity cost basis.

It appears that replacement cost for physical state of completion of raw materials and goods in process using output values should be discarded as a valuation method, as should also such costs for goods in process and finished production at their present state of completion using input values. That which is being discarded is replacement valuation of inventories at their physical state of completion at a point in time, not the replacement valuation of inventories at their input factor cost.
What is left for current cost values is valuation of input factors at current cost. Following the method of using replacement cost of input factors, cost of goods sold could be stated at current costs by valuing all input factors included in the cost of goods sold. Similarly, if it is desired to state inventories at current cost, factor inputs at current cost can be determined. The difference between historical cost of production factors and current cost of production factors would be regarded as holding gain or loss. Realized holding gain or loss would be that holding gain or loss included in cost of goods sold. Unrealized holding gain or loss would be that which is included in unsold inventories.

If future replacement costs are excluded, it seems that there are no expectative aspects in using current values for assets. What is really being done is to revalue assets on hand at any moment of time at their present costs. Certainly there are no expectations involved either in present or past events. The main purpose of current valuation is to separate gains or losses derived from holding assets, from gains or losses arising from using assets. It seems that if current cost

6Edwards and Bell, op.cit., p. 73.
depreciation is to be a reasonable charge against current revenue, then there is also an implicit, if not explicit, holding gain involved in holding the unused portion of a long-lived asset.

Those who would advocate only an increase in the depreciation charge where specific asset prices have increased seem to go only half way in their analysis. Those who advocate revaluing all assets at the end of each accounting period and including any increase in replacement cost are being more consistent with the objective of reporting holding gains and losses for the period separately from operating gains and losses.

There appears to be at least one point of criticism for reporting holding gains and losses as involving managerial ability—when management commits monetary assets to a productive asset, the life of which is expected to be relatively long, then it seems that management has no choice but to retain and to use the asset until some more attractive opportunity presents itself. Why should management get either credit or blame for holding an asset which it is forced to hold, as in the case of fixed assets?

In the case of salable assets, holding gains
would be a much more meaningful index of managerial efficiency than holding gains on a long-lived asset used in the business. Of course, long-lived assets held for speculative purposes should enter into calculations of holding gains. To imply that management should be rewarded or blamed for holding gains and losses in fixed assets, seems to imply that the managerial function in business is to speculate in such assets and to use them until it can dispose of them at a gain.

It has sometimes been said that the use of replacement cost for valuation purposes causes a profit to be reported as a result of a cost increase. If a contract to increase wages is signed near the end of a year, does the increase in production costs warrant the writing up of the ending inventory to take into consideration the higher labor costs to be incurred the next year? Rather than being an element of business income, such a cost increase appears to be a cost saving to the new accounting period rather than an income to the old accounting period. Such cost saving should be recorded as an owner's equity adjustment and may or may not be

---

realized in the subsequent accounting period. It will be realized only if the product can be successfully marketed to cover all costs, including the higher labor cost, in the succeeding period. It would be unrealized if the market price of the succeeding period were not sufficient to cover all costs, including the additional labor costs.

However, it seems reasonable to say that the credit or blame for realizing this potential gain rests in the new period and has no connection with the old period, because to consider it otherwise would credit the new period with a gain or a loss when the new period was involved only in making real or unreal the cost saving presumably made in the old period.

One criticism of current cost often implied, but in some instances overtly stated, is that if such costs are recognized for balance sheet purposes, such recognition will include in the income statement unrealized income.\(^8\) If the balance sheet can be said to represent the wealth committed to an entity by its equity holders, and the income statement to

represent changes in aggregate wealth resulting from exchanges between that entity and others, except equity holders as equity holders, then to report what has been termed holding gains of fixed assets as income seem to say that wealth has increased in a quantitative sense, when only the demand for holding specific types of wealth has changed.\(^9\)

If the income statement is to report changes in wealth (future services) and not just changes in the demand for future services, then these so called holding gains are really cost savings and not holding gains. The word gains seems to imply something which is in existence at one point in time which was not in existence at some previous point in time, and not just those changes in the demand for that particular bundle of future services.

The argument here is not that the separation of holding gains from operating gains is useless, but that the reporting of holding gains as income

involves reporting as income something that really has not been determined in a transaction. Reporting holding gains as income could be used to support the inclusion in the income statement of the value of work in process and unsold finished goods on a net realizable value basis. The assumption would be that new wealth is being created by bringing together the factors of production to create something more valuable than the factor costs. Carried to its logical conclusion, this argument could also be used to value raw material inventories at something greater than their current costs, since the raw materials on hand have place and time utility.

A concept of income can be formulated based on valuing the cost of goods sold at the current cost of input factors and based on valuing in-process, unprocessed, and finished goods inventories, fixed assets and other assets at historical cost. This income might be called realized profit. As pointed out by Edwards and Bell, this concept does not differ from the conventional accounting concept of profit, but only separates profit into two components—current operating profit and realized cost saving.

---

10 Edwards and Bell, op. cit., p. 117.
Current operating profit is current revenue less current cost of inputs necessary to generate that revenue. Realized cost saving is the excess of current values of input used in generating revenue less the historical costs of those same inputs. This realized cost saving is an element of realized income which does not necessarily arise during the current period, but over many periods. It is an element over which management has little or no control except in those cases of salable assets where management is speculating, either intentionally or unintentionally. Why give management either credit or blame in a case in which it has not much, if any, control over a particular element of income? According to both accounting income and realized profit theories, management is given credit for realized cost saving.

The proponents of current cost state that conventional accounting does not maintain capital, and that part of the income which is reported

\[\text{11} \quad \text{Hendriksen, op.cit., p. 490; Dickens and Blackburn, op.cit., p. 323; Zeff and Maxwell, op.cit., p. 69. The Hendriksen formulation is that management does not have either the intent or the effective ability to generate revenue by holding fixed assets. In the Dickens-Blackburn vs. Zeff-Maxwell exchange, the question debated is whether management should get credit for income it does not anticipate.}\]
conventionally is really a return of capital, and thus not income. Certainly present accounting practice maintains capital stated in terms of dollars invested, but not in terms of the purchasing power of the dollars invested by stockholders.

At this point it seems relevant to ask whose purchasing power is to be maintained—the stockholders as consumers, the stockholders as investors, a generalized consumer purchasing power, the firm as purchasers of factors of production or the firm as having to replace its capital assets either specifically or as equivalent service.\(^{12}\)

From the proprietary point of view, it is the purchasing power of the stockholder which must be maintained; therefore, if an index is used to convert historical costs to current cost a general purchasing power index should be used. Even from the proprietary viewpoint, stockholders do not of necessity have to use their original investment, if it is ever returned to them, to purchase consumer goods. Instead they may use such capital to purchase other capital goods directly or as investors in another business. It does not appear reasonable

\(^{12}\)Hendriksen, op.cit., pp. 484-86.
then, even under proprietary theory, to use a consumer index. An index of investment goods generally would be better suited, because it is probably the dividends which are consumed, rather than the original investment, even if this were available.

From an entity point of view, the firm is not a consumer, hence it is interested in maintaining its purchasing power over those factors of production which it is compelled to buy to keep itself in existence, including necessary dividends to stockholders. It appears safe to assume that by far the greater part of the firm's expenditures are made for general investment goods and not as dividends to stockholders, who may be primarily interested in general purchasing power retention. It may be argued that as a general purchaser of investment goods the firm may reinvest in any investment goods of any industry, hence the use of a general investment goods index would be appropriate.

A second assumption might be that the firm invests in goods in the same industry leading to the choice of a specific index for the type of industry in which the firm is operating. This probably is not a realistic assumption because research and development is not necessarily directed toward the industry of the sponsoring company.
A third possible assumption is that the entity will invest in the type of investment in which it has invested in the past, assuming it has a history. Such an assumption as this would lead to the choosing of an index for each firm. This index may be constructed by appropriate weighting of the specific types of investment goods generally purchased by the firm. As with the second assumption, this one also probably does not fit the dynamics of a growing entity and a growing economy.

A fourth assumption would involve the replacement of specific assets. A specific index number would measure cost of replacement of identical items at current cost. This view is subject to the criticism that a firm probably seldom replaces with identical assets.

Up to this point in the discussion of replacement cost, it is difficult to glean anything of an expectative nature from the use of current costs, since either adjusted historical or current costs, neither of which deal with the future, have been discussed. If however, replacement cost is viewed as future replacement of the embodied services or asset, then to the extent that future costs are involved, expectations are also involved.
It seems, however, that when future replacements are considered, then the idea of costs must be modified in some fashion. A future cost which is being used up now, in effect, seems to become a negative asset because the depreciation charge amortizes an asset which is not now owned but presumably will be acquired in the future. If an asset represents a potential of future income, then a negative asset must represent a negative potential future income. A negative potential future income also may be viewed as a decrease in the expectations of income.

The idea of future replacement cost is thus transformed into something almost identical to the economic notion of value. The value of an asset is its potential of future income generating power. If future expectations of income at the end of a period are not greater than such expectations at the start of a period, then no income has been earned. Cost replacements, if such costs are future costs, metamorphose into a partial income potential replacement which is akin to the economic concept of income.

Following this concept, depreciation represents the present value of future income of a particular asset or bundle of services which was not replaced during the current period. If such income
potential had been replaced, then the lost expectations would have been offset by gained expectations. It appears at first that there might exist cost free use of assets. This idea is not true since the use of future replacement cost as depreciation affects only the expected expense portion of income determination, while the expectations of revenue are held constant. Thus if a particular asset's specific future cost is expected to be greater when actual replacement is necessary, a greater depreciation charge would be taken during the current period than would have been taken if the expected cost of replacing the asset or its equivalent service had remained constant. An increase in the relative cost of such an asset may signify either that the expectations of the income producing power of that asset have increased either in the specific function the asset is performing in the industry or in an alternative function it can perform in other industries. Such an expected cost

13 Wendell P. Trumbull, "Price-Level Depreciation and Replacement Cost," The Accounting Review, XXXIII (January, 1958), 28. Trumbull states that replacement of income capacity, including a change in the prospective value of enterprise personnel, should be included in an ultimate concept of replacement cost. See also Dickens and Blackburn, op.cit., p. 319; Zeff and Maxwell, op.cit., p. 72.
increase automatically decreases the future expectation of income as far as expired cost is concerned.

The other side of the expected income concept, expected revenue, also may be affected, either favorably, unfavorably, or not at all. If there is a concomitant increase in expected revenue along with an increase in expected cost, then no change in expected income is produced, if such changes are symmetrical in direction, time, and magnitude. For example, an increase in future costs along with an increase in future revenue of equal magnitude would not change expected income. However, an asymmetrical change in direction, time, or amount between revenue and expense would produce changes in expected income.

If the future specific cost of an asset is expected to rise, then the capital (earning power) of an entity is not maintained, unless the expectation of revenue is increased by at least an equivalent present value. Such a situation would appear to be an advance sign to management that a prospective cost increase must be accompanied by a prospective revenue increase of an identical present value amount if earning power is to be preserved.

If prospective revenue cannot be increased at least enough to offset a prospective cost increase,
then the message to management seems to be that the particular asset or bundle of services involved has become more valuable in another employment, and that society wants this factor of production used to produce another good or service. It must be assumed that the conclusion just stated is based on the premise that management cannot increase future revenue in the same proportion that future costs increase.

If the relative amounts of future revenue and expense can be made symmetrical and equal, it appears that society is saying that it desires the status quo maintained as far as allocating this particular factor of production.

If the cost of future replacement decreases, and the prospects of future revenue from that factor do not change from their previously assumed amount, a lesser depreciation charge would appear in the current period. Such a decrease in cost might signify to management that the economy will not value the product or services yielded by alternative employments of this factor of production as it formerly did; hence the enterprise now using this lower cost factor will reap a windfall in short-run profit, until supply of and demand for the factor of production moves toward equilibrium.
Also, a decrease in a specific asset's cost may mean a shift in consumer demand away from the output of the industry employing such an asset. If this be true, any decrease in replacement cost causing a higher reported profit considered alone, would be offset on the revenue side by reduced expectations of revenue. One obvious difficulty under the replacement cost method is that only one factor of the two expectative factors is affected. If an increase in the expected cost of replacement of fixed assets is accompanied by an equal increase in the expected revenue, then prospective income has not changed.

Under the replacement cost method, using future costs, only the anticipated increase in cost would be shown, leading to a lower current net income. The real situation, however, is that anticipated revenue has also been increased, but this would not be recognized on an income statement which used solely the replacement cost method of depreciation.

Future replacement cost can disclose only expectations related to expense and cannot reveal expectations related to revenue; therefore the use of future replacement cost on the income statement would be unwise because such cost do not tell the
full story of expectations. On the other hand, the economic present value method of valuing assets, which will be discussed in the succeeding chapter, takes full cognizance of future income.

Summary

Replacement costs which represent current input costs of the factors of production used during an accounting period are valuable in financial and managerial accounting because they permit net profit to be divided into two parts—realized holding gains and realized operating profit. Such valuation used on the balance sheet would make that statement reflect a homogeneous method and time point in the stated values. The amount of holding gains or losses realized during any period depends on the concept of purchasing power used in adjusting for the changing price level. The more restrictive the purchasing power concept used, the smaller the deviation between general and specific price movements.

Future replacement costs are of an expectative nature and so tend to approach the economic present value method of asset valuation, but they are incapable of adjusting for both segments of expected income--future revenue and future expense. Future replacement cost can accommodate only the expense
portion of future income, therefore, its use would be only a unilateral application of the expectative concept.
CHAPTER IV

SOME EXPECTATIVE ASPECTS OF THE ECONOMIC
PRESENT VALUE ASSET VALUATION METHOD

Economic theory views asset valuation as a process which aims at the calculus of future benefits to be derived. Applying this method to accounting means that income for a period would be measured by computing the difference between the discounted present value of assets at the beginning and at the end of an accounting period. Some writers in the field of accounting theory\(^1\) and also a committee of the American Accounting Association\(^2\) endorse this concept of asset valuation as a conceptual one that is to be used as a paragon in judging more practical concepts.

Since economic income appears to be very

\(^1\)Zeff, op.cit., p. 620; Donald A. Corbin, "The Revolution in Accounting," The Accounting Review, XXXVII (October, 1962), 627.

different from accounting income, at least in a time perspective, it may be helpful to reconcile the two, after first simplifying the economic concept in terms of one asset. To value a single asset, it is necessary to have knowledge, admittedly subjective, of the time pattern of future net receipts which are to be generated by the asset. Using an arbitrarily chosen interest rate, such future net receipts would then be discounted back to the present time in order to form a time adjusted concretion of the anticipated net flow to be generated by the asset. This magnitude would be the asset's present value.

Assuming no change in owner's equity, accounting income for a given period, plus unrealized value changes in tangible and intangible assets which took place during the period, minus amounts realized during the period for value changes in assets which occurred in some previous period, will equal economic income. A further assumption is that the general price level did not change, or that it has been adjusted if such a change actually occurred.

In economic terms, an object or service must possess at least one of the following two characteristics to be called an asset: either it must have an ability or a tendency toward an ability to produce
total future income or an ability or tendency toward
an ability to diminish total future losses. In
accounting, an object or service must possess future
utility, to be sure, but the measurement of such
utility is conventionally in terms of the unamortized
cost. The main similarity between the two concepts
is that of future services. From a temporal perspec-
tive the accounting concept looks back from the future
and the economic concept forward from the past.

There is at least one other differentiation
between the two concepts which is antithetical, not
in a definitional sense, but in the application of
the definitions to the valuation of an enterprise.
The economic concept of valuation views the entity as
a unit of income potential, whereas the accounting
concept views each asset as a component of the income
generating process. As is discussed later in this
chapter, a characteristic of the present value method
is that it cannot assign with precision a value to
each individual asset, but can only assign a composite
valuation to the entire business.

The accounting valuation method assumes that

---

3 George H. Sorter and Charles F. Horngren,
"Asset Recognition and Economic Attributes--The
Relevant Costing Approach," The Accounting Review,
XXXVII (July, 1962), 393-94.
cost and present value are identities at the time a
transaction occurs to acquire an asset. Subsequently,
this dated truth takes on some attributes of a fetish,
lauded as the cost principle, to which most account-
ants pay homage, albeit sometimes with an air of
extreme reluctance. Such a posture seems to signify
that accountants expect the occurrence of an extremely
unlikely event--namely a return to past conditions.

The present value of future net receipts can
be established for individual assets without arbitrary
allocations only if certain conditions exist. It is
the arbitrary allocation of conventional accounting
asset valuation methods which the present value method
is supposed to remedy. In any attempt to value each
asset, it is the marginal net receipts of that asset
which are appropriate, and unless the functional
relationship between assets and net receipts is
homogeneous to the degree one, then marginal net
receipts for each individual asset will not add up
to total net receipts for all assets as a group.4

The chance that such a homogeneous relation-
ship exists is very slight because of decreasing
returns to scale, finite inputs, and marketing

4Arthur L. Thomas, "Discounted Services Again:
The Homogeneity Problem," The Accounting Review, XXXIX
(January, 1964), 1-11.
segmentation. Unless such a relationship exists between assets and net receipts, the present value method will produce a time adjusted valuation for all assets as a group which may be either more or less than the marginal net receipts for each individual asset. Using such a method to value individual assets, therefore, will lead to arbitrary allocation of total present value to individual assets.

The fact that this method cannot assure a total present value, which logically can be divided into values which can be assigned to each individual asset, may make such a method useless as a standard by which other valuation methods might be judged. This criticism seems implicitly to assume that it is absolutely necessary for accountants to value each asset as an individual income generating factor.

Two questions are pertinent at this point. Does the accountant value each asset under present practice? If the answer to the first question is no, then a second question is apropos. Should he value each individual asset?

At the present time accountants neither value nor report individual asset values. All the purported "values" which accountants assign to assets are explicitly stated by them to be only unamortized costs
and not values, and even these historical costs for each asset are carried only because they are a convenient way of arriving at a summation of total unexpired costs.

If accountants do not now value any asset and only use individual unexpired costs to arrive at a total of unexpired costs to place on formal reports, should they be concerned with individual asset valuation? A negative answer to this query also appears to be appropriate.

Any asset is valuable to a going enterprise not for any kind of value, including liquidating or present value of future net receipts, but for its ability to enhance, along with all other enterprise assets, the future net receipts of the entire entity. There appears to be no valid reason to value each individual asset. What is needed is a valuation of the total of enterprise assets, and this is just what the present value approach is admirably fitted to accomplish.

Some accountants have asserted that the use of the present value method to assign individual

---

asset values may result in some assets having zero or negative values. In any assumed functional relationship between assets and net receipts, such negative present values may be the result of an inappropriate functional relationship. However, it seems reasonable to believe that such negative value assets could actually exist in a real situation, assuming that a precise relationship could be established between all production and distribution factors. A case in point might be that of possessing more of one particular type of machine than can economically be employed to advantage.

This concept of valuation assumes a degree of certainty which is hardly attainable in the real world. The valuer of assets is assumed to know, intuitively or otherwise, both the magnitude and temporal distribution of the future net receipts of the asset being valued. Of course, in a theoretical setting this is not a particular disadvantage. It seems that as a theoretically ideal method of valuation, the assumption of complete knowledge of the future as a basis for further reasoning leads to no more difficulty than any other prognostication of future events.

One criticism of the present value method,  

6Ibid., p. 8.
which appears to be quite serious, is that accountants would use it to perform two different but related tasks—asset valuation of an entity and income determination for a period of time. That it can perform the first mentioned assignment, as far as total valuation is concerned, has not been questioned. Whether it can perform the income determination function properly has been questioned by some critics, and their criticism appears to cast considerable doubt that the use of such a method to perform the income determination function is theoretically sound.  

In determining income for any given period, subjective value at the beginning of the period is subtracted from the subjective value at the end of the period in order to arrive at income. A major difficulty lies in the fact that the asset valuation at both points is determined by the expectations of future periods. Thus the income for any period is influenced by the expectation, or lack of it, of income in future periods.

If anticipation of income for future periods changes substantially at or near the end of the period, the income of that period would bear the influence, either positive or negative, of the change.

---

7Solomons, op.cit., p. 379; Edwards and Bell, op.cit., p. 44.
in expectations. It does not seem reasonable that realized income of one period should be affected by expectations of subsequent periods. This, however, is the result which is produced by employing the present value method.

Realized income for any period, applying the economic concept, seems to be, in essence, the difference between past and present prospects and as such suffers from a past-present problem, similar to the past-present problem which exists in conventional accounting asset valuation methods. The sole difference between the present value method problem and the conventional accounting problem is that the former deals with expectations and the latter deals with costs.

Consequently, this method appears to measure differences only in prognostications of future net receipts and never attempts to measure results of managerial effort to convert prospects into something more concrete. The economic concept apparently fits an environment where mere ownership of an income producing factor is tantamount to guaranteeing either an annuity or a perpetuity.

The present value method is seriously lacking in a balanced approach to meaningful economic activity where both planning and execution of plans are necessary
to realize a return on wealth. It emphasizes one principal function of a wealth creating enterprise--planning, to the exclusion of an equally important phase--execution of plans. Viewing present day large scale business enterprises as factors which will produce wealth without any conscious effort seems to be an anachronism.

The present value method performs well the function of valuing at a point in time an entire entity or of valuing at a point in time individual assets or groups of assets which are sole producers of a future flow of income. It fails completely as a useful device in determining period income.

**Summary**

The discounted present value method of valuing assets is one in which the time pattern of net receipts is determined and discounted to the present by some interest rate. This process homogenizes these future wealth flows in terms of time and money. The use of this method to determine periodic income would entail such a valuation for the entire enterprise both at the beginning and the end of the period. The difference between beginning and ending values would be considered income or loss during the period. The major objection to this method is that the valuation
at the beginning and end of a period reflects future expectations, so that income determined in this manner is not a gauge of managerial effort to make expectations real. Discounted present value is an ideal method of asset valuation, but its properties of income determination are not operationally verifiable.
CHAPTER V

MEASURING EXPECTATIONS

There appears to be a general assumption that management performance should be evaluated either continuously or over relatively short periods of time, but that the profit-objective of management should be to maximize profit, however interpreted, over the long run.¹ One way to harmonize these two time problems is to let management set its long-run goal and subdivide the achievement of this goal into arbitrary short-run achievements, the sum of which, it is believed, will equal its long-run goal.²

Management is regarded as a unit or team responsible for planning and achieving results for a

¹Edwards and Bell, op.cit., pp. 4, 8. The writer acknowledges that the idea of attempting to synthesize a concept which encompasses both managerial expectations and achievement came primarily from Edwards and Bell.

business enterprise, a portion of a business enterprise, or a combination of business enterprises. It is assumed that the composition of this team may change over a period of time, but that changes are not cataclysmic in nature but rather are relatively deliberate and orderly. Further it is assumed that the composite efficiency of the management team to plan and achieve results changes in an orderly manner as management gains experience, either through the team's personal experience with the existing enterprise or through the acquisition of experienced members from outside the enterprise.

Viewed from this perspective it seems that goals must be derived both in succinct qualitative and quantitative terms. In order to be measured by a series of reports, these final objectives must be broken down, both on a qualitative and quantitative basis, into arbitrarily selected time periods of equal length. This method appears to be the only rational manner to evaluate management.  

3Maurice Moonitz, "Should We Discard the Income Concept?," The Accounting Review, XXXVII (April, 1962), 180. Moonitz maintains that it is not sufficient to compare performance with plans, unless it is assumed that the existing management group is the only one that can decide what to do with the resources under its control. He further states, at least by implication, that we are in an intolerable position of asserting that management is beyond control,
this formulation management, and no one else either collectively or individually, determines and breaks down the overall goal into qualitative and quantitative time-confined segments. Once management has set the overall goal and the time-ordered piecemeal achievements, the sum of which will equal the overall goal, then others outside of management can record events during these time intervals and propose reports which they believe will indicate both qualitatively and quantitatively the magnitudes of variables which management has achieved in each time unit.

Whether the variables established and the magnitudes accumulated for these variables by the recorder (accountant) actually measure the achievement of objectives which management has in mind would be a matter of opinion. Also the recorder-interpreter (accountant) may feel constrained to formulate his reported information in such ways that outsiders may be aided in formulating opinions concerning the extent of achievement, the efficiency of operations, and the social desirability of the goals and sub-goals set by the management of any one entity.

unless stockholders can take effective action against management, if they do not like either the rate of return or the allocation of resources which management can and does effect.
The goals set for an entity are subjectively determined by management in its role of being representative of those who furnish the capital to pursue those goals. The capital commitment, at least in a new entity, is based almost entirely on the faith of the prospective stockholder that the goals formulated by management are goals which are desired by society, and that management is capable of achieving those goals.

Goals desired by both society and management are assumed to include the production of goods and services which members of society, as consumers, need and want in order to sustain and enjoy life; however, society is interested in the consumption of goods and services, whereas management is concerned with the profit motive.

It appears that the stockholder has at least two uncertainties presented at the time he chooses to invest his wealth in a share of stock. One question is whether the goals promulgated by management represent some of the objectives desired by society as consumers; and assuming a positive answer to the first question, the other question is, does this management possess the necessary ability to achieve the goals projected? If the answer to the second
question is yes, then the stockholder should have little hesitancy to commit his wealth to the venture.

If the answer to the first question is in the range of fifty percent uncertainty, then the prospective stockholder should ask another question about management. If the goals set by management are not really in accord with society's goals; or even if there is present identity between or among the goals of management and society, but society subsequently shifts its goals before management can ultimately achieve its goals, is the management of this entity sufficiently endowed with ability to discern, before it is too late, the shifting goals of society?

If the stockholder puts complete faith in management to prognosticate correctly society's goals and also to achieve those goals and to shift goals when society's goals shift, then there is little need for the stockholder to be informed on any phase of the entity's activity. However, it is generally assumed that investors and prospective investors need to have available to them financial information which will provide a basis on which they might make decisions to purchase, sell, or hold investment shares of particular companies. One method which a
stockholder or prospective stockholder may use to
determine investment decisions is to have knowledge
pertaining to qualitative and quantitative goals of
management and management's ability to achieve its
goals.

Management's goals determine the allocation
of resources of the economy to satisfy the alterna-
tive wants of society. Management's degree of
achievement of its goals indicates to investors a
particular management's ability to plan and execute
actions which achieve the objective it has previously
selected. If management's ability to plan for and
achieve goals can be reduced to some quantifiable
probability, then the stockholder would be left with
one major type of uncertainty—whether the objectives
management has set for itself are the objectives of

---

4 Ezra Solomon, "Accounting in the Next Decade," The Journal of Accountancy, CXIX (January, 1965), 25; A. Jay Hirsch, "Accounting for Fixed Assets: A New Perspective," The Accounting Review, XXXIX (October, 1964), 972-78. Hirsch uses the word "intentions" (pp. 974-75) but would report such "as a narrative supplement" (p. 977) to financial statements. He states that his suggestion "is not a plea for external reporting of capital budgets as they now exist." (p. 972)

Whether management represents stockholders
may be open to serious question. See Ernest Dale,
"Management Must Be Made Accountable," Harvard Busi-
ness Review, XXXVIII (March-April, 1960), 49-59; John
society as a whole.

If management's objectives are known and the probability of bringing to fruition the plans to achieve such goals can be estimated, then the sole variable which the stockholder or prospective stockholder has to determine intuitively is whether the goals of management will allocate resources of the economy as the members of the economy desire those resources to be allocated.

With expectations quantitatively and qualitatively stated and the probability of achievement of expectations known from experience and possibly adjusted subjectively by the individual investor or prospective investor, an important reason that stock would be acquired or disposed of would be the stockholder's appraisal of the goals of the entity as compared to his appraisal of the goals of society. At least on a theoretical level, it appears that this procedure could reduce some of the problems of the investor and prospective investor.

Investors would tend to invest and re-invest in those entities whose managements plan to allocate resources in a manner which coincides closely with the resource allocation deemed most desirable by investors. Since investors would know the probability
of the degree of achievement of management's goals, the planned allocation of resources by management would be the principal factor in buying, selling, or holding decisions, assuming no other influencing factors are present. It seems that this investment action would be not only extremely useful to the investor but also beneficial to society as a whole.

An entity may fully achieve its plans, but its goals may be inimical to society. Such an organization may be able to attract capital not because of its social desirability, but because of its demonstrated degree of achieving its plans. In a society such as ours, a situation like this would have to be remedied, if at all, by society as a whole, acting through its government.

A system for measuring management's ability to determine, to plan for achieving, to achieve, and to revise its goals might be called an expectative projection-achievement system. Past projected and past achieved cash flows can be correlated to derive values which may be used in the equation \( Y_c = a + bX \) to estimate management's future cash flow achievements. A measure of the dependability of the estimate is also derived. Cash flow is used as the equivalent of funds provided by operations in the typical funds statement.

Table 1 shows a series of management's projected cash inflows classified by major investment
<table>
<thead>
<tr>
<th>Project Number</th>
<th>1962</th>
<th>1963</th>
<th>1964</th>
<th>1965</th>
<th>19xx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Projections made at December 31, 1961</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$100</td>
<td>$80</td>
<td>$100</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>60</td>
<td>50</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>10</td>
<td>30</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 31, 1961</td>
<td>$900</td>
<td>$700</td>
<td>$800</td>
<td>$950</td>
<td></td>
</tr>
</tbody>
</table>

Revised Projections made at December 31, 1962

<table>
<thead>
<tr>
<th>Project Number</th>
<th>1962</th>
<th>1963</th>
<th>1964</th>
<th>1965</th>
<th>19xx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Projections made at December 31, 1962</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>$90</td>
<td>$120</td>
<td>$70</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>80</td>
<td>30</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>10</td>
<td>20</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>40</td>
<td>50</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 31, 1962</td>
<td></td>
<td>$800</td>
<td>$600</td>
<td>$900</td>
<td></td>
</tr>
</tbody>
</table>

Revised Projections made at December 31, 1963

<table>
<thead>
<tr>
<th>Project Number</th>
<th>1962</th>
<th>1963</th>
<th>1964</th>
<th>1965</th>
<th>19xx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Projections made at December 31, 1963</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>$150</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>30</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>75</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>30</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 31, 1963</td>
<td></td>
<td></td>
<td>$750</td>
<td>$700</td>
<td></td>
</tr>
</tbody>
</table>

Revised Projections made at December 31, 1964

<table>
<thead>
<tr>
<th>Project Number</th>
<th>1962</th>
<th>1963</th>
<th>1964</th>
<th>1965</th>
<th>19xx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Projections made at December 31, 1964</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 31, 1964</td>
<td></td>
<td></td>
<td></td>
<td>$900</td>
<td></td>
</tr>
</tbody>
</table>

Source: Hypothetical managerial projections.
project and by years of expected cash inflow. The table shows cash inflow projections made for projects one, two, three, and four, on four successive annual dates. These dates are December 31, 1961, 1962, 1963, and 1964.

It will be noted that projections of cash inflows are made for projects as far into the future as management desires to make projections. Also important is the fact that while only four projects have been included in the illustration, all projects which are expected to produce cash inflows would be included in the table of projected cash inflows compiled at the end of each year. To indicate that the proposed method of measuring expectations has no time limitations and no limitations as to the number of projects to be included, all sections of Table 1 have been drawn to show that the hypothetical data included in the chart are but a part of a much more inclusive schedule.

In order to illustrate some of the dynamics of the system, Table 1 includes revised expectations for the selected projects for three years subsequent to the original projection at December 31, 1961. For instance, Table 1 shows expectations revised at December 31, 1962, for projects one through four for
the years 1963, 1964, and 1965. It might be reiterated at this point in the discussion that there are not time restraints incorporated into the system. The sole reason for not making any projections beyond 1965 in Table 1 is to limit the illustration to manageable proportions. The same reason dictated that the number of projects be held to a minimum.

Quantitatively the projections made at December 31, 1961, have no bearing on the projections made in any subsequent year. It is also possible in the revision of expectations to extend the life of any project in cases where experience and conditions warrant such action. Conversely, it is also possible that management may wish to shorten the life of some project as a result of changed conditions and experience with the project. Management would be permitted to revise formally its expectations once each year, at or near the end of the year. In revising expectations, management would not be concerned with its past projections of expectations; but rather, its sole concern in revising expectations would be the future cash-flow generating ability of the projects.

Revisions for projects one through four made at December 31, 1963, and at December 31, 1964, are also shown in Table 1.
Table 2 shows a schedule of achieved annual cash inflows classified by project number and year of achievement. Only data pertaining to projects one through four have been included for the years 1962 through 1965, since these are the projects and years which are being used to illustrate the system. Achievement is assumed to take place at the end of each calendar year.

**TABLE 2**

**ACHIEVED ANNUAL NET CASH INFLOW**

(IN THOUSANDS)

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Year in Which Cash Inflow Is Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1962</td>
</tr>
<tr>
<td>1</td>
<td>$110</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>n</td>
<td>.</td>
</tr>
</tbody>
</table>

Source: Hypothetical data assumed to be actual annual net cash inflows.

Table 3 shows a recapitulation of projected and achieved annual net cash inflows, classified by date of projection and number of years between projection date and date of achievement. The relationship between a projected annual cash flow and an achieved annual cash flow is called a projection-
TABLE 3
RECAPITULATION OF ANNUAL CASH FLOW PROJECTIONS AND ACHIEVED ANNUAL CASH FLOWS TO BE CORRELATED FOR PROJECTION-ACHIEVEMENT PROBABILITIES AS OF DECEMBER 31, 1965 (IN THOUSANDS)

<table>
<thead>
<tr>
<th>Number</th>
<th>One-year Projection-Achievement Experiences</th>
<th>Two-Year Projection-Achievement Experiences</th>
<th>Three-Year Projection-Achievement Experiences</th>
<th>Four-Year Projection-Achievement Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$100 $110 $80 $80 $100 $140 $50 $40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40 30 60 100 50 20 20 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25 50 30 5 40 60 50 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20 30 10 50 30 10 10 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Original Projection - December 31, 1961

<table>
<thead>
<tr>
<th>Number</th>
<th>One-year Projection-Achievement Experiences</th>
<th>Two-Year Projection-Achievement Experiences</th>
<th>Three-Year Projection-Achievement Experiences</th>
<th>Four-Year Projection-Achievement Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150 $140 $100 $40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30 20 10 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75 60 90 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 10 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Revisions - December 31, 1962

<table>
<thead>
<tr>
<th>Number</th>
<th>One-year Projection-Achievement Experiences</th>
<th>Two-Year Projection-Achievement Experiences</th>
<th>Three-Year Projection-Achievement Experiences</th>
<th>Four-Year Projection-Achievement Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150 $140 $100 $40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30 20 10 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75 60 90 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 10 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Revisions - December 31, 1963

<table>
<thead>
<tr>
<th>Number</th>
<th>One-year Projection-Achievement Experiences</th>
<th>Two-Year Projection-Achievement Experiences</th>
<th>Three-Year Projection-Achievement Experiences</th>
<th>Four-Year Projection-Achievement Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150 $140 $100 $40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30 20 10 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75 60 90 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 10 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Revisions - December 31, 1964

<table>
<thead>
<tr>
<th>Number</th>
<th>One-year Projection-Achievement Experiences</th>
<th>Two-Year Projection-Achievement Experiences</th>
<th>Three-Year Projection-Achievement Experiences</th>
<th>Four-Year Projection-Achievement Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150 $140 $100 $40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30 20 10 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>75 60 90 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 10 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Projections from Table 1: Achievements from Table 2.
achievement experience.

Since projected cash flows for each project included in the illustration are made for four years into the future, experiences may be classified as: one-year experiences (December 31, 1961, cash flow projection for calendar year 1962 compared to achieved cash flow in 1962); two-year experiences (December 31, 1961, cash flow projection for calendar year 1963 compared to achieved cash flow in 1963); three-year experiences (December 31, 1961, cash flow projection for calendar year 1964 compared to achieved cash flow in 1964); and four-year experiences (December 31, 1961, cash flow projection for calendar year 1965 compared to achieved cash flow in 1965).

Since the system has no inherent time limits, management may acquire n-year experiences which are those experiences involving the projection at a point in time of cash flows whose expected fruition is n-years away from the projection date. The maximum number of years which would be used for any enterprise or project would depend upon management's willingness and ability to forecast, the type of project involved, as well as other managerial considerations.

Table 3 shows that at December 31, 1965, management has acquired four experiences for projections
one year in the future for each of the four projects included in the illustration. This results from the fact that the original cash flow projections made on December 31, 1961, for each project were revised at the end of each subsequent year. The system assumes that information relating to actual achievements for a calendar year is available on December 31 of that year, and that this information is used in projections made on December 31 of that year. If planning and achievement are considered to be performed continuously rather than at one time-point during a year, instantaneous generation and use of data offer no particular problem.

On December 31, 1963, a second year of experience is gained with all projects. After calendar year 1963 has passed, management has acquired two one-year experiences for each project.

In addition to the two one-year experiences which management has acquired for each project at December 31, 1963, it also has acquired one two-year experience for each project. The two-year experience arises because on the date of the original projections, December 31, 1961, management made annual cash flow
projections for each future year in which net cash flows were expected from each project. Therefore, at December 31, 1963, management has for each project one projection-achievement experience involving the projecting at December 31, 1961 of cash flows expected to be achieved during the calendar year 1963. Since it has been assumed that achievement during any calendar year occurs on December 31 of that year, the achieved cash flow for 1963 takes place on December 31, 1963. Therefore management's cash flow projections made at December 31, 1961, for the calendar year 1963 span two calendar years (1962 and 1963). When the point in time, December 31, 1963, is used as a time reference point, it can be said that management has acquired an experience involving the projecting and achieving of annual net cash flows, the date of projection being two calendar years prior to the date of achievement.

A two-year projection-achievement experience does not mean that the accounting period includes two calendar years.

On December 31, 1964, management has acquired three one-year experiences, two two-year experiences and one three-year experience. With each passing year management gains an additional experience for
each time interval between the date of the original projection and December 31 of the year of achievement. As management acquires experience, the result of its added experience is incorporated into the data to be correlated in order to derive the statistics to be used in the system.

On December 31, 1965, the last year of achievement shown in the illustration, management has acquired a total of four one-year experiences, three two-year experiences, two three-year experiences, and one four-year experience.

Table 4 shows an array of projected and achieved cash flows, arranged according to project number for the four one-year projection-achievement experiences for each project included in the illustration. Also shown in Table 4 are the values for \( a \) and \( b \) which may be used in the estimating equation \( Y_c = a + bX \) to determine the computed value of cash flow for one-year projections for each project and for all projects combined. In addition to the \( a \) and \( b \) values for the estimating equation, a standard error of the estimate is shown in Table 4 for each project and for all projects combined for one-year projection-achievement experiences. The method used to compute the \( a \) and \( b \) values and the standard error of the
# TABLE 4

## Recapitulation of One-Year Projection-Achievement Experiences by Project Number Showing Estimating Equation Values and Standard Error of Estimate for Each Project and for All Projects Combined

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Date of Projection (December 31, Cash Flow (In Thousands))</th>
<th>Estimating Equation Values</th>
<th>Standard Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1961 Orig Proj</td>
<td>$100 $110</td>
<td>a b</td>
</tr>
<tr>
<td>1</td>
<td>1962 Revision</td>
<td>$90 $80</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1963 Revision</td>
<td>$150 $140</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1964 Revision</td>
<td>$.50 $.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$390 $370</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$-5,960</td>
<td>1.009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$8,653</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1961 Orig Proj</td>
<td>$40 $30</td>
<td>a b</td>
</tr>
<tr>
<td>2</td>
<td>1962 Revision</td>
<td>$80 $100</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1963 Revision</td>
<td>$30 $20</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1964 Revision</td>
<td>$70 $70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$220 $220</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$-29,117</td>
<td>1.529</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$5,557</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1961 Orig Proj</td>
<td>$25 $50</td>
<td>a b</td>
</tr>
<tr>
<td>3</td>
<td>1962 Revision</td>
<td>$10 $5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1963 Revision</td>
<td>$75 $60</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1964 Revision</td>
<td>$150 $120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$260 $235</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$12,379</td>
<td>.713</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$12,620</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1961 Orig Proj</td>
<td>$20 $30</td>
<td>a b</td>
</tr>
<tr>
<td>4</td>
<td>1962 Revision</td>
<td>$40 $50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1963 Revision</td>
<td>$30 $10</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1964 Revision</td>
<td>$20 $30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$110 $120</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$10,000</td>
<td>.727</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$12,792</td>
</tr>
<tr>
<td></td>
<td>Grand total</td>
<td>$980 $945</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All Projects</td>
<td>$5,633 .872</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$13,521</td>
</tr>
</tbody>
</table>

Source: Cash flow from Table 3, one-year projection-achievement experiences. Projected cash flows used as X variable, achieved cash flows used as Y variable. Estimating equation, \(Y = a + bX\). \(Y_C = \text{computed value for } Y\). \(a = \bar{Y} - b\bar{X}, b = \frac{\sum xy}{\sum x^2}\). \(\sum xy = \sum xy - \bar{x}\sum y, \sum x^2 = \sum x^2 - \bar{x}\sum x, \bar{x} = \frac{\sum x}{N}, \bar{y} = \frac{\sum y}{N}, N = \text{number of projection-achievement experiences.}\)

Standard error of estimate = \(\sqrt{\frac{\sum y^2_s}{N}}, \sum y^2_s = \sum (Y - Y_C)^2\).
estimate is indicated at the bottom of Table 4.

Since it is the purpose of the illustration to show the general nature of the proposed system for measuring expectations, only four projects have been included. With small samples the chance of getting unreliable a and b values and standard errors is very great; however, in order to present the essentials of the system without a burdensome amount of data, the small number of experiences was deemed adequate for illustrative purposes. While there are only four one-year experiences for each project, there are sixteen one-year experiences for all projects combined. The sixteen one-year experiences for the four projects combined are considered to be a reasonably adequate number of experiences to yield reliable results.

Table 5 shows an array of projected and achieved cash flows arranged according to project number for the three two-year projection-achievement experiences for each project included in the illustration. Also shown in Table 5 are the values for a and b which may be used in the estimating equation \( Y_c = a + bX \) to determine the computed value of cash flow for two-year projections for each project and for all projects combined. In addition to the a and b values for the estimating equation, a standard error of the estimate is shown in Table 5 for each
TABLE 5

RECAPITULATION OF TWO-YEAR PROJECTION-ACHIEVEMENT EXPERIENCES BY PROJECT NUMBER SHOWING ESTIMATING EQUATION VALUES AND STANDARD ERROR OF ESTIMATE FOR EACH PROJECT AND FOR ALL PROJECTS COMBINED

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Date of Projection December 31,</th>
<th>Cash Flow (In Thousands)</th>
<th>Estimating Equation Values</th>
<th>Standard Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pro-</td>
<td>Achieve-</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>jec-</td>
<td>-ment</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1961 Orig Proj</td>
<td>$80</td>
<td>$80</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1962 Revision</td>
<td>120</td>
<td>140</td>
<td>.</td>
</tr>
<tr>
<td>1</td>
<td>1963 Revision</td>
<td>100</td>
<td>40</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$300</td>
<td>$260</td>
<td>-63,333</td>
</tr>
<tr>
<td>2</td>
<td>1961 Orig Proj</td>
<td>$60</td>
<td>$100</td>
<td>.</td>
</tr>
<tr>
<td>2</td>
<td>1962 Revision</td>
<td>30</td>
<td>20</td>
<td>.</td>
</tr>
<tr>
<td>2</td>
<td>1963 Revision</td>
<td>10</td>
<td>70</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$100</td>
<td>$190</td>
<td>37,894</td>
</tr>
<tr>
<td>3</td>
<td>1961 Orig Proj</td>
<td>$30</td>
<td>$5</td>
<td>.</td>
</tr>
<tr>
<td>3</td>
<td>1962 Revision</td>
<td>20</td>
<td>60</td>
<td>.</td>
</tr>
<tr>
<td>3</td>
<td>1963 Revision</td>
<td>90</td>
<td>120</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$140</td>
<td>$185</td>
<td>4,418</td>
</tr>
<tr>
<td>4</td>
<td>1961 Orig Proj</td>
<td>$10</td>
<td>$50</td>
<td>.</td>
</tr>
<tr>
<td>4</td>
<td>1962 Revision</td>
<td>50</td>
<td>10</td>
<td>.</td>
</tr>
<tr>
<td>4</td>
<td>1963 Revision</td>
<td>40</td>
<td>30</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>$100</td>
<td>$90</td>
<td>769</td>
</tr>
<tr>
<td></td>
<td>Grand total</td>
<td>All Projects</td>
<td>$640</td>
<td>$725</td>
</tr>
</tbody>
</table>

Source: Cash flow from Table 3, two-year projection-achievement experiences. Projected cash flows used as X variable, achieved cash flows used as Y variable. Estimating equation, Y = a + bX. Y = computed value for Y. a = Y - bX, b = \(\frac{\Sigma xy}{\Sigma x^2}\)

\[
\Sigma xy = \Sigma xy - \bar{x}\Sigma y, \Sigma x^2 = \Sigma x^2 - \bar{x}\Sigma x, \bar{x} = \frac{\Sigma x}{N}, \bar{y} = \frac{\Sigma y}{N}, N = \text{number of projection-achievement experiences.}
\]

Standard error of estimate = \(\sqrt{\frac{\Sigma y^2}{N}}, \Sigma y^2 = \Sigma (Y - Y_c)^2\).
project and for all projects combined for two-year projection-achievement experiences. Since the data in Table 5 pertain to two-year experiences, there are only three such experiences for each project included in the illustration.

There is one fewer two-year experience than there are one-year experiences, due to the fact that two years must intervene between the projection date and the achievement date.

Since the pattern of computing $a$ and $b$ values for the estimating equation $Y_c = a + bX$, as well as the pattern of computing the standard error of the estimate, has been introduced in Tables 4 and 5, it is not considered necessary to compute these values for three-year and four-year projection-achievement experiences. An additional reason for not computing $a$ and $b$ values and standard errors for three-year and four-year experiences is that there is such a small number of these experiences available within the time limitations of the illustration. There are only two three-year experiences for each project and only one four-year experience for each project.

In Tables 4 and 5 the $a$ values represent the amount of achieved cash flow when the amount of projected cash flow is zero. The $b$ values represent the slope of the line of the estimating equation. A value of $b$
represents the amount of change in dollars of achieved cash flow associated with a one dollar increase in projected cash flow. A value of \( a \) designates the point on the line described by the estimating equation at which the estimating line intersects the \( Y \) or vertical axis, and a value of \( b \) describes the unit rate of change in the \( Y \) variable (dollars of achieved cash flow) associated with a one unit increase in the \( X \) variable (dollars of projected cash flow).

It will be noted in Table 5 that the \( b \) value for project number four for two-year projection-achievement experiences is negative. While \( b \) values may be either positive or negative, it is not expected that negative \( b \) values would arise in practical situations because if such were the case management could do a better job of planning and achieving cash flows by the flip of a coin. A negative \( b \) value would mean that small projected cash flows would usually be associated with large achieved cash flows and that large projected cash flows would usually be associated with small achieved cash flows. Such a situation might arise occasionally, but it would not be expected to describe the general pattern of projected cash flow and achieved cash flow.

After determining the \( a \) and \( b \) values to be used in the estimating equation \( Y_c = a + bX \), it would not be
anticipated that the computed value of cash flow expected to be achieved ($Y_e$) would be exactly the amount of achieved cash flow. If this situation existed, all of the plotted points of projected and achieved cash flows would lie on the line described by the estimating equation. Since all of the plotted points used in determining the $a$ and $b$ values for the estimating equation do not fall exactly on the line described by the estimating equation, an allowance must be made for errors in estimating the $Y$ values (achieved cash flow) which are expected to be associated with any given $X$ value (projected cash flow). A measure of the expected dispersion of $Y$ values which are associated with any particular $X$ value is called the standard error of the estimate. Tables 4 and 5 show standard errors of the estimate for each project and for all projects combined for both one-year and two-year projection-achievement experiences.

The standard error of the estimate might be thought of as being analogous to the standard deviation of a frequency distribution. Thus within a range of plus and minus one standard error of the estimate, it is expected that 68.27 per cent of all $Y$ values (achieved cash flow) associated with any specific $X$ value (projected cash flow) will occur. It must be assumed that the
relationship between the X variable and the Y variable is linear, that the X and Y variables are normally distributed, that the variance of the values of the Y variable is approximately constant over the range of the values of the X variable, and that the sample from which the \( a \) and \( b \) values and the standard error of the estimate are computed is a representative sample. Within a range of plus and minus two standard errors, 95.45 per cent of all Y values associated with a specific X value is expected to occur; and within plus and minus three standard errors, 99.73 per cent. As the interval between projection and achievement dates successively increases, it is expected that the size of the standard error would successively increase due to increasing uncertainty.

The use of computed (expected) cash flows for individual projects for managerial purposes might be beneficial to indicate planning and achieving efficiencies for management sub-groups charged with project responsibility. It appears, however, that the use of the expected cash flow for all projects combined would be a better indicator to be used to value management's expectations for reporting purposes. For reporting purposes the valuation should depend on overall management ability and not on a sum of different projects.
Table 6 shows projected cash flows revised at December 31, 1965, for projects one, two, three, and four. Since only one-year and two-year projection-achievement relationships have been statistically related in the illustration, the projections are for the years 1966 and 1967.

The $a$ and $b$ values for one-year projection-achievement experiences for all projects combined are used in the estimating equation $Y_c = a + bX$ along with management's total projected cash flow for 1966 in order to determine the computed (expected) cash flow for 1966. Similarly, the $a$ and $b$ values for two-year projection-achievement experiences for all projects combined are used in the equation to determine expected cash flow for 1967 based on management's projections.

Table 7 shows the discounting by a six per cent interest factor of management's cash flow projections which are expected to be achieved. Management's 1966 total cash flow projection which is expected to be achieved is multiplied by the present value of one dollar at six per cent interest one year in the future to ascertain the present value of management's total 1966 cash flow projection.

Similarly, management's total 1967 cash flow projections which are expected to be achieved are
TABLE 6
SCHEDULE OF PROJECTED ANNUAL NET CASH FLOWS MADE ON
DECEMBER 31, 1965, SHOWING EXPECTED (COMPUTED)
CASH FLOW FOR ALL PROJECTS COMBINED

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Projected Net Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1966</td>
</tr>
<tr>
<td>1</td>
<td>$75,000</td>
</tr>
<tr>
<td>2</td>
<td>40,000</td>
</tr>
<tr>
<td>3</td>
<td>60,000</td>
</tr>
<tr>
<td>4</td>
<td>25,000</td>
</tr>
<tr>
<td>n</td>
<td>..</td>
</tr>
<tr>
<td>Totals - All Projects</td>
<td>$200,000</td>
</tr>
<tr>
<td>Expected (Computed) Cash Flow</td>
<td>$180,033</td>
</tr>
</tbody>
</table>

Sources: Projected cash flows derived from management. Expected cash flow computed using Y = a + bX with a and b values for all projects combined from Tables 4 and 5, and projected cash flow derived from management as X variable.

TABLE 7
COMPUTATION ON DECEMBER 31, 1965, OF THE PRESENT VALUE
OF PROJECTED CASH FLOWS EXPECTED TO BE ACHIEVED

<table>
<thead>
<tr>
<th>Year of Expected Fruition</th>
<th>Expected Cash Flow</th>
<th>Present Value of $1 at 6% Interest</th>
<th>Present Value of Expected Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>$180,033</td>
<td>0.94339</td>
<td>$170,121.51</td>
</tr>
<tr>
<td>1967</td>
<td>147,004</td>
<td>0.88999</td>
<td>130,832.08</td>
</tr>
<tr>
<td>19xx</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total Present Value of Expected Cash Flows</td>
<td>$300,953.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
multiplied by the present value of one dollar at six per cent interest two years in the future to ascertain the present value of management's total 1967 cash flow projection.

The sum of all present values of management's annual projections of cash flows is the present value of the enterprise. To the extent that the present value derived in this manner exceeds the cost of assets necessary to generate the expectations, it should be reported as an asset.

The present value of future net cash flows in excess of asset cost might be reported in the balance sheet as something akin to goodwill, which is usually defined as excess earning capacity. If the amount of excess value is reported in the assets, the credit might be made to expectative income and shown as an unrealized element of owner's equity.

It would not in fact be owner's equity or unrealized owner's equity. The real nature of this element of income is that it is management's subjective estimate of future net cash flows converted by management's past experience of achievement and discounted to the present. The present value of expected net cash flows might be interpreted as unrealized owner's equity in a subjective-objective
sense. It is subjective in the sense that it is based on management's expectations of events; objective in the sense that management's expectations have been converted by factors derived from management's achievements compared to management's expectations.

In so far as the past is a valid indication of future achievement of management's expectations, the subjective expectative income of management has been converted into an objective expectative income of management. However, it is realized that the subjective data included make the overall result subjective.

Some of the problems which would have to be solved to implement this system would concern: the interest rate; the ability of the system to handle changes in the expectations of management as well as changes in management itself; the incorporation of the results of these changes into the system; management's willingness or reluctance to acquiesce to the requirements of the system; and, the auditing of the system.

The interest-rate problem will be dismissed with a few general comments because such a discussion would contribute little of significance to the general outline of an expectative income method.
The interest rate chosen preferably ought to be identical for all companies, or as a minimum requirement, it ought to be the same for all companies within any particular industry. This identity of interest rates used in the discounting process would make all data compatible. This compatibility would serve an obvious purpose of financial and managerial accounting in facilitating the comparison of one company with another company in the same industry. If such discounting rates were universal, the data of all companies would be compatible in this respect. Excluding the expectations themselves, the sole variable factor used to quantify the prospective receipts of any management would be the probability of realization of expectations, and this is the very thing that is being measured. The interest rate could vary from year to year because its only function is to make future cash flows homogeneous.

The incorporation into the system of a method of allowing for changes in managerial expectations as time progresses would probably be somewhat troublesome. The suggested technique for handling such changes would be to allow management to revise expectations for all projects once each year, at or near the end of each accounting period, so that expectations reported on the end of year balance sheet would be currently revised expectations.
At first glance this procedure appears to produce a shifting base against which management's actual realizations are compared. A fixed base is necessary in order to determine a probability estimate of management's ability to convert expectations into actual cash flows. The feature of the system which permits management formally to revise expectations merely allows management to view each temporal segment of the specific investment plans from an ever nearer vantage point. It is the probability of achievement of expectations for sequential annual periods of time which is being measured.

The revision of plans each year is compatible with good management theory; however, the system cannot permit continuous revision of a current year's expectations, because with such revision expectations for the current year would always exactly equal the realized results at the end of the period, since the period would be continuously shortened by the passage of time. It is not the intention of the system to make planned cash flows and realized cash flows identical but to measure management's ability to achieve its projected cash flows.

In cases in which many projection-achievement experiences of actual net cash flows versus projected
net cash flows are available for correlation purposes, it would be desirable to include only the most recent experiences. The inclusion of only the most recent experiences in the determination of computed (expected) cash flow would enable the system to incorporate changes in management's ability to project and to achieve cash flows, as well as reflecting changes in management itself.

Management may not be willing to disclose its future prospects.\(^5\) To serve the purpose of the system most effectively, management should disclose a time schedule of projected income by major investment. Also disclosed in a qualitative manner would be the products and/or services, which each major investment is intended to produce.

Such a qualitative disclosure of future

\(^5\)Morton Backer, "Accounting Theory, Objectives, and Measurements," The Journal of Accountancy, CXVI (October, 1963), 59-60; Charles T. Horngren, "Disclosure: 1957," op.cit., p. 604. Horngren says that time-worn reasons for withholding information are no longer applicable because competitors know or have ways of getting desired information, and also the "favored few" benefit with anything less than adequate disclosure. For counter argument see Edwin C. Bomeli, "The Accountant's Function in Determination of Net Income," The Accounting Review, XXXVI (July, 1961), 457. Bomeli speaks of "additional supplementary material beyond that customarily provided in published reports" as being not only unnecessary for readers of such statements but as possibly being "detrimental to the firm."
products or services would be a basis on which stockholders or prospective stockholders would attempt to evaluate management's ability to discern the resource allocation desires of consumers. The investor would thus have qualitative information which relates to the variable which must be appraised subjectively—how do consumers want available resources allocated? Presumably, management's ability to achieve results would be measured by the system proposed here, removing at least some uncertainty from the area of management's ability to achieve what it has planned.

Management would not be required to do much work in addition to normal capital budgeting in order to provide the data needed for the evaluation of expectations. However, under the proposed system, capital budgeting would become a formal system. It would be necessary to formalize the capital budgeting system in order that the input and output variables of the process, as well as the process itself, could be reviewed by capable individuals to determine the reasonableness of the system and the input and output data. It is suggested that responsibilities be established for auditing expectative income similar to the responsibilities now performed by the independent
auditor for realized income. It is not suggested that the function of the independent audit of expectations can be performed by those now regarded as performing the independent auditing function. The proposal is that the responsibilities of the auditor of expectations be approximately analogous to the responsibilities of the independent auditor of realized income.

Such a formalized capital budgeting system, if it were required of management, would tend to compel management to put more emphasis on its planning function. It appears that the expectative measuring and correlating system proposed would tend to encourage management to put equal emphasis on the income planning and income achieving phases of a business. The present system of accounting puts major emphasis on the achieving phase of business operations.

Even if management were reluctant to disclose a time schedule of expected income for each major investment, it might be willing to disclose the discounted expectations for each major investment along with a qualitative disclosure of goods and services

---

to be produced by each investment. If management were still reluctant to make any public disclosures of quantitative and qualitative aspects of expectations, even if the system could be used advantageously by investors, public opinion might compel management to reveal expectative aspects which are in the public interest. Resource allocation appears to possess some characteristics which make it a near universal problem.

The preceding discussion has been postulated on the basis that management may be unwilling to make the minimum disclosure necessary for the expectative concept to become operational; however, it is not assumed that reluctance need necessarily arise, other than that reluctance associated with any change.  

Disclosure of expectations by management would probably have a completely neutral effect as far as competition is concerned. Disclosure of expectations by a strong company may discourage potential entrance of other companies into the industry or expansion plans of companies already operating. With disclosure of qualitative and quantitative expectations, it appears reasonable to assume that potential entrance

---

7Horngren, "Disclosure: 1957," op.cit., p.604, points out the positive advantages of disclosure upon the attitudes of financial analysts who influence the market price of company shares.
into any particular industry or expansion of an existing company would be undertaken on the basis of known conditions of supply and estimated conditions of demand.\(^8\)

If the conditions of supply are known within reason, then the sole variable remaining is the estimated condition of demand. The decision to begin a new business or enlarge an existing one would apparently turn on managerial ability. In any event, it appears that relatively weak managements would be at a disadvantage and that relatively strong managements would be at an advantage. From the point of view of the economy as a whole this may be desirable within certain constraints.

Just as management today makes available to independent auditors confidential data concerning business operations, it should be willing to disclose in confidence to an auditor of expectative income the data necessary to represent fairly the expectations of the business. The auditor of expectations could disclose in published statements such summary data

---

as would enable investors to determine the allocation of resources, the present value of management's subjective expectations, and management's ability to achieve its expectations.

One defect of this expectative income system is apparent in the case of a new enterprise. Until a management of a particular entity performs both the planning and achieving functions of income for a number of years, no relationship can be established between the two. Such a relationship between projected and achieved income is necessary in order to establish values for the estimating equation and hence the expected amount of management's projected cash flows. However, after one year of operation a tentative relationship could be determined for the next year's expectations, making use of a one-year projection-achievement experience; after two years of operation two one-year projection-achievement experiences and one two-year experience would be available. Each subsequent year of operation would provide additional projection-achievement experiences. Only during the first year of operations would there be maximum uncertainty. This appears to be compatible with reality.

Another problem to be encountered in the
application of this expectative income system would concern entities in which the number of major investment decisions is extremely small. If an entity made only one investment decision each year or one every several years, such a small sample would yield a relationship between projected and achieved cash flows which would not be as reliable as a similar relationship established by a relatively large number of investment decisions. However, an expectations auditor could always qualify the reported data appropriately.

It is generally believed by accountants that management is usually overoptimistic. If this is true, the proposed system of measuring expectations seems to provide a good method for subjecting management's alleged overoptimistic projections to a "truth" factor derived by comparing management's past cash flow projections with management's past cash achievements.

Even if a management were consistently inclined to be conservative and always made lower cash flow projections than were achieved, the proposed system also would evaluate properly such a management's projected cash flows. This proper evaluation would result because of the previous relationship between projected cash flows and achieved cash flows. The \( a \) and \( b \) values to be used in the estimating
equation to determine the amount of management's projected cash flows expected to be achieved would be such that the computed (expected) cash flow would be adjusted upward automatically by the formula. If a management has a historical penchant to be conservative, the system adjusts automatically for this bias when the $a$ and $b$ values are computed based on management's past projection-achievement experiences.

If it can be assumed that there are no sudden changes in management or the management process and that the future also will not be characterized by cataclysmic changes, the system advocated would be of assistance to the investor and prospective investor by indicating a management's ability to achieve its goals. Following the system advocated, management would disclose in qualitative and quantitative terms the goals (production of goods and services) to the accomplishment of which it has committed wealth in a time sequence of annual periods extending from the present as far into the future as management projects plans to produce goods and services.

Since the expectative projection-achievement experience system attempts to express quantitatively
management's past ability to convert its expectations into achievements, the investor is required only to determine subjectively whether the resources which management has allocated or plans to allocate to the production of goods and services are actually allocated to the production of goods and services which consumers need and want. If the investor desires, he can modify subjectively the results generated by the proposed system in order to include any changes he may foresee which may affect management's future ability to achieve goals.

While it is true that the investor wants gains either immediate or deferred on his investment, he must make some sort of evaluation of the future prospects of the enterprise in which he is considering risking his capital. Probably the single greatest factor affecting the future prospects of an enterprise is the ability of an enterprise management to cope with change and uncertainty. It is believed that the proposed system provides a framework which yields a quantitative measure of management's ability to adjust successfully to changing conditions.

Although not taken into consideration, the ramifications of the business cycle may play an important role in the proposed system. This problem
might well be the subject of future study to expand the basic outline presented in this paper.

Summary

A method of measuring and reporting management's subjective expectations has been presented in outline form. The proposed system uses as raw data management's projected annual cash flow and achieved annual cash flow of each major investment project. Projected annual cash flows for each project are associated with achieved annual cash flows for each project in order to obtain $a$ and $b$ values to be used in the estimating equation $Y_c = a + bX$. The values of $a$ and $b$ are used in the estimating equation along with management's subjective projected annual cash flows in order to derive cash flows expected to be achieved for each project.

Values of $a$ and $b$ to be used in the estimating equation may be derived for each project for one-year, two-year, three-year, four-year, and n-year (infinite number) projection experiences. Values of $a$ and $b$ may also be derived for all projects combined for one-year, two-year, three-year, four-year, and n-year projection-achievement experiences.

The values of $a$ and $b$ derived by relating management's past projected cash flows with man-
agement's past achieved cash flows are used in the estimating equation \( Y_c = a + bX \), to determine the amount of management's projected cash flows which is expected to be achieved.

Since management makes cash flow projections for \( n \)-years into the future, management's cash flow projections expected to be achieved are discounted by an interest factor to obtain a present value for all expected net cash flows. To the extent that the present value thus derived exceeds the cost of the resources necessary to generate those expectations, an unrealized expectative income exists.

Some problem areas pertaining to the proposed system of measuring expectations are: the rate of interest to be used in the discounting process; the incorporation into the system of changes in management's cash flow projections, changes in management itself, and changes in management's experience; and the auditing of the system.
CHAPTER VI
SUMMARY AND CONCLUSIONS

Conventionally, accountants try to derive a measure of the changes in wealth committed to an enterprise between two points in time. Such a measure is called income. It has traditionally been that measure, which added to the net assets of the enterprise at the beginning of a period of time will equal the net assets of the enterprise at the end of that period of time.

Since accountants have the idea that income is an increase in the net assets of an enterprise for which management is accountable, it seems natural for them to have a retrospective view of income. That is, they customarily view income as that wealth which has flowed into the enterprise during a period of time as a result of managerial economic activity.

If income measurement were the sole function which the accountant performed, and if the magnitude which he reports as income were not used in an interpretive manner, then the accountant's concept of
income probably would be subjected to less criticism.

If income is viewed simply as an addition to already existing wealth and as something for which management is held accountable, then the reason for the existence of enterprise wealth has been completely ignored. At one time, of course, wealth was regarded as something which was to be guarded in a somewhat miserly fashion; and this, no doubt, contributed to the stewardship concept of assets.

In modern society, however, enterprise wealth is that wealth which is risked through the medium of business enterprise by holders of wealth to produce more wealth. It seems that the primary emphasis in an enterprise is placed on the use of wealth rather than on the conservation of wealth. Conventional accounting has tended to put more emphasis on the conservation of enterprise wealth, while from a more liberal point of view wealth might be viewed as a potential generator of future wealth.

Actually there is no clear-cut point which can be chosen on the conservative-liberal spectrum of accounting to indicate the point at which conventional accounting rests. There are merely certain tendencies for different asset valuation methods to be oriented more toward one end of this spectrum or
toward the other end. Rather than points on a spectrum, these different asset valuation ideas become in most cases an interval on the spectrum. However, generally, they may be referred to as time-oriented points.

This study is concentrated in three main areas on the time-oriented spectrum of wealth concepts. Specific time areas included are the past, the present, and the future. Conventional accounting asset valuation was chosen as representative of the past, replacement cost asset valuation as representative of the present, and economic present-value asset valuation as representative of the future.

Some accounting asset valuation methods followed or proposed to be followed are examined at these three time points to determine the extent to which such methods incorporate the concept that an asset is valuable due to its future service potential. In addition, an eclectic method is proposed that incorporates into conventional accounting a subjective-objective valuation for managerial expectations.

Conventional accounting generally adheres closely to the historical cost principle in the valuation of tangible fixed assets and inventories. In the valuation of other assets, however, including
some inventory valuation methods, departures from historical cost are made.

Principally, these departures from the cost basis adhere to a net realizable value basis. Net realizable value is determined by estimating the future cash flows and deducting therefrom costs necessary to complete and sell inventories and receivables. The sole difference between net realizable value and discounted cash flow lies in the fact that following the net realizable value method, there is no adjustment for time differences in dollars, while under the discounted cash flow method, the dollars nearer to the present are considered more valuable than dollars more prospectively remote from the present.

Conventional accounting, modified by the unrestricted application of the accrual concept, would permit the recognition in the accounts of current values for fixed assets and inventories. The admission of current values for these two types of assets would bring their time-oriented valuation point nearer to that time point used in the valuation of other assets. It is realized that following the first-in first-out cost flow method (FIFO), inventories can be valued at approximately current costs,
but following this method compels past historical costs to be matched against current revenue.

There appears to be no need for dual time-categories in costing inventory for use or for sale. Current values for the entire inventory available for use or for sale would obviate the necessity of polemics concerning which category has been used, and which category is still on hand. Current costs could also be admitted for fixed assets if an extension of the accrual concept were permitted.

A complete application of the disclosure concept would permit conventional accountants to push beyond the present in a time reference frame and to take into consideration that which is considered the true basis of asset valuation—the future use to be made of wealth.

While conventional accounting might be modified to include current values, when the time-reference point of view shifts from the past to the present, this new point of view is usually referred to as current or replacement costs. It is contended that replacement cost asset valuation represents a step forward from the present historical-cost asset valuation method. The principal benefit of such an asset valuation method is that income can be divided
into operating income and holding gains.

Conventional accounting income includes holding gains on inventories and fixed assets used in producing goods sold as an undifferentiated portion of income. The differentiation of these two types of income would permit management and others to make a judgment concerning managerial operating efficiency and managerial speculative abilities, as well as giving some idea of present process efficiency.

Replacement-cost asset valuation methods introduce nothing of an expectative nature into the accounts. This statement is valid only as long as the replacement costs contemplated are current replacement costs. If the idea of future replacement cost is introduced into an asset valuation method, then expectations play a part in the income determination process, and income will vary in an inverse relationship with the expected replacement cost. If future costs were expected to be greater than existing costs, then in the case of depreciable fixed assets, the present depreciation charge would provide for replacement at the expected future cost. Following the idea of future replacement cost, income for a period would be that wealth produced in excess of the wealth necessary to replace at some future
time the wealth used up in production.

The difference between future replacement cost and current replacement cost would be in the fact that capital goods, under current replacement cost, would be viewed as divisible units which can be replaced piecemeal; whereas, under future replacement cost, capital goods would be regarded as being indivisible capital wealth units which may yield their services continuously over long periods of time but must be replaced as a complete unit.

While replacement cost asset accounting is usually regarded from a present-time point of view, it might be modified to include future aspects. However, when the time-reference frame shifts from the present to the future, the asset valuation method is usually referred to as the economic present value method. This method views asset valuation from a time-oriented direction which is a complete half-cycle away from the direction used by conventional accountants. Following this view, the value of an asset is the time-adjusted net cash flow which will be produced by the object of wealth which is being valued.

Since the time orientation is determined by the method, an asset's valuation depends upon three
main factors: the magnitude, the time dispersal, and the interest factor. Due to the fact that in most cases enterprise net cash flows are joint products of a group of related but heterogeneous assets, it becomes necessary under this valuation method to value the entire business, not the individual assets which comprise the whole enterprise.

Accountants conventionally value individual assets, and a valuation system which could not be used to value all individual assets without some arbitrary allocation could not be said to be universally applicable to value individual assets. The present value of future net cash flows will properly value individual assets which are sole producers, as opposed to joint producers, of future net cash flows. However, generally, it cannot be used with precision in cases like inventory and fixed assets, because the future net cash flows are jointly produced.

The inability of the economic present value method to determine individual asset values precisely is not a particularly serious defect, but difficulty arises when a determination of income for a certain period of time is attempted.

To determine periodic income following this method, it is necessary to determine present value
for two points in time and to deduct the present value at the beginning of the period from the present value at the end of the period. Assuming no transactions with owners as owners, the difference would be periodic income.

The serious defect of the period income so derived is that future expectations, from which the end-of-period present value is derived, have been altered during the period by changes in expectations. These fortuitous changes in expectations appear to have no connection with enterprise periodic income, if the enterprise is viewed as a producer of wealth (goods and services) rather than as a producer of expectations.

An enterprise must produce expectations, but it must also execute the plans which are the bases of those expectations. If the mere possession of wealth, as opposed to the use of wealth to produce more wealth, is that which is being valued, then, the economic present value method performs well. But if created wealth is that which is being measured, then the economic present value method does not suffice.

A system which would incorporate both the planning and achievement elements into asset valuation is proposed. From a time perspective this
system would recognize both future expectations and past accomplishments. It could not be said that the proposed method would be heavily weighted in favor of either historical achievement or future expectation. It is argued that the system is a balanced approach.

This method was formulated, not because it represents a middle-of-the-road compromise between two stoutly defended positions on asset valuation and income determination, but because it represents a reasonable approach to the enterprise asset-valuation, income-determination problem.

The method of deriving the quantitative relationship to be used in evaluating management's expectations is viewed as a thread of the going concern which reaches back into the past for those facts which the past may reveal about a specific management process and at the same time uses future expectations in order to give the management process complete freedom to determine the enterprise goals and plans and the organization to accomplish these goals.

The amalgamation of future managerial expectations with the objective fact of past accomplishment seems to provide a theoretical basis on which present enterprise valuation can be established in an objectively subjective manner.
In addition to the ability of the proposed system to bring together the past and the future, the flexibility of the system to permit management to revise its formal plans once each accounting period, is considered to be of value.

Over the long run this revision of plans will permit a management process to approach a "limit" of its ability to plan for achievement and to achieve wealth production which is desired by society. To the extent that a management process can approach perfection of planning and accomplishment, then the quantitative results of this approach to perfection will be reflected in the evaluation of management's expectations by the computed factors used in the estimating equation. To the extent that a management process lacks the ability or that a management lacks the desire to ascertain, plan for, and achieve society-desired goals, then this managerial handicap will reveal itself in the computed factors used to evaluate management's expectations.

This plan-revision feature should permit a management to review its plans and goals successively and to alter these successively where external factors preclude accomplishment of the original plans. Although not specifically integrated into the system,
alterations of original goals could easily be incorporated into the system by relieving management of the obligation to perform under the old goals and charging management with the altered goal and the plans for achieving the new goal.

The interest-rate factor provides the system with a feature which may be used to standardize the reporting of future net cash receipts within industries or within the economy as a whole.

Since the risk factor has been included in the factors used in the estimating equation to evaluate management's subjective expectations, the sole function of the interest rate factor in the proposed system is to adjust for the time value of dollars. It would appear reasonable to assume that a uniform interest rate could be used at least within an industry and probably for the economy as a whole.

The incorporation into the accounting process of the proposed method of valuing assets should tend to orient accountants and enterprise managers toward the following broad objectives, all to be viewed as a continuous rather than a periodic process.

1. The ascertainment in qualitative and quantitative terms of the needs and desires of society in a time-oriented pattern.
2. The formulation and disclosure by each individual enterprise of its plans to fulfill society's needs and desires, expressed in qualitative and quantitative terms in a time-ordered sequence.

3. The accomplishment of enterprise plans.

4. The comparison of enterprise plans with enterprise accomplishments.

5. The revision of enterprise plans as a result of enterprise failure to accomplish its goals and/or the changing needs and desires of society.
SELECTED BIBLIOGRAPHY


Arnett, Harold E. "What Does 'Objectivity' Mean to Accountants?" The Journal of Accountancy, CXI (May, 1961), 63-68.


Flanders, Dwight P. "Accountancy, Systematized Learning, and Economics," The Accounting Review, XXXVI (October, 1961), 564-76.


Horngren, Charles T. "How Should We Interpret the Realization Concept?" The Accounting Review, XL (April, 1965), 323-33.


Marple, Raymond P. "Value-itis," The Accounting Review, XXXVIII (July, 1963), 478-82.


Tilly, Virgil S. "Depreciation--Does It Relate to Original Cost or to Cost of Replacement?," The Accounting Review, XXXIII (October, 1958), 622-24.


Windal, Floyd W. "Legal Background for the Accounting Concept of Realization," The Accounting Review, XXXVIII (January, 1963), 29-36.


Zeff, Stephen A. "Replacement Cost: Member of the Family, Welcome Guest, or Intruder?," The Accounting Review, XXXVII (October, 1962) 611-25.


VITA

John Murray Wannamaker was born August 17, 1924, at Orangeburg, South Carolina, the son of Mrs. Eldon Shields Wannamaker Sr., and the late Mr. Wannamaker. He is married to the former Patricia Ruth Walker of Columbia, South Carolina, and they have two daughters, Rebecca Carol and Margaret Anneve.

After graduating from Orangeburg High School in 1941, Mr. Wannamaker served in the United States Army for three years during World War II in England, France, Belgium, Holland, Germany, and Austria. He received a B.S. degree, cum laude, from the University of South Carolina in 1950. After several years of experience in private business, he returned to the University of South Carolina and received his M.S. degree in accounting in 1960.

Mr. Wannamaker continued his graduate work as a teaching assistant in the Department of Accounting at Louisiana State University from 1960 to 1963. He is currently an Assistant Professor of Industrial Management at Clemson University, Clemson, South Carolina.

Honorary and professional societies of which he is a member include: Phi Beta Kappa, Beta Alpha Psi, and the American Accounting Association.
EXAMINATION AND THESIS REPORT

Candidate: John Murray Wannamaker

Major Field: Accounting

Title of Thesis: Some Expectative Aspects of Income Recognition Related to Asset Valuation

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

July 11, 1966