Evaluation of the Usefulness of the Application of the Relevant Costing Concept in Managerial Decision-Making.

Felino Joseph Valiente

Louisiana State University and Agricultural & Mechanical College

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EVALUATION OF THE USEFULNESS OF THE APPLICATION OF THE RELEVANT COSTING CONCEPT IN MANAGERIAL DECISION MAKING.
Louisiana State University and Agricultural and Mechanical College, Ph.D., 1967
Accounting

University Microfilms, Inc., Ann Arbor, Michigan
EVALUATION OF THE USEFULNESS OF THE APPLICATION OF THE
RELEVANT COSTING CONCEPT IN MANAGERIAL DECISION MAKING

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
Felino Joseph Valiente
B.B.A., Tulane University, 1956
M.B.A., Tulane University, 1960
May, 1967
ACKNOWLEDGMENT

The writer wishes to express appreciation to Dr. Lloyd F. Morrison, Professor of Accounting, for his valuable assistance and guidance in the preparation of the dissertation. Thanks are due also to Dr. Clarence L. Dunn, Professor of Accounting, Dr. Fritz A. McCameron, Professor of Accounting, Dr. Leon C. Megginson, Professor of Management and Marketing, and Dr. Donald E. Vaughn, Associate Professor of Finance for their interest and suggestions.
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ABSTRACT

Relevant costing is a variable-costing technique which treats fixed manufacturing costs as current period expenses except when such costs will increase future income. The relevancy of fixed manufacturing costs for asset measurement is determined by means of certain rules with respect to the effect of production on predicted economic events. These rules are: (1) that future production is expected to be at maximum capacity with future sales in excess of capacity by the amount of increase in ending inventory; or (2) that variable production costs are expected to increase; or (3) that future sales will be lost because of an inadequate inventory.

The purpose of this study is to examine the justifications, the advantages and disadvantages, and the usefulness of the relevant costing concept for decision-making purposes. The study is theoretical in nature and consists of an examination of one phase of the relevancy of fixed costs to inventory measurement.

A major advantage attributed to relevant costing is that a more meaningful matching of expenses and revenues is obtained than would be possible under direct costing or absorption costing. Relevant costing, however, is more difficult to use than direct costing or absorption costing.
owing to the problems involved in making assumptions about a firm's future operating conditions.

Certain types of internal decisions are facilitated when relevant costing is used as opposed to absorption costing. These types of decisions, however, can also be facilitated through the use of direct costing. In some instances relevant costing may provide more accurate bases for decisions than direct costing because of its future orientation.

Absorption costing advocates oppose relevant costing on the grounds that fixed manufacturing costs are just as much costs of the product as are variable costs. Proponents of relevant costing argue that only fixed manufacturing costs which reduce future costs or increase future revenues should be included as part of the inventory value. The use of relevant costing for external reporting has not been supported by any of the professional accounting associations, and the question of its acceptance for income tax purposes as yet remains unsettled.

The examination revealed that relevant costing is an important addition to cost accounting because it is useful for internal and external decision-making purposes. The application of the concept is supported from within the framework of existing accounting theory and from the viewpoint of analytical usefulness.
Automation and the implementation of guaranteed annual wage plans are tending toward causing variable costs to become fixed costs. As this trend continues, increasing attention will be devoted to accounting for fixed costs. Relevant costing, or some variation, may then receive general acceptance.
CHAPTER I
INTRODUCTION

Relevant costing, as referred to in this study, is a modified variable costing technique which may be used as a guide in reporting to the internal and external users of financial statements. It is a relatively new and theoretical concept which, based upon available information, has had little or no application to date in actual business practice.¹

In its essence, relevant costing requires the expensing of fixed manufacturing costs as current period expenses except when it is determined that such costs will either result in an increase in future revenues or a decrease in future costs. Certain assumptions, other than that of the going concern, about the future operations of the firm are necessary to make relevant costing acceptable. These assumptions are: (1) that future production will be at maximum capacity with future sales in excess of capacity by the amount of increase in ending inventory; or (2) that variable production costs are expected to increase; or (3) that future sales will be lost because of the absence of

inventory.

In spite of its lack of general acceptance in practice to date, relevant costing is an important contribution to the cost accounting area. First, it enables the accountant of a business enterprise to obtain a better matching of expenses and revenue, thereby producing financial statements which are decision-oriented. Second, only costs relevant to future periods are carried forward as assets on the balance sheet.

Relevant costing is a possible solution to the direct costing versus absorption costing controversy which has persisted for over twenty years. Some accountants, herein referred to as "direct costers," suggest that a direct costing system\(^2\) is superior to an absorption costing system for decision-making purposes. Other accountants, herein referred to as "absorption costers," concede that direct costing is an important tool for internal management, but they reject the notion that it produces acceptable financial statements for external reporting.

Relevant costing may be considered a variable costing

\(^2\)Variable costing is the term often substituted for direct costing in the accounting literature. Most accountants feel that direct costing is a misnomer. For an expanded discussion see, James M. Fremgen, "The Direct Costing Controversy--An Identification of Issues," The Accounting Review, (January, 1964), 43-51.
technique because, like direct costing, relevant costing requires that expenses be initially recorded as either fixed or variable. In addition, both methods yield the same results most of the time and the results of operations (income statements) are reported in essentially the same manner.

Need and Purpose of the Study

The existing similarity between relevant costing and direct costing has created some uncertainties in the minds of some writers concerning the nature of relevant costing. Some writers consider relevant costing and direct costing to be one and the same. This view is pointed out in the following quotation from a recent article by Sorter and Horngren:

In a previous article . . . we advocated this same assumption . . . as proper criterion for asset valuation. However, our preoccupation with direct costing per se evidently obscured our arguments for relevant costing as a principle distinct from both conventional and direct costing. For example, two recent articles critical of our earlier paper are heavily aimed against variable costing rather than against relevant costing as a concept.3

The misconceptions which apparently prevail relative

to the nature of relevant costing, as evidenced by the preceding quotation, suggest that a need exists to examine the justifications, the advantages and disadvantages, and the usefulness of the relevant costing concept for decision-making purposes. Such misconceptions may inhibit the use of relevant costing, and the full potential of the concept as a tool for decision-making purposes may never be realized.

Scope and Limitations

This study is an examination of the relevancy of fixed costs to asset measurement. As such, it represents a theoretical study of the nature of relevant costing as it relates to the broad area of decision-making, as opposed to specific decisions (internal or external) requiring analyses of all costs relevant to such decisions. This latter type of analysis is identified by Professor Horngren as relevant cost analysis for problem solving. Obviously, relevant cost analysis for problem solving would entail an examination of the entire area of managerial accounting and portions of other related disciplines such as
economics.4

Organization of the Study

The first phase of the study is an analysis of the conceptual basis of relevant costing, including an extended illustration of the concept. This analysis is undertaken in the initial stage of the study in order to define and to identify relevant costing as a variable costing technique which is separate and distinct from both direct costing and absorption costing. The analysis serves as a basis for evaluating relevant costing within the framework of current accounting theory.

The second phase is a consideration of the advantages and disadvantages of relevant costing from the point of view of both internal and external financial statement users. This part of the analysis is an evaluation of the strengths and weaknesses of the concept.

After the analysis of the theoretical background the next phase is a consideration of the applications of relevant costing for internal and external decision-making

purposes. This discussion is undertaken in keeping with the principle that usefulness should be the overriding criterion for evaluating financial statements. Specific applications of the concept to internal decision situations are presented first, followed by useful external applications, including financial statement analysis.

Finally, the current status of relevant costing is examined. Views of the proponents and the opponents of relevant costing are presented. The positions of professional accounting organizations, and the position of the Internal Revenue Service relative to the use of relevant costing for income determination are also examined. This material is pertinent, in view of the influence which leading authorities and professional organizations have upon business managers and accounting practitioners.
CHAPTER II

CONCEPTUAL BASIS OF RELEVANT COSTING

Introduction

As previously noted, there are two major distinct groups of users of accounting data. These two groups may be identified as: (1) those within the operating unit (managers), and (2) those outside the operating unit.¹ Logically, it follows that accounting, viewed as an information system, should provide the financial information needed by both groups.

Before analyzing the pros and cons of relevant costing, it is necessary to identify the relevant costing concept and to examine its conceptual basis. An extended example of the relevant costing concept serves to illustrate the concept. The statements presented may help the reader understand the extent to which relevant costing meets the needs of financial statement users.

General Assumptions Underlying Relevant Costing

The going concern concept is a basic assumption underlying relevant costing. The going-concern concept

views an entity as remaining in operation indefinitely, in the absence of evidence to the contrary. The concept assumes that "controlling environmental circumstances will persist sufficiently far into the future to permit existing plans and programs to be carried to completion."\(^2\)

The Relevant Costing Concept

Relevant costing is, in essence, a modified variable costing technique which according to its proponents, Professors Sorter and Horngren, is useful as a guide in reporting to the internal and external users of financial statements.\(^3\)

This concept considers variable manufacturing costs in all instances as costs of products produced. These costs, including variable costs already incurred (sunk) are considered relevant because of their assumed affect upon future costs. Fixed manufacturing costs may be either


period expenses or product costs. Such fixed manufacturing costs are expensed in the period incurred unless certain conditions or assumptions, identified by the proponents of relevant costing as economic attributes, are present. These economic attributes are actually assumptions made by managers concerning the future operation of the firm. The assumptions which require that fixed manufacturing costs be capitalized are: (1) when future sales would be lost because of a shortage of inventory, (2) when future sales demand would exceed existing productive capacity, or (3) when variable manufacturing costs are expected to rise in the future. 4

The notion of relevant costing places emphasis on the fact that "accounting is a tool for decision making by managers, investors, and all interested parties," and that "usefulness for decision making . . . becomes the overriding criterion for judging existing reports." 5 Relevant costs suggest that assets should include only relevant costs because they are the only costs that have any bearing on investment or managerial decisions. Under this approach,

---


all costs not relevant to decision-making, i.e., costs which do not affect the future and costs which will not change between alternatives, are charged off as period expenses.6

According to Horngren and Sorter, reliance on relevant costing provides useful and meaningful statements for both groups of financial statement users. They assert that emphasis on physical form which is advocated by full costers results in improper matching of costs and revenues. Emphasis upon economic attributes and measurements, they contend, achieves a proper matching of costs and revenues, thereby producing useful, decision-oriented financial statements for both managerial and investment decisions. These decision-oriented statements, they submit, facilitate the decision-making process and enable both types of decision-makers to make more timely and more accurate decisions. The merits of this assumption are examined later.

Theoretical Basis of Relevant Costing

The relevant cost concept deals with the allocation of costs to assets and expenses. Accordingly, any decision

6Since decision-making is selecting between available alternatives, only those future costs which differ between alternatives are relevant and, therefore, are carried as assets. All other costs have no bearing in decision-making.
as to what costs to allocate to inventory depends partly
upon the definition of assets. The definition accepted by
relevant costers is that assets are "aggregates of service-
potentials available for or beneficial to expected
operations." Sprouse and Moonitz contend that "assets
represent expected future benefits." These two
definitions may be interpreted as being essentially
identical for the purpose of this study. The
interpretation of the service-potential notion as "cost
obviation" is offered as support for relevant costing by
Horngren and Sorter. They state that:

... a cost has service potential, in the
traditional accounting sense, if its
incurrence now will result in future cost
avoidance in the ordinary course of business
...

7James M. Fremgen, "The Direct Costing Controversy--
An Identification of Issues," The Accounting Review,
(January, 1964), 47.

8American Accounting Association, Accounting and
Reporting Standards for Corporate Financial Statements and
Preceding Statements and Supplements (Columbus: American

9Robert T. Sprouse and Maurice Moonitz, A Tentative
Set of Broad Accounting Principles for Business Enterprises,
Accounting Research Study No. 3 (New York: American
Institute of Certified Public Accountants, 1962), 20.

10The term 'cost obviation' was coined by David Green.
See David Green, Jr., "A Morale to the Direct Costing
Controversy," cited in Sidney Davidson, et. al., An Income
Approach to Accounting Theory: Readings and Questions
If the total future costs of an enterprise will be decreased because of the presence of a given cost, that cost is relevant to the future and is an asset; if not, that cost is irrelevant and is expired. 11

Economic Attributes Underlying Relevant Costing

In keeping with the 'cost obviating' notion, relevant costers view fixed manufacturing costs as relevant under certain conditions and would include these costs in inventory if any of the following conditions are met:

1. Future production must be at maximum capacity with future sales in excess of capacity by the amount of increase in [current period's] ending inventory.

2. Variable production costs are expected to increase.

3. Future sales will be lost forever because of lack of inventory. That is, the absence of inventory at a certain place at a certain time will result in a permanent loss of certain sales. 12

Relevant costers identify the three preceding conditions as economic attributes. Unlike absorption costers, they do not agree that costs attach either on a period or on a product basis. They submit that costs

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11 Hornsgren and Sorter, "Direct: Costing for External Reporting," 86.

attach on the basis of economic attributes. Costs should be deferred (capitalized) only if they will have a favorable impact on future revenues or future costs. Proper matching, they submit, cannot be achieved unless current costs which will have a favorable effect on future costs or revenues are deferred until their future impact is felt. Relevant costers offer as support for this idea of economic attributes the following quotation by Paton and Littleton:

... In a broad sense, all costs of factors which contribute to the grand total of objects and conditions making up the economic structure of the enterprise, are represented in the physical structure of the enterprise, even though it may not be expedient to assign all of them to specific sections or elements of such physical structure. Accountants have undoubtedly been unduly preoccupied with the view that assets are properly recognizable only in terms of definite units. Accounting is concerned with economic attributes and measurements, not with the physical layout as such.13 (Emphasis supplied.)

The treatment of depreciation of manufacturing facilities by the relevant coster presents an excellent opportunity to illustrate the economic attributes notion.

"... if production today will in no way affect either the number of units to be sold in the future or the cost

(including opportunity cost) of these units, ... depreciation conventionally allocated to such units is not an asset. Thus, if depreciation is considered a function of time, a period expense, no part of the depreciation charge is capitalized. If it is considered a function of production, it is capitalized or carried forward as part of the inventory carrying value.

This economic attributes notion is ignored by absorption costers. They assume that "costs attach," and offer as support the following quotation by Paton and Littleton:

... it is a basic concept of accounting that costs can be marshaled into new groups that possess real significance. It is as if costs had a power of cohesion when properly brought into contact.

... accounting assumes that acquisition costs are mobile and may be reapportioned or regrouped, and that costs reassembled have a natural affinity for each other which identifies them with the group. ... Some costs, like manufacturing overhead, in which an affinity with a product can be detected, are allocated directly to a product. ...  

---


15Paton and Littleton, loc. cit.
Arguments in Support of Relevant Costing

Professors Sorter and Horngren acknowledge the subjectivity inherent in the economic attributes assumptions which are necessary to make the relevant costing concept acceptable. They are concerned that, owing to this lack of objectivity, relevant costing may come under attack. In support of relevant costing, therefore, they assert that arguments attacking relevant costing which are based upon the concept's lack of objectivity are invalid. They avow that there is a real lack of objectivity throughout accounting. As an example, they point out that the conceptual framework for financial statements preparation allows such leeway that "... ten independent accountants would probably show ten different income figures for the same company for the same time period." 16

Another argument used by Horngren and Sorter to support the relevant costing concept relates to the manner in which promotional costs are presently treated in financial statements. They assert that:

"... accounting seems to go out of its way to treat as expenses all sorts of cost incurrences when other assumptions (however rational) apart from the going concern

16 Horngren and Sorter, "Direct" Costing for External Reporting," 93.
postulate are necessary to establish service potential. Thus research expenditures, advertising campaigns, market research studies . . . are often expensed even though no very heroic assumptions about the future are needed to make them represent service potential. 17

Essentially the same argument in support of relevant costing is used by Green. He points out that:

... To argue about the inclusion or exclusion of certain costs in ending inventory at the same time that all expenditures for research and development and all expenditures for launching new products are expensed to the time period of incurrence--this is akin 18 chasing gnats while on an elephant hunt.

Relevant Costing vs. Direct Costing

The comparison between relevant costing and direct costing which follows is presented to aid the reader in distinguishing between the two concepts. This seems desirable in view of the similarities which exist between relevant costing and direct costing.

Difference between relevant costing and direct costing. Basically, the primary difference between relevant costing and direct costing lies in the possibility

17 Ibid.

of treating fixed manufacturing costs as product costs rather than expenses of the period.\(^\text{19}\) Under direct costing, all fixed manufacturing costs are considered period expenses in all instances. Relevant costing, on the other hand, relies on economic attributes as the basis for expensing or capitalizing fixed production costs. Thus, fixed production costs may or may not be expensed in the current period, depending upon whether any or all of the three assumptions previously identified as economic attributes are present.

**Similarities between relevant costing and direct costing.** Relevant costing, like direct costing, is decision-oriented. It is, in fact, a variable costing method. It is similar to direct costing in that relevant costing also requires separating fixed and variable expenses and recording each type of expense separately. Both relevant costing and direct costing are predicated upon the accounting period convention. It follows, furthermore,

\(^{19}\)The *period cost concept* in its essence states that there are certain costs (among which are included fixed manufacturing overhead) which by their nature expire with the passage of time without regard to production activity. They are incurred for the benefit of operations during a given period of time. Under the *product cost concept*, fixed manufacturing costs are considered costs of the product rather than assigned to the period because it is the product that generates the revenue. All production costs are subsequently matched with the revenue in the period of sale.
from this last assumption that both relevant costing and
direct costing assume the going-concern concept.

The primary difference between relevant costing and
direct costing then lies in the treatment of fixed
manufacturing costs. Thus, direct costing may actually
become relevant costing under the conditions described
above. The reverse situation, i.e., that relevant costing
may become direct costing, however, is more likely in view
of the apparently limited applications of relevant costing,
as expressed by Horngren and Sorter:

... Capitalization of fixed factory
overhead is justified only when there is
convincing evidence for the validity of the
assumptions beyond the going concern
assumption. We suggest that fixed factory
overhead might be an asset but only under
atypical conditions. For example, for
certain seasonal business the additional
assumptions beyond that of a going concern
... may be so convincing that fixed
factory overhead should be capitalized.20

Extended Illustrations of Relevant Costing

The illustrations which follow depict the end results
of the application of relevant costing as it affects the
income statements for the periods under consideration.
These illustrations are presented to aid the reader in

20Horngren and Sorter, "Direct: Costing for External
Reporting," 89.
grasping the relevant costing concept.

The illustrations are based upon the assumption that if one accepts the cost obviation approach to asset measurement, then the time period expiration of fixed production costs is correct. For this purpose the time period is interpreted to mean one year.

Exhibit I assumes the absence of all of the economic attributes described above. It is included in this study to demonstrate to the reader that in most cases the results obtained under relevant costing would parallel those obtained under direct costing. The exhibit is based upon the following assumed data:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tr>
<td>Production capacity (units)</td>
<td>50,000</td>
</tr>
<tr>
<td>Fixed production costs</td>
<td>$100,000</td>
</tr>
<tr>
<td>Sales price (per unit)</td>
<td>$10</td>
</tr>
<tr>
<td>Variable cost (per unit)</td>
<td>$5</td>
</tr>
<tr>
<td>Fixed cost (per unit--at capacity)</td>
<td>$2</td>
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EXHIBIT I
Company X
Comparative Income Statement Using Different Costing Methods—No Economic Attribute
For the Two-Year Period Ending December 31, 1966

<table>
<thead>
<tr>
<th>Year</th>
<th>Absorption Costing</th>
<th>Direct Costing</th>
<th>Relevant Costing</th>
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<tbody>
<tr>
<td>1965</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales ($10 per unit)</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>100,000</td>
<td>- 0 -</td>
<td>- 0 -</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$350,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Less ending inventory:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$50,000</td>
<td>$- 0 -</td>
<td>$- 0 -</td>
</tr>
<tr>
<td>Variable production cost</td>
<td>125,000</td>
<td>125,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Total inventory</td>
<td>$175,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$75,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Less fixed production cost</td>
<td>- 0 -</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$75,000</td>
<td>$25,000</td>
<td>$25,000</td>
</tr>
</tbody>
</table>

| 1966 | | |
| Sales ($10 per unit) | $250,000 | $250,000 | $250,000 |
| Cost of goods sold: | | | |
| Beginning inventory | $175,000 | $125,000 | $125,000 |
| Variable production cost | - 0 - | - 0 - | - 0 - |
| Fixed production cost | 100,000 | - 0 - | - 0 - |
| Total goods available | $275,000 | $125,000 | $125,000 |
| Less ending inventory | - 0 - | - 0 - | - 0 - |
| Gross margin | ($25,000) | $125,000 | $125,000 |
| Less fixed production cost | - 0 - | $100,000 | $100,000 |
| Deferred production cost utilized | - 0 - | - 0 - | - 0 - |
| Total | ($25,000) | $100,000 | $100,000 |
| Net income or (loss) | ($25,000) | $25,000 | $25,000 |
| Net income for two-year period | $50,000 | $50,000 | $50,000 |

SOURCE: Assumed Data
<table>
<thead>
<tr>
<th>Year</th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Data (1965)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Units produced</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>Units sold</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>Beginning inventory (units)</td>
<td>- 0 -</td>
<td></td>
</tr>
<tr>
<td>Ending inventory (units)</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td><strong>Projected Data (1966)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anticipated production (units)</td>
<td>- 0 -</td>
<td></td>
</tr>
<tr>
<td>Anticipated sales (units)</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>Actual beginning inventory (units)</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>Ending inventory (units)</td>
<td>- 0 -</td>
<td></td>
</tr>
</tbody>
</table>

Observe that the aggregate net income, as shown in Exhibit I, for the two-year period is the same under all three cost concepts. These results are obtained as long as there are neither opening nor closing inventories or when the values of the opening and closing inventories are the same. It is significant that the results under direct costing and relevant costing are the same on an individual year basis, on the basis of this first assumption. The reasoning is that none of the assumptions needed to validate the relevant costing concept are present. As in the case of direct costing versus absorption costing, the difference between relevant costing and direct costing is really one of timing the release (expansing) of fixed
production costs. In the example, the timing is the same.

No part of the fixed production costs was deferred under the relevant cost concept because anticipated sales for 1966 were less than available capacity to produce. In other words, the unsold units remaining at the end of 1965 could have been produced in 1966 using what would otherwise be considered idle capacity. Note that no importance is attached to the fact that there may have been sound long-range business reasons for accumulating this inventory. It makes no difference whether the accumulation is deliberate or accidental. Under relevant costing, these fixed production costs are irrelevant because they have no effect on future cash flow— the same amount of costs must be incurred again in 1966. Accordingly, these 1965 fixed costs were appropriately expensed in the year incurred.

Exhibit II illustrates the results obtained if it is assumed that the sales forecast for 1966 is 70,000 units in lieu of the original projection of 25,000 units.

Production for 1966 is set at 45,000 units. All other data used in Exhibit I remains unchanged.

In Exhibit II, $40,000 of fixed production costs was deferred at the end of 1965 under the relevant costing method. The reasoning is that sales of at least 20,000 units would have been lost in 1966 in the absence of the ending inventory in 1965. Capacity was given as 50,000
### EXHIBIT II

**Company X**

**Comparative Income Statement Using Different Costing Methods—One Economic Attribute**

*For the Two-Year Period Ending December 31, 1966*

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Absorption Costing</td>
<td>Direct Costing</td>
<td>Relevant Costing</td>
</tr>
<tr>
<td>Sales ($10 per unit)</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$100,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$350,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Less ending inventory:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$125,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$50,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total inventory</td>
<td>$175,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$75,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Less fixed production cost</td>
<td>$0</td>
<td>$100,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$75,000</td>
<td>$25,000</td>
<td>$65,000</td>
</tr>
<tr>
<td>Sales ($10 per unit)</td>
<td>$700,000</td>
<td>$700,000</td>
<td>$700,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning inventory</td>
<td>$175,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$225,000</td>
<td>$225,000</td>
<td>$225,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$100,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$500,000</td>
<td>$350,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Less ending inventory</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$200,000</td>
<td>$350,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Less fixed production cost</td>
<td>$0</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Deferred production cost utilized</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$200,000</td>
<td>$350,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$275,000</td>
<td>$325,000</td>
<td>$321,000</td>
</tr>
<tr>
<td>Net income for two-year period</td>
<td>$275,000</td>
<td>$275,000</td>
<td>$275,000</td>
</tr>
</tbody>
</table>

**SOURCE:** Assumed Data
units, whereas anticipated sales were stated as 70,000 units. Thus, 20,000 units of the 1965 ending inventory of 25,000 units were needed to meet anticipated sales commitments in 1966. Accordingly, the $40,000 deferral is in order because these costs are relevant in that they will have a bearing on future revenue. The $40,000 represents the 20,000 units needed—over and above stated capacity—times the $2 per unit fixed cost.

Note that income for 1965 is different under all three methods in this example. These different income figures support Horngren and Sorter's contention that the relevant costing concept is separate and distinct from both direct costing and absorption costing.21 The $10,000 difference between the income figures obtained under full costing and relevant costing in 1965 represents the amount of fixed manufacturing costs charged off as a period expense under the relevant costing approach. This figure is represented by the capacity which was wasted in 1965. The 5,000 units not needed at the end of 1965 to meet anticipated sales of 1966 times the $2 fixed unit cost yields the $10,000 difference.

A significant figure ($40,000) appears in Exhibit II under the relevant costing section for 1966. The $40,000 appears under the caption of "deferred production cost utilized." As indicated by the caption, the $40,000 represents fixed production cost deferred in 1965. It is the relevant cost which is to be matched with the future revenue attributable to the inventory available in 1965 and needed in 1966 to meet sales commitments. The prominence afforded the deferred production cost is justifiable for two reasons.

The first reason for showing the deferred production cost utilized separately is that this arrangement simplifies the presentation of the expiration of this cost. In some instances, the amount of fixed production cost to be deferred may be contingent upon future sales as well as on anticipated increases in variable expenses. Thus, in the interest of clarity, the amount of fixed and variable cost would have to be shown separately on the relevant costing income statement. This arrangement is unsatisfactory because the total amount of "deferred production cost utilized" would not appear as a single amount. It would have to be computed. In addition, the amount shown as a variable cost would be misleading. The amount deferred is a fixed production cost and should not be converted into a variable cost.
The conversion of fixed costs into variable costs has been viewed by direct costers as a distinct disadvantage of the use of absorption costing for internal decision-making. Converting fixed costs into variable costs is also inconsistent with the basic premise that under relevant costing the original nature of fixed production cost should remain unchanged.

A second reason for showing deferred production cost utilized separately follows from the first reason cited. If the deferred production cost were shown as a fixed production cost of the current period, the total period expenses shown in the current period could be greater or less than the actual fixed production cost. To illustrate, total fixed expenses for the period are estimated as $100,000. Only $60,000 is expensed in 1965. However, $140,000 is expensed in 1966. This could be very confusing to financial statement users. Statement users would not know whether fixed costs had actually increased or the fluctuation over the years was due entirely to the intermittent capitalization of fixed production cost. The fluctuation in fixed costs may actually be the result of a combination of both factors.

Alternatively, the $40,000 could be absorbed in cost of sales. Such an arrangement may not be desirable. Financial statement users would not be able to discern
between the relevant costing concept and the direct costing statement. In most cases, both concepts would yield identical statements, as illustrated in Exhibit I.

Assuming that the absorption costing presentation is followed, cost of goods sold would then total $390,000, computed as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning inventory</td>
<td>$125,000</td>
</tr>
<tr>
<td>Converted fixed production cost</td>
<td>40,000</td>
</tr>
<tr>
<td>Current variable production cost</td>
<td>225,000</td>
</tr>
<tr>
<td><strong>Cost of goods sold</strong></td>
<td><strong>$390,000</strong></td>
</tr>
</tbody>
</table>

Exhibit III illustrates an additional application of the relevant costing concept. The exhibit is based upon the same information given in Exhibit I except that variable costs are expected to increase $.25 per unit and sales for 1966 are estimated at 60,000 units. Production for 1966 is set at 35,000 units.

In the relevant costing column, the $23,750 deferred production cost utilized in 1966 in Exhibit III is actually a composite of fixed and variable costs. Fixed costs account for $20,000 with variable costs accounting for the remaining $3,750. The deferral of the $23,750 production costs from 1965 to 1966 suggests that the decision to produce more than current sales requirements in 1965 was a good one.

Sales amounting to $100,000 (10,000 X $10) would have
## EXHIBIT III
**Company X**
**Comparative Income Statement Using Different Costing Methods—Two Economic Attributes**
**For the Two-Year Period Ending December 31, 1966**

<table>
<thead>
<tr>
<th></th>
<th>Absorption Costing</th>
<th>Direct Costing</th>
<th>Relevant Costing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1965</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales ($10 per unit)</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>100,000</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$350,000</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Less ending inventory:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable production cost</td>
<td>$125,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>50,000</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Total inventory</td>
<td>$175,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$75,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Less fixed production cost</td>
<td>- 0</td>
<td>100,000</td>
<td>76,250</td>
</tr>
<tr>
<td>Net income</td>
<td>$75,000</td>
<td>$25,000</td>
<td>$18,750</td>
</tr>
<tr>
<td><strong>1966</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales ($10 per unit)</td>
<td>$600,000</td>
<td>$600,000</td>
<td>$600,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning inventory</td>
<td>$175,000</td>
<td>$125,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Variable production cost</td>
<td>183,750</td>
<td>183,750</td>
<td>183,750</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>100,000</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$458,750</td>
<td>$308,750</td>
<td>$308,750</td>
</tr>
<tr>
<td>Less ending inventory</td>
<td>- 0</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$151,250</td>
<td>$291,250</td>
<td>$291,250</td>
</tr>
<tr>
<td>Less fixed production cost</td>
<td>- 0</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Deferred production cost utilized</td>
<td>- 0</td>
<td>- 0</td>
<td>- 0</td>
</tr>
<tr>
<td>Total</td>
<td>$151,250</td>
<td>$291,250</td>
<td>$291,250</td>
</tr>
<tr>
<td>Net income</td>
<td>$151,250</td>
<td>$216,250</td>
<td>$216,250</td>
</tr>
<tr>
<td>Net income for two-year period</td>
<td>$216,250</td>
<td>$216,250</td>
<td>$216,250</td>
</tr>
</tbody>
</table>

**SOURCE**: Assumed Data
been lost in 1966 if the 10,000 units needed over and above capacity had not been available as part of the 1965 ending inventory. Accordingly, with fixed production costs at $2 per unit, the deferral of $20,000 fixed production costs from 1965 to 1966 was in order. The 25,000 units in the 1965 ending inventory enabled the firm to curb 1966 production by 15,000 units resulting in the avoidance of $3,750 in variable costs. Thus, the total of $23,750 deferred is the sum of the amount saved in fixed production costs and the total variable costs saved or avoided (opportunity costs.) The same arguments advanced for showing fixed costs as period costs in Exhibit II are advanced here.

It may appear that the amount of variable costs saved or avoided should be higher (or perhaps lower) than $3,750. To illustrate, computation of the amount saved may be based upon 10,000 units rather than on 15,000 units because 1966 sales requirements exceed capacity by this amount. Following this approach, the amount of variable costs saved or avoided would be $2,500. This type of reasoning fails on logical grounds. The 10,000 units are not used because they do not reflect the full impact upon future variable costs. They account for only part of the anticipated savings. These units, however, are significant in that they affect future cash inflow, i.e., increase sales.
revenue. It may be argued that the deferral should be based upon 25,000 units because future (years after 1966) variable costs would be reduced. This argument is also invalid because the period requiring the obviation of future costs was explicitly stated as one year. Only 10,000 units were needed to meet 1966 sales commitments. Management could have produced up to 15,000 additional units in 1965.

Exhibits I, II, and III are useful for illustrating the nature of relevant costing. They are equally useful for substantiating the notion that relevant costing is a concept which is different than absorption costing and direct costing.

Exhibit IV which follows is based upon the information contained in Exhibit III. The information, however, is presented in a manner which might be quite useful for decision-making. Three significant figures appear in this exhibit which make it superior to Exhibits I, II, and III for decision-making purposes. These figures are: (1) the "contribution margin," (2) the "inventory adjustment--deferred production cost utilized," and (3) the "contribution margin attributable to current utilization of fixed resources."

The contribution margin represents the contribution made by the current sales volume to fixed cost and profit.
### Exhibit IV

**Company X**

Relevant Costing Income Statement

For the Two-Year Period Ending December 31, 1966

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales ($10 per unit)</strong></td>
<td>$250,000</td>
<td>$600,000</td>
<td>$850,000</td>
</tr>
<tr>
<td><strong>Variable cost of sales:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production cost</td>
<td>$250,000</td>
<td>$183,750</td>
<td>$433,750</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$250,000</td>
<td>$308,750</td>
<td></td>
</tr>
<tr>
<td>Less ending inventory</td>
<td>$125,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Variable cost of sales</td>
<td>$125,000</td>
<td>$308,750</td>
<td>$433,750</td>
</tr>
<tr>
<td><strong>Contribution margin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory adjustment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-- deferred production cost utilized</td>
<td>23,750</td>
<td>(23,750)</td>
<td></td>
</tr>
<tr>
<td>Total contribution margin attributable to current utilisation of fixed resources</td>
<td>$216,750</td>
<td>$267,500</td>
<td></td>
</tr>
<tr>
<td>Less period expenses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$76,250</td>
<td>$100,000</td>
<td>$176,250</td>
</tr>
<tr>
<td>Deferred production cost</td>
<td>$23,750</td>
<td>-0- 23,750</td>
<td>$23,750</td>
</tr>
<tr>
<td>Total period expenses</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$200,000</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$43,750</td>
<td>$167,500</td>
<td>$211,250</td>
</tr>
</tbody>
</table>

*SOURCE: Assumed Data*
This figure is the difference between total sales and total variable costs for the period. It is useful in decision situations requiring cost-volume-profit analysis, and in controlling costs. It may also be useful in the area of operations research, particularly in situations involving efficient allocation of fixed production facilities. These decision situations are examined in Chapter IV of this study in which internal decision situations are discussed, and in Chapter V where the applications of relevant costing for external decision-making purposes are illustrated.

The inventory adjustment—deferred production cost utilized figure of $23,750 is a measure of the fixed production cost which is deferred in the current period to be utilized in the subsequent period. The amount is positive in the year (1965) in which it is deferred and it appears as both an inventory adjustment and as a period expense. The $23,750 must be included as an inventory adjustment because it is excluded from the closing inventory in order to obtain the contribution margin. It is shown as a period expense to indicate the amount of fixed production cost included in the current inventory. Note that period expenses total $100,000 of which amount $76,250 has expired.

The ($23,750) shown as deferred production cost utilized in 1966 is the amount of fixed production cost
deferred in 1965 which was excluded from the beginning inventory in 1966. It increases the cost of goods sold in 1966 by the amount of the understatement of the beginning inventory in the same year. The amount is significant because it may be used to generate the actual contribution made by current sales through the current utilization of fixed resources.

The total contribution margin attributable to current utilization of fixed resources reflects the actual contributions made by current sales to fixed expenses and profit. The $267,500 shown in 1966 may be compared with the cost of goods sold figure which would result if the $23,750 deferred production cost were to be included in the 1966 beginning inventory. For decision-making purposes, it may be viewed as the actual contribution margin (after considering all relevant costs) made by current sales (including opportunity cost) to fixed expenses and profit.

This figure is useful in decision situations which require analyses extending beyond that of the current year. An illustration of how this figure may be helpful for certain types of decision situations appears in Chapter IV under the heading of profit planning.

Summary

Relevant costing accepts the principle that assets
represent aggregates of service-potentials. The service-potential of a cost, in turn, is predicated on the notion that its present incurrence obviates the need to incur this same cost in the future. Relevant costing assumes a going concern and, in general, all fixed production costs are assumed to be period expenses. Under certain special circumstances, however, these fixed production costs may be deferred. The assumptions other than that of a going concern which are needed to make relevant costing acceptable are identified with the concept of future cost avoidance. These assumptions are referred to as economic attributes and are identified as:

1. Future production must be at maximum capacity with future sales in excess of capacity by the amount of increase in ending inventory.
2. Variable production costs are expected to increase.
3. Future sales will be lost forever because of lack of inventory.

The operating results obtained under relevant costing may, in many instances, parallel those obtainable under direct costing. Relevant costers suggest that the implementation of the relevant costing concept will produce financial statements which are better suited for the needs
of internal and external users. The income statement under relevant costing, as in the case of direct costing, readily yields the contribution margin, i.e., contribution to fixed costs and profit. This contribution margin may be used for cost-volume-profit analyses.
CHAPTER III
ADVANTAGES AND DISADVANTAGES
OF RELEVANT COSTING

Introduction
The conceptual basis of relevant costing was discussed in Chapter II. This chapter deals with the advantages and disadvantages which may accrue through the use of relevant costing. These advantages and disadvantages are discussed below from the point of view of internal and external users of financial statements.

I. ADVANTAGES

Financial Statements are Decision Oriented
The primary advantage of relevant costing claimed by its proponents is that, "... the relevant costing rule emphasizes the 'economic attributes and measurements' with which, according to Paton and Littleton, accounting is concerned."¹ This emphasis on economic attributes and measurements, so the argument goes, makes possible a proper

matching of expenses and revenues. Proper matching, in turn, produces financial statements, based on relevant costs, which are useful for decision-making.2

Professors Horngren and Sorter make no attempt to distinguish between internal and external financial statement users nor do they elaborate upon the types of decisions made by both groups of statement users. They merely state that:

Accounting is a tool for decision-making by managers, investors, and all interested parties. Usefulness for decision-making thus becomes the overriding criterion for judging existing financial reports.3

The preceding quotation seemingly implies that managers and investors make essentially the same types of decisions. There is also a strong implication that investors have access to essentially the same type of information which is available to operating levels of management of the firm. Finally, there is a presumption that only relevant costing can produce financial statements which are useful for decision-making purposes.

There is no general agreement among accountants


3Ibid.
supporting the view that managers and investors make the same types of decisions. The only point of agreement appears to be that both groups are involved in the process of decision-making. In dealing with the topic of decision-making, Professor Fremgen\textsuperscript{4} makes no distinction between the types of decision situations which may confront management. He also disagrees with Sorter and Horngren’s view that managers and investors make the same types of decisions. He maintains that the nature of the decisions of managers and investors are significantly different. This position is expressed in the following manner:

... Management decisions ... are internal in nature... They relate to the firm as it exists, given certain fixed costs which cannot be avoided by any decision (excepting that to go out of business). Investors' decisions, on the other hand, are external in nature. They relate to the firm in its entirety and to the investors' willingness or unwillingness to lend their capital to that whole operation as opposed to one or more alternative investment opportunities.\textsuperscript{5}

It appears that Professor Fremgen's position may be

\textsuperscript{4}James M. Fremgen is presently an Associate Professor of Management at the U. S. Naval Postgraduate School. He was formerly an Assistant Professor of Accounting at the University of Notre Dame, Notre Dame, Indiana. He has published in a variety of accounting journals.

subject to some question. He apparently seems to view the management of a firm as consisting of a single layer within the organization; making a single type of decision. The management of a firm, however, consists of several layers or levels within the organization. Each management level in turn is charged with the responsibility of making whatever type of decisions are needed at that level to meet the firm's overall objectives.

At the operating level, for example, the shop foreman may be primarily concerned with such decision situations as scheduling production, hiring and firing personnel, assigning work loads, supervising workers, and preparing production reports. The purchasing agent, on the other hand, may be primarily concerned with decision situations involving the acquisition of needed services, and materials and supplies at the best possible price. These examples illustrate that in some instances managerial decisions may differ from decisions made by investors, creditors, and other interested external users of financial statements.

At the top management level, some of the decision situations are similar in nature to those faced by investors, creditors, and other external users of financial statements. Top management, for example, is interested in the profitability and liquidity position of the firm. Investors and creditors share the same concern. In
addition, investors and creditors are engaged in evaluating the overall performance of the firm in much the same way as top management evaluates it. Managers, however, are also involved in internal decision situations which are of a completely different nature than those described above. Dropping or adding a product or branch, and making or buying components are examples of internal decision situations.

The illustrations cited would indicate, then, that the nature of a particular decision in a given firm varies with each level of management. The nature of the decisions made at the operating management level may be quite different from those of external users of financial statements. Top management decisions, on the other hand, may more nearly parallel the decisions made by investors and creditors.

There is little or no evidence supporting the notion that investors have access to internal operating data available to management. In fact, the accounting profession, speaking through its professional organizations, has come to recognize that current external financial reporting leaves much to be desired. In a recent publication by the American Accounting Association under the heading of "Accounting Information for External Users," it was stated that:
Evidence of dissatisfaction with extant accounting practice abounds. A principal criticism relates to the deficiencies of historical cost as a basis of predicting future earnings, solvency, or overall managerial effectiveness. . . .

The publication contained many recommendations to correct detailed deficiencies attributable to current financial reporting. A significant recommendation called for the "capitalization of costs (such as research and development) incurred to yield future benefits where such benefits can be measured." 7

For many years, the proponents of direct costing have asserted that absorption costing converts direct costs into variable costs and that the income statement is inadequate because, among other things, fixed and variable costs are not shown separately. 8 They submit that this information is useful to investors in making cost-volume-profit analyses similar to those made by management.


7 Ibid.

8 The inadequacy of financial statements from the standpoint of the investors is expressed in almost every article dealing with direct costing. See, for example, John R. E. Parker, "Give Consideration to Direct Costing for External Reporting," NAA Bulletin, (October, 1963), 4., and Michael A. Mackenzie, "Direct Costing Its Significance: For Financial Reporting," The Canadian Chartered Accountant, (June, 1961), 36.
The apparent failure of the accounting profession to keep the investors adequately informed was lucidly stated by Edward T. McCormick, President, American Stock Exchange:

In the presentation of financial facts we continue to cling blindly to tradition, to the classical forms of balance sheet and income statement as the vehicles for disclosure in annual and other reports and in prospectuses. Over the past two decades, particularly, the narrative portion of annual reports and even of prospectuses has become increasingly comprehensible to the average individual, but not the balance sheet and income statement that accompany the report; these remain stereotyped and rigid behind a practically unassailable wall of convention.

The implication that only relevant costing can produce useful statements for decision-making purposes is also open to serious question. This position presumes that the service-potentials definition of an asset advanced by Horngren and Sorter is correct to the exclusion of all other interpretations. Moreover, there is a presumption that all of the economic attributes have been properly identified and that these attributes have been properly and objectively evaluated by the management of the firm under consideration.

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Availability of Cost-Volume-Profit Relationship Data for Internal Decision-Making

As previously noted, relevant costing yields results paralleling those obtainable under direct costing in most instances. Therefore, those advantages over absorption costing attributed to direct costing as they relate to certain types of internal managerial decision situations apply with equal force to relevant costing. These advantages are:

1. Cost-volume-profit relationship data are available from the accounting reports and statements without making time-consuming analyses.

2. Management understands variable costing concepts more readily than they understand absorption costing results.

3. Other advantages are basically involved with the ease of report preparations and usability of variable costing information for decision-making.

Impact of Fixed Costs upon Profit is Emphasized

The impact of fixed costs upon profit is emphasized under relevant costing. These costs are listed separately (including deferred production costs utilized) and therefore are not hidden in allocations against production as is the

case where absorption costing is used.

Responsibility Accounting is Facilitated

Costs which are listed under relevant costing are specific to the product, territory, or cost center. Accordingly, products, territories, and cost centers can be easily compared since the listed direct costs do not include arbitrarily allocated fixed production costs. This advantage is quite important in those instances where fixed costs may vary significantly between various plants producing the same product. To illustrate, it would be difficult to compare two plants where, owing to price level changes, fixed manufacturing costs may vary significantly between the plants. There are many other reasons why fixed costs may vary between plants.

The important point is that the comparison should be between plants, branches, or centers in terms of costs which are controllable at that level. Controllable costs are usually variable costs and are listed separately under relevant costing. Some variable costs, however, are not controllable and some fixed costs may be controllable at a given management level.

Possible Cost Reduction

A significant advantage which may result from the use of relevant costing relates to possible tax savings on
inventories. Because ad valorem taxes are imposed upon inventory value, taxes may be lower under relevant costing. As a general rule, inventory value will be lower under relevant costing than it would be under absorption costing. In those instances where fixed production cost is high in relation to total manufacturing cost, significant savings in the form of lower taxes are possible. It is possible, however, that taxing authorities may not accept relevant costing for inventory valuation purposes.

In a growing concern, with growing inventories, lower taxes (income) will result under relevant costing. This is really a delay in tax payment. Assuming no change in tax rates, total taxes over the long-run will be the same. There is, however, the advantage of having additional funds at no extra cost. This could be significant, particularly to a firm which does not have adequate working capital.

II. DISADVANTAGES

Difficulty in Applying Relevant Costing Concept

The primary disadvantage apparent in relevant costing may well be the difficulty encountered in applying the concept to actual situations. There appears to be little doubt that relevant costing is more difficult to apply than either absorption or strict direct costing. Under absorption costing, fixed manufacturing costs are
considered a part of the product cost. Under direct costing, fixed manufacturing costs are considered period expenses and are expensed in the current period.

Under relevant costing, however, fixed manufacturing costs may be expensed in the current period or deferred to future periods. Fixed production costs are deferred only if some of the economic attributes or assumptions beyond the going-concern are present. A burden is thus placed upon management, or the accountant, of determining whether a given inventory is necessary to meet future needs or whether it is excessive. Determining the proper inventory level, however, requires an estimate of future sales volume, future productive capacity, changes in future production, types of products, and future (planned) production.

Professors Sorter and Horngren, however, do not provide objective guides to establish the validity of the assumptions beyond the going-concern to make relevant costing acceptable. The only guidance given is that the economic attributes that "underly decisions as to asset versus expense must be widely applicable and reasonable,"11

and that the "capitalization of fixed factory overhead is justified only when there is convincing evidence for the validity of the assumptions beyond the going-concern assumption."¹²

The use of such indefinite terms as 'widely applicable' and 'reasonable' to support the assumptions beyond the going-concern appear inadequate. Just what is meant by 'widely applicable' is anybody's guess. As to the term 'reasonable,' one need only look at a few Tax Court decisions to see the difficulties entailed in interpreting this term. Each individual has his own concept of what these terms mean or are intended to mean. What may appear as reasonable to one individual may seem ludicrous to another. The term 'widely applicable' suffers from the same malady—difficulty in interpretation. This is one of those difficult terms, such as 'general welfare' and the 'average American,' which no one really understands but are nevertheless accepted at face value.

Another troublesome term is 'convincing evidence.' There are many types of evidence, some of which may be more compelling than others. The auditor, for example, is familiar with internally and externally generated evidence. Internally generated evidence is that evidence which may be

¹²Ibid., 89.
taken from the accounting records and through inquiry of company officials and employees. This type of evidence is obviously less desirable or compelling than external evidence, such as positive accounts receivable confirmations and the direct confirmation of cash balances with the banking institutions involved. In any event, the auditor has several yardsticks, some more objective than others, which he can use in conjunction with his personal judgment and thus reach a decision in performing the attest function.

One question concerns who is to make the decision concerning the appropriateness of inventory levels. Should the controller or perhaps the financial vice-president make the decision? Perhaps the decision should be made by the president of the company or a committee might be formed to cope with the problem. Possibly, the independent auditor should make the decision since he must ultimately attest to the fairness of the financial statements. If this course of action is pursued, there is a possibility that the independence of the auditor may be jeopardized, or at best questioned. There are those who might feel that the auditor is wearing two hats— that of the (1) independent auditor, and of the (2) management appraiser or representative.

In addition to the question of who makes the
inventory decision, there are other points which need clarification. What factors, for example, need to be considered? Is the firm to rely only upon internal factors, or should some consideration be given to external variables as well? Closely akin to the question of what factors should be considered is the identification of the factors themselves. For example, what variables are germane to the decision of ascertaining whether or not future variable costs will increase? Also, how much weight should be attributed to each variable?

The lack of an objective yardstick almost certainly will result in inconsistencies from the intermittent capitalization of fixed production costs. Therefore, one needs to look closely at the effect this procedure will have upon the financial statements. Just how useful would these statements be to their users? The reader is no doubt aware of the lack of comparability which presently exists between different companies. He is equally aware of the underlying reasons for this lack of comparability.

**Limited Applications of Relevant Costing**

Another disadvantage of relevant costing stems from the rigid one-year period requirement necessary to support the future sale requirement assumption. Under relevant costing, it is expected that sales in the period subsequent
to the inventory build-up will exceed sales in the period of
the inventory build-up. Under the one-year period
limitation, the concept (with respect to this assumption)
would have application only in a new company where initial
production enters the pipelines as a base stock, and in
those instances where a firm is operating at or near
capacity.

As a practical matter, the one-year period may be
unduly restrictive. The going-concern assumes a continuing
operation. Accordingly, profit management should be viewed
from a long-range point of view. Indeed, the actual profit
earned by a firm cannot even be precisely measured when the
entity ceases to exist. Periodic income measurement is a
necessary expedient to enable management and others to
evaluate or measure the firm's performance, to enable
management to set dividend policy, and to satisfy
requirements of taxing authorities. A single period income
statement, therefore, should not be accorded undue
significance.

In addition to an anticipated increase in variable
costs, there may be other reasons for accumulating

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13 Horngren and Sorter, "Direct: Costing for External
Reporting," 89.
inventory beyond immediate (next period) needs. In the face of an impending strike, for example, it is not unusual for management to stockpile inventory. The duration of a strike, based upon past experiences, may well exceed a year. Inventory may also be increased for display purposes. The results of the promotional expenditure may not be forthcoming until future periods.

Alternatively, the future sales requirement assumption may be extended to two years. Such an approach, however, may result in effectively changing from relevant costing to absorption costing.

Before proceeding to the discussion of other disadvantages of relevant costing, the problem of income manipulation needs some consideration. The possibility of income manipulation by an enlightened management poses a real threat to unsuspecting investors and imposes additional responsibilities upon the auditor.

Possible Profit Manipulation by Management

Operating profit may be easily manipulated by either expensing or capitalizing fixed manufacturing overhead. While one may argue that this is not very likely, it must be admitted that this practice is not without precedence. There are many reasons why this alternative may be
attractive to management. For example, profits may be manipulated in the face of an impending tax increase by capitalizing fixed manufacturing overhead to be released as expenses in the following year when tax rates are higher. Higher profits may be reported in the current year.

The objectives of management and those of the owners of the business may not be (and often are not) the same. In addition, the maximization of profit may not be the primary objective of a given firm. This is the view taken by some management authorities and other leading authorities in related business areas. Dean, for example, contends that money-making may be of secondary importance. He asserts that "often the primary goal is strategic—to maintain or increase the company's share of the market, to achieve growth in sales volume or number of employees or simply to build reputation or status."14 In fact, Dean contends that prevalent practice might be described as the "doctrine of adequate profits."15

Under this doctrine, as long as profits are adequate, efforts to maximize profits may be lessened. When profits


15Ibid.
are inadequate, pressures from stockholders may require that expenditures be oriented toward profit maximization. Through the intermittent capitalization of fixed manufacturing overhead, possible under relevant costing, the same results can be accomplished within certain limits.

As previously noted, this income manipulation which is made possible under relevant costing imposes additional responsibilities upon the auditor. He must, of course, evaluate the underlying reasons for deferring fixed manufacturing costs and ascertain or disprove their validity in the light of existing circumstances. This means that the auditor must necessarily possess much more knowledge about the firm's operations than is now required in performing the attest function. In addition, the auditor may be more susceptible to legal actions by investors in those cases where income is actually manipulated.

**Arbitrary Classification of Fixed and Variable Expenses**

Another major disadvantage of relevant costing and direct costing systems in general stems from the arbitrary classification of expenditures between fixed expenses and variable expenses. Inaccurate separation of semi-variable expenses may also result from careless analysis of basic behavior patterns. This disadvantage has been summarized
by Mackenzie in the following manner:

... it is questionable whether a completely accurate separation of variable and fixed costs can be made. Any separation has to be arbitrary to some degree. For example, if two skilled accountants working independently were asked to analyze the factory costs of any given situation into variable and fixed components, they would probably come up with somewhat different answers, particularly if they were asked to make forecasts of cost behaviour. A change from absorption costing to direct costing reduces, but does not eliminate, the necessity of making assumptions about cost behaviour.¹⁶

Heiser expresses essentially the same views:

Difficulty may be encountered in distinguishing the fixed costs. In particular, certain semi-variable cost may fall in a borderline area and more or less arbitrary classification may be considered necessary in order to arrive at a practical determination of fixed and variable components.¹⁷

Short-Term Considerations may Overshadow Pricing and Other Long-Term Decisions

An additional disadvantage of relevant costing evolves from the necessity of developing product costs for long-range decisions.¹⁸ There is a high probability, for


¹⁸Ibid.
example, that adequate profit-planning procedures necessary for pricing and other long-term decisions may be ignored when using relevant costing procedures for short-term individual product costing and budgetary controls.

Regardless of the position taken as to the nature of fixed manufacturing costs, the inescapable fact is that from a long-range point of view all costs are said to be variable and must be recovered if the entity is to continue to operate at a profit. Thus, if relevant costing is used, "supplementary data or reports should be prepared showing fixed costs as a part of the total product cost."\(^{19}\) This is essentially the procedure required when direct costing is used. The costs incurred to produce these additional reports may be substantial, a fact which should not be overlooked by management.

Other significant disadvantages stem from the rigid assumptions (economic attributes) concerning future operating conditions of the firm which are necessary to implement relevant costing. Some other difficult areas were discussed briefly in preceding sections. These sections dealt with the difficulty encountered in interpreting such terms as 'widely applicable,' 'reasonable,' and 'convincing evidence,' with respect to

\(^{19}\)Ibid., 26.
the asset versus expense problem.

**Difficulty Encountered in Estimating Future Sales**

As another problem area, consider, for example, the difficulties involved in forecasting sales. It is well-known that projecting sales is an onerous and most difficult task. Actual sales seldom, if ever, parallel estimated sales. Usually estimated sales and actual sales are far apart. With a little luck the two figures may, on occasion, be close together. This point is most significant because relevant costing is future oriented. Suppose, however, that one proceeds under the assumption that sales are going to be one amount and they turn out to be another. Then one is faced with the problem of either making an adjustment on the previous statements or absorbing the adjustment in the current period.

**Difficulty in Predicting Future Price Levels**

The difficulties inherent in estimating future variable costs is another important disadvantage of relevant costing. Estimating future variable costs requires careful analysis of internal as well as external factors. The internal factors are usually controllable by the firm and their effects upon future costs can usually be determined with a reasonable degree of accuracy. For example, the quality and quantity of raw materials used or
purchased can be readily controlled. Other costs such as direct labor can also be estimated fairly accurately. On the other hand, there are external factors which affect future variable costs but which are either non-controllable or at best cannot be measured effectively by the firm. A case in point would be the political situation.

The political climate under which the firm must operate is subject to abrupt change. Such a change may result in higher taxes being imposed upon the firm. Depressions, recessions, and inflationary forces also affect prices. These forces, however, cannot always be accurately predicted. Other factors, such as impending strikes, government curtailment of crucial supplies needed by a firm, and technological changes, might also have a marked effect upon prices.

Possibility that Concept may not be Acceptable for Income Determination

Another disadvantage of relevant costing stems from the possibility that it may not be recognized by the accounting profession and its professional organizations such as the American Accounting Association and the American Institute of Certified Public Accountants. There is also the possibility that the Internal Revenue Service may reject relevant costing as an acceptable method for income
determination. This means, for example, that relevant costing statements must be converted to reflect results obtainable under absorption costing. This added cost may, in some instances, offset part of the advantages cited above for relevant costing. Moreover, prior approval is needed from the Bureau of Internal Revenue before inventory adjustments can be made. This topic is examined further in Chapter VI.

Summary

The primary advantage attributed to relevant costing is that a proper matching of expenses and revenues is obtained. Proper matching, in turn, produces statements which are useful for decision-making. The contribution margin produced directly under relevant costing yields cost-volume-profit relationship data which is useful for internal decision-making. Other types of decisions which require the use of incremental or differential analysis are facilitated through the use of relevant costing.

Responsibility accounting is also facilitated because costs listed under relevant costing are specific to the product, territory, or cost center. Accordingly, products, territories, and cost centers can be easily compared since the listed direct costs do not include arbitrarily allocated fixed production costs.
Significant savings in the form of lower ad valorem taxes may be possible through the use of relevant costing. Income taxes may also be postponed in a growing concern with growing inventories.

The primary disadvantage of relevant costing is the difficulty encountered in applying the concept to actual situations. The difficulty stems from the lack of an objective yardstick which may be used to support the assumptions needed beyond the going-concern, and the rigidness of the assumptions which are necessary to make relevant costing operational. Other disadvantages include:

1. The possibility of profit manipulation by management.

2. The possibility of arbitrary classification of expenditures between fixed expenses and variable expenses.

3. The probability that adequate profit planning procedures necessary for pricing and other long-range decisions may be ignored when using relevant costing for short-term individual product costing and budgetary controls.

4. The difficulty encountered in projecting future sales.

5. Predicting future price levels.
6. The possibility that the concept may not be acceptable for income determination.
CHAPTER IV
APPLICATIONS OF RELEVANT COSTING
FOR INTERNAL DECISION-MAKING

Introduction

The conceptual basis of relevant costing, and its advantages and disadvantages, were discussed in Chapters II and III, respectively. In the present chapter, attention is directed toward the applications of relevant costing for internal decision-making. In Chapter V, attention is directed toward the applications of relevant costing for external decision-making. This approach is in keeping with the idea that there are these two separate and distinct groups of financial statement users and that usefulness for decision-making purposes is the overriding criterion for judging financial statements.

Relevant costing provides useful information for certain types of internal decisions. The separation of fixed and variable costs required under direct costing, for example, is also a basic characteristic of relevant costing, and this separation of expenses is necessary for many internal operating decisions.

Cost-Volume-Profit Analysis

As in the case of direct costing, the decision orientation of relevant costing is embodied in the
profit-volume ratio. The profit-volume ratio, herein referred to as "p/v ratio," is useful in making certain managerial decisions important in maximizing profits. Some of the decision situations which lend themselves to cost-volume-profit analysis may be classified (although not inclusive) under the headings of pricing, cost control, and profit planning. Some examples include:

1. In ascertaining the effect of accepting orders at less than normal prices in those instances where spare productive capacity is temporarily available. Assuming that fixed costs are fully recovered from existing production and that normal operations would not be jeopardized, it may prove desirable to accept additional orders at a price which is greater than marginal cost (variable cost) even if the customer will not pay as much as total cost. Net profit may thus be increased by the amount of the contribution.

2. In selecting the most profitable combination of sales prices and volumes. If a given firm can sell a given volume of output at a certain price, or increase its profit by adjusting the prices, a
comparison of the respective total contributions (not the contribution per unit of output) will reveal the most profitable course.

3. In considering promotional expenditures, the resulting contributions which can be anticipated from additional sales can be compared with the projected expenditure.\(^1\)

The uses of relevant costing enumerated above are discussed in the following sections. They are examined under the headings of profit planning, pricing decisions, and cost control. These headings, although not mutually exclusive, serve as an effective vehicle for discussing some of the uses of relevant costing.

Exhibit V, which is based upon the same data assumed in Exhibit IV, (illustrated in Chapter II) is used to present the illustration. This data is reproduced below showing a breakdown of variable production costs for 1965 and 1966.

EXHIBIT V  
Company X  
Detailed Relevant Costing Income Statement  
For the Two-Year Period Ending December 31, 1966

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>Two-Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales ($10 per unit)</td>
<td>$250,000</td>
<td>$500,000</td>
<td>$850,000</td>
</tr>
<tr>
<td>Variable cost of sales:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning inventory</td>
<td>$ - 0 -</td>
<td>$125,000</td>
<td>-</td>
</tr>
<tr>
<td>Direct labor</td>
<td>100,000</td>
<td>70,000</td>
<td>$170,000</td>
</tr>
<tr>
<td>Direct materials</td>
<td>100,000</td>
<td>78,750</td>
<td>178,750</td>
</tr>
<tr>
<td>Manufacturing overhead</td>
<td>50,000</td>
<td>35,000</td>
<td>85,000</td>
</tr>
<tr>
<td>Total goods available</td>
<td>$250,000</td>
<td>$308,750</td>
<td></td>
</tr>
<tr>
<td>Less ending inventory</td>
<td>125,000</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Variable cost of sales</td>
<td>$125,000</td>
<td>$308,750</td>
<td>$433,750</td>
</tr>
<tr>
<td>Contribution margin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory adjustment—deferred production cost utilized</td>
<td>23,750 ( 23,750)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total contribution margin attributable to current utilization of fixed resources</td>
<td>$148,750</td>
<td>$267,500</td>
<td></td>
</tr>
<tr>
<td>Less period expenses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$ 76,250</td>
<td>$100,000</td>
<td>$176,250</td>
</tr>
<tr>
<td>Deferred production cost</td>
<td>23,750</td>
<td>0</td>
<td>23,750</td>
</tr>
<tr>
<td>Total period expenses</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$ 48,750</td>
<td>$167,500</td>
<td>$216,250</td>
</tr>
</tbody>
</table>

SOURCE: Assumed Data
<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production capacity (units)</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Fixed production cost</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Sales price (per unit)</td>
<td>$10.00</td>
<td>$10.00</td>
</tr>
<tr>
<td>Fixed cost (per unit--at capacity)</td>
<td>$2.00</td>
<td>$2.00</td>
</tr>
<tr>
<td>Variable production cost:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct labor (per unit)</td>
<td>$2.00</td>
<td>$2.00</td>
</tr>
<tr>
<td>Direct materials (per unit)</td>
<td>2.00</td>
<td>2.25</td>
</tr>
<tr>
<td>Variable overhead (per unit)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Total variable production cost</strong></td>
<td><strong>$5.00</strong></td>
<td><strong>$5.25</strong></td>
</tr>
</tbody>
</table>

**Current Data (1965)**

- Units produced: 50,000
- Units sold: 25,000
- Beginning inventory (units): - 0 -
- Ending inventory (units): 25,000

**Projected Data (1966)**

- Anticipated production (units): 35,000
- Anticipated sales (units): 60,000
- Beginning inventory (units): 25,000
- Ending inventory (units): - 0 -

**Profit planning.** Profit planning may be facilitated through the use of relevant costing. An example of how relevant costing may be useful in profit planning is found in situations where management is evaluating the
desirability of accepting orders at less than normal prices in those instances where productive capacity is temporarily available. This type of decision situation presents an excellent opportunity to demonstrate the full potential of the future orientation of relevant costing for decision-making purposes. Assume, for example, that the management of Company X is faced with the problem of deciding whether or not to accept additional orders in 1965 at $6 per unit. If it is assumed that normal operations would not be jeopardized by accepting less than total cost for the additional units, how many additional units, if any, should the firm sell at the reduced price of $6 per unit?

The direct coster might possibly conclude that management should accept an order for 25,000 units because the unit selling price is greater than the unit variable cost of producing the product. His analysis may be somewhat along the following lines:

Unit selling cost
$6
Unit variable cost
$5
Unit contribution margin
$1

If 25,000 additional units are sold, profit for 1965 would be increased by $25,000. However, due to capacity limitations, (50,000 units) $100,000 in additional sales would be lost in 1966. Sales for 1966 are estimated at 60,000 units. Total profit for the two-year period would
decrease by $75,000. Profit would be increased by $25,000 from the special sales in 1965 but revenue of $100,000 would be lost from inability to sell 10,000 units at $10 regular price in 1966. It is significant that the direct coster could also ignore the $.25 increase in unit variable cost anticipated for 1966.

The absorption coster would not be able to determine readily the merits of accepting or rejecting the order. To reach a decision, he would have to analyze the firm's cost structure. This procedure would require time for a special study and would entail the incurrence of additional costs. It would also require that he use direct costing techniques and concepts. If time is of the essence, the firm may have to reject the order rather than risk the possibility of sustaining a loss.

Compared with the absorption coster, the relevant coster would be in an extremely favorable position. Like the direct coster, the relevant coster would have the advantage of being able to compute the contribution margin readily. As a first step, his calculations may take the following form:

<table>
<thead>
<tr>
<th>Unit selling price</th>
<th>$6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit variable cost</td>
<td>5</td>
</tr>
<tr>
<td>Unit contribution margin</td>
<td>$1</td>
</tr>
</tbody>
</table>
Obviously, the preceding computation is identical to the one which the direct coster would make. However, the relevant coster would not make his decision solely on the basis of this computation. Because of the future orientation of the relevant coster, his decision would be made after the future operating plans of the firm are determined and evaluated.

The relevant coster would note from Exhibit V that $23,750 in production costs have been deferred in 1965 in contemplation of increasing sales in 1966 by 10,000 units over and above available capacity and in contemplation of the anticipated variable cost increase of $.25 per unit. In essence, the $23,750 is viewed by the relevant coster as the additional (relevant) cost to be matched against the future additional revenue of $100,000 resulting from the sale of the 10,000 units included in the 1965 ending inventory. The appearance of this cost in the relevant costing income statement would suggest that at least 10,000 units must remain in inventory at the end of 1965.

The availability of relevant costing information, then, may be used advantageously by the relevant coster. He can readily see that it would be most unwise for the firm to accept an order at $6 per unit for the entire 25,000 units produced in 1965 with the available capacity. The relevant costing income statement suggests that no more
than 15,000 units should be sold at $6 per unit. These units can be sold at $6 each because the selling price exceeds variable costs. This action would enhance 1965 profit by $15,000 and still permit the firm to increase 1966 revenue by $100,000.

The following illustration compares three possible alternative courses of action open to the management of Company X. There are many possible alternatives within the range of 0 units and 25,000 units. However, the alternative to sell only 15,000 units is shown to be the most profitable course of action to be pursued by the firm within the constraints applicable to relevant costing. The alternative to reject the offer, as previously noted, would cost the firm $15,000. The alternative to sell the entire inventory of 25,000 units, on the other hand, would result in a loss of $75,000 over the two-year period.

The absence of the 10,000 units (assuming 25,000 units are sold in 1965) needed to meet 1966 sales commitments reduced the contribution margin from $291,250 (see Exhibit V) to $191,250, as indicated in the illustration comparing the three possible alternative courses of action.
### Alternatives

<table>
<thead>
<tr>
<th>Units</th>
<th>$0</th>
<th>15,000</th>
<th>25,000</th>
</tr>
</thead>
</table>

**1965**

<table>
<thead>
<tr>
<th>Contribution margin from regular sales (Exhibit V)</th>
<th>$125,000</th>
<th>$125,000</th>
<th>$125,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional revenue</td>
<td>- 0 -</td>
<td>90,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Total</td>
<td>$125,000</td>
<td>$215,000</td>
<td>$275,000</td>
</tr>
<tr>
<td>Additional variable cost</td>
<td>- 0 -</td>
<td>75,000</td>
<td>125,000</td>
</tr>
<tr>
<td>New contribution margin</td>
<td>$125,000</td>
<td>$140,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>

**1966**

| Contribution margin | $291,250 | $291,250 | $191,250 |

**1965-1966**

| Total contribution margin | $4,16,250 | $4,31,250 | $4,31,250 |

**Pricing decisions.** Pricing decisions may also be facilitated through the use of relevant costing. For example, assume that it is estimated by the management of Company X that a 10 percent increase in price will cause a 10 percent decline in sales volume. Should the price increase be initiated?

The effect on profit as a result of the price increase can be readily computed under relevant costing. The following simple computations, which are based upon Exhibit V, indicate that profit would increase by $10,000.
New margin $ = \$5 + \$1 (0.10 \times \$10) = \$6$

New volume $= 25,000 - (0.10 \times 25,000) = 22,500$

Total margin $= 22,500 \times \$6 = \$135,000$

Improved profit $= \$135,000 - \$125,000 = \$10,000$

The computations made above, however, can also be easily made under direct costing. The effect on profit as a result of the price increase cannot be readily computed under the absorption costing system. A new overhead rate based upon the reduced volume must be computed.

As a further illustration of pricing decisions, assume that management wants to determine how much prices should be increased to offset a 10 percent wage increase. For this illustration, the direct labor unit cost of \$2 assumed in Exhibit V is used.

The amount by which prices must be increased to offset the wage increase can be readily computed under relevant costing and also under direct costing. A price increase of \$.40 per unit should offset the 10 percent wage increase. This amount is computed as follows:

\[
\begin{align*}
\$2 \text{ (variable labor)} \times 0.10 \text{ (wage increase)} \\
\text{= \$.20 direct labor cost increase per unit.} \\
\$0.20 + 50^2 (\$1.00 - \$.50 - p/v \text{ ratio}) = \$.40
\end{align*}
\]

2The contribution margin indicated in Exhibit V is \$5 per unit. This is the difference between the \$10 selling price and the \$5 variable cost. Accordingly, the p/v ratio may be expressed as a percent of selling price. In the example, the p/v ratio is 50 percent.
It would not be possible, under absorption costing, to compute readily the price increase necessary to offset the 10 percent increase in wages. Product costs must be recomputed using the new rates. Mark-up factors must then be applied. These computations can also be readily made under direct costing, however, the future orientation of relevant costing should enable the analyst to include the effect on the following year of changes in sales volumes.

One way to increase profit is to get more sales. If the demand for the product is inelastic and competitors will not retaliate, it may be possible to increase sales volume through price reductions. To illustrate, assume that the management of Company X proposes to reduce the selling price of the product from $10 to $9 per unit. Is this a desirable course of action? The present and proposed cost and price structure is presented below:

<table>
<thead>
<tr>
<th>Unit Price &amp; Cost</th>
<th>Present</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit selling price</td>
<td>$10</td>
<td>$9</td>
</tr>
<tr>
<td>Unit variable cost</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Unit contribution margin</td>
<td>$5</td>
<td>$4</td>
</tr>
<tr>
<td>Decrease in unit contribution</td>
<td>-</td>
<td>$1</td>
</tr>
<tr>
<td>F/v ratio</td>
<td>50%</td>
<td>44.44%</td>
</tr>
</tbody>
</table>

A cost-volume-profit analysis possible under relevant costing or direct costing reveals that sales volume (number
of units) would have to increase by 25 percent to obtain the same results as before the price decrease. The volume (units) increase necessary to offset the price decrease is computed as follows:

\[
\text{Decrease in unit contribution} \quad \frac{-1}{14} \times 100\% = 25\%
\]

Available capacity (50,000 units) is presently inadequate to meet future needs. Sales volume for 1966 is projected at 60,000 units which amount exceeds present capacity by 10,000 units. Under the circumstances, it would be most unwise to implement the plan to decrease prices since this would result in lower total revenues. This price reduction would also have 1966 price effects.

The full potential of the future orientation of relevant costing is demonstrated again in the preceding illustration. If no consideration is given to future sales requirements, as may be the case under direct costing, the price decrease may be put into effect because a 25 percent increase in sales is possible if based solely upon 1965 sales. Future revenue, however, would be decreased because the sales increase could have been attained without reducing the selling price.

Relevant costing or direct costing may also be useful to set a 'target price' in those instances where a firm can set its own price. Setting price, however, is no simple
matter. Horngren describes the procedure as "a combination of shrewd guessing and mysterious folklore." The 'target price' is usually the first step in pricing and is set by adding a markup to accumulated costs. Subsequent adjustments are made in keeping with existing market conditions. The contribution approach is useful because it highlights different cost behavior patterns. Relevant costing or direct costing may also be useful for making product mix adjustments. The existence of different p/v ratios for various products results in changing break-even points and profit patterns as the product mix is changed. To illustrate, assume the following:

<table>
<thead>
<tr>
<th>Products</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit selling price</td>
<td>$ 3.07</td>
<td>$20.00</td>
</tr>
<tr>
<td>Variable unit cost</td>
<td>1.07</td>
<td>17.00</td>
</tr>
<tr>
<td>Unit contribution margin</td>
<td>$ 2.00</td>
<td>$ 3.00</td>
</tr>
<tr>
<td>P/v ratio</td>
<td>65%</td>
<td>15%</td>
</tr>
</tbody>
</table>

If fixed costs for a given firm are $34,600, and Products A and B are sold in equal proportion, in terms of sales dollars, the p/v ratio is 40 percent and the break-even point is $86,500:

---

Product A = 65% X 1 = 65%
Product B = 15% X 1 = 15%

\[
\frac{2}{2} = 80\%
\]

P/v ratio = 80% + 2 = 40%

Break-even point = $34,600 + .40 = $86,500

If there is a shift from Product A to Product B, the results might be as follows:

Product A = 65% X 2 = 130%
Product B = 15% X 5 = 75%

\[
\frac{2}{7} = 205\%
\]

P/v ratio = 205% + 7 = 29.3%

Break-even point = $34,600 + .293 = $118,088

Assume that there is idle capacity and that Product C with a marginal unit cost of $9.13 can be produced and sold for $11.63. This adjustment might yield the following results:

Product A = 65% X 2 = 130%
Product B = 15% X 5 = 75%
Product C = 21.5% X 2 = 43%

\[
\frac{8}{8} = 24.8\%
\]

P/v ratio = 24.8% + 8 = 31%

Break-even point = $34,600 + .31 = $111,613

The preceding analysis can also be used by management as an aid in maximizing profit. For example, the analysis indicates that, within limits, management should direct its sales efforts to the product having the highest p/v ratio.
To validate this type of analysis, two additional assumptions are required: (1) any combination of products can be sold at the given price, and (2) the sale of one unit is completely independent of the existence or sale of another unit.

Cost control. Cost control may also be effected through the use of relevant costing or direct costing. As an illustration of this type of decision situation, consider the following proposition: How much additional volume must be obtained to offset advertising and promotional expenses which are estimated to cost $20,000?

Using Exhibit V as the basis for this illustration, it is possible to resolve the issue with little or no difficulty. All that is required under relevant costing or direct costing is to divide the additional cost ($20,000) by the p/v ratio: The p/v ratio is found to be 47.5 percent ($4.75 + $10). The additional volume needed to offset the additional expenses is 4,210 units and may be determined as follows:

\[
\begin{align*}
\text{P/v ratio} & = 0.475 \\
\text{Additional cost} & = 20,000 \\
\text{Additional revenue} & = 20,000 + 0.475 \\
& = 21,100 \\
\text{Additional volume} & = 21,100 + 10 \\
& = 4,210 \text{ units}
\end{align*}
\]
To determine the increased volume needed, a special study would be required under an absorption costing system. Pro-forma income statements with various volume assumptions must be prepared to approximate the break-even point. As indicated above, the information is readily available under relevant costing. Although the same computations are also possible under direct costing, the results may differ from those obtained above. The future orientation of relevant costing would suggest that the anticipated $ .25 increase in variable cost in 1966 be considered in the computations. This simple fact may be overlooked under direct costing and the 1965 p/v ratio (.50) may be used. If the .50 p/v ratio were used, the indicated additional volume needed to offset the $20,000 cost increase would be 4,000 units.

Relevant costing or direct costing may also be used to control certain types of costs. To illustrate, in setting salesmen's commission rates, the contribution margin of each product may be used as the base rather than the selling price of the product. This approach would relate sales commission cost to the contribution made to profit by each product and prevent excessive costs resulting from paying commissions based on selling price on products with a high selling price but with a low contribution margin. Other out-of-pocket selling costs may also be controlled by relating the individual expenses of salesmen to each
salesman's total contribution to profit.

**Incremental (or differential) Analysis**

The separation of fixed and variable expenses inherent in relevant costing and direct costing systems, may also be useful in certain types of decision situations which involve incremental (often called differential) analysis. Capital budgeting, for example, which is probably the most important area of decision-making contributing to the long-range success of the firm, requires the use of incremental analysis. Other important decision situations lending themselves to incremental analysis in which relevant costing or direct costing may be helpful include: (1) dropping or adding a particular branch or product line, (2) continuing or discontinuing operations, and (3) making-or-buying decisions.

**Operations Research**

Relevant costing or direct costing, through the use of the contribution margin, may also be quite useful in decision situations involving the use of linear programming. Linear programming is one of the most successful applications of operations research to problems. It is quite useful, for example, in decisions involving the most efficient utilization (or allocation) of fixed facilities. Transportation and storage problems may also be solved
through the use of linear programming.

Summary

The usefulness of relevant costing for internal decision situations evolves from its timely segregation of fixed and variable expenses and its future orientation. The separation of expenses at the recording phase of an accounting transaction permits the preparation of a relevant costing income statement which readily provides a contribution margin index which is useful for internal decision situations. This contribution margin, however, is also produced under a direct costing system.

Cost-volume-profit analysis, therefore, may be facilitated in many instances through the use of relevant costing or direct costing. Some of the decision situations in which relevant costing or direct costing may be useful can be classified under profit planning, pricing, and cost control. Specific decision situations include: (1) accepting orders at a price greater than variable cost but less than total cost, (2) evaluating the effects upon profit resulting from price changes, (3) selecting the most profitable sales prices and volumes, (4) evaluating the desirability of incurring additional expenses to increase sales, and (5) controlling certain types of out-of-pocket costs. Relevant costing and direct costing may also be
useful in decision situations requiring incremental (or differential) analysis and in the area of operations research.
CHAPTER V

APPLICATIONS OF RELEVANT COSTING
FOR EXTERNAL DECISION-MAKING

Introduction

Unless relevant costing produces more meaningful statements for investors and creditors, the principal external users of such statements, relevant costing cannot be justified. The needs of investors and creditors for financial data, while not identical, are nevertheless very similar. Both groups are concerned with the solvency and profitability positions of a given firm as a measure of its debt paying ability and as a possible indication of its long-range growth potential for investment purposes.

Cost-Volume-Profit Analysis

The necessary separation of fixed and variable expenses on the income statements is frequently cited by direct costers as a distinct advantage of direct costing over absorption costing. The availability of the separate expense data, it is argued, enables interested external groups to conduct (within limits) cost-volume-profit analyses similar to those conducted by management. Because the separation of fixed and variable expenses is also characteristic of relevant costing, an examination of the
concept to determine the extent to which it may be used for this type of analysis seems appropriate.

As an illustration of how cost-volume-profit analysis may be used by investors to evaluate the adequacy of a given firm's future income, consider the following example. Assume that the industry of which Company X (as represented by Exhibit V—page 64) is a part, has an average contribution margin rate of 35 percent as related to sales. Assume further that prices are to remain constant and that dollar sales are expected to decrease in the next period (1967) by approximately 30 percent. The analyst may compare the expected future income of Company X with that of an average industry company:

Projected 1967 sales (70% X $600,000) $420,000
Estimated variable expenses (52.5% X $420,000) $220,500
Estimated fixed expenses 100,000
Total expenses $320,500
Estimated 1967 income for Company X $99,500

Net income for an average industry company using the same sales volume as Company X may also be estimated:

Projected 1967 sales (70% X $600,000) $420,000
Estimated variable expenses (65% X $420,000) $273,000
Estimated fixed expenses 90,000
Total expenses $363,000
Estimated 1967 income of average industry company $57,000
The indicated analysis, possible under direct costing, suggests that the estimated future earnings of Company X compare favorably with the results expected for the industry.

**The Usefulness of Relevant Costing for Cost-Volume-Profit Analysis**

An examination of the relevant costing concept indicates that it does not provide any additional and useful information for this type of analysis not otherwise obtainable under direct costing. The statements obtained under relevant costing could safely be used for cost-volume-profit analyses only when none of the economic attributes are present. In such cases, however, the results would be identical to those obtainable under strict direct costing.

In those instances where the results of relevant costing differ from those obtainable under direct costing, relevant cost data may not be used effectively for cost-volume-profit analysis. Under direct costing, the amount of fixed production costs is clearly shown as period expenses on the income statement. However, it may not be possible to determine from published statements the amount of current fixed production costs which is to be deferred to subsequent periods under relevant costing.
The amount of fixed manufacturing costs to be added to or deleted from inventory is determined by management's evaluation of future operating conditions relating to the firm. Information relating to the future production level and estimated sales may not be, and usually is not, available to the external analyst. Even if this information were available, it is highly unlikely that management and the external analyst working independently would make the same assumptions about future operating conditions of the firm. The predictions of the external analyst, therefore, will not be as reliable as when strict direct costing is used.

Cost-volume-profit analysis is not possible when conventional absorption costing is used for external reporting. Fixed and variable expenses are generally not shown separately. There is no way for the analyst to determine, with any degree of accuracy, the amount of fixed production costs expensed or included in the inventories.

**Financial Statement Analysis**

The information included in financial statements is useful to creditors and investors. It is used in credit extension and investment commitment. Financial statement analysis provides guides as to the solvency position of a business enterprise. Solvency implies the ability of a
firm to meet its obligations as they mature. Important measures of solvency are obtained by computing the firm's working capital, by computing inventory turnover, and by determining the current ratio and quick ratio. Financial statement analysis is also useful as a guide for evaluating the earning power of a firm. The rate-of-return on invested capital\(^1\) is a basic measurement of the over-all profitability of the firm.

The Usefulness of Relevant Costing for Financial Statement Analysis

The question at issue in evaluating the usefulness of relevant costing for financial statement analysis is whether the concept produces financial statements which properly reflect periodic income and the appropriate asset base. The attainment of one objective, i.e., proper matching or appropriate asset base, however, automatically effects the other.

\(^1\)What constitutes invested capital depends upon the objective of the measurement. For example, to measure financial success, the capital base used may be either common stockholders' equity, total stockholders' equity, or the equity of the stockholders and bondholders. If the stated objective is to appraise management's efficiency in the use of the capital entrusted to it, the capital base used may be either total assets or the assets used in operations. When assets constitute the capital base, cost or book value may be used.
A strong case can be made for the use of relevant costing over direct costing or absorption costing for financial statement analysis because relevant cost inventories are tied to future events. All costs relevant to the future are considered assets. A cost is considered an asset if it is relevant to the future as envisioned by the going-concern concept. Any past incurrence that will not result in some future cost avoidance or additional revenue cannot qualify as an asset. Fixed production cost which will not result in future cost avoidance or additional revenue is excluded from the inventory carrying value. The result is an inventory valuation which, in essence, is an index of the costs the firm can recover in the future from the sale of its inventory. It is an inventory valuation which may be viewed as the incremental cash equivalent that must be spent to secure additional inventory.²

The use of relevant costing for asset measurement also provides a meaningful periodic income figure which is in keeping with economic realities, as measured by the economic attributes underlying relevant costing. The

income figure taken together with the asset base, as reflected by the balance sheet, can be used by creditors and investors to evaluate the debt paying ability and the long-range profitability of a given business enterprise. An important function of the balance sheet is that of serving as a basis with which to compare income. The rate of income on total investment which a firm is currently earning is a more effective analysis tool than the absolute amount of income alone.

For the purpose of measuring periodic income, fixed manufacturing costs, under direct costing, are always charged against income in the period in which the costs occurred regardless of the utilization of related facilities to produce goods. This is the most conservative method of dealing with fixed manufacturing costs. Thus, assuming the validity of the economic attributes underlying relevant costing, fixed manufacturing costs (relevant costs) which may have an impact upon future revenue are systematically excluded from the inventory value resulting in an understatement of periodic income and inventory valuation.

Unlike direct costing which may result in expensing some relevant costs, absorption costing may result in the overstatement of periodic income by deferring irrelevant costs which, by their nature, can have no favorable impact
(increase future revenues or decrease future costs) upon the future operations of the firm. The inflated inventory valuation appearing on the balance sheet will be greater than the replacement cost of the inventory but less than the net realizable value.

The possible overstatement of income in one year, followed by a period or a series of periods when the income is understated, limit possible analyses and evaluations of the firm. Such a vital analysis as the rate of return on invested capital loses much of its usefulness because the solvency and profitability measures are based upon an erroneous income figure and asset base. Ratios and turnovers such as the current ratio and finished goods turnover are of doubtful validity when the inventory figures used in the computation do not represent economic realities. In short, resulting measures of solvency and long-range profitability of the business enterprise may not be as meaningful under absorption costing or direct costing as those otherwise obtainable under relevant costing.

As noted from preceding illustrations, (Exhibits II and III—pages 23 and 28, respectively) inventory values under relevant costing will generally fall between those of direct costing and absorption costing whenever current fixed production costs are deferred to the subsequent period. It is possible, however, for inventory values
under relevant costing to be identical to those obtainable under direct costing (see Exhibit I--page 20) or, in some cases, to those obtainable under absorption costing. Thus, ratios and other measures resulting from the use of relevant costing may, at times, be identical to those obtained under direct costing and absorption costing. Relevant costing and direct costing will yield the same measures when none of the economic attributes required are applicable. Solvency and long-term profitability measures may also be identical to those obtainable under conventional absorption costing. This will occur whenever the sales of a given firm for the next period are expected to be in excess of capacity by an amount equal to or greater than the amount of ending inventory in the current period.

The fact that results obtainable under relevant costing may parallel those resulting from the use of direct costing or absorption costing should not detract from the usefulness of relevant costing. The important consideration is which concept yields the best results, not whether the results may be the same or different under special sets of circumstances. If one accepts the validity of the economic attributes as a measure of service potentials, relevant costing would seem to provide the best measures of periodic income and asset base upon which to conduct financial statement analysis.
Opposition to the use of relevant costing may be raised on the grounds that inventory should be valued at net realizable value, i.e., anticipated sales price less costs of completion and disposal, whenever the measurement is objectively determined. This procedure has the effect of "assigning most if not all of the change in resources and the related profit or loss to the period of production (or other activity) when the actual effort was made." If the valuing of inventories at net realizable value were to become the generally accepted practice, absorption costing, direct costing and relevant costing would become irrelevant.

On the other hand, where net realizable value may not be used, Professors Sprouse and Moonitz decry the use of historical cost for inventory valuation as "far from a satisfactory basis for pricing inventories because it rarely reflects either present utility or future benefits." (Emphasis supplied.) This leaves the possibility of using


4Ibid., 27.

5Ibid., 28.
a current exchange price or replacement cost. The use of replacement cost is in keeping with the notion that the inventory valuation resulting from relevant costing may be viewed as the incremental cash equivalent that must be spent to secure additional inventory. Full replacement cost might involve replacement of the fixed costs as well.

**Summary**

Investors and creditors are counted among the principal external users of financial data. The needs of these two groups for financial data are very similar. In general, they are concerned with the liquidity and long-range profitability positions of the firm.

It does not appear that relevant costing statements are as useful as direct costing statements for external cost-volume-profit analysis. While this type of analysis may always be possible under direct costing, the intermittent capitalization of fixed manufacturing costs limits its usefulness under relevant costing. The amount of fixed manufacturing costs to be deferred is determined by management and cannot be estimated with any degree of precision by the external analyst.

Relevant costing statements may be used by investors and creditors for conventional financial statement analysis as an aid in determining the solvency position of a firm
and to evaluate its long-range profitability. These statements are particularly useful in this respect because, under relevant costing, inventories are tied to future events of the firm. In addition, relevant costing income statements produce a better matching of expenses and revenues than would be possible under direct costing or absorption costing. The resulting income figure, therefore, taken together with the asset base reflected on the balance sheet may provide the best measure of a firm's solvency position and its long-range profitability.

Objections to the use of relevant costing for financial statement analysis may be raised on the grounds that inventories, when applicable, should be valued at net realizable value. Where net realizable value is not appropriate, however, relevant costing may provide the best asset measurement and periodic income figure.
CHAPTER VI

CURRENT STATUS OF RELEVANT COSTING

This study has included an analysis of the concept of relevant costing, a discussion of the advantages and disadvantages of relevant costing, and an analysis of the applications of relevant costing. The next step is to evaluate relevant costing in the light of how it conforms to existing accounting theory. Views of leading proponents and opponents of the relevant costing concept are presented. Also included are the views regarding the acceptance of relevant costing for income determination of leading accounting professional organizations and the Internal Revenue Service.

Proponents of Relevant Costing

The concept of relevant costing for asset measurement is too new to have had significant impact on current accounting thought. Yet, notwithstanding its recent appearance in the accounting literature, there is notable
opposition to relevant costing. Some support for the concept, however, is in evidence.

Professors Battista and Crowningshield are presently counted among the supporters of relevant costing. They believe, however, that the concept as proposed by Horngren and Sorter does not go far enough. They submit that "the expired costs must be further subdivided into those properly chargeable to revenues as expenses and those which are not relevant, to be appropriately classified as losses." Their reasoning is that:

Management's decision to produce excess units in one period which could be produced in a subsequent period by using otherwise idle capacity, does not result in economic benefit, in terms of fixed manufacturing cost, to the current or succeeding period. The fixed manufacturing costs applicable to the excess units produced should be considered a loss.

They contend that the classification of expired costs as expenses or losses can be theoretically supported:


3Tbid., 17.
... Expense is the expired cost, directly or indirectly related to a given fiscal period, of the flow of goods or services into the market and of related operations. Loss is expired cost not beneficial to the revenue producing activities of the enterprise.\(^4\)

Theoretical support is also expressed by Paton and Littleton. They point out that "... the cost of any factor utilized in operating activity is chargeable to revenue only as the resulting product is recognized as having produced revenue."\(^5\) They define a loss as "... a cost incurred without compensation or return, in contrast to charges which are absorbed as costs of revenue."\(^6\)

The losses chargeable to each period can be easily computed. Isolating the loss, however, gives rise to the problem of determining how the loss is to be treated. It is possible to treat the loss as a volume variance, as suggested by Battista and Crowningshield.\(^7\) This treatment, however, may not be appropriate. Treating the loss as a


\(^5\)W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards (Columbus: American Accounting Association, 1940), 70.

\(^6\)Ibid., 93-94.

\(^7\)Battista and Crowningshield, loc. cit.
volume variance would imply association of the loss with the function of production. This treatment, however, would be inconsistent with the basic premise inherent in relevant costing that fixed production costs should be considered a function of time.

An example, based upon Exhibit III, of how the volume variance might be shown on the income statement appears below:

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$250,000</td>
<td>$600,000</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>175,000</td>
<td>402,500</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$ 75,000</td>
<td>$197,500</td>
</tr>
<tr>
<td>Volume variance</td>
<td>26,250</td>
<td>30,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$ 48,750</td>
<td>$167,500</td>
</tr>
</tbody>
</table>

Another possibility would be to treat the loss as an extraneous charge. This approach may be more realistic than showing the amount as a volume variance. It would serve the useful purpose of focusing attention upon the inefficient utilization of fixed resources. At the same time, the loss would be associated with the period rather than with the function of production. This treatment, however, may be challenged by those who support the current operating type income statement. The problem of income tax allocation is also present. Obviously, there are problems which need answers before this classification refinement
can be implemented.

Another supporter of relevant costing, David Green, accepts the notion of assets representing "service potential" and states:

The reports of the accountant would become more useful and better understood by managers and investors if his first form of reference is the time period. This requires the operating statement to consist of (at least) two discrete measurements—revenue and cost expirations within a time interval. These measurements are made solely with reference to elapsed time, and reported assets at the end of the period are recognized only to the extent that they benefit the future. (Emphasis supplied.)

He submits that "future benefit is a useful criterion for determining which costs can be included in ending inventory" and suggests that "each 'natural' cost can be examined and a determination made to the extent to which each cost incurrence benefits the future." As to the costs themselves, he emphasizes that, assuming the going concern, "we must conclude that cost incurrence this year does not obviate cost incurrence next year for those items [fixed manufacturing costs] or their possible substitute." Green would also extend the relevant costing concept to embrace


9Ibid., 189.
research and development costs and launching new products: advertising expenditures.10

It would be a relatively simple task to extend relevant costing to embrace research and development costs as well as fixed production costs. This cost is usually available. Many firms actually capitalize these costs. When capitalized, the amount is shown as an intangible asset on the balance sheet and the costs are usually amortized on some equitable basis.11 Many firms consider research and development costs as part of their capital budgeting program.12 In some instances, some difficulty may be experienced in isolating these costs because some firms do expense these costs. Under the present tax law, research and development costs may be expensed when paid or amortized over a period of 60 months or more.13

The notion of including advertising and promotional expense, however, is another matter. The difficulties

10Ibid., 191.


involved in this approach are well-known and have been summarized by Moonitz and Jordan in the following quotation:

The results from advertising campaigns are notoriously variable: few outside the advertising agency handling the campaign will predict its unqualified success. Uncertainty as to the existence of future benefits or their magnitude usually dictates a cautious approach, so that these outlays are ordinarily matched by charges to expense accounts . . . 

Opponents of Relevant Costing

Professor James M. Fremgen is presently counted among the opponents of variable costing techniques. It is his contention that:

... variable costing is a fallacious and incorrect approach to the determination of periodic net income. Absorption costing must be employed for this purpose, and the fact that the two techniques will yield the same net income figures where inventory levels remain unchanged is only coincidental. For inventory levels are not wont to remain stable; they are in fact, typically very volatile.

He takes issue with Horngren and Sorter's identification of the service-potential concept of asset valuation with the concept of future cost avoidance. Such an identification,

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he asserts, is "unnecessarily restrictive and an unfortunate approach to asset valuation."¹⁶ Minimization of costs, he submits, is not the objective of a firm's operations. Thus, "... the service-potential concept ought to be interpreted in the light of an incurred cost's capacity to contribute to the production of revenue."¹⁷ Under this approach, all production costs are, then, essential to the completion of a product. Depreciation on machinery and buildings is no less necessary than prime costs. Hence, in this respect, there is no distinction between variable and fixed costs.

Fremgen further asserts that "in theory, there is no such thing as true period costs."¹⁸ He says that the costs of a product include all costs incurred by a firm, including non-manufacturing costs, and that products are bundles of economic utilities, which include time and place as well as form. Theoretically, distribution and administrative costs, according to Fremgen, are as much costs of the product as are manufacturing costs. The product is not complete until it is in a form, a place, and at a time wanted by the customer. Practical difficulties,

¹⁶Ibid., 77.
¹⁷Ibid.
¹⁸Ibid., 78.
however, suggest that distribution and administration costs be treated as period costs in actual practice.

In addition to Mr. Fremgen, other opponents of relevant costing also reject the cost obviation concept of service-potential. This position necessarily rejects the period cost treatment of fixed costs. Conversely, acceptance of the revenue production concept of service-potential requires acceptance of the product cost position. Professors Fess and Ferrara are included in this group.

Fess and Ferrara, writing together, charge that relevant costers assume erroneously that income is earned at the point of sale.\(^{19}\) They state that income is considered earned as "utility is added to the factors of production."\(^{20}\) They term this addition of utility throughout the process of production and sale "a 'value added' approach."\(^{21}\) On the expense side, they argue that "the 'value added' concept creates 'delayed costs' and that these 'delayed costs' are related to the entire process of


\(^{20}\) Ibid.

\(^{21}\) Ibid.
production and sale and represent the costs of form, time, and place utility which have been used up in the process of acquiring revenue, the recognition of which is being delayed.\textsuperscript{22} They conclude that "these "delayed costs" are related to earnings, the recognition of which is delayed, and not to some future benefit or utility."\textsuperscript{23} (Emphasis supplied.)

This 'value added' approach, Fess and Ferrara contend, is in accord with generally accepted accounting practice which supports a matching process for income measurement whereby the cost of obtaining a certain amount of revenue is deducted from that revenue.\textsuperscript{24} The basic difference between the two approaches, therefore, is a matter of timing. Current practice generally defers income recognition until the point of sale--when it can be objectively determined. Fess and Ferrara agree that "... this delay can be justified on the basis of difficulties involved in the measurement of utility increments and the value that the public would attribute to the utility increments."\textsuperscript{25} They concede, however, that the

\begin{footnotes}
\item[22]Ibid.\textsuperscript{2}
\item[23]Ibid., 601.
\item[24]Ibid., 600.
\item[25]Ibid.
\end{footnotes}
value added concept may be subject to the criticism that "what is measured is the amount thought to be earned rather than the amount actually earned as determined by the objective values placed on merchandise in the market place." This last observation seems appropriate in view of the practitioners' reactions to Sprouse and Moonitz's recommendation of reporting inventory at net realizable value.

Horngren and Sorter reject the 'value added' argument on the basis that it is an attempt to match 'effort' and 'accomplishment.' They maintain that "no rational relationship exists between effort and accomplishment if the amount of accomplishment (revenue) is independent of and unaffected by the amount of effort (cost.)." "Proper matching," they maintain, "calls for the deferral of all costs that have an economic impact on future events. Consequently, such deferrals should be measured by the present value of the necessary alternative expenditures that would be needed to maintain the projected level of income." They also maintain that "'value added' is made operational through the relevant costing approach," and

26 Ibid.

conclude that:

... Only costs representing scarce resources add value to the product. Utilization of fixed facilities in one period to accumulate inventories does not represent the utilization of "scarce resources" if the fixed facilities will stand idle during the subsequent period.28

Profitability may be measured in terms of matching effort and accomplishment. Viewed in this manner, the purpose of expending efforts is to generate accomplishments or income in excess of efforts. In normal business operation, then, costs are often incurred prior to the emergence of revenue and for the purpose of generating revenue. All costs are incurred with the expectation that they will produce revenue. If this were not the case, why then incur the cost? To say that the amount of accomplishment may be independent of and unaffected by the amount of effort is tantamount to saying that fixed manufacturing facilities may or may not be useful in the production of revenue. Again, if this is true, why not assume that they are always unnecessary and avoid the initial expenditure?

If one assumes that a factor of production (fixed

facilities in this case) is essential to the production of goods, its scarcity would limit output and may affect total cost. There is, however, no relationship between the scarcity of a particular factor of production and the ability of that production factor to contribute to the production of revenue.

Professor Fess, writing alone in another article, challenges the very existence of fixed and variable costs per se. He asserts that:

... a fixed variable cost classification of manufacturing costs evolves from the accountant's inability to measure some costs in terms of benefits. All costs are incurred because of the service expected from the outlay with no differentiation made between fixed and variable. The accountant deviates from measuring these outlays strictly in terms of units benefiting from the use of the asset services because of the "inability to measure."\(^{29}\)

He further submits that only in the sense that service resources expire with the passage of time can a valid distinction be made among service resources on a time basis, and "this distinction is not the one used in separating manufacturing costs into fixed and variable elements."\(^{30}\)


\(^{30}\) Ibid.
Professor Fremgen's notion that the fixed-variable classification of manufacturing costs may be more of a fiction than a reality may have some merit. All production costs are essential to the completion of a product. The matching concept, a generally accepted accounting practice, requires that all costs incurred to produce revenue be matched with that revenue. The period assumption, the basis for the application of the matching concept, evolves from the basic going-concern concept upon which, according to Sorter and Horngren, relevant costing is predicated. Under the going-concern concept, the business activity is assumed to continue operations over a reasonable period of time. Thus, the long-range orientation of the going-concern suggests that there may be no such thing as a fixed manufacturing cost per se.

**Professional Accounting Organizations and Relevant Costing**

The question as to whether relevant costing is a generally accepted accounting method for income determination cannot be answered with precision. There is no evidence indicating the extent, if any, to which relevant costing is currently being used. There is, however, sufficient evidence supporting the view that
direct costing techniques have been gaining in popularity.\(^1\) Because relevant costing is a modified variable costing technique, the comments of professional accounting organizations relative to the acceptance of direct costing for income determination may be appropriately applied to relevant costing.

In the following sections, the position taken on direct costing techniques by the Committee on Concept and Standards of the American Accounting Association, the American Institute of Certified Public Accountants, and the Institute of Chartered Accountants in England and Wales, are discussed. Although not binding on the part of the membership, the positions taken on direct costing techniques by these organizations are important. To the extent that the membership will be influenced by the views of the organizations, the position taken by these organizations may have an impact upon the future application of relevant costing. It is for this reason that these comments are included in this study.

\textit{Committee on Concept and Standards--American Accounting Association}. A pronouncement by the Committee on Concept and Standards of the American Accounting

Association upon discussing published financial statements asserted that:

... the cost of a manufactured product is the sum of... acquisition costs reasonably traceable to that product and should include both direct and indirect factors. The omission of any element of manufacturing cost is not acceptable.\(^{32}\)

This statement by the committee implies a lack of total acceptability of direct costing techniques for external reporting. Significantly, two members of the committee, Mr. Hill and Mr. Vatter, dissented from the majority position. Their position on direct costing was expressed in the following manner by the Committee on Concept and Standards:

... assets are indeed "service potentials available for, or beneficial to, expected operations," ... and that asset measurement based on this definition need not include costs which must be incurred regardless of production or sale. They therefore conclude that direct costing is at least as acceptable in accounting theory as is the conventional "full costing" concept. Moreover, they believe that the use of direct costing procedure will, in many cases, yield results more useful to investors as well as to management.\(^{33}\)

Another member of the original committee of seven, Mr.


\(^{33}\)Ibid., 10.
Sidney Davidson, writing several years later says:

After five years of brooding on the subject, I am now convinced that I should have joined Vatter and Hill in their dissent in the 1957 Revision of Accounting and Reporting Standards. . . .

American Institute of Certified Public Accountants.

The literature of the American Institute of Certified Public Accountants is not clear as to the institute's position on direct costing, per se. There are some favorable implications at best. Bulletin No. 43 states in part that:

. . . under some circumstances, items such as idle factory expense, excessive spoilage, double freight, and rehandling costs may be so abnormal as to require treatment as current period charges rather than as a portion of the inventory cost. . . . It should also be recognized that the exclusion of all overheads from inventory costs does not constitute an accepted accounting procedure. (Emphasis supplied.)

In the final analysis, there is nothing in Bulletin No. 43 that can be used with any degree of certainty to either support or reject the use of direct costing in

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34 James T. Johnson, Direct Costing in Accounting (Ruston: Division of Research, School of Business Administration, Louisiana Polytechnic Institute, October, 1963), 16.

external financial statements."\(^{36}\)

Institute of Chartered Accountants in England and Wales. The position taken by the Institute of Chartered Accountants in England and Wales on the possible exclusion of fixed production costs from inventory parallels that of the proponents of relevant costing. In Statement on Accounting Principles No. 22, they state that:

Where, however, the levels (of production or sales) are subject to material fluctuation and are not kept in balance, it may be decided to exclude these (period) expenses from stock on the ground that, as they would be incurred whatever the levels of production or sales, their inclusion in stock has the effect of relieving the profit and loss account in the period when they are incurred of expenses which it should fairly bear and of charging these expenses in a later period to which they do not properly relate.\(^{37}\)

It is apparent from the preceding quotation that the Institute of Chartered Accountants in England and Wales subscribes to the theory that fixed manufacturing costs are incurred on a time basis regardless of volume of production or sales and, therefore, individual products should not incur fixed overhead. Under this approach, only those costs which are a function of output are deferred as


\(^{37}\)Ibid.
inventory costs and matched against future revenue.

**Income Tax Status of Relevant Costing**

Court decisions are not clear as to the acceptability of direct costing techniques for determining taxable income. The Courts' interpretations of the Code and Regulations has not been consistent.

In *Montreal Mining Co.* (2 T.C. 688), the Tax Court affirmed the Commissioner's position that real and personal property taxes, state income taxes, franchise taxes, and payroll taxes did not constitute costs which should be included in inventory.

In *Frank G. Wilkstrom and Sons, Inc.* (20 T.C. 45, May 15, 1953), however, the Court ruled that the Commissioner was justified in requiring that similar expenses be included in the inventory.

In *Geometric Stamping Company* (26 T.C. 301), the Court ruled that Geometric's tax returns for 1949 and 1950 were acceptable even though they were prepared under direct costing. The Court avoided the direct costing issue and based its ruling on the fact that the Commissioner had accepted previous returns prepared under direct costing.

In *Photo-Sonics, Inc.*, the Commissioner allocated a portion of the overhead to the inventory, using direct labor as a base. Photo-Sonics, Inc., had consistently used
the prime cost method of valuing its inventory. In reviewing the case, the Tax Court held, on February 24, 1966, that "taxpayer had confused the method [prime cost] with direct costing, which excludes only fixed overhead charges from inventory," and affirmed the Commissioner's method of overhead allocation. The language of the Court suggests, but does not state precisely that direct costing techniques may be acceptable for income tax purposes since only a portion of the fixed manufacturing cost was allocated to the inventory by the Commissioner.

Available evidence indicates that the Commissioner has not issued a statement of policy regarding the use of direct costing techniques. In some instances, informal permission has been granted. Some companies have changed to direct costing without permission and have not been challenged. In some instances unauthorized changes to direct costing have not been challenged. Some companies, moreover, have always used direct costing and have never been challenged. 39


In view of the conflicting Court decisions cited above and the inconsistent interpretation of the Code and Regulations by the Commissioner, it is difficult to assess the current status of direct costing techniques for determining taxable income. Contrary to the position taken by some authorities, the evidence seems to indicate that each case is handled on an individual basis, and that the acceptability of direct costing techniques for determining taxable income has not yet been resolved.

Summary

Notwithstanding its recent appearance, there appears to be notable opposition to relevant costing for external reporting purposes. Some support for the concept, however, is in evidence.

The opponents of relevant costing attack it on theoretical grounds. Some opponents suggest that the concept is based on the incorrect assumption that income is earned at the point of sale. They contend that income is earned throughout the entire production process. Others submit that fixed manufacturing costs are production costs and should always be included as part of the inventory.

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carrying value.

Relevant costers contend that only those fixed production costs which are relevant to the future should be included as part of the inventory. They submit that promotional, and research and development expenditures should be analyzed in an effort to measure the unexpired portion of the cost to be carried forward as an asset.

Most of the professional accounting organizations are not clear as to what their position is with regards to the acceptance of direct costing techniques for external reporting purposes. The Internal Revenue Service has consistently evaded the issue. Inconsistent Court rulings and inconsistent interpretations of the Code and Regulations suggest that the current status of relevant costing for income determination remains unsettled.
CHAPTER VII

SUMMARY AND CONCLUSIONS

Summary

A new concept termed relevant costing has evolved as an outgrowth of the direct costing versus absorption costing controversy. Relevant costing and direct costing are similar in many respects; yet they are based upon different theoretical grounds. The similarities between relevant costing and direct costing have resulted in some misconceptions about the former concept. In fact, some accounting authorities believe both concepts to be one and the same.

Relevant costing is, in essence, a modified variable costing technique which is useful for reporting to internal and external users of financial statements. The concept embraces the principle that assets represent aggregates of service-potentials. The service-potential of a cost, in turn, is predicated on the notion that its present incurrence obviates the need to incur this same cost in the future. Relevant costing assumes a going-concern. All fixed production costs are treated as period expenses except when it is determined that such costs will either increase future revenues or decrease future costs.

The assumptions needed to make relevant costing
acceptable are identified with the concept of cost avoidance. These assumptions are referred to as economic attributes by relevant costers and are: (1) that future production must be at a maximum capacity with future sales in excess of capacity by the amount of increase in the current period's ending inventory; (2) that variable production costs are expected to increase; or (3) that future sales will be lost forever because of lack of inventory. That is, the absence of inventory at a certain place or at a certain time will result in a permanent loss of certain sales.

The salient argument advanced by relevant costers is that production costs attach on the basis of economic attributes; costs should be deferred only if they will have a favorable impact upon future revenues or future costs. Proper matching, they submit, cannot be achieved unless current costs which will have a favorable impact upon future revenues or costs are deferred until their future impact is felt. This emphasis on economic attributes results in decision-oriented financial statements which are useful for both managerial and investment decisions. Decision-oriented statements facilitate the decision-making process and enable users of financial data to make more timely and more accurate decisions.

It is possible to produce an income statement under
relevant costing which yields a contribution margin (sales less variable costs) directly. This contribution margin is useful for cost-volume-profit analyses. The assets carried forward on the balance sheet are the costs relevant to future operating conditions of the firm.

The primary advantage claimed by relevant costers is that the emphasis on economic attributes and measurements makes possible a proper matching of revenues and expenses thereby producing financial statements, based on relevant costs, which are decision-oriented and therefore useful for decision-making. No attempt is made to distinguish between internal and external financial statement users nor is there any distinction made between the types of decisions made by both groups.

The contribution margin produced directly under relevant costing yields cost-volume-profit relationship data for internal decision-making. An additional advantage of this type of reporting over absorption costing is that (1) management understands variable costing concepts more readily than absorption costing results, and (2) the impact of fixed costs upon profit is emphasized. These costs are listed separately, not hidden in allocations against production as is the case where absorption costing is used.

Responsibility accounting is also facilitated because costs listed under relevant costing and direct costing are
specific to the product, territory, or cost center. Accordingly, products, territories, and cost centers can be easily compared since the listed direct costs do not include arbitrarily allocated fixed production costs.

Significant savings in the form of lower taxes may be possible through the use of relevant costing if it becomes accepted. Since the inventory value will usually be lower under relevant costing than under absorption costing, *ad valorem* taxes based upon the inventory value will be lower. The higher the fixed production costs in relation to total manufacturing costs, the higher the savings. Income taxes may also be postponed in a growing concern with growing inventories.

A major disadvantage attributed to relevant costing is the difficulty entailed in applying the concept to actual situations. Under absorption costing, fixed manufacturing costs are considered part of the product cost. Under direct costing, fixed manufacturing costs are considered period costs. Fixed manufacturing costs are deferred under relevant costing only if it is expected that the succeeding year will benefit in a prescribed manner. It thus becomes necessary for management or the accountant to shoulder the burden of determining whether a given inventory is necessary to meet future needs or whether it is excessive. No objective criterion is available to serve as a guide
in deferring fixed manufacturing costs. The only guide which has been advanced is the idea that capitalizing fixed manufacturing costs is justified only when there is convincing evidence of the validity of the prediction of succeeding year's needs.

The limited applications of relevant costing may also be considered a distinct disadvantage. Under relevant costing, it is expected that sales in the period subsequent to the inventory build-up exceed sales in the period of the inventory build-up. Thus, with respect to the future sales assumption, the concept would have application only in a new company where initial production enters the pipelines as a base stock, and in those instances where a firm is operating at or near capacity. The concept, however, would apply when it is determined that future variable costs will increase.

An additional disadvantage of relevant costing stems from the possibility that profit may be manipulated by management. There is no objective yardstick available which may be used to predict the existence of the economic attributes of a later period needed to make relevant costing acceptable. Through the intermittent capitalization of fixed manufacturing cost, therefore, management might manipulate income. This possibility, moreover, imposes additional responsibilities upon the
independent auditor in performing the attest function.

Other difficulties which are encountered in the development of the relevant costing concept include: (1) the difficulty of classifying expenditures as fixed expenses, (2) the difficulty of estimating future variable costs, and (3) the possibility that professional organizations and taxing authorities may not accept the concept.

Certain internal decision situations involving cost-volume-profit analysis may be facilitated through the use of relevant costing as opposed to absorption costing. These decisions (although not inclusive) may be classified under the headings of profit planning, pricing, and cost control.

Relevant costing, as in the case of direct costing, is helpful in ascertaining the effect of accepting orders at less than normal prices in those instances where spare productive capacity is temporarily available. It may prove desirable to accept additional orders at a price which is greater than variable cost but below total cost unless the lower price would affect the regular market or would violate fair price laws. Net profit may thus be increased by the amount of the contribution.

Decisions involving the selection of the most profitable combination of sales prices and volumes may also
be facilitated through the use of relevant costing as opposed to absorption costing. If a given firm can sell a given volume of output at a certain price, a comparison of the respective total contributions will reveal the proper product mix which will maximize profit. Thus, the effect on profit of a price increase or decrease can be readily computed under relevant costing. Essentially the same results can be obtained through the use of direct costing.

As in the case of direct costing, cost control may also be effected through the use of relevant costing. In considering promotional expenditures, the resulting contributions which can be anticipated from additional sales can be compared with the projected expenditure. Some period expenses such as salesmen's commissions may also be controlled through the use of relevant costing. In setting commissions, the contribution margin of each product may be used as a base rather than the selling price of the product. This approach would relate sales commissions to the contribution made to profit by each product and prevent excessive selling expenses resulting from paying commissions based upon selling price on products with a high selling price but with a low contribution margin.

The separation of fixed and variable expenses inherent in relevant costing and direct costing systems may also be useful in certain types of decision situations which
involve incremental (often called differential) analysis. Capital budgeting, for example, which is probably the most important area of decision-making contributing to the long-range success of the firm, requires the use of incremental analysis.

External financial data users may find relevant costing statements more useful for decision-making purposes than absorption costing statements. Certain types of cost-volume-profit analyses, however, can be conducted more accurately using direct costing than under relevant costing. For example, the estimated future income of a given firm or industry cannot be determined as accurately using relevant costing statements as when direct costing statements are used. The appropriate amount of fixed production costs is shown separately as a period expense in direct costing statements. The amount of fixed costs to be expensed in future periods under relevant costing, however, is contingent upon the amount of such costs to be capitalized.

Relevant costing statements, however, may be used effectively by investors and creditors to determine the debt paying ability of a given firm and to evaluate its long-range profitability. Relevant costing statements are particularly useful for these analyses because relevant costing effects a more meaningful matching of expenses and
revenues and the resulting inventory valuation is tied to future events of the firm. Thus, the results obtained are better income measures than those obtainable under direct costing or absorption costing.

Notwithstanding its recent appearance, some opposition to the use of relevant costing for external reporting by accounting authorities is in evidence. Those opposing its use for this purpose attack it on theoretical grounds.

An opposing argument used is that the cost of a product should include all production costs essential to its completion. Fixed manufacturing costs are considered no less necessary than prime costs and should therefore be included as a cost of the product. Another opposing argument used is that relevant costers erroneously assume that revenue is earned at the point of sale. According to the argument, income is earned as utility is added throughout the entire production process, not at the point of sale. Stated another way, income is earned throughout the entire creative process and therefore all costs incurred in generating that revenue should be deferred until the income is recognized; usually at the point of sale.

Proponents of relevant costing argue that future benefit is a useful criterion for ascertaining which costs
can be included in ending inventory. Thus, to the extent that fixed manufacturing costs do not benefit future operations, they are expired and should not be carried forward as an asset.

Most of the professional accounting organizations are not clear about their attitude toward acceptance of direct costing techniques for external reporting purposes. The Internal Revenue Service has consistently evaded the issue. Inconsistent court rulings and inconsistent interpretations of the Internal Revenue Code and Regulations suggest that today the acceptance of direct costing techniques for the determination of taxable income remains unsettled.

Conclusions

The examination of the relevant costing concept indicated that, except in a few specialized cases, it does not provide information additional to that obtainable under direct costing for internal decision-making purposes. Such specialized cases would include situations wherein management must decide whether to accept additional orders at a price which is more than variable cost but less than total cost, or when price decreases are contemplated to increase profit by increasing sales. In these instances, relevant costing will provide more accurate results than direct costing because of its future orientation.
Relevant costing is to be preferred over absorption costing for internal decision-making because it provides cost-volume-profit data not generally available under absorption costing. The use of absorption costing requires special studies to separate the variable and fixed expenses. This separation is readily available under direct costing and relevant costing.

Relevant costing statements are to be preferred over either direct costing or absorption costing statements to be used for external analytical purposes (financial statement analysis). It effects a more meaningful matching of expenses and revenues than direct costing or absorption costing and the resulting inventory valuation is tied to future events of the firm. Better measures of the firm's debt paying ability and long-range profitability, therefore, are obtained than would be possible under direct costing or absorption costing.

When used externally for certain types of cost-volume-profit analyses, such as estimating the future income of a given firm, relevant costing will not be as effective as direct costing, because the external analyst cannot accurately predict the amount of fixed production costs to be expensed in future periods.

The application of the relevant costing concept for external reporting is supported theoretically within the
framework of existing accounting theory and from the viewpoint of analytical usefulness.

The economic attributes which underly the relevant costing concept are wholly consistent with assumptions typically made in accounting. Moreover, the usefulness of the conventional financial statements will be enhanced by stating explicitly the total amount of fixed production cost incurred and the portion released from or added to inventory.

The relevant costing concept is not without shortcomings and its application to actual situations is limited. Moreover, there are many problems associated with its implementation and many disadvantages can be attributed to the concept. In addition, some opposition has been raised regarding its use for external reporting purposes. Finally, no support for its use has been forthcoming from the professional accounting associations and the question of its acceptance for income tax purposes as yet remains unsettled.

Two important factors are tending toward causing variable costs to become fixed costs.

First, automation has caused variable production costs to become fixed costs. If the rate of increase in automation experienced in the past two decades provides any indication of the prospects for the future, relevant
costing will gain in importance with the passage of time.

Second, the implementation of guaranteed annual wage plans which tend to reduce the variability of costs will contribute to the increased importance of relevant costing.

As relevant costing increases in importance, the concept will probably become widely accepted and applied. With the continued development of this trend, further study should be made of the problems associated with the attendant growth of relevant costing.
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**D. PUBLICATIONS OF UNIVERSITIES**

Felino Joseph Valiente, the son of Jose and Tomasa Urrevazo Castaneda Valiente, was born November 23, 1926, in Tampa, Florida. He was graduated from Thomas Jefferson High School of that city in January, 1945. He entered the Maritime Service upon graduation and was honorably discharged February 17, 1947. He later joined a U. S. Naval Reserve unit and served as an enlisted man until his discharge in May, 1951.

He was employed by the Federal Government from February, 1947 until September, 1953. The last three years of this period, he was a Returns Examiner with the U. S. Internal Revenue Service. He entered Tulane University in 1953 and received the Bachelor of Business Administration degree in 1956. In 1960, he received the Master of Business Administration degree from Tulane. While completing the requirements for his graduate degree, he was employed as office manager for a large industrial firm, retaining this position until September, 1961.

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Title of Thesis: Evaluation of the Usefulness of the Application of the Relevant Costing Concept in Managerial Decision Making

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