AN ANALYSIS OF THE THEORETICAL CONCEPTS OF ABSORPTION COSTING IN THE UNITED STATES OF AMERICA AND SOUTH AFRICA WITH A VIEW TO DETERMINING THE INFLUENCE EXERTED BY UNITED STATES MULTINATIONAL CORPORATIONS ON THE POLICY AND METHODS USED IN INVENTORY VALUATION BY THEIR LOCAL SUBSIDIARY OPERATIONS

BY

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DECLARATION

I declare that this Dissertation titled

"AN ANALYSIS OF THE THEORETICAL CONCEPTS OF ABSORPTION COSTING IN THE UNITED STATES OF AMERICA AND SOUTH AFRICA WITH A VIEW OF DETERMINING THE INFLUENCE EXERTED BY UNITED STATES MULTINATIONAL CORPORATIONS ON THE POLICY AND METHODS USED IN INVENTORY VALUATION BY THEIR LOCAL SUBSIDIARY OPERATIONS"

is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

LEON MICHAEL CHONIN

PREFACE

This study has been based on and is an extention of an unpublished paper on the Methods of Overhead Absorption with Specific Reference to its Application in the Engineering and Foundry Industries presented in November 1984 to the Faculty of Commerce at the University of the Witwatersrand in part fulfilment of the requirements of one of the Modules for the degree of Master of Commerce by coursework.

I would like to extend my thanks to Professor M. Pratt and Mr. K.G. Dilton-Hill for their guidance and assistance in the preparation of this research study, and a special vote of appreciation to my secretary Jeannette van Heerden for her assistance in the typing and editing of the manuscript.

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CHAPTER 1

INTRODUCTION

1. BACKGROUND

The study was undertaken in order to tackle the problem of accounting for inventory. While there is universal agreement that the fundamental principle in accounting for inventory is still historical cost, there are differences of opinion as to what constitutes cost. Besides the problem of what measurement should be used in determining cost, such as, for example, first-in-first-out or last-in-first-out, there is a further complication as to what elements of cost should be included in the computation of cost.

There is no argument that direct material should be included in the valuation and there seems to be no disagreement that direct labour is an element of cost.[1] These factors are regarded as direct production costs which constitute the prime cost. The element of cost that causes extensive debate and argument is the treatment of overhead.

The Companies Act requires that

> "The annual financial statements of a company shall, in conformity with generally accepted accounting practice, fairly present the state of affairs of the company."[2]

The Accounting Practices Board (APB) was formed in 1973 under the auspices of the National Council of Chartered Accountants (S.A.) with the objective

> "To establish and to procure the negotiation and acceptance of what the Board considers is or should be generally accepted accounting practice." [3]

Although Senior Counsel's opinion[3] obtained in 1977 by the APB argued that non-compliance with APB statements would not necessarily constitute a contravention of the Companies Act, compliance with APB statements removes any doubt of contravening the requirement to conform with generally accepted accounting practice.

An extensive survey of all overseas multinationals that have local operations in South Africa may be a useful source of establishing overseas practice. However, such a survey was considered beyond the scope of the requirements of this research study. The United States of America was selected in preference to other countries because of the writer's current involvement with a United States multinational corporation operating in South Africa. The need arose in practice to critically review the inventory costing module which was integrated with a computer based manufacturing resource planning system that had been developed in the United States and purported to represent the accepted practice in the United States.

2. SIGNIFICANCE OF THIS RESEARCH

Because of the possible legal requirement to conform with APB statements and the complex subject of defining the cost of production that should be represented in the cost of inventory, any study that attempts to clarify the state of the art should contribute towards the better understanding of accounting standards and assist in improving the quality of reporting by organizations that hold significant values of inventory.

A comparison between local and overseas practice, particularly the treatment of overhead as an element of cost in the valuation of inventory would be useful in identifying the different approaches to the valuation of inventory.

3. AIMS

The aims of this study are :

- to analyse the theoretical concepts that have been applied in overhead absorption with particular emphasis on the South African and United States generally accepted standards, with a view to comparing their requirements with actual practice,

- to determine the influence that United States multinationals have on the policy and methods of absorption costing used by their South African subsidiaries.

4. METHODOLOGY

The procedural approach that has been used in the study was first to review and analyse both the United States of America and the South African codified statements on inventory valuation and to review appropriate literature on the subject of absorption costing. Having identified the theoretical concepts a survey was undertaken to establish the practical application of the theory. The survey took the form of a questionnaire directed at all local companies believed to be controlled or owned by United States corporations. An interview was also conducted to test the usefulness of the questionnaire.

5. STRUCTURE OF THE REPORT

Before addressing the question of whether United States multinationals are in a position to influence the policy and methods of absorption costing used in inventory valuation by their local subsidiary operations, the first aspect to consider, which is discussed in chapter two, is the extent of United States long term investment. The monetary value of United States investment in South African undertakings is identified and compared with investments from other major international regions.

The report is then divided into two distinct sections. The first section, covered by chapters three to seven, discusses the standards and theory of the treatment of overhead in inventory valuation.
The first section comprises the following :

- Chapter three attempts to define and explain the term "overhead".
- Chapter four analyses the standards of generally accepted accounting practice in the United States of America and South Africa, only in so far as these standards impact on the valuation of inventory.
- Chapter five discusses the arguments for and against the inclusion of fixed overhead in inventory under the heading of Period and Product Cost.
- Chapter six, entitled Cost Behaviour, explores the relationship and sensitivity of expenditure to volume.
- Chapter seven examines the methods used in the calculation of overhead by considering the basis of recovering overhead, the capacity concept, the nature of expenditure used in the calculation and the frequency of reviewing the recovery rate.

The second section deals with the empirical aspect of the study and consists of the following :

- Chapter eight defines the survey objectives, the population and the methodology.
- Chapter nine summarizes and highlights the responses to the questionnaire making reference to the supporting schedules that provide the necessary detail.
- Chapter ten discusses the results of the survey with a view of analysing and interpreting the responses and where appropriate comparing the actual practice with the theoretical concepts.

Finally chapter eleven presents a summary of the findings and concludes with a view expressed on the original aims of this study.

6. SUMMARY OF THE KEY ISSUES

A separate chapter has been devoted to identifying the differences between the United States and the South African standards.

The most significant difference is in the treatment of fixed overhead. The South African standard allows a choice of either including or excluding, in whole or in part, the fixed portion of production overhead from the cost in the valuation of inventory.

The United States accounting standard hardly addresses the issue and it has been left to the Internal Revenue Service to legislate the inclusion of fixed overhead in the cost of the valuation of inventory.

The effect of the difference in the treatment of fixed overhead on the valuation of inventory impacts on the reported earnings. A United States operation including both fixed and variable overhead in the valuation of inventory would report higher earnings per share than a South African operation omitting the fixed overhead portion where inventory had increased over the level reported for the previous year. This difference in approach distorts the results and makes comparison between United States and South African operations omitting fixed overhead very difficult.

The valuation of inventory also has a very significant impact on the borrowing powers of foreign owned companies operating in South Africa. The Reserve Bank imposes a restriction on the extent to which foreign

owned companies are permitted to borrow from local sources. Since the borrowing restrictions are based upon the net equity of the company, including fixed overhead costs in the valuation of inventory, would have the favourable effect of increasing the equity and therefore the borrowing powers of the operation.

CHAPTER 2

THE UNITED STATES INVESTMENT IN SOUTH AFRICAN COMPANIES

1. INTRODUCTION

Before it is possible to determine whether United States multinationals can influence the policy and methods of absorption costing used by their South African subsidiaries, an examination should be made of the significance of United St[illegible] investments in South African companies.

2. EXTENT OF FOREIGN INVESTMENT

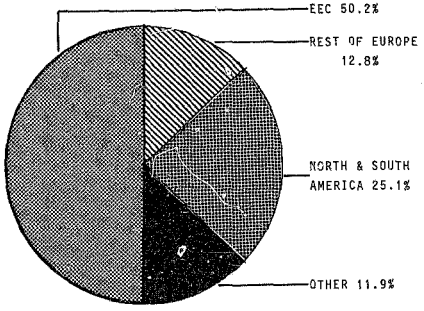
Officials of the United States Department of Commerce and Treasury believe that the book value of U.S. investment in South African operations evaluated in 1983 was approximately $2,3 billion.[4] It is estimated that this investment would constitute 17% of all foreign direct investment in South Africa while the United Kingdom's share has been estimated at over 40% of all foreign direct investment. The Economist[6] suggested that the United States investment in South African operations also determined in 1983 was approximately $2,2 billion, representing 20% of total foreign direct investment but trailing both the United Kingdom and Germany.

The following summary provides an indication of foreign private sector long-term investment in South Africa by Major Regions in 1983 in Millions of Rand :[5]

Major Region	Value	% Share
North and South America	3 334	24,5
Europe	9 806	72,1
EEC Countries	8 646	63,6
Rest of Europe	1 160	8,5
Africa	83	0,6
Asia	166	1,2
Other	209	1,5
TOTAL	13 598	99,9

FOREIGN INVESTMENT IN SOUTH AFRICA

ORIGIN OF FOREIGN INVESTMENT



SOURCE: THE ECONOMIST, MARCH 1985

Data provided by the Bank of International Settlements indicate that United States banks accounted for some 25% of total bank claims in South Africa during 1984, the majority of which is lending to the private sector.

The majority of United States multinationals holding investments in South Africa are themselves quoted companies on the New York Stock Exchange and therefore have to comply with the requirements of the Securities Exchange Commission.

3. ACCOUNTING RESEARCH AND DEVELOPMENT

Although the United States may only rank third [6] trailing both Britain and Germany as a provider of investment capital in South Africa, it nevertheless is a prime source of new technology and an initiator of new concepts and ideas particularly in the field of accounting.

The United States has been in the forefront of developing accounting standards particularly the idea of a conceptual framework which was conceived in a standard published in 1978 [7].On the other hand according to Lunt [8] in an article in 1981, the United Kingdom had been criticised for not producing an acceptable conceptual framework.

Because the United States has the benefit of a permanent body called the Financial Accounting Standards Board, responsible for researching, initiating and publishing standards of accounting, their influence through multinationals should be felt in the practical application of these standards that may have to be adopted by their local South African operations.

4. SUMMARY

It has been identified that the United States of America is not the leader in the foreign investment stakes in South Africa. However, considering that the United States could be regarded as one of the forerunners in accounting research, the intention of this research project is to ascertain the extent of United States influence, with particular emphasis on inventory valuation and determine whether it is likely to be incorporated into generally accepted accounting practice in South Africa.

CHAPTER 3

WHAT CONSTITUTES OVERHEAD

1. INTRODUCTION

Expenditure incurred in the process of production has been described as overhead or burden, both names suggesting that the manufacturing operation has a heavy load of expense to bear. Unlike direct material and direct labour, overhead encompasses a wide range of expenditure that requires understanding and definition.
Miller and Vollmann[9] suggested the following "easy" definition of *manufacturing overhead* -

> "It (manufacturing overhead) includes all the direct and allocated costs of manufacture other than direct labour and purchased materials."

Among these costs are : [9]

- indirect labour, including the wages of hourly workers who do not directly contribute to the manufacture of a product but consisting mostly of labour dedicated to materials handling, maintenance, quality control and inspection.

- general and administrative expenses such as personnel administration, cost accounting, security, salaries for plant management and direct labour supervision as well as corporate allocations for shared services and corporate staff.

- facilities and equipment costs such as insurance, depreciation of plant, tooling, rent, energy and utility costs.

- engineering costs such as salaries of manufacturing, industrial and other engineers concerned with the design and maintenance of the production process itself.

- material overhead costs including those related to the procurement, movement and co-ordination of raw materials, components, subassemblies and finished products. These costs should include salaries of purchasing, production, planning, receiving, stockroom, traffic and manufacturing systems personnel.

Expenditure not directly related to or concomitant with the production process should not be included in the manufacturing overhead. Applying this principle Miller and Vollman cannot justify the inclusion of general and administrative expenses such as personnel administration or cost accounting. Whether corporate, that is head office staff, can possibly contribute directly to the manufacturing process seems somewhat doubtful.

Obviously the type of expenditure that should be included in manufacturing overhead will differ from one operation to another. The question of what expenditure should be included in the overhead calculation could be argued and is a subject that requires documented guidelines.

2. DIRECT AND INDIRECT EXPENDITURE

Expenditure may be classified as either direct or indirect. Direct expenditure can be described as those disbursements incurred by works centres intimately related to the production process. Expenditure such as maintenance of machinery, utility services, tools, patterns, indirect labour and supervision are but a few examples that may illustrate this category of expense. If attempts are made to eliminate these expenses the manufacturing process would actually cease since these costs form a vital and integral part in exactly the same way as material or direct labour. The only difference between material as the one element, and direct labour and direct overhead as the other elements, is that material can be physically identified in the finished product while direct labour and direct overhead are the invisible ingredients that have been used to convert the raw material into its finished and marketable form.

Indirect expenditure can be defined as those disbursements that do not have a direct impact on the process of production. Although these expenses do provide a supportive service, production is possible without these services but the effectiveness and efficiency of the entire manufacturing process would be seriously impaired, in some cases, to such an extent that chaos would result in operational losses. Services such as production planning and scheduling, inventory management, quality control, safety and training, are but a few examples of expense classification that may be regarded as indirect overhead.

Following this reasoning the test to apply to the expense to determine whether the cost should be included in or excluded from the manufacturing overhead can be summarized as follows :

> Does the expense directly or indirectly contribute to the manufacturing process thereby adding value to the product or, alternatively, can the expense be avoided yet continue to manufacture the product without impairing quality, quantity and efficiency?

3. METHODS OF INVENTORY VALUATION

The objective of accrual accounting for inventories is to segregate the acquisition and production costs between those that should be charged against current revenues and those that should be carried forward to be charged against future revenues.

Three methods have been identified in the valuation of inventory : [1]

(i) Absorption costing adopts the approach that manufacturing overhead should be regarded as an element of cost of production, allocating the overhead to the product thereby charging revenue with that portion that has been realized from the sale of such goods while deferring that portion that relates to goods in inventory at the end of the fiscal period.

(ii) Direct costing differs from absorption costing only in the treatment of fixed overhead. Fixed overhead is considered to be a period cost, that is, an expense to be assigned to the period in which it is incurred and charged against the revenues realized

during that period. Variable overhead is treated as a product cost where revenue is only charged with that portion that has been realized from the sale of goods while deferring the portion relating to goods in inventory at the end of the fiscal period.

(iii) *Manufacturing overhead is not considered an element of cost and* both fixed and variable costs are regarded as period costs. The value of inventory is restricted to the prime cost.

4. SUMMARY

The term overhead, or the more commonly known phrase in the United States is burden, describes a collective pool of different categories of expenses that contribute towards the manufacturing process. It has been identified that there are both direct and indirect expenditure associated with and forming part of the overhead. Three distinct methods have been developed in the treatment of overhead for the purpose of inventory valuation.

CHAPTER 4

GENERALLY ACCEPTED ACCOUNTING PRACTICE

1. INTRODUCTION

One of the objectives of this study was to review the generally accepted accounting standards that have been introduced in both the United States of America and South Africa. The difference between the two standards can only be identified once both standards have been analysed.

Since the United States standard did not appear to reflect the requirements of the International Standard, other sources that may regulate accounting were researched. This chapter also addresses the requirements of the United States revenue authorities.

2. UNITED STATES STANDARDS

The only codified standard on inventory valuation was an Accounting Research Bulletin No. 43 [10] developed by the committee on accounting procedure of the American Institute of Certified Public Accountants in June 1953. This committee was superceded on 1 September 1959 by the Accounting Principles Board which at its first meeting on 11 September 1959 adopted Chapter 4, Inventory Pricing, as part of the Restatement and Revision of Accounting Research Bulletins.

Statement 3 of the standard defined cost "as the price paid or consideration given to acquire an asset." [11]

The statement extended the definition specifically to inventories as meaning "the sum of the applicable expenditures and charges directly or indirectly incurred in bringing an article to its existing condition and location." [11]

In further discussions under this heading the definition of cost is qualified "as applied to inventories is understood *to mean acquisition* and production cost" [12] acknowledging that "its determination involves many problems." [12] The statement recognizes that whilst the principles for determining inventory costs may be easily stated, its application, because of a number of problems encountered in the *allocation of* costs and charges, is difficult.

Examples of difficulties were *cited by* the standard as *including items* such as idle facility expense, excessive spoilage, double freight and handling costs. These costs may be so abnormal as to require treatment as current period charges rather than as a portion to be recovered into the inventory value.

It is however rather interesting that the explanatory discussion suggests that general and *administrative expenses to the extent* that such portion may clearly be related to production can constitute part of the inventory value. The discussion statements are adamant however that selling expenses shall form no part of the inventory cost.

One of the more important discussion statements recognizes that the "exclusion of all overheads from inventory costs does not constitute an accepted accounting procedure." [12] Unfortunately the statement did not amplify the reference to overhead.

Statement 2 defined the major objective as "the proper determination of income through the process of matching appropriate costs against revenues", [13] illustrating the accrual concept.

Because the United States standard has not been updated since its restatement and revision in 1959, it is open to criticism. Barden[14] expressed the view that the United States standard is too vague and fails to provide any guidance whether the valuation of inventory must include both fixed and variable overhead. It merely suggests that exclusion of all overhead could not be considered acceptable practice. It is twenty six years since publication and it appears that no attempt has yet been made to revise the standard.

The Financial Accounting Standards Board (FASB) which superceded the Accounting Principles Board (APB) unanimously adopted in June 1974 Interpretation No. 1, [15] Accounting Changes Related to the Cost of Inventory. The statement merely served to re-inforce the APB opinion No. 20, Accounting Changes. Because of the Internal Revenue Service (IRS) Regulation 1.471-11 [16] adopted in September 1973 specifying how certain costs should be treated in determining inventory costs for income tax reporting, the statement confirmed that a change in the composition of the elements of cost in inventory is an accounting change.

The only authoritative reference regarding the treatment of fixed and variable overhead is the Regulation of the Internal Revenue Service stipulating that only the full absorption method of inventory costing will be accepted.

This regulation provides that certain indirect production costs that are necessary for production must be included in the valuation of inventory regardless of their treatment in their financial report.

Section [16] 1.471-11 (d) stipulates that indirect costs must be fairly apportioned to the items produced, and legislates that acceptable methods are the "manufacturing burden rate" and the "standard cost method". Section 1.471-11 (d) (4) introduces the concept of practical capacity by providing that part of the fixed indirect production costs may be deductible where a plant operates during the tax year at less than its practical capacity. Section 1.471-2 (f) (6) and (7) emphasize that the prime cost method and the direct cost method, or more commonly referred to as the marginal costing method, are prohibited by the Treasury.

FASB Interpretation No. 1 [15] makes no attempt to discuss the merits of the IRS Regulation but acknowledges that the objective of the income determination for Federal income taxation and that for financial statements of a business enterprise are not necessarily the same.

The FASB Statement of Financial Accounting Concepts No. 3 defines cost as[17]

"the sacrifice incurred in economic activities - that which is given up or foregone to consume, to save, to exchange, to produce."

The inclusion of overhead as an element of cost merely represents the *postponement of those expenditures incurred* in production in one accounting period until the inventory represented by those costs has been disposed of at which point the expenditure is charged against the revenue realized from the sale.

The postponement of expenditure has the advantage of matching the revenue with the costs associated with earning the income. The matching of expenditure with revenue adopts the accrual concept.

In developing a conceptual framework the FASB Statement on Objectives of Financial Reporting has attempted to define the accrual accounting principle.[18]

"Accrual accounting is concerned with the process by which *cash expended on resources* and activities is returned as more (or perhaps less) cash to the enterprise, not just with the beginning and end of that process. It recognizes that the buying, production, selling and other operations of *an enterprise during* a period, as well as other events that affect enterprise performance, often do not coincide with the cash receipts and payments of the period."

While the definition explains the motives behind the accrual concept, it does not attempt to define the mechanics of how the accrual should be determined.

3. SOUTH AFRICAN STANDARD

The first statement published in South Africa was by the National Council of Chartered Accountants (S A) in February 1965 incorporated under the heading of Statements on Auditing, entitled Stock-in-Trade and Work-in-Progress Statement Number A2. This statement covered the auditing procedures rather than the accounting concepts of inventory valuation. The statement provided little guidance on the subject of recovery of overhead into inventory. Paragraph 20(i) under the heading of Valuation suggested that the auditor should [19]

"Review percentages added to work in progress and finished goods to cover overheads and consider whether they are reasonable and in accordance with the usual practice of the undertaking."

Because of the vagueness and the very wide interpretation that could be associated with such a standard, it is not surprising that this Statement was withdrawn and replaced by AC 108, Valuation and Presentation of Stock in the Context of the Historical Cost System, issued in April 1983. This Statement of Generally Accepted Accounting Practice was first circulated as an exposure draft by the Accounting Practices committee of the National Council of Chartered Accountants (S A) in September 1974, under the title of Accounting for Stock. The exposure draft acknowledged that the statement had been [20]

"based on an exposure draft of the Accounting Standards Steering Committee in the United Kingdom and is in agreement with an exposure draft issued by the International Accounting Standards Committee."

Because the South African Standard has incorporated aspects of both the United Kingdom and International Accounting Statements, it would be appropriate to discuss all three in order to determine more precisely their treatment of overhead in the valuation of inventory.

There is general agreement that historical cost of inventories should include the cost of conversion. The International Accounting Practice Statement No. 2 and the South African Statement No. AC 108 are identical in their definition that [21]

"Cost of conversion is the cost that relates to bringing the stock to its present location and condition."

Originally the South African exposure draft at paragraph 18(2)(b) extended the definition of cost of conversion even further, comprising [22]

"production overheads based on a normal level of activity, taking one year with another"

which incorporated the exact wording of the United Kingdom Standard. The United Kingdom Statement of Standard Accounting Practice No. 9 suggests that cost of conversion should comprise production overheads and other overheads [23]

"attributable in the particular circumstances of the business to bringing the product or service to its present location and condition."

General agreement is still lacking regarding the acceptance of what costs should be included in production overhead in the determination of the historical cost of inventory.

The South African Standard follows the International Statement in introducing the concept of fixed and variable production overhead which has been suggested is "usually allocated to costs of conversion." [24]

Both these standards allow fixed overhead to be excluded from the inventory valuation since a proviso has been included that [25]

"Fixed production overhead is sometimes excluded in whole or in part from cost of conversion on the grounds that it is not considered to relate directly to putting inventories in their present location and condition."

The United Kingdom Statement suggests that inventories that only include variable overhead do not comply with the standard. Paragraph 9 stipulates that [26]

"Where management accounts are prepared on a marginal cost basis, it will be necessary to add to the figure of stock so arrived at, the appropriate proportion of those production overheads not already included in the marginal cost."

The original South African exposure draft incorporated an appendix which provided further practical considerations but did not form part of the Statement of Standard Accounting Practice. At paragraph 9 the Statement concluded that : [27]

"Although the classification of overheads as fixed and variable and the valuation of stock at variable cost is useful for management accounting purposes it does not always result in a fair matching of cost with revenue in financial statements. For this reason it will be necessary to add to the figure of stock arrived at on the marginal costing basis, the appropriate portion of production overheads not already included."

It would appear that it was the original intention of the preparers of the South African exposure draft to adopt the United Kingdom approach but was excluded from the final published standard. In discussions with Robert Garnett, a former technical director with the South African Institute of Chartered Accountants the reason mentioned for amending the original draft was "to retain flexibility".

There is also complete agreement that "overhead should be classified according to functions" [28] which are basically production, research and development, selling and administration. Only production overhead should be included in the valuation of inventory.

4. SUMMARY

While the United States accounting standard does not provide adequate guidance on the treatment of overhead, the United States Internal Revenue Service has certainly made it absolutely clear that only the full absorption method of inventory costing will be accepted.

The South African accounting standard has followed the International standard, by allowing the fixed portion of production overhead to be excluded in whole or in part from the cost in the valuation of inventory.

CHAPTER 5

PERIOD AND PRODUCT COST

1. INTRODUCTION

The basic distinction between legislated practice in the United States of America and generally accepted accounting practice in South Africa is the treatment of fixed overhead costs. A decision must ultimately be made supported by logical argument and substantiated evidence whether fixed overhead should be treated as a period or product cost. It would be appropriate to consider the arguments supporting both accounting concepts.

2. SYNOPSIS OF THE ARGUMENT

Those proponents of direct or, often referred to as, marginal costs, base their argument on the premise that only those costs which arise from the act of production should be included in the product costs. Those costs arising from maintaining the productive capacity should be excluded since it is contended that they are distinctly different from costs of using that capacity for production. Fixed overhead costs are not costs of production but are "costs which facilitate production and which must be incurred regardless of the volume of production."[29] The argument for excluding fixed costs from the product cost is further substantiated by the fact that deferring the cost to future periods does not save the overhead since regardless of the level of activity in the future periods, the fixed costs will again be incurred.

3. *INVENTORY WITHIN THE CONTEXT OF THE DEFINITION OF AN ASSET*

The test to establish whether fixed costs should be included in the product cost is to examine whether its characteristics comply with the definition of an asset.

The FASB Statement of Financial Accounting Concepts No. 3 defines assets as[30]

"probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events"

Assets, it has been proposed, have three essential characteristics, one of which [31]

"embodies a probable future benefit that involves a capacity singly or in combination with other assets to contribute directly or indirectly to future net cash inflows."

No mention is made of savings in future cash outflows yet those supporting direct costing rely on the interpretation "that future benefit means the avoidance of the reincurrence of similar costs in the future"[32]

Absorption costing supports the concept that costs of the manufacturing capacity expire with time only when not used. Both fixed and variable costs are essential elements in the process of production. Fixed costs included in inventory would have a probable future benefit that would contribute to the future net cash inflows.

4. THE CONVENTION OF CONSERVATIVE ACCOUNTING

The FASB statement on Qualitative Characteristics of Accounting Information suggests that many accountants believe that conservatism is the appropriate convention in making accounting decisions. To quote the statement [33]

> "Frequently assets and liabilities are measured in a context of significant uncertainties. Historically managers, investors and accountants have generally preferred that possible errors in measurement be in the direction of understatement rather than overstatement of net income and net assets. This has led to the convention of conservatism....."

The argument supporting the exclusion of fixed overhead could rely on the convention of conservatism which advocates understatement rather than overstatement. Dickhaut and Lere [34] have perhaps provided a counter argument advocating that a risk averse decision maker who may be uncertain regarding the costing information would rather use full absorption costing. They substantiate their reasoning on the contention that where inventory is reflected at higher costs the tendency of a risk averse decision maker under uncertainty is to reduce production levels. In adopting this approach they conclude that [34]

> "absorption costing unit costs served to adjust the output in the correct directions."

Walker and Mulcahy [35] could have offered a compromise in suggesting that management reporting adopt marginal costing while financial reporting adjust inventory to the absorption costing method.

An important criteria included in the FASB Conceptual Framework is the freedom from bias which implies that [36]

"nothing material is left out of the information that may be necessary to insure that it validly represents the underlying events and conditions. Reliability implies completeness of information at least within the bounds of what is material and feasible."

5. SUMMARY

While the inclusion of fixed overhead complies with the definition of an asset, the exclusion of fixed overhead may be justified on the basis of the conservative accounting convention. However, the exclusion of overhead may be in conflict with the concept of freedom from bias stipulating that nothing material has been omitted and ensuring that the information provided is not only reliable but also complete.

There are valid arguments for and against the inclusion of fixed overhead in inventory. The arguments turn on whether overhead costs can be accurately segregated between fixed and variable expenditures.

CHAPTER 6

COST BEHAVIOUR

1. INTRODUCTION

Both direct and absorption costing rely on the segregation of costs into fixed and variable overhead. Any error in classification would have an effect on the valuation of inventory.

Under absorption costing, because both fixed and variable have been included in the manufacturing overhead, any misclassification between fixed and variable would not have a significant impact. The only effect of any error in the segregation of fixed and variable overhead would be in the calculation of the under utilization of the capacity which should be written off as a period cost.

However, errors in the segregation of overhead costs under direct costing could have a significant effect in the measurement of income. The extent of the variation would have a greater impact in periods *where there has been an inventory* build-up causing overhead incorrectly classified as variable overhead to be accrued into inventory instead of being written off as a period cost if these expenses were correctly identified as fixed overhead.

Because of the importance of being able to identify fixed and variable overhead, it is necessary that recognized techniques are used in the analysis. In assessing the sensitivity of cost, a careful study has to be conducted into the relationship of expense and volume.

2. FIXED AND VARIABLE EXPENDITURE

There are three behaviour patterns of costs : fixed, variable and semi-variable. The theory [37] is that fixed costs remain constant regardless of the level of output while variable costs are incurred *only if goods are produced but are not incurred if there is no production.* While some variable costs may fluctuate in sympathy with one activity, other costs may be influenced by another activity. Maintenance of plant is likely to correlate with machine hours while staff refreshments is more likely to be influenced by labour hours. In practice most overhead costs contain both fixed and variable components and are referred to as semi-variable.

Fixed and variable expense classification can only be determined over a short term period. In the long term most expenses are variable while over the short term most of them are fixed. The segregation of expenses into their behaviour patterns is a complex undertaking requiring analysis and study. In practice the separation between fixed and variable expenses is often an arbitrary decision involving assumptions and predictions as to cost behaviour.

There are a number of techniques used in the determination of cost behaviour. [38]

EXPENSE ACCOUNT ANALYSIS

Referred to as the "accountant's approach" the ledger accounts are inspected and classified into fixed and variable costs using the

accountant's professional judgment. The degree to which the accounts are studied could vary from a mere superficial glance to a detailed analysis of the cost behaviour.

The accountant's judgment would also be influenced by the nature of the expense. Some expenses are fixed by reason of their very nature while others are fixed by management decision, sometimes referred to as programmed or managed costs. The former are fixed by prior commitment and cannot be varied by subsequent decisions, e.g. rent, property taxes, insurance, while the latter may be predetermined by management decisions, e.g. planned scheduled maintenance of plant, continuous structured training programs.

INDUSTRIAL ENGINEERING STUDIES

The engineering approach is to confront the problem using a forward looking philosophy rather than the accountant's backward historical cost concept. This cost predictive approach searches for the most efficient means of achieving the required production level. Time and motion studies are conducted to evaluate both labour and material, and to determine the quantity and value of these elements of cost. Standards can be established from the results of these studies. While little difficulty is normally experienced in establishing material and labour standards, overhead valuation still relies on the accumulation and analysis of historical cost experience. Braun [39] in stressing that "costing must parallel estimating", addressed the engineering viewpoint that

"what we're after is comparisons - comparisons of Performed Cost versus Predicted Cost."

STATISTICAL ANALYSIS

This approach uses either mathematical or graphical techniques to segregate fixed and variable elements. Techniques that have been developed include :

- High-low method entails plotting two points representing the highest cost and the lowest cost. Either the result can be graphically exhibited by completing the slope of the line or it can be mathematically calculated by correlating the difference in expense with the difference in the activity level.

  EXAMPLE

	ACTIVITY LEVEL	LABOUR HOURS	EXPENSE
High Capacity	80%	3000	9000
Low Capacity	30%	1000	8800
Change	50%	2000	200

  $$\text{Variable Rate} = \frac{\text{Change in Expense}}{\text{Change in Activity}}$$

  $$= 10c \text{ Per Hour}$$

- Scattergraph is a simple study of two variables such as cost and activity level. A number of observations are plotted on a graph and a trend line fitted so that there is an equal distance between the points both above and below the line.

- The graphic presentation of a scattergraph may be regarded as inadequate in providing a clear indication of the cost behaviour. Greater precision can be achieved by using the quantitative calculation approach of the Least Square method, an example of which is illustrated by Rayburn. [38]

3. SUMMARY

Although there is little doubt that overhead costs contain both fixed and variable elements, the segregation of expenses into their behaviour patterns was identified as a complex undertaking.

The techniques available in establishing the cost behaviour of overhead costs are expense account analysis, industrial engineering studies and statistical analysis.

CHAPTER 7

METHODS OF RECOVERY

1. INTRODUCTION

The basis on which overhead is absorbed as a cost into inventory is dependant upon two elements that form part of the equation. The two elements could be described as the type of expenditure considered appropriate, and the other, cost factors of material and labour that may be used as a basis to recover and charge overhead as a cost into inventory.

Material and direct labour are charged and absorbed into inventory on the basis of resources actually used or consumed. Reasonably accurate levels of measurement can be determined for both these elements of cost by clocking performance hours for specific tasks and by requisitioning material actually used for the product. Overhead, however, has been described as the invisible element in the finished product and a method has to be devised in order to charge this element of cost into inventory so that the overhead content is not disproportionate to the other elements of cost.

Where overhead appears to correlate closer with labour or machine hours the basis has been established but not the rate or proportion. The proportion of overhead absorbed relative to the hours or activity can be described as the recovery rate. This chapter explores the options available in the recovery of overhead into inventory.

2. OVERHEAD RELATIVE TO THE OTHER ELEMENTS OF COST

There had been a technique recognized by Owler and Brown[40] and adopted as accepted accounting practice[19] where a percentage was added to either one or both of the other elements of cost, namely material and labour, to represent the overhead content.

It was soon realized that overhead did not necessarily fluctuate with the consumption of the value of materials or labour. However, by simply applying a percentage to the elements of prime costs any fluctuation or change in these elements would have an immediate impact on the overhead cost recovered into inventory. Horngren[41] maintains that the activity unit used in the absorption of overhead should not be influenced by variable factors other than the volume of output.

Horngren submits that [41]

> "The use of total direct-labour dollars or total dollar sales as a measure of volume is subject to the basic weakness of being changeable by labour-rate or price fluctuations."

Owler and Brown suggest that the only circumstances that could justify the inclusion of overhead as a percentage of the other elements of cost were where [40]

- only one product was manufactured
- material prices were stable
- labour rates remained steady
- equipment used remained unchanged

3. *BASIS OF RECOVERY*

The problem that requires consideration is on what basis should overhead be recovered into inventory. Since the product cost already comprises material and labour, it would seem appropriate that overhead should be absorbed in some proportion and relative to the other two elements of cost.

While Owler and Brown[40] suggest that overhead is a function of time, their observation is only valid where expenditure is being considered over a long term period. Over the short term overhead should be segregated between fixed and variable expenditure because, quoting Horngren[42]

> "by definition total variable-overhead costs fluctuate in proportion to changes in activity levels"

Since productive hours is the only unit that represents time, the choice is between labour hours and machine hours which would have the effect of eliminating the unwanted influence of fluctuations in the purchasing power of the monetary currency. Machine hours are advocated by Owler and Brown[40] where production is largely by machinery presumably requiring minimal labour support or where the same labour can be used to support the productive process of more than one machine. In these circumstances machine hours would exceed direct labour hours. While Owler and Brown[40] believe that the machine hour rate provides a fairly reliable basis for the absorption of overhead, the following reasons are cited as possible causes of discrepancies[40]

- inevitable irregularities of operating times
- the necessity of using an estimated number of machine hours in advance
- the extent of abnormal idle time, waiting time and overtime.

In certain environments it is possible to use a combination of machine and labour hours. Labour hours can be used for labour intensive operations, for example machine set up, while machine hours could be used for the actual running time.

Where, however, expenditure appears to be more sensitive to volume, the recovery of overhead relative to time may not be considered an appropriate measurement in which case material volume may be used as the basis of recovery.

Horngren[43] advocates separate criteria being used in the selection of a base for the variable overhead rate as opposed to those used in determining a fixed overhead rate. The variable overhead rate would be related to the activity base that is most logically connected to fluctuations in the variable overhead expense. Since fixed overhead does not fluctuate in sympathy with any base it would be preferable for the fixed overhead rate to be representative of the productive capability of the plant. One of the functions of the recovery of fixed overhead is to be able to record some measurement of the utilization of the capacity. The adoption of this technique would reflect the intention of the United States accounting standard that requires[44]

"items such as idle facility expenses ..... (that) may be so abnormal as to require treatment as current period charges rather than as a portion of the inventory cost."

While the basis of recovery, namely material quantity or volume, machine hours and labour hours, constitutes the unit of measurement, the problem remains the choice of selecting an activity level from one of the units of measurement.

4. ACTIVITY LEVELS

One of the crucial factors in developing recovery rates is the capacity of the facility. Capacity itself has a number of interpretations. Capacity is defined by the World Book Dictionary [45] as the "largest amount that can be held" or "the amount of room or space inside". The Shorter Oxford English Dictionary [46] provides a similar definition as the "ability to take in or hold" hence associated with "content, area or volume." Several approaches can be used to select the plant capacity level.

Theoretical Capacity

This level corresponds with the definition of the largest amount that can be held or the maximum possible production that can be achieved. As the name implies, it is highly theoretical because the concept relies on

- all personnel and equipment operating at peak efficiency
- no interruptions through machine breakdown or preventative maintenance
- a continuous demand for 100% of the plant capacity.

.tical Capacity

This, Rayburn [38] suggests, is a more realistic level of output since it considers such problems as :

- unavoidable idle time for repairs
- machine breakdown
- sho tages of material or labour

but ignores idle time due to inadequate sales demand. Rayburn provides an appropriate definition : [47]

"Practical capacity is the production volume that would be achieved if demand for the company's products allowed the plant to operate continuously at some hypothetical level determined by the engineering staff."

She suggests, while varying from one facility to another, practical capacity is usually considered to approximate 75 to 85 percent of maximum capacity.

Normal Capacity

This level of activity, which may be the same as practical capacity, but is usually some percentage of practical capacity,

includes an element of idle capacity due to limited average demand. In determining manufacturing volume used as the basis of normal capacity, demand data is reviewed over a number of years in order to account for cyclical, seasonal and trend patterns.

Ideally, capacity to produce over the life of the facility should equal the capacity to sell. Normal capacity is therefore the average capacity over a long term.

The general body of opinion, supported by Rayburn [38], reject the normal capacity concept because each year should be considered separately. Overhead costs incurred each year should be allocated to units of production over that year.

Expected Capacity

The anticipated level of activity required for the next year to satisfy the sales demand corresponds to the expected capacity. This is a short term plan which forms the basis for applying all fixed overhead to products from year to year. [38]

The confusion that has been introduced by the various generally accepted accounting standards is the reference to the term "normal production" or "normal performance". Both the South African and International Statements suggest that [48] [49]

"Capacity of the production facilities is ..... the normal production expected to be achieved over a number of periods or as the maximum production that as a practical matter can be achieved."

Ironically both maximum and normal capacity are concepts not advocated by either Rayburn [38] or Horngren [43], suggesting that the standards do not correctly reflect established practice.

The United Kingdom Standard appears to be more definitive than both the South African and International Statements. The U K Statement at paragraph 20 defines production overheads as expenses incurred [28]

"based on the normal level of activity, taking one year with another."

Normal has been clarified in that it should consider [50]

(a) The volume of production intended by the designers and by management that should be achieved under the working conditions prevailing during the year

(b) The budgeted level of activity for the year or the ensuing year

(c) The level of activity achieved both in the year under review and in the previous years.

The United States Statement makes such vague reference to capacity that the broadest possible interpretation could be applied in determining plant utilization [44]

"Under circumstances, items such as idle facility expenses ..... may be so abnormal as to require treatment as current period charges rather than as a portion of the inventory cost."

What can be inferred from all these accounting statements is the introduction of the concept of practical capacity, especially when studying the reference to the "maximum production that as a practical matter can be achieved" [48] [49] in both the International and South African Statements. Barden[51] suggests that "normal performance is generally considered to conform with an acceptable standard of achievement, a level known to be reasonably attainable under ordinary operating conditions". Again, the inference can be drawn that he is grasping towards the concept of practical capacity.

5. THE NATURE OR TYPE OF EXPENDITURE

The nature of the expenditure can either be historical or anticipated costs.

Where overhead is absorbed into inventory on the basis of the historical costs incurred, the recovery rates are determined after the actual costs, forming part of the overhead, have been reported.

Horngren[52] suggests that historical costs in themselves are irrelevant to the decision maker although he agrees that they may be the best available basis for predicting future costs.

Owler and Brown argue that [40]

"it is necessary to estimate in advance for each department separately"

An estimate is the planned or anticipated level of expenditure for the ensuing period. The accuracy of the plan is a responsibility of *management in establishing predetermined goals and objectives for the* organization. No matter what label is given to the expenditure, be it estimated, budgeted, planned, forecast, projected, expected or predicted, it remains an estimate and

> "there is little probability that the amount absorbed will agree with the amount incurred" [40]

for the following reasons[40]

- the expense incurred may be greater or less than the estimate
- the actual level of activity may be greater or less than the estimate.

Where the historical expense actually reported for the elapsed period is combined with the estimate for the remaining period under review, the nature of the expense becomes a mixture of both historical and anticipated. Should it become the practice to adopt this method on a regular basis, the expense becomes a continuous rolling forecast.

6. THE FREQUENCY OF THE RECOVERY RATE CALCULATION

The recovery rate is the quotient of dividing the overhead expense by the basis of recovery. Both the elements could have a number of permutations and combinations. The methodology used in this exercise may be described as the "calculation concept". The frequency of calculation should be dependant upon the nature of the expense and the capacity concept adopted for the manufacturing operation.

Where an annual plan of overhead expenditure has been developed, the recovery rate would be computed at the commencement of the year using the planned level of activity as the basis of recovery. The annual calculation has the unfortunate effect of creating windfall profits once new rates are applied to inventory. It is possible that during the first few months of the year or period under review that actual expenditure may lag the planned level and therefore report favourable expenditure variances. However, if the recovery rates are not adjusted as the year or period progressed and actual expenditure overtakes the plan, adverse variances will be reported, inventory will be undervalued, manufacturing costs will be under-absorbed, unit cost of production will be understated, resulting in lower selling prices.

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In periods of high inflation the tendency would be to conduct frequent reviews using historical cost and actual levels of activity as a basis of recovery which would have the benefit of continuously responding to the effects of rising prices. Failing to conduct frequent reviews of recovery rates in times of high inflation would lead to the under-absorption of overhead which in turn could imply that inventory has been undervalued.

The disadvantage of using historical information in the calculation concept becomes reactive instead of proactive. The recovery rate is only adjusted after the expenditure has been incurred by which time the product has already been manufactured, and possibly sold, using overhead costs that bore no relationship to the actual costs incurred.

While absorbing overhead into inventory based on estimates may be considered proactive, the danger lies in the over recovery of overhead where expenditure has been over-estimated resulting not only in the overstatement of inventory costs, but could also lead to the incorrect determination of selling prices. In a highly competitive environment over-estimation of costs increases selling prices which could erode market share. Therefore, notwithstanding an annual plan of overhead expenditure, it may be prudent to consider periodic reviews comparing the historic convention with the anticipated calculation concept.

7. COSTING CONVENTIONS

The options available for recording the cost elements in the valuation of inventory are actual costs, a predetermined standard or a combination of both actual and a predetermined standard. These options can be applied either to the monetary values or in the

determination of the monetary values from the units of measurement. Overhead may be recovered into inventory based upon the actual units of production evaluated in terms of a predetermined standard rate that has been calculated using the planned level of expenditure and the planned level of activity.

Horngren has identified three techniques [43]

- Actual Absorption Costing where all elements of cost, material, labour, variable and fixed overhead are recorded at actual costs.

- Normal Absorption Costing where material and labour are recorded at actual cost while variable and fixed overhead is absorbed based on actual input evaluated at predetermined overhead rates.

- Standard Absorption Costing where all elements of cost, material, labour, variable and fixed overhead are recorded at the standard inputs allowed for actual output achieved evaluated at standard predetermined rates.

8. SUMMARY

The following units of measurement

- material quantity or volume
- machine hours
- labour hours

are considered to be the most appropriate bases on which to recover overhead into the cost of inventory.

The other methods, using the financial relationship between one element of cost i.e. either material or labour, or both as a factor or percentage of overhead expenditure, are not regarded in general as an acceptable practice except in certain circumstances.

The following activity levels were identified

- Theoretical Capacity
- Practical Capacity
- Normal Capacity
- Expected Capacity

From the literature survey it would appear that there is a tendency to favour practical capacity while the accounting standards have emphasized the concept of normal production that as a practical matter can be achieved, which eludes towards and could approximate practical capacity.

The nature of expenditure used in the overhead calculation can be historical, anticipated or a combination of both types.

The calculation concept and how often it should be reviewed is dependant upon the nature of the overhead expense as the one element and the capacity concept used as the basis of recovery as the other element.

The costing convention may influence the valuation of inventory depending upon whether actual costs, a predetermined standard or a combination of both techniques are used in the calculation concept.

CHAPTER 8

SURVEY AIMS AND OBJECTIVES

1. INTRODUCTION

Having reviewed the theoretical concepts by considering generally accepted accounting standards and literature on the subject of *absorption costing*, *the questionnaire was designed* to research the application of overhead absorption in local South African operations owned or controlled by United States corporations and to ascertain the influence exerted by the foreign parent over the *policies adopted by* the local company.

2. THE AIM OF THE SURVEY

The questionnaire was structured to establish whether

- notwithstanding the vague United States accounting standard, there was evidence that the policy and methods used in the costing of inventory was in conformity with the prevailing state of the art, and to assess whether these methods were in any way influenced by the size of the operation.

- United States owned local operations excluded overhead from the valuation of inventory for tax purposes only or alternatively the fixed portion because of the undefined requirements of the South African Income Tax Act and local accounting standards prior to the amendment of the Act enforcing the generally accepted accounting standard AC 108.

- United States owned local operations adopted full absorption costing because of the policies established by the parent corporation.

- the foreign parent exercised their influence over the policies and methods adopted by the local operation in the valuation of inventory by determining whether documented accounting policies were enforced by the parent and whether local accounting policies conformed with United States practice rather than South African generally accepted accounting standards.

3. SPECIFIC OBJECTIVES

The objectives of the survey could be divided between those that are designed to establish the practice used in the recording of overhead from those that are included in order to assess the influence exerted from the overseas parent.

The objectives of the survey, designed to enquire into the practice and methods of overhead recovery used in inventory valuation, were to establish

- which of the elements of cost (i.e. material, labour, direct and indirect overhead) were included in the valuation of inventory for management and financial reporting purposes,

- the method of costing used in the recognition of overhead in the valuation of inventory for income tax purposes,

- whether fixed overhead was segregated from variable overhead and the technique that was adopted to differentiate the fixed from the variable costs

- the basis (for example material value or labour hours) on which overhead was absorbed into inventory and whether the basis of recovery used in the calculation of the overhead rate would be a unit of measurement that excluded the influence of fluctuations in the purchasing power of money,

- the activity levels (for example budgeted, actual or practical capacity) that were used in the determination of the fixed and the variable overhead rate,

- the type of expenditure (for example actual, budget or a combination of both) used in the overhead calculation,

- the frequency (for example annual or monthly) of the review of the overhead calculation,

- whether the expenditure was allocated to control areas which served the need to calculate a separate overhead rate for each control or cost centre,

- whether overhead was allocated specifically to each independent product or product group or whether a distinctive pool account was maintained in the general ledger separately from the other elements of cost.

The objectives of the survey, designed to assess the influence exerted by United States multinationals on the policy and methods of absorption costing used by the local operations, were to establish :

- whether the overseas parent insisted on the inclusion of all the elements of cost,

- whether the parent had introduced documented accounting policies including inventory valuation which the local operation was obliged to follow,

- whether the local operation had initiated documented accounting policies, including inventory valuation and whether these policies conformed with the parent's policies,

- where the local operation chose not to follow the parent company's policies, whether supplementary information would be provided for the parent to make the required adjustment,

- whether the local auditors' duties had been extended to report on whether the local company complied with the parent company's policies.

4. QUESTIONNAIRE DESIGN AND VALIDITY

The questionnaire was developed from a pilot research project[53] that led to the completion of an unpublished paper, titled Methods of Overhead Absorption with Specific Reference to its Application in the Engineering and Foundry Industries.

Once the questionnaire had been structured and carefully worded, its content was confirmed with academics and practitioners to ensure that there was no ambiguity. A pilot test using the questionnaire was not considered necessary because the survey was not researching a sensitive topic but one that was financially orientated. The questionnaire was used in a field test subsequent to receiving the completed responses to verify that the questions were clearly understood.

A copy of the questionnaire has been included as Annexure IV.

5. SURVEY POPULATION IDENTIFICATION AND DETERMINATION

According to *The Economist*[6] *"roughly 320 American companies have* subsidiaries in South Africa, including virtually every oil, car and drug company." This information provided the potential size of the population sample.

The Registrar of Companies would be the obvious and by far the more accurate source of American owned local companies. However not only were *the logistics of completing an in-depth search* of all the records in the Registrar's office not appropriate, but the length of time that would have been required to complete such an exercise would have been inconsistent with the requirements of the research study. Furthermore two alternative sources were available that would provide the necessary information in order to conduct this survey.

The majority of United States companies actively operating in South Africa are members of The American Chamber of Commerce in South Africa (called AMCHAM). According to their publication[54] there are a total

number of about 350 American firms operating in South Africa. Amcham's current membership is just under 300 companies, 90 of which are owned by South African corporations or institutions.

A third source to define the population size of American corporations actively operating in South Africa is the annual report[55] issued by Arthur D. Little covering the practices of American owned companies who are signatories to the Sullivan Code of Employment Practice. This annual report lists not only those corporations who are signatories to the Code but also those companies who have chosen not to participate in this highly sensitive survey.

The Eighth annual report identified 220 United States corporations having 293 operating undertakings in South Africa. However, included in this figure are insurance and banking companies, news agencies, religious institutions and professional accounting practices. After eliminating these categories, the population size was reduced to 283. It was apparent from some of the names that service undertakings such as *Avis Rent-a-Car and mining companies like Phelps* Dodge Mining Ltd were included in the population but were not required for the purpose of this survey.

The three sources did serve to identify and verify that the size of the population had been reasonably accurately established at 293.

6. SURVEY METHODOLOGY

There were three possible choices for conducting the study

- a sample interview with some of the companies
- a questionnaire directed at a statistically selected sample of the population
- a questionnaire circulated to all the companies in the population

One of the aims of this research project is to assess the influence being exerted by United States companies on their local operations. It seemed unlikely that any general conclusions could be made based on the interpretation of results from interviews with a selected sample.

Although a questionnaire aimed at a few statistically selected targets is regarded as a valid test. a high rate of non-response would have invalidated the results and might have resulted in too few responses to be able to identify any results.

Because many foreign companies are reluctant to reveal any information the choice of circularising the entire population was believed to be the best approach. Questions relating to size and type of business were included in the questionnaire to ensure that the responses were obtained from both smaller and larger operations. Similarly, as the emphasis of the survey was on American owned companies, questions relating to ownership were included because the continuously changing ownership patterns could have resulted in a company responding that was no longer controlled by a United States based corporation.

The questionnaire was first circulated in April 1985 but because of a very low response, the questionnaire was circulated a second time in May 1985.

7. SUMMARY OF THE PURPOSE OF THE SURVEY

The purpose of this study was to establish the actual methods and practice of absorption costing used in inventory valuation by local operations owned or controlled by United States corporations. The most important aspect of the survey was to ascertain what elements of cost were included in the valuation of inventory.

CHAPTER 9

PRESENTATION OF THE RESULTS OF THE SURVEY

1. SIZE OF RESPONSE SAMPLE

Of the total population of 293, only 283, which were those companies identified from their names as being appropriate for this survey, were circularised. After circularizing the target population a second time, a total of 138 companies returned the questionnaire, representing 48,8% of the population. The responses revealed that 20 companies were not owned or controlled by United States corporations. A further 19 responses identified their operations as inappropriate for the purpose of this study since they would be classified as service, investment or dormant operations. Only 9 questionnaires were returned where the company refused to divulge any information at all and 3 were returned blank or marked "not applicable". A summary of the questionnaire responses are set out in Table 1 on the next page.

Because different industries may apply different costing techniques it was important to categorise the companies into certain broad significant industry sectors. The categories selected followed a similar classification applied by the Johannesburg Stock Exchange. The categorised responses are set out in Table 2 on the next page.

TABLE 1 - SUMMARY OF POPULATION AND SAMPLE SIZE

	TARGET POPULATION	QUESTIONNAIRES RETURNED	
Total population	293		
LESS : Insurance, Banking, News Agencies, Religious Institutions and Professional Accounting Practices	10		
Circularized population	283	138	48,8%
LESS : Companies not controlled by United States Corporations	20	20	
Service, Investment and Dormant companies	19	19	
	244	99	
LESS : Companies refusing to divulge any information		9	
Questionnaires returned blank or where all the questions marked "not applicable"		3	
Valid population and sample size	244	87	35,7%

TABLE 2 - RESPONSES CATEGORIZED BY INDUSTRY SECTOR

Beverages and Hotels	1
Building and Construction	5
Chemicals and Oils	12
Clothing, Footwear and Textiles	2
Electronics	7
Engineering	15
Fishing and Food	5
Furniture and Household [illegible]iances	2
Motor	3
Paper and Packa[illegible]	1
Pharmaceutical and [illegible]	21
Printing and Publis[illegible]	2
Steel and Allied Products	4
Tobacco and Match	0
Transportation	0
Trading and Stores	2
Other Categories	5
TOTAL	87

While the Trading and Stores category was used in the study of corporate policies, it was eliminated from the study of the costing techniques. The majority of the returns emanated from Chemicals and Oils, Engineering, and Pharmaceutical and Medical, the three sectors, corroborated by the AMCHAM publication, in which the United States companies are most active in South Africa.

In order to establish whether there was any relationship between the size of the company and the policies or methods used, information was requested disclosing the size of the company. Of the 87 companies, 65 volunteered the information.

Those companies, 65 in number, that were prepared to disclose financial data that would assist in establishing their size, in aggregate represented the following statistical information :

Total Sales	R2 004 M
Total Inventory	R 350 M
Total Expenditure classified as manufacturing overhead	R 249 M

Because inventory is the most pertinent aspect of this study, companies have been ranked on the basis of inventory value :

Small company - *less than*	R 1 M
Medium Company - less than	R10 M
Large Company - greater than	R10 M

The size classification has been summarized on Schedule 1. The schedule indicates a normal distribution with 48 of the 65 classified as medium size companies with nearly an equal number of small and large companies.

Although the response may not be good enough to provide statistically sound results the returns are adequate for this type of survey where the objective is to provide evidence rather than quantitative proof.

Because the responses represent one third of the population; by industry sector, the responses are in line with AMCHAM data and the responses appear normally distributed according to the size of company, the results extracted from this survey should constitute a fair reflection of the policy and methods of absorption costing used by the subsidiaries of the United States multinationals.

2. VALUATION OF INVENTORY

This aspect of the research project was the focal and most important element in order to ascertain what costs were included in the valuation.

Cost was segregated into the following constituent parts :

- Direct Materials
- Direct Labour
- Direct Overhead
- Indirect Overhead

Because it was evident from one of the responses that there was confusion regarding the definition of direct and indirect overhead, the questionnaire should have provided a brief definition as a guide to the person completing the answer.

Direct overhead would constitute those expenses incurred and allocated to those work centres that are responsible for production. Without the contribution of these productive centres there would be no manufacturing capability.

Indirect overhead would constitute those expenses incurred and allocated to the work centres or departments that are not directly involved in the manufacturing process but nevertheless provide a supportive service.

Schedule 10 provides a summary of the responses indicating the elements of cost (i.e. material, direct labour, direct overhead and indirect overhead) that have been incorporated in the inventory valuation.

The results of the survey revealed that

- 100% included material
- 89% included labour
- 85% included direct overhead
- 73% included indirect overhead

in the valuation of inventory.

The objective of the survey was to establish the policy adopted for management and financial reporting purposes as against the method used for tax reporting purposes. Criticism may well be raised that the method used for management reporting could differ from that used for annual financial reporting. The reason for not segregating the enquiry was based on the assumption that the vast majority of the companies were wholly owned subsidiaries whose management reporting would follow the same methods as the financial reporting.

Schedule 13 provides a summary comparing the size of the company with the treatment of overhead as an element of cost in the valuation of inventory. In preparing the table as long as either direct or indirect overhead was incorporated in the valuation of inventory the company was classified as including overhead. The results indicate that :

- all large companies
- 84% of medium size companies
- 50% of smaller companies

include overhead in the valuation of inventory for management and financial reporting purposes.

The only observation that may have an impact on the interpretation of the results is that 5 of the small companies include overhead with 4 excluding this element of cost. However, because the sample was small, the result converted to a percentage of the sample size may be regarded as unreliable.

Schedule 12 which summarizes the treatment of overhead in the valuation of inventory for local tax purposes disclosed that :

74% included both fixed and variable overhead
10% included only the variable element in inventory
16% excluded overhead completely

The survey revealed that 85% of the respondents included direct overhead in the valuation of inventory for management and financial reporting with 84% including either fixed and variable overhead or only variable overhead in the valuation of inventory for tax reporting purposes.

3. SEGREGATION BETWEEN FIXED AND VARIABLE OVERHEAD

It has been accepted by both management and accounting practice that expenditure has fixed and variable elements. Rexnord Inc. accounting policy, referenced as Annexure II, described the characteristics of fixed costs as follows -

- Fixed costs tend to remain constant regardless of the volume of production.
- Fixed costs are a function of time implying that expenditures will be incurred whether or not production takes place. Typical examples are rent and depreciation.
- The amount spent on fixed costs does not change without a significant and permanent alteration to the infrastructure of the production facility.

Because variable costs are sensitive to fluctuations in the level of production, the Rexnord policy suggests that where there is no production variable costs should be zero. Some types of expenditure have both a fixed and a variable portion and should more correctly be classified as semi-variable. However, the survey, in order not to over-complicate the question any further, avoided the semi-variable overhead element and included a question to gauge whether the respondents made an attempt to segregate expenditure between fixed and variable.

The results detailed on Schedule 15 indicated that

- 31 segregated fixed and variable overhead
- 36 did not segregate fixed from variable overhead
- 18 of the respondents did not answer the question

Excluding those that chose not to respond to the question, only 46% of the respondents segregate expenditure. Those that adopted this fundamental concept were predominantly in the Engineering, Furniture and Household Appliances, and Steel and Allied Products industries.

4. TECHNIQUES OF DETERMINING FIXED AND VARIABLE OVERHEAD

Schedule 16, which provides a summary of the replies to the question of what methods are used to determine fixed and variable overhead, reveals that of the 46% who identified expenditure as either fixed or variable, 94% used the technique of expense account analysis labelled the visual technique in the questionnaire. The balance of 6% used the high-low calculation to establish whether expenditure is either fixed or variable.

Examples of documented accounting practices are provided by Johnson & Johnson and Rexnord Inc., ranked 57 and 322 respectively by Fortune [56] in the United States. The former being classified in this survey as Pharmaceutical and Medical while the latter classified as Engineering. Both have documented their policy on expense classification. A comparison of their policies provides an example of the different approaches to determining fixed and variable overheads and the different definitions of fixed and variable overheads. It should be emphasised that these companies operate in completely different industries. Both have identified three categories for the purpose of overhead classification, fixed, variable and semi-variable.

The advantage of documented accounting policies is that they provide specific guidelines to the decision maker when segregating expenditure. Because a visual classification is very much a subjective decision, it is advantageous to stipulate parameters so as to introduce some form of uniformity into the decision making.

The Rexnord Inc. accounting policy, included in Annexure II, suggests, by inference to an exhibit attached to the policy, the adoption of the visual classification except in the determination of semi-variable costs where methods such as high-low differential and regression analysis are recommended.

Annexure III contains the classification of cost accounts recommended by Johnson & Johnson International, which by inference suggests the visual approach to the segregation of overhead. These examples illustrate that the visual method is still in use in the United States.

5. METHODS OF RECOVERY

While the expense constitutes the one side of the calculation, the activity level is the other factor in the determination of the recovery rate. The methods of recovery could be based on :

Material Quantity
Machine Hours
Labour Hours

Another approach used in the [illegible]ation of overhead is to determine the financial relationships be[illegible] element of cost i.e. either material or labour with overhead expenditure. When this method of recovery is used the need to establish activity levels is of secondary, if not little, importance in the calculation.

Schedule 14 provides the following analysis of the 64 responses to the question on what basis overhead is recovered :

- 26,5% use material quantity
- 7,8% use material value
- 14,1% use machine hours
- 46,9% use labour hours
- 4,7% use labour value

There is little point in discussing the overall result as each industry has different factors influencing overhead absorption. In many of the categories too few responses were received to be able to interpret the data. However, some of the sectors reveal conclusive results.

- 78% of the respondents in the Chemical and Oil industry used material quantity
- 77% of the respondents in the Engineering industry used labour hours
- 82% of the respondents in the Pharmaceutical and Medical industry used labour hours

A significant factor revealed from the survey was that only a small percentage of 12,5% used material value or labour value as the basis on which to absorb overhead into inventory. By far the majority of the respondents adopted a unit of measurement that excluded the influence of fluctuations in the purchasing power of money.

6. ACTIVITY LEVELS

There are a number of alternatives in the choice of activity levels. The choice could differ when calculating the fixed rate from that used in the variable rate. The survey selected four commonly used activity levels to establish which were the more favoured targets.

- Budgeted Level
- Actual Level
- Maximum Capacity
- Practical Capacity

Schedule 23 provides the following summary of the 64 respondents who attempted the question covering the activity level used in the determination of the fixed recovery rate :

Budget level	-	59,4%
Actual level	-	18,8%
Practical capacity	-	20,3%
Maximum capacity	-	1,5%

Schedule 24 presents the following summary of the 56 respondents who answered the same question but in the determination of the variable recovery rate :

Budget level	-	50%
Actual level	-	30,4%
Practical capacity	-	17,8%
Maximum capacity	-	1,8%

Unfortunately the response to the first question covering the determination of the fixed recovering rate represented only 74% of the sample size of 87 while the response rate to the second question covering the determination of the variable rate was even lower at 64% of the sample size. Although the response to these two questions reduced the sample to 26% and 23% respectively of the valid target population, the smaller response did not really alter the profile of the sample and therefore the conclusions which in terms of the objective are to provide evidence rather than quantitative proof could still be regarded as reasonably sound.

7. TYPE OF EXPENDITURE

The type of expense is a very important element in the calculation. The options available have been identified as

- Budget expenses
- Actual historical expenses
- Continuous rolling forecast of expenses

Only 66 respondents of the sample size of 87 answered the question. While representing 76% of the total respondents, it only represents 27% of the valid target population. Once again since the smaller response rate did not change the profile of the sample, the conclusions could still be regarded as reasonable.

The survey, details of which are presented on Schedule 18, revealed that of those who answered the question

- 65,1% favoured the use of budget expense in the overhead calculation,
- 27,3% preferred the use of actual historical expense in the overhead calculation,
- 7,6% used the continuous updated rolling forecast in the overhead calculation,

The 43 respondents representing 65,1% of the sample size who favoured the use of the budget expense in the overhead calculation corresponds to 17,6% of the valid target population.

8. FREQUENCY OF COMPUTING THE OVERHEAD RATE

The survey was also designed to delve into the various methods used in the computation of the recovery rate. The rate is the result of dividing the expense level by the basis of recovery. Both elements could have a number of permutations and combinations. The frequency of the calculation should be governed by the choice of the two elements.

Schedule 17, which summarizes the answers of the 59 companies that responded to the question directed at the frequency of the overhead calculation, indicates the following preferences :

- 49,2% favour an annual calculation
- 20,3% favour a monthly calculation
- 17,0% favour a bi-annual calculation
- 11,8% favour a quarterly calculation
- 1,7% favour a sporadic calculation

It should be noted that not one respondent applied a periodic review of the overhead calculation.

Once again the percentage who did not reply to the question was large proportionately to the sample size. Excluding the 26 respondents who did not reply reduces the sample size from 85 to 59 representing only 24% of the valid target population. However since the objective was to provide evidence rather than quantitative proof the conclusions could still be regarded as reasonable.

The quarterly and bi-annual approach to re-evaluating the recovery rate seems to have a similar distribution with 11,8% of those who replied favouring a quarterly review and 16,9% a bi-annual one. A closer analysis of each industry category does not provide any further significant result. In fact, there appears to be an equal spread over all the options in most of the industry categories.

The survey revealed a significant weighting towards an annual computation using budget level of expenditure in the Engineering and the Pharmaceutical and Medical sectors. In the Engineering industry, of the 8 respondents who used the budget level of expenditure, 6 performed the calculation of the recovery rates on an annual basis. Of the 14 Pharmaceutical and Medical industry respondents who favoured the budget level of expenses, 11 performed the calculation annually and 2 bi-annually. The two who favoured the actual historical expense determined the rate on a monthly basis.

9. ALLOCATION OF EXPENDITURE

The survey also established objectives to determine whether

- expenditure was allocated to control areas
- the tendency was to calculate a separate overhead rate for each control area as opposed to a plant-wide recovery rate
- overhead was allocated specifically to each independent product or product group or whether a separate pool account was maintained in the general ledger.

Schedule 19 reflects that of the 73 respondents (excluding 2 responses from the Trading and Stores sector) that segregated the production cycle into departments or centres, only 64 responded to the question on whether *expenditure was allocated to these areas.* Of these respondents, 54 representing 84,4% allocated expenditure to these departments or centres.

Schedule 20 presents the response directed specifically at those respondents, who replied positively to the question of the allocation of expenditure to the various control areas, to confirm whether or not *different recovery rates* were determined for each control area.

Of the 54 respondents who confirmed that expenditure was allocated to the various control areas 39 or 72% computed different recovery rates for each centre.

Yet another question was directed at those 15 of the 39 respondents who did not calculate different recovery rates for each control area to confirm that a global or plant-wide rate was computed in preference to a different rate for each control area. Unfortunately it would appear that this question must have confused some of the individuals completing the survey because instead of receiving responses from only the 15 respondents, 24 *confirmed that a global rate was determined.* This suggested that 9 of the respondents calculated both recovery rates for each control area and a global rate for the operation as a whole. Either there was a lack of understanding of the concept or a misunderstanding of the question.

Since the questionnaire was carefully worded, referred to both academics and practitioners for comment and used in a field test, the misunderstanding of the question cannot be attributable to ambiguity. Because of the response to this question, being the last part of question 6.2 of the survey questionnaire, the result was considered invalid and a schedule providing an analysis of the response was not published.

Schedule 21 provides a summary of the answers to the question of the allocation of overhead specifically to each independent product or product group. Although 18 respondents representing 21,2% of the sample did not respond, 70,1% of those who did respond indicated that it was their practice to allocate overhead specifically to each product or product group.

The questionnaire requested those respondents who did not allocate overhead specifically to each product or product group to indicate whether a distinctive overhead pool account was maintained in the general ledger. Schedule 22 reveals that of the 20 companies who did not allocate overhead 14 or 70% kept a separate overhead account in the general ledger.

10. ACCOUNTING AND COSTING POLICIES

The survey established an objective to determine whether there were documented accounting policies either initiated from the parent company or the local subsidiary. Questions were also designed in order to assess the influence exerted by the overseas parent over the policy and methods of absorption costing used in the inventory

valuation of the local subsidiary. There were five questions directed at policy and two covering the valuation of inventory.

In order to demonstrate the structure and content of an accounting policy, particularly the sections dealing with overhead absorption, the accounting policy of Rexnord Inc. has been included as Annexure 1.

Schedule 5 confirmed that 82 or 94,3% of the sample size of 87 had documented accounting policies including inventory valuation.

Of the five companies that indicated that they did not have documented policies two were companies in which the United States shareholder held less than 50% but this does not necessarily imply that they were not in a position to influence the decision making process.

Schedule 6, which summarized the response to the question whether the parent company had documented accounting policies including inventory valuation, presented virtually the same distribution to the response detailed on Schedule 5.

The results would suggest that there is a standard practice whereby both the local South African company and the United States parent have a written policy on inventory valuation.

11. ASSESSMENT OF FOREIGN INFLUENCE.

Because of the different valuation philosophies between the South African accounting standard and the United States tax requirements an analysis of the responses on the following schedules provides evidence of the influence that the United States companies have over their local operations.

As illustrated on Schedule 11, by far the majority of companies, 75% of those respondents who answered the question, indicated that the United States parent company insisted that all the elements of cost i.e. material, labour, direct and indirect overhead were included in the valuation of inventory. The only sector whose results were contrary to the overall pattern was the Steel and Allied Products, where only one of the three who responded confirmed that the parent insisted on inclusion of all cost elements. But this observation cannot be regarded as significant because of the small number of respondents.

Schedule 7 reveals that of the 87 returns, 83 responded to the question whether the parent policy in any way contradicts the local accounting policy; only 9 indicated that local accounting policies did not correspond with their parent policies. The reason was apparent in that in every case one of the cost elements was excluded from the inventory valuation. What is however significant is that only 10,8 % of the respondents did not follow the parents' policies which is an indication of the extent of the influence exerted by the United States parent.

The questionnaire included an enquiry directed at those companies who did not follow the parent company policies to indicate whether the necessary information was supplied in order for the parent to make the required adjustment.

It can be observed from Schedule 9 which summarizes the response to this question that 19 of the valid returns of 87 did not provide an answer. A majority of 53 representing 60,9% confirmed that additional information would be supplied for the parent to make the necessary amendment. Only 15 respondents indicated that no further information was provided where the local operation did not follow the parent company policies.

Schedule 8 presents the results to a question posed on the issue of local auditors having to report on whether the local company complied with the parent company's policies. The question was included for the purpose of evaluating the fiduciary duty that local management had for ensuring that policies adopted by the foreign parent were implemented in the local company and to determine whether auditors' responsibilities were extended beyond their statutory duties.

The survey revealed that 58 respondents representing 66,7% of the total respondents required audit confirmation of compliance with parent policies. With only one respondent providing no answer to the question, the remaining 28 of the sample size of 87 were not required to obtain an audit report.

12. THE INFLUENCE OF SIZE AND NATURE ON THE CONTROL METHODS.

Certain descriptive information was included in the questionnaire for the sole purpose of gathering sufficient background not only to be able to classify the various companies but also to understand the nature of their operating activities. An analysis was undertaken comparing

- the relationship between the size of the operation and the control methods

and

- the type of manufacturing activity with the control methods.

Control method describes the basis whereby the operation has been divided into distinct functional areas that represents either each process in the manufacturing cycle or, alternatively, a strategic manufacturing unit. The control methods have been identified as

- Cost Centres
- Processing Departments
- Profit Centres
- Investment Centres

The type or nature of the manufacturing activity describes the manufacturing procedure which could be categorized as

- Jobbing
- Continuous Process
- Batch Process
- Non Manufacture

The non-manufacture activity type has been interpreted by many of the respondents as a process where the product itself may not be changed or converted. This activity type therefore includes such industry categories as Pharmaceutical and Medical, Chemical and Oil where the process may merely be the testing and repacking of product for re-distribution.

Schedule 3 presents the results of comparing the size of the operation measured by the value of the inventory, with the control method.

Analysing the results there appeared to be a distinct preference for cost centres since

- 50% of small companies
- 72% of medium size companies
- 86% of large companies

used this method as a management control technique. The results suggested that regardless of the size of the operation, there was a tendency among United States controlled companies to favour cost centres which implies that size cannot be the determining factor.

Schedule 4 presents the results to the question whether there is any correlation between the type of manufacturing activity and the control method.

These results revealed that there was once again a preference for cost centres since

- 65% of the jobbing process
- 76% of the continuous process
- 71% of the batch process
- 41% of the non manufacture repacking process

translating into 66% of the 85 respondents used this method of control. Once again the results suggested that regardless of the type of activity there was a leaning among United States controlled companies towards cost centres, which once again implies the type of manufacturing activity does not influence the selection of the control method.

The analysis by industry category, detailed on Schedule 2, of the type of segregation used in the manufacturing process does not reveal anything further, other than in the Paper and Packaging sector where the only respondent selected profit centres. However, because of the very small number of respondents, the validity of making any inferences from the results would be challenged as unreliable.

It could be concluded that the survey provided some evidence to substantiate the opinion that the majority of United States owned local operations, regardless of size, type of activity or industry category favour the cost centre approach. Profit or investment centres introduce the concept of transfer pricing. Robert Eccles [57] acknowledges that ever since the idea of transfer pricing was formulated it has

given both corporate managers and academics nagging problems. He was of the opinion that most research done on resolving the problem of transfer pricing has been of little use to corporate managers. Because, quoting Robert Eccles [57] *"it is not always possible to satisfy both* the control and the fairness objective through the transfer pricing scheme alone", there is a disadvantage in adopting either investment or profit centres.

Cost centres have the advantage that performance is restricted to the measurement of actual achievement against predetermined goals.

13. SUMMARY

The results of the survey appear to be representative as the number of returned questionnaires were nearly half of the target population and weighted according to the AMCHAM company profile.

Even where the response rate was lower than the 87 returned questionnaires, the smaller sample did not change the profile since the respondents were still reasonably weighted in relation to the overall response. Furthermore, the objective of the survey was not to provide statistically substantiated results but rather to provide supportive evidence.

CHAPTER 10

ANALYSIS AND INTERPRETATION OF THE RESULTS OF THE SURVEY

1. INTRODUCTION

Having discussed the theoretical concepts and generally accepted standards and having ascertained the actual practice from the survey, the intention of this chapter is to analyse and interpret the results and, wherever possible, to draw a comparison between actual practice with the theoretical concepts.

The influence exerted by the United States multinationals will also be considered but only in so far as it can be judged from the response to certain questions included in the questionnaire.

2. INVENTORY VALUATION

Since the object of this research is to concentrate on the methods of absorption costing the direct material and direct labour cost elements are not really of direct interest. However, the results summarized on Schedule 10 of the responses to the question of whether direct labour was included in the valuation of inventory revealed that 9 companies, representing 11% of the valid responses, omitted the labour element.

The only conclusion that could be interpreted from this response was that certain industries, evident from the survey results,as Printing and Publishing, Pharmaceutical and Medical, and Engineering, had become highly automated requiring only supportive labour that had been classified as indirect labour and included as an overhead cost.

The response to the question (summarized on Schedule 10) on whether direct overhead was included in the inventory valuation as a direct cost followed almost an identical response pattern in many of the industry categories to the question on direct labour. The reason suggested above for certain industries excluding direct labour was further supported by the inclusion by one of the companies of direct overhead as a direct cost in the inventory valuation although there was no charge as a direct cost in the inventory valuation of the direct labour element.

There appears to be a greater tendency to omit indirect overhead from the valuation than direct overhead. This is particularly evident in the Engineering, Steel and Allied Products sectors where half the companies in the Engineering sector indicated that they excluded indirect overhead. A possible explanation may be the method of segregating costs between direct and indirect cost centres, or the definition applied within the company as to what constitutes a direct and an indirect overhead. Smaller companies may not have extensive support services introduced by the larger manufacturers because of economies of scale and co-ordination of the organisation. Unfortunately the survey did not address this issue which may be an interesting topic to pursue in a separate study.

Notwithstanding that neither the South African generally accepted accounting standard nor the requirements of the Income Tax Act insist on the absorption of both fixed and variable overhead, Schedule 12 indicates that 74% include both fixed and variable overhead in the valuation of inventory for tax purposes.

The tendency seems to be to follow the requirements of the United States revenue department and not take advantage of the loopholes in local tax legislation which has now adopted AC 108. Questioning a representative of one of the parent companies, it seems the reason may be in the method of taxing multinational corporations in the United States.

Profits are taxed from all sources [58] - that is from local and overseas operations, but allowance is made for the tax charges already paid in other countries. Where a South African operation omitted overhead in the local return to the tax authorities, the tax charge would be reduced by the omission of the overhead at the current tax rate. However, the United States parent would have to include the overhead content in its return and be subject to tax on this adjustment. There appears to be no advantage for a United States subsidiary, either they pay the tax in the source country or in the United States.

3. FIXED AND VARIABLE OVERHEAD

Because the fundamental difference between the United States tax method and the South African accounting standard is the treatment of fixed overhead, the results to the enquiry whether overhead is segregated between fixed and variable was particularly important. However, because the outcome of the survey confirmed that there was a near equal distribution between those companies who segregated and those who did not segregate fixed from variable overhead, both concepts appear to have equal prevalence.

While the results may be described as predictable, it is quite startling to consider how few manufacturing concerns probably cannot use marginal costing as a tool in the pricing policy because overhead has not been segregated between fixed and variable.

An observation on Schedule 15 was the approach in the Pharmaceutical and Medical industry to segregating overhead between fixed and variable. The result revealed an equal distribution between segregation and not allocating expenditure between fixed and variable. The only inference that can be made is that there is divided opinion on the merits of marginal costing. Perhaps an influencing factor in this industry is the highly profitable margins realised which tends to suggest that there is no, or very little, need to consider marginal contributions.

The Steel and Allied Products sector, which in South Africa is in the position where productive capacity outstrips demand, operates in a highly competitive environment. Marginal costing in this industry should be an important tool in pricing policy. Although the sample from this sector was small, 3 of the 4 respondents indicated that they segregated expenditure between fixed and variable costs. The results in the Engineering sector should also have revealed a similar pattern. However only 62% of the respondents who answered this question segregated expenditure between fixed and variable.

Local operations still use very much a simplistic approach in the techniques applied to cost accounting. The visual classification of allocating expenditure between fixed and variable has traditionally been the accountant's approach but as quantitative methods gain greater acceptability there may be a movement towards a more scientific method of calculation in the future.

4. METHODS OF RECOVERY

Because manufacturing expenditure in different sectors could be sensitive to different measurement criteria on which overhead should be absorbed into inventory, an analysis of the respondents as a whole which were representative of a wide range of industrial sectors may offer little contribution to the study. However, certain observations can be made from a review of Schedule 14 of certain of the individual industry categories.

The Chemical and Oil industry is a manufacturing process where labour is a relatively low value comparable to the raw materials. Fishing and Food again is a manufacturing process where labour is only used to monitor the production cycle. Steel and Allied Products invariably involves the melting, extrusion, forming or moulding of metals where labour relative to raw material is insignificant. It is understandable that in these industries material quantity should be the measure by which overhead is absorbed into inventory.

Those industries which are more dependent on highly skilled labour in for example the *Clothing, Footwear and Textiles* industries or Engineering or Furniture and Household Appliances or Pharmaceutical and *Medical industries or where the manufacturing* cycle follows a jobbing pattern, are more likely to apply direct labour hours.

While there appears to be a measure of uniformity within each industry category, no attempt has yet been made to clearly prescribe a specific basis for a specific industry on which overhead will be absorbed into inventory. Whilst prescribing accounting methods inhibits innovation and development, the danger lies in the untrained or uninitiated adopting a method of recovery based on an element of cost that bears no relationship to the overhead content and which is contrary to the practice used by other similar industries. The effect may be that inventory is either under or over stated relative to other similar companies within the same industry sector.

5. ACTIVITY LEVELS

The response to this section of the survey was disappointing, either suggesting that the level of knowledge of those completing the questionnaire was limited, or that the question was not properly understood. Nevertheless the results summarized on Schedules 23 and 24 are enlightening in that 59% of those who responded used budgeted level of activity in the determination of the fixed rate with 50% using the same level to determine the variable rate. Rather surprising was that those using actual capacity virtually equalled those using practical capacity. The results suggest that either the United States standards as determined by each company are not clearly defined or there is a lack of understanding within the local companies on concepts of overhead absorption. While using budgeted level of activity is an acceptable target in the computation of both the fixed and variable, using actual activity is not regarded as a satisfactory standard in the determination of the fixed rate.

The United States standard specifies that idle facility expenses should not be absorbed into inventory but treated as a period cost. By applying actual activity to the expenditure recognised as fixed overhead is a contravention of the United States statement. This method of determining the fixed recovery rate would also contravene the requirements of the South African standard that has specified that normal production is the activity level that can be achieved over a number of periods. The activity level should not vary dramatically from one period to the next. Applying this logic, fixed overhead should be absorbed into inventory on the basis of either budgeted level of activity, which may vary from one period to the next, or preferably practical capacity, that only changes when there has been fundamental alterations to the capacity of the facility. The survey has revealed that practical capacity is gaining recognition with 20% of those who responded indicating that this level of activity was used in the calculation of the fixed overhead recovery rate.

Another observation was that some 18% of those who responded indicated that they used practical capacity in the calculation of the variable rate.

The overall results, with the exception of those applying budgeted activity for both fixed and variable, could not be regarded as a reflection of the state of the art because of some conflicting responses between this section and the question on whether expenditure was segregated between fixed and variable.

The result to the question on the choice of expenditure type, presented on Schedule 18, tends to validate the result of this section. While 65% of the overall responses who answered selected budgeted expenditure, 59% used budgeted activity, reporting a mere 6% difference.

The one encouraging factor was at least an awareness of practical capacity even though it seems apparent that there is some confusion on the correct application.

Only one respondent used the maximum capacity to compute the fixed and the variable overhead rate. The results provide support for my view that this level of activity is highly theoretical and cannot be achieved in the real world of production.

It should be emphasized that the comments made are based on the responses that were received and notwithstanding the reduced response rate, the results could still be regarded as representative of the overall target population.

6. TYPE OF EXPENDITURE

Where the budget expense is used in the computation it would be a logical conclusion to assume that the computation is only performed once a year. However, there were respondents who answered that the budget expense was used and the calculation determined on a monthly basis.

Either the respondents were confused or the budget was updated continuously much in the manner of a monthly forecast. Nevertheless, the overall results of the survey presented on Schedule 18 did reveal that budget expense was the most favoured approach corresponding to the question on frequency which favoured an annual calculation. The next most popular choice in the type of expenditure was the actual historical cost. Again the results corresponded with the frequency of a monthly review of the recovery rate.

The tendency in most industry categories was to favour a budgeted expense type. The logical inference from this result is that most manufacturing companies prefer this method so as to measure expenditure and efficiency variances from this predetermined level of expense.

7. *FREQUENCY OF COMPUTING THE OVERHEAD RATE*

The frequency of the calculation is dependant upon the choice of both the expense type and the activity level.

The survey results, summarized on Schedule 17, revealed, considering the respondents as a whole, that an annual calculation of the rate was the most favoured practice. The result supports the findings detailed on Schedule 18 where the survey established that a majority of the respondents favoured the use of budget expense in the overhead calculation. Further support was found in the response to the question covering the choice of activity levels in the determination of the fixed and the variable overhead rate which also established that the respondents favoured budget level in the overhead calculation.

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The next most common practice was a monthly review of recovery rates once again supported by the findings that actual historical expense and actual level of activity were the next most preferred combinations used in the determination of the overhead rate.

A monthly recovery rate calculation would have the benefit of continuously responding to the effects of escalating prices. The annual calculation has the unfortunate effect of creating windfall profits once new rates are applied to inventory. During the course of the year variances are reported, inventory is undervalued, manufacturing costs are under stated, resulting in lower selling prices and obviously prejudicing the concern.

8. ALLOCATION OF EXPENDITURE

The allocation of costs serves two purposes -

1. Enables management to control expenditure at the point where it is actually incurred. Each manager or supervisor who has the authority to use resources can be held to account and can be measured against pre-determined objectives.[59]

2. Enables recovery rates to be calculated by cost centre or department as opposed to having a global (or plant-wide) rate. The determination of distinct recovery rates by centre is more significant in an environment where different products may have different production processes and where the cost of one process is different to the cost of another subsequent one.[60]

Notwithstanding the importance of allocating expenditure to the area responsible for its disbursement, of the 54 respondents only 39 or 72% computed different recovery rates for each centre. Although the results, details of which are shown on Schedule 20, shows an overwhelming majority calculate separate recovery rates, those that do not could be influenced by the process of production or may only be producing one product negating the need for distinct rates for each centre. Unfortunately the survey did not request the respondents to qualify their answers with reasons for their choices.

Robert G. Eiler et al [61] maintain that one of the aims of a cost accounting system is to provide accurate product costing. It is of little use recording the "somewhat mystifying pool of costs called overhead" [61] as a distinct value from the other elements of inventory. Their contention is that "overhead costs should be associated with the *right products in the right proportions.*" [61]

Recognizing the importance of allocating overhead costs to independent products or product groups, the survey attempted to gauge the popularity and importance of associating the overhead costs with the right products. Schedule 21 reveals that only 67 of the valid responses answered this question. The majority of those that responded indicated that overhead was specifically allocated to each independent product or product group. Those that did not adopt this procedure - 14 of the 20 - indicated that they maintained a distinctive overhead pool account in the general ledger separating the overhead expenditure from the other elements of cost included in the inventory valuation.

9. INFLUENCE EXERTED BY OVERSEAS PARENT OVER *ACCOUNTING POLICIES*

According to the 1984 US Master Tax Guide [58] "as a general rule, a domestic corporation (one organized under the laws of one of the States or of the District of Columbia) is taxed on its worldwide income. No distinction is made between income from sources inside and income from sources outside the United States, except that U.S. tax on foreign income may be reduced by the foreign tax credit."

Since there appears to be a worldwide approach in most of the states in the United States of America to the source of income for tax purposes, it is quite understandable why 67,4% which is the majority of the population sample expect audit confirmation, especially inventory valuation, because all its foreign operations must comply *with accounting conventions acceptable to the revenue authorities.*

If the South African operation chooses not to follow United States standards, the parent would be obliged to amend the financial statements so as to reflect generally accepted standards of the United States revenue department. This was adequately substantiated from the responses to the question on whether the local company had to supply the necessary information in order for the parent to make the required adjustment.

The results of Schedule 5 substantiated that the majority of local companies had documented accounting policies including inventory valuation while Schedule 6 provided evidence that a majority of the overseas parents had documented accounting policies. Schedule 7

confirmed that there was, in the case of a substantial majority, no contradiction between the local and overseas accounting policies. Since the South African standard differed in its approach to fixed overhead from the United States' practice, it can be inferred that the local operations were influenced by the policies of the overseas parent.

This assumption is supported by the results summarized in Schedule 11 which revealed that 70,6% of the respondents confirmed that the parent company insisted upon the inclusion of all the cost elements in the valuation of inventory for management and financial accounting purposes. Schedule 12 provided evidence of the attitude towards the valuation of inventory for tax purposes. A majority of the respondents opted for full absorption, that is, inclusive of fixed overhead, which complies with the United States approach rather than with the South African accounting standard.

CHAPTER 11

CONCLUSION

1. ACCOUNTING STANDARDS

The International Accounting Standards Committee came into existence on 29 June 1973 following an agreement by the leading professional accounting bodies from Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom, Ireland and the United States of America. The International Accounting Standard (IAS 2) described as the Valuation and Presentation of Inventories in the Context of the Historical Cost System was published in October 1975. Notwithstanding that the United States is a founder member supporting the objective of the standards committee to accept the standards promulgated, the United States has not yet updated its accounting standard published in June 1953. It can be concluded that the United States standard on Inventory Pricing is out of date and does not encompass all the requirements of the International standard.

South Africa, as an associate member of the International Accounting Standards Committee, is obliged to consider the international standards over and above any standards developed independently by constituent members. Since the United Kingdom is the largest investor in South Africa it would be quite understandable that their standards may have persuasive qualities on the standards introduced in South Africa.

Although the South African standard permits, it does not enforce full absorption, by far the majority of United States owned undertakings in South Africa, recover both fixed and variable costs into inventory. While the United States is able to exert influence over its local companies, the question is whether this influence is likely to spread to other local companies or even other multinationals. The United Kingdom statement does not regard inventories valued inclusive of variable overhead only as complying with the standard. Should United Kingdom and other European multinationals follow the concept of full absorption, there is every likelihood that they would influence their local operations. If all foreign owned companies followed identical concepts it would be only a matter of time before it became accepted practice in South Africa.

Research into local operations owned and controlled by United Kingdom and German multinationals would make a valuable contribution to establishing the full impact of overseas investment influence over the policies and methods of absorption costing used in South Africa.

While the local companies remain subsidiaries of United States multinationals, influence will be exerted on them from abroad to adopt foreign accounting policies. The question that needs to be researched is whether they would retain such policies including inventory valuation if ownership of the company were to change to local shareholders.

2. ACCOUNTING PRACTICE

As a result of this survey the following practice has been established in local operations owned or controlled by United States multinationals.

1. A majority of companies adopt full absorption costing for management and financial accounting purposes. It appeared that the size of the operation, measured for the purposes of this study in terms of the value of inventory on hand, did not necessarily influence the policy and methods adopted for the recovery of overhead, since regardless of whether the company was classified as small, medium or large, the tendency was to accept full absorption costing.

2. A majority of companies include both fixed and variable overhead in the valuation of inventory for income tax reporting purposes. This practice did not take advantage of the undefined requirements of the South African Income Tax Act which has recently adopted the local accounting standard in permitting the exclusion in whole or in part of the fixed overhead.

3. It was not possible from the results of the survey to establish whether or not there is a tendency to segregate overhead between fixed and variable because there appeared to be almost an equal distribution between the two options.

4. It was established that the visual classification method of segregating fixed and variable overhead was the most popular technique.

The basis on which overhead should be absorbed into inventory varied according to the industry sectors. The majority of the respondents selected a basis such as material quantity or labour hours which eliminated possible distortions that could arise where a financial relationship was developed between the manufacturing expenditure and the other element of cost. A *minority of the respondents* favoured the use of a unit of measurement in the recovery of overhead that incorporated an element of monetary value which could fluctuate not only with changes in activity levels but also with changes in the purchasing power of money.

The auditing standard [19] that permitted overhead to be recorded as a "percentage added to work-in-progress and finished goods" has been withdrawn and replaced with the South African generally accepted accounting practice No. AC108 which makes no provision for this method of adding a percentage to inventory. Since it could be construed that this technique is not longer acceptable with the withdrawal of the former auditing standard and that there is little support for this method, except in certain circumstances, consideration should be given to amending the accounting standards to define whether or not adding a percentage to the monetary value of inventories is an acceptable procedure.

6. It is apparent from the results of survey that the budget level of activity was preferred in the calculation of both the fixed and the variable recovery rates.

7. The choice of the type of expense confirmed the preference for budgeted expenditure which supported the finding that budget level was the more favoured activity.

8. The survey established that the annual computation of the overhead rate was the most popular review frequency. On the assumption that the budget level of activity and budget expenditure are revised on an annual basis, it would be logical to review the recovery rate using these two elements on an annual basis.

9. It was established that expenditure was allocated to control areas and that the majority of those companies calculated different recovery rates for each control area and did not favour determining a plant wide recovery rate.

10. The survey established that a majority of companies allocated overhead specifically to each independent product or product group. A majority of companies who chose not to allocate overhead to each product or product group maintained a distinctive overhead pool account in the general ledger.

The following statements provide an indication of the influence that United States multinationals have over the policies and methods of absorption costing adopted by the local operation :

1. An overwhelming majority of the participants in the survey admitted that the overseas parent insisted on the inclusion of all the elements of cost.

2. There was adequate evidence that the United States parent and the local operation had introduced documented accounting policies including inventory valuation.

3. Though both the parent and the local operation had documented accounting policies, in general it can be concluded from the response of the majority of the respondents to the survey, that there was no conflict between the parent and local accounting policies.

4. Where the local operation elects not to adopt the policies advocated by the United States parent, it was established that supplementary information may have to be provided for the parent to make the required amendment.

5. It can be concluded from the response of the majority of those companies who participated in the survey that the local auditors are obliged to report to the parent company confirming compliance with parent policies.

Many of these findings were anticipated. However, the results of this survey should provide valuable empirical evidence of accounting practice but only in those companies in which United States corporations have a substantial interest.

3. SUMMARY

The original aims developed in the introductory chapter have been achieved concluding that there are differences between the very old standard of inventory accounting still in existence in the United States and the South African standard which is more representative of actual practice. This however has not prevented United States multinational operations adopting more appropriate practical methods. It was also concluded that the United States multinationals exercised their influence over the policy and methods of absorption costing used by their South African operations.

SUPPORTING SCHEDULES PROVIDING

DETAILED RESULTS OF THE SURVEY

SCHEDULE 1

QUESTION 2.5 - ANALYSIS BY INDUSTRY CATEGORY

	POPULATION	SMALL LESS THAN R1M	MEDIUM LESS THAN R10M	LARGE GREATER THAN R10M	INVENTORY VALUE NOT DISCLOSED
Beverages & Hotels	1	1	0	0	0
Building & Construction	5	1	2	0	2
Chemicals & Oils	12	1	7	0	4
Clothing, Footwear & Textiles	2	0	2	0	0
Electronics	7	1	3	1	2
Engineering	15	2	9	1	3
Fishing & Food	5	0	3	1	1
Furniture, Household Appliances	2	0	2	0	0
Motor	3	0	2	0	1
Paper & Packaging	1	0	0	0	1
Pharmaceutical & Medical	21	3	10	3	5
Printing & Publishing	2	0	2	0	0
Steel & Allied Products	4	0	1	0	3
Tobacco & Match	0	0	0	0	0
Transportation	0	0	0	0	0
Trading & Stores	2	0	2	0	0
Other Categories	5	1	3	1	0
	87	10	48	7	22

SCHEDULE 2

QUESTION 2.3 - SEGREGATION OF MANUFACTURING PROCESS INTO CONTROL AREAS

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	COST CENTRE	%	PROCESS DEPARTMENT	%	PROFIT CENTRE	%	INVESTMENT CENTRE	%	NOT SEGREGATED	%
Beverages & Hotels	1	1	100	0		0		0		0	
Building & Construction	5	4	80	0		1	20	0		0	
Chemicals & Oils	12	9	75	2	16,7	0		0		1	8,3
Clothing, Footwear & Textiles	2	1	50	0		0		1	50	0	
Electronics	7	4	57,1	0		2	28,6	0		1	14,3
Engineering	15	11	73,3	0		3	20	0		1	6,7
Fishing & Food	5	3	60	1	20	0		0		1	20
Furniture, Household Appliances	2	2	100	0		0		0		0	
Motor	3	1	33,3	1	33,3	0		1	33,3	0	
Paper & Packaging	1	0		0		1	100	0		0	
Pharmaceutical & Medical	20	13	65	2	10	1	5	0		4	20
Printing & Publishing	2	0		0		1	50	0		1	50
Steel & Allied Products	4	2	50	0		2	50	0		0	
Trading & Stores	2	2	100	0		0		0		0	
Other Categories	4	2	50	1	25	0		0		1	25
	85	55	64,7	7	8,2	11	12,9	2	2,4	10	11,8

SCHEDULE 3

CONTROL METHOD

STOCK LEVEL	COST CENTRE	PROCESS DEPARTMENT	PROFIT CENTRE	INVESTMENT CENTRE	NOT SEGREGATED	TOTAL
1. Less than R1M						
NO.	5	0	2	0	3	10
Col %	11,0	,0	33,0	,0	43,0	16,0
Row %	50,0	,0	20,0	,0	30,0	
2. Less than R10M						
NO.	35	3	4	2	4	48
Col %	76,0	75,0	67,0	100,0	57,0	73,0
Row %	72,0	6,0	9,0	4,0	9,0	
3. More than R10M						
NO.	6	1	0	0	0	7
Col %	13,0	25,0	,0	,0	,0	11,0
Row %	86,0	14,0	,0	,0	,0	
TOTAL	46	4	6	2	7	65
Row %	70,3	6,3	9,4	3,1	10,9	100

SCHEDULE 4

ACTIVITY TYPE	CONTROL METHOD					
	COST CENTRE	PROCESS DEPARTMENT	PROFIT CENTRE	INVESTMENT CENTRE	NOT SEGREGATED	TOTAL
1. JOBBING						
NO.	11	0	3	0	3	17
Col %	20,0	0,0	27,0	0,0	30,0	20,0
Row %	64,0	0,0	18,0	0,0	18,0	
2. CONTINUOUS PROCESS						
NO.	13	3	1	0	0	17
Col %	24,0	43,0	9,0	0,0	0,0	20,0
Row %	76,0	18,0	6,0	0,0	0,0	
3. BATCH PROCESS						
NO.	24	4	1	1	4	34
Col %	43,0	57,0	9,0	50,0	40,0	40,0
Row %	71,0	12,0	3,0	3,0	12,0	
4. NON MANUFACTURING						
NO.	7	0	6	1	3	17
Col %	13,0	0	55,0	50,0	30,0	20,0
Row %	41,0	0	35,0	6,0	18,0	
TOTAL	55	7	11	2	10	85
Row %	65,9	8,2	11,8	2,4	11,8	100,0

SCHEDULE 5

QUESTION 3.1 - *COMPANIES HAVING DOCUMENTED ACCOUNTING POLICIES INCLUDING INVENTORY VALUATION*

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	AFFIRMATIVE RESPONSES	%
Beverages & Hotels	1	1	100
Building & Construction	5	5	100
Chemicals & Oils	12	11	91,7
Clothing, Footwear & Textiles	2	2	100
Electronics	7	7	100
Engineering	15	14	93,3
Fishing & Food	5	4	80
Furniture, Household Appliances	2	2	100
Motor	3	3	100
Paper & Packaging	1	1	100
Pharmaceutical & Medical	21	20	95,2
Printing & Publishing	2	2	100
Steel & Allied Products	4	4	100
Tobacco & Match	0	0	-
Transportation	0	0	-
Trading & Stores	2	2	100
Other Categories	5	4	80
	87	82	94,3

SCHEDULE 6

QUESTION 3.2 - COMPANIES WHOSE PARENT HAS DOCUMENTED ACCOUNTING POLICIES INCLUDING INVENTORY VALUATION

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	AFFIRMATIVE RESPONSES	%
Beverages & Hotels	1	1	100
Building & Construction	5	5	100
Chemicals & Oils	12	10	83,3
Clothing, Footwear & Textiles	2	2	100
Electronics	7	7	100
Engineering	15	13	86,7
Fishing & Food	5	5	100
Furniture, Household Appliances	2	2	100
Motor	3	3	100
Paper & Packaging	1	1	100
Pharmaceutical & Medical	21	21	100
Printing & Publishing	2	2	100
Steel & Allied Products	4	4	100
Tobacco & Match	0	0	-
Transportation	0	0	-
Trading & Stores	2	2	100
Other Categories	5	4	80
	87	82	94,3

SCHEDULE 7

QUESTION 3.3 - COMPANIES WHOSE PARENT POLICIES CONTRADICT LOCAL ACCOUNTING POLICIES OR LOCAL GENERALLY ACCEPTED ACCOUNTING PRACTICE

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	NEGATIVE RESPONSE	%	POSITIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0	-	1	100	-	-
Building & Construction	5	5	100	0	-	-	-
Chemicals & Oils	12	11	91,7	1	8,3	-	-
Clothing, Footwear & Textiles	2	2	100	0	-	-	-
Electronics	7	6	85,7	0	-	1	14,3
Engineering	15	12	80	2	13,3	1	6,7
Fishing & Food	5	4	80	1	20	-	-
Furniture, Household Appliances	2	2	100	0	-	0	-
Motor	3	2	66,7	0	-	1	33,3
Paper & Packaging	1	1	100	0	-	0	-
Pharmaceutical & Medical	21	17	81	3	14,3	1	4,7
Printing & Publishing	2	2	100	0	-	0	-
Steel & Allied Products	4	3	75	1	25	0	-
Tobacco & Match	0	0	-	0	-	0	-
Transportation	0	0	-	0	-	0	-
Trading & Stores	2	2	100	0	-	0	-
Other Categories	5	5	100	0	-	0	-
	87	74	85,1	9	10,3	4	4,6

SCHEDULE B

QUESTION 3.4 - COMPANIES WHOSE LOCAL AUDITORS HAVE TO REPORT ON WHETHER THE LOCAL COMPANY COMPLIES WITH PARENT POLICIES

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	AFFIRMATIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0	-	1	100	0	-
Building & Construction	5	2	40	2	40	1	20
Chemicals & Oils	12	8	66,7	4	33,3	0	-
Clothing, Footwear & Textiles	2	2	100	0	-	0	-
Electronics	7	4	57,1	3	42,9	0	-
Engineering	15	12	80	3	20	0	-
Fishing & Food	5	5	100	0	-	0	-
Furniture, Household Appliances	2	1	50	1	50	0	-
Motor	3	2	66,7	1	33,3	0	-
Paper & Packaging	1	1	100	0	-	0	-
Pharmaceutical & Medical	21	12	57,1	9	42,9	0	-
Printing & Publishing	2	1	50	1	50	0	-
Steel & Allied Products	4	4	100	0	-	0	-
Tobacco & Match	0	0	-	0	-	0	-
Transportation	0	0	-	0	-	0	-
Trading & Stores	2	1	50	1	50	0	-
Other Categories	5	3	60	2	40	0	-
	87	58	66,7	28	32,2	1	1,1

SCHEDULE 9

QUESTION 3.5 - COMPANIES WHO DO NOT FOLLOW PARENT COMPANY POLICIES BUT SUPPLY THE NECESSARY INFORMATION IN ORDER FOR THE PARENT TO MAKE THE REQUIRED ADJUSTMENT

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	1	100	0	-	0	-
Building & Construction	5	3	60	1	20	1	20
Chemicals & Oils	12	7	58,3	4	33,3	1	8,4
Clothing, Footwear & Textiles	2	2	100	0	-	0	-
Electronics	7	5	71,4	0	-	2	28,6
Engineering	15	9	60	3	20	3	20
Fishing & Food	5	4	80	0	-	1	20
Furniture, Household Appliances	2	1	50	0	-	1	50
Motor	3	2	66,7	1	33,3	0	-
Paper & Packaging	1	1	100	0	-	0	-
Pharmaceutical & Medical	21	10	47,6	4	19,1	7	33,3
Printing & Publishing	2	1	50	0	-	1	50
Steel & Allied Products	4	4	100	0	-	0	-
Tobacco & Match	0	0	-	0	-	0	-
Transportation	0	0	-	0	-	0	-
Trading & Stores	2	1	50	1	50	0	-
Other Categories	5	2	40	1	20	2	40
	87	53	60,9	15	17,2	19	21,9

SCHEDULE 10

QUESTION 4.1 - INVENTORY VALUATION UDES THE FOLLOWING ELEMENTS OF COST

ANALYSIS BY INDUSTRY CATEGORY	POPU-LATION SAMPLE	MATERIAL		DIRECT LABOUR		DIRECT OVERHEAD		INDIRECT OVERHEAD	
		POSITIVE RESPONSE	NEGATIVE RESPONSE	POSITIVE RESPONSE	NEGATIVE RESPONSE	POSITIVE RESPONSE	NEGATIVE RESPONSE	POSITIVE RESPONSE	NEGATIVE RESPONSE
Beverages & Hotels	1	1	0	0	1	0	1	0	1
Building & Construction	5	5	0	4	1	3	2	3	2
Chemicals & Oils	12	12	0	12	0	11	1	9	3
Clothing, Footwear & Textiles	2	2	0	2	0	1	1	2	0
Electronics	7	7	0	4	0	3	1	3	1
Engineering	15	14	0	12	2	12	1	7	6
Fishing & Food	5	5	0	4	1	4	1	4	1
Furniture, Household Appliances	2	2	0	2	0	2	0	2	0
Motor	3	3	0	2	0	2	0	2	0
Paper & Packaging	1	1	0	1	0	1	0	1	0
Pharmaceutical & Medical	21	21	0	19	2	19	2	18	3
Printing & Publishing	2	2	0	0	2	1	1	0	2
Steel & Allied Products	4	4	0	3	0	3	0	2	1
Tobacco & Match	0	0	0	0	0	0	0	0	0
Transportation	0	0	0	0	0	0	0	0	0
Other Categories	5	5	0	5	0	5	0	3	1
	85	84	0	70	9	67	11	56	21
Trading and Stores	2	2							
	87	86							

SCHEDULE 11

QUESTION 4.2 - COMPANIES WHOSE PARENT COMPANY INSISTS ON INCLUDING ALL THE COST ELEMENTS

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0	-	1	100	0	-
Building & Construction	5	2	40	3	60	0	-
Chemicals & Oils	12	8	66,7	4	33,3	0	-
Clothing, Footwear & Textiles	2	2	100	0	-	0	-
Electronics	7	5	71,4	0	-	2	28,6
Engineering	15	10	66,7	4	26,7	1	6,6
Fishing & Food	5	3	60	2	40	0	-
Furniture, Household Appliances	2	2	100	0	-	0	-
Motor	3	2	66,7	0	-	1	33,3
Paper & Packaging	1	1	100	0	-	0	-
Pharmaceutical & Medical	21	19	90,5	2	9,5	0	-
Printing & Publishing	2	1	50	1	50	0	-
Steel & Allied Products	4	1	25	2	50	1	25
Other Categories	5	4	80	1	20	0	-
	85	60	70,6	20	23,5	5	5,9

SCHEDULE 12

QUESTION 4.3 - THE TREATMENT OF OVERHEAD IN THE VALUATION OF INVENTORY FOR TAX PURPOSES

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	INCLUSIVE OF FIXED & VARIABLE OVERHEAD	%	INCLUSIVE OF VARIABLE ONLY	%	EXCLUDES ALL OVERHEAD	%	NO RESPONSE	%
Beverages & Hotels	1	0	-	0	-	0	-	1	100
Building & Construction	5	3	60	1	20	1	20	0	-
Chemicals & Oils	12	10	83,4	0	-	1	8,3	1	8,3
Clothing, Footwear & Textiles	2	2	100	0	-	0	-	0	-
Electronics	7	4	57,1	0	-	1	14,3	2	28,6
Engineering	15	9	60	2	13,3	2	13,3	2	13,4
Fishing & Food	5	3	60	1	20	1	20	0	-
Furniture, Household Appliances	2	1	50	0	-	1	50	0	-
Motor	3	1	33,3	1	33,3	0	-	1	33,3
Paper & Packaging	1	1	100	0	-	0	-	0	-
Pharmaceutical & Medical	21	16	76,2	1	4,8	4	19	0	-
Printing & Publishing	2	0	-	1	50	1	50	0	-
Steel & Allied Products	4	2	50	1	25	0	-	1	25
Other Categories	5	4	80	0	-	0	-	1	20
	85	56	65,9	8	9,4	12	14,1	9	10,6

SCHEDULE 13

QUESTION 4.1 - THE TREATMENT OF OVERHEAD IN THE VALUATION OF INVENTORY FOR MANAGEMENT AND FINANCIAL REPORTING PURPOSES

STOCK LEVEL	TOTAL	INCLUSIVE OF OVERHEAD	EXCLUSIVE OF OVERHEAD	NO RESPONSE TO OVERHEAD QUESTION
1. Less than R1M				
No.	10	5	4	1
COL %	15%	10%	44%	25%
ROW %		50%	40%	10%
2. Less than R10M				
No.	48	40	5	3
COL %	74%	77%	56%	75%
ROW %		84%	10%	6%
3. More than R10M				
No.	7	7	-	-
COL %	11%	13%	-	-
ROW %		100%		
TOTAL	65	52	9	4
ROW %		80%	14%	6%

SCHEDULE 14

QUESTION 5.1 - BASIS ON WHICH OVERHEAD IS RECOVERED

INDUSTRY CATEGORY	MATERIAL QUANTITY	MATERIAL VALUE	MACHINE HOURS	LABOUR HOURS	LABOUR VALUE	TOTAL
Building and Construction	2		1			3
Chemicals and Oil	7		1	1		9
Clothing, Footwear and Textiles				2		2
Electronics		1		1	1	3
Engineering	1		1	10	1	13
Fishing and Food	3		1			4
Furniture, Household Appliances				2		2
Motor			1			1
Paper & Packaging			1		1	2
Pharmaceutical & Medical		1	2	14		17
Printing & Publishing		1				1
Steel & Allied Products	2		1			3
Other	2	2				4
	17	5	9	30	3	64
Percentage	26,5	7,8	14,1	46,9	4,7	

SCHEDULE 15

QUESTION 5.2 - COMPANIES SEGREGATING OVERHEAD BETWEEN FIXED AND VARIABLE

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0	-	0	-	1	100
Building & Construction	5	2	40	1	20	2	40
Chemicals & Oils	12	3	25	8	66,7	1	8,3
Clothing, Footwear & Textiles	2	0	-	2	100	0	-
Electronics	7	1	14,3	2	28,6	4	57,1
Engineering	15	8	53,3	5	33,3	2	13,3
Fishing & Food	5	0	-	4	80	1	20
Furniture, Household Appliances	2	2	100	0	-	0	-
Motor	3	2	66,7	0	-	1	33,3
Paper & Packaging	1	0	-	1	100	0	-
Pharmaceutical & Medical	21	9	42,9	9	42,9	3	14,3
Printing & Publishing	2	0	-	1	50	1	50
Steel & Allied Products	4	3	75	0	-	1	25
Other Categories	5	1	20	3	60	1	20
	85	31	36,5	36	42,4	18	21,1

SCHEDULE 16

QUESTION 5.2 - METHOD OF DETERMINATION BETWEEN FIXED AND VARIABLE EXPENSES

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	VISUAL CLASSI-FICATION	%	GRAPHIC REPRESEN-TATION	%	LEAST SQUARES METHOD	%	HIGH LOW COMPUTATION	%
Beverages & Ho'	0	0		0		0		0	
Building & C...	2	2		0		0		0	
Chemicals & C...	3	2		0		0		1	
Clothing, Footwear & Textiles	0	0		0		0		0	
Electronics	1	1		0		0		0	
Engineering	8	7		0		0		1	
Fishing & Food	0	0		0		0		0	
Furniture, Household Appliances	2	2		0		0		0	
Motor	2	2		0		0		0	
Paper & Packaging	0	0		0		0		0	
Pharmaceutical & Medical	9	9		0		0		0	
Printing & Publishing	0	0		0		0		0	
Steel & Allied Products	3	3		0		0		0	
Other Categories	1	1		0		0		0	
	31	29	93,5%	0		0		2	6,5

QUESTION 5.3. - FREQUENCY OF OVERHEAD CALCULATION

SCHEDULE 17

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	MONTHLY	%	QUARTERLY	%	BI-ANNUALLY	%	ANNUALLY	%	SPORADICALLY	%	NO RESPONSE	%
Beverages & Hotels	1	0		0		0		0		0		1	100
Building & Construction	5	0		0		0		2	40	0		3	60
Chemicals & Oils	12	3	25	3	25	2	16,7	3	25	0		1	8,3
Clothing, Footwear & Textiles	2	0		0		0		0		0		2	100
Electronics	7	1	14,3	1	14,3	1	14,3	0		0		4	57,1
Engineering	15	4	26,7	2	13,3	1	6,7	6	40	0		2	13,3
Fishing & Food	5	0		0		2	40	1	20	1	20	1	20
Furniture, Household Appliances	2	0		0		0		2	100	0		0	
Motor	3	0		1	33,3	1	33,3	0		0		1	33,3
Paper & Packaging	1	0		0		0		0		0		1	100
Pharmaceutical & Medical	21	2	9,5	0		2	9,5	11	52,4	0		6	28,6
Printing & Publishing	2	0		0		0		0		0		2	100
Steel & Allied Products	4	1	25	0		1	25	1	25	0		1	25
Other Categories	5	1	20	0		0		3	60	0		1	20
	85	12	14,1	7	8,2	10	11,8	29	34,1	1	1,2	26	30,6

SCHEDULE 18

QUESTION 6.1 - TYPE OF EXPENSE USED IN THE OVERHEAD CALCULATION

ANALYSIS BY INDUSTRY CATEGORY	POPU-LATION SAMPLE	BUDGET EXPENSE	%	ACTUAL HISTORICAL EXPENSE	%	CONTINUOUS UPDATED ROLLING FORECAST	%	NO RES-PONSE	%
Beverages & Hotels	1	0		0		0		1	100
Building & Construction	5	2	40	1	20	0		2	40
Chemicals & Oils	12	7	58,4	4	33,3	0		1	8,3
Clothing, Footwear & Textiles	2	2	100	0		0		0	
Electronics	7	2	28,6	1	14,3	0		4	57,1
Engineering	15	8	53,4	3	20	2	13,3	2	13,3
Fishing & Food	5	2	40	2	40	0		1	20
Furniture, Household Appliances	2	2	100	0		0		0	
Motor	3	1	33,3	0		1	33,3	1	33,4
Paper & Packaging	1	1	100	0		0		0	
Pharmaceutical & Medical	21	14	66,7	2	9,5	1	4,8	4	19
Printing & Publishing	2	0		1	50	0		1	50
Steel & Allied Products	4	1	25	1	25	1	25	1	25
Other Categories	5	1	20	3	60	0		1	20
	85	43	50,6	18	21,2	5	5,9	19	22,3

SCHEDULE 19

QUESTION 6.2 - COMPANIES THAT ALLOCATE EXPENDITURE TO THE VARIOUS CONTROL AREAS

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0		0		1	100
Building & Construction	5	2	40	1	20	2	40
Chemicals & Oils	11	9	81,8	2	18,2	0	
Clothing, Footwear & Textiles	2	0		2	100	0	
Electronics	6	2	33,3	1	16,7	3	50
Engineering	14	12	85,8	1	7,1	1	7,1
Fishing & Food	4	4	100	0		0	
Furniture, Household Appliances	2	2	100	0		0	
Motor	3	2	66,7	0		1	33,3
Paper & Packaging	1	1	100	0		0	
Pharmaceutical & Medical	16	15	93,8	1	6,2	0	
Printing & Publishing	1	0		1	100	0	
Steel & Allied Products	4	3	75	0		1	25
Other Categories	3	2	66,7	1	33,3	0	
	73	54	74	10	13,7	9	12,3

SCHEDULE 20

QUESTION 6.2 - *COMPANIES DETERMINING DIFFERENT RECOVERY RATES FOR EACH CONTROL AREA*

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%
Beverages & Hotels	0	0		0	
Building & Construction	2	2	100	0	
Chemicals & Oils	9	4	44,4	5	55,6
Clothing, Footwear & Textiles	0	0		0	
Electronics	2	2	100	0	
Engineering	12	9	75	3	25
Fishing & Food	4	3	75	1	25
Furniture, Household Appliances	2	1	50	1	50
Motor	2	2	100	0	
Paper & Packaging	1	1	100	0	
Pharmaceutical & Medical	15	11	73,3	4	26,7
Printing & Publishing	0	0		0	
Steel & Allied Products	3	3	100	0	
Other Categories	2	1	50	1	50
	54	39	72,2	15	27,8

SCHEDULE 21

QUESTION 6.3 - COMPANIES ALLOCATING OVERHEAD SPECIFICALLY TO EACH INDEPENDENT PRODUCT OR PRODUCT GROUP

ANALYSIS BY INDUSTRY CATEGORY	POPULATION SAMPLE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	1	0		0		1	100
Building & Construction	5	3	60	0		2	40
Chemicals & Oils	12	7	58,3	4	33,3	1	8,3
Clothing, Footwear & Textiles	2	2	100	0		0	
Electronics	7	2	28,6	1	14,3	4	57,1
Engineering	15	8	53,3	5	33,3	2	13,3
Fishing & Food	5	3	60	1	20	1	20
Furniture, Household Appliances	2	2	100	0		0	
Motor	3	2	66,7	0		1	33,3
Paper & Packaging	1	1	100	0		0	
Pharmaceutical & Medical	21	14	66,7	4	19,0	3	14,3
Printing & Publishing	2	0		1	50	1	50
Steel & Allied Products	4	2	50	1	25	1	25
Other Categories	5	1	20	3	60	1	20
	85	47	55,3	20	23,5	18	21,2

SCHEDULE 22

QUESTION 6.3 - COMPANIES NOT ALLOCATING OVERHEAD TO SPECIFIC PRODUCTS OR PRODUCT GROUPS BUT MAINTAINING A DISTINCTIVE OVERHEAD POOL IN GENERAL LEDGER

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	POSITIVE RESPONSE	%	NEGATIVE RESPONSE	%	NO RESPONSE	%
Beverages & Hotels	0	0		0		0	
Building & Construction	0	0		0		0	
Chemicals & Oils	4	1	25	3	75	0	
Clothing, Footwear & Textiles	0	0		0		0	
Electronics	1	0		1	100	0	
Engineering	5	3	60	0		2	40
Fishing & Food	1	1	100	0		0	
Furniture, Household Appliances	0	0		0		0	
Motor	0	0		0		0	
Paper & Packaging	0	0		0		0	
Pharmaceutical & Medical	4	4	100	0		0	
Printing & Publishing	1	1	100	0		0	
Steel & Allied Products	1	1	100	0		0	
Other Categories	3	3	100	0		0	
	20	14	70	4	20	2	10

SCHEDULE 23

QUESTION 7.1 - ACTIVITY LEVELS USED IN THE DETERMINATION OF FIXED RECOVERY RATE

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	BUDGET LEVEL	%	ACTUAL LEVEL	%	MAXIMUM CAPACITY	%	PRACTICAL CAPACITY	%
Beverages & Hotels	-	0		0		0		0	
Building & Construction	3	1	33,3	1	33,3	1	33,3	0	
Chemicals & Oils	10	5	50	4	40	0		1	10
Clothing, Footwear & Textiles	2	2	100	0		0		0	
Electronics	3	2	66,7	1	33,3	0		0	
Engineering	13	8	61,5	2	15,4	0		3	23,1
Fishing & Food	4	2	50	1	25	0		1	25
Furniture, Household Appliances	2	2	100	0		0		0	
Motor	2	2	100	0		0		0	
Paper & Packaging	1	0		0		0		1	100
Pharmaceutical & Medical	18	11	61,1	2	11,1	0		5	27,8
Printing & Publishing	0	0		0		0		0	
Steel & Allied Products	3	1	33,3	0		0		2	66,7
Other Categories	3	2	66,7	1	33,3	0		0	
	64	38	59,4	12	18,8	1	1,5	13	20,3

SCHEDULE 24

QUESTION 7.2 - ACTIVITY LEVELS USED IN THE DETERMINATION OF VARIABLE RECOVERY RATE

ANALYSIS BY INDUSTRY CATEGORY	SAMPLE SIZE	BUDGET LEVEL	%	ACTUAL LEVEL	%	MAXIMUM CAPACITY	%	PRACTICAL CAPACITY	%
Beverages & Hotels	-	0		0		0		0	
Building & Construction	2	1	50	0		1	50	0	
Chemicals & Oils	9	3	33,3	5	55,6	0		1	11,1
Clothing, Footwear & Textiles	1	1	100	0		0		0	
Electronics	3	3	100	0		0		0	
Engineering	11	6	54,5	4	36,4	0		1	9,1
Fishing & Food	4	2	50	1	25	1		1	25
Furniture, Household Appliances	2	2	100	0		0		0	
Motor	2	2	100	0		0		0	
Paper & Packaging	1	0		0		0		1	100
Pharmaceutical & Medical	14	7	50	3	21,4	0		4	28,6
Printing & Publishing	1	0	-	1	100	0		0	
Steel & Allied Products	3	0		1	33,3	0		2	66,7
Other Categories	3	1	33,3	2	66,7	0		0	
	56	28	50	17	30,4	1	1,8	10	17,8

SCHEDULE 25

LIST OF COMPANIES THAT PARTICIPATED IN THE SURVEY

AAF (PTY) LTD
ABBOT LABORATORIES S A(PTY) LTD
AMDAHL INTERNATIONAL CORP
AM INTERNATIONAL (PTY) LTD
ANIKEN (PTY) LTD
ASGROW SOUTH AFRICA (PTY) LTD
BABELEBI PROCESSION (PTY) LTD
BECKMAN INSTRUMENTS (PTY) LTD
B.M. GROUP (PTY LTD
CARNATION FOODS (PTY) LTD
CUTLER-HAMMER S A LTD
DOW CHEMICAL AFRICA (PTY) LTD
DURACELL S A (PTY) LTD
ECHLIN CHARGER MFG. CO (PTY) LTD
EIMCO SOUTH AFRICA
ELIZABETH ARDEN S A (PTY) LTD
ELI LILLY (S A) (PTY) LTD
ENVIROTECH (PTY) LTD
ESTEE LAUDER (PTY) LTD
ESSO S A (PTY) LTD
ETHNOR (PTY) LTD
FEMO (PTY) LTD
FERRO INDUSTRIAL PRODS. (PTY) LTD
FLUOR ENGINEERS S A (PTY) LTD
GANG-NAIL S A (PTY) LTD
GARDNER-DENVER AFRICA (PTY) LTD
GATX-FULLER (PTY) LTD
GILBARCO S A (PTY) LTD
GOODYEAR TYRE & RUBBER CO
HARNISCHFEGER S A (PTY) LTD
HELENA RUBINSTEIN (SA) (PTY) LTD
HEWLETT PACKARD
HOOVER S A (PTY) LTD
HONEYWELL (PTY) LTD
HUCK SOUTH AFRICA (PTY) LTD
HYDRO AIR S A (PTY) LTD
IFF (SA) (PTY) LTD
INGERSOLL-RAND CO S A (PTY) LTD
INTERPAK HOLDINGS (PTY) LTD
JOHNSON & JOHNSON (PTY) LTD
S C JOHNSON & SON OF S A (PTY) LTD
JOY MANUFACTURING CO (AFRICA) (PTY) LTD
KELLOGG CO OF S A (PTY) LTD
LAVIND SOUTH AFRICA (PTY) LTD
LOCTITE S A (PTY) LTD
LONGYEAR AFRICA (PTY) LTD
MASONITE (AFRICA) LTD
McGRAW HILL BOOK COMPANY
MSD (PTY) LTD
NORDBERG MFG. CO (SA) (PTY) LTD
OAK INDUSTRIES (TVL) (PTY) LTD
OLIN (PTY) LTD
OTIS ELEVATOR CO LTD.
PACKARD INSTRUMENT (PTY) LTD
PEPSICO AFRICA (PTY) LTD
PFIZER LABORATORIES (PTY) LTD
PLAYTEX AFRICA (PTY) LTD
RANK XEROX (PTY) LTD
REBUFF (PTY) LTD
REED MINING TOOLS S A (PTY) LTD
REXNORD CHEMICAL PRODS. S A (PTY) LTD
RICHARDS BAY IRON & TITANIUM (PTY) LTD
RICHARDSON-VICKS (PTY) LTD
ROHN & HAAS S A (PTY) LTD
S A GENERAL ELECTRIC CO (PTY) LTD
S A PAPER CHEMICALS (PTY) LTD
SCHERAG (PTY) LTD
SCHOLL-PLOUGH (SA) (PTY) LTD
SMITH KLINE & FRENCH LABS (PTY) LTD
SPERRY (PTY) LTD
SQUIBB LABORATORIES (PTY) LTD
STAUFFER CHEMICAL S A (PTY) LTD
SUPERSONIC RADIO & T V CO (PTY) LTD
TISAND (PTY) LTD
TOKHEIM S A (PTY) LTD
UPJOHN (PTY) LTD
URETHANE PRODUCTS
VALVOLINE OIL CO
VAMETCO MINERALS CORP.
VIALIT (PTY) LTD
VICKERS SYSTEMS (PTY) LTD
S WAINSTEIN & CO (PTY) LTD
WARNER LAMBERT S A (PTY) LTD
WHITEHALL PRODUCTS S A (PTY) LTD

ANNEXURES

ANNEXURE 1

Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 2
		Date: 7-25-78
SUBJECT: INVENTORY VALUATION		Page 1 of 6
Date of last revision: 7-31-73		

Scope

This Accounting Policy sets forth the guidelines to be consistently employed by all Rexnord locations in valuing inventory. Divisions and subsidiaries based outside of the United States may make appropriate modifications to comply with legal and tax requirements to which they are subject. Modifications to this policy require the written approval of the Corporate Controller's office.

Written By: G. R. Loebel — C. R. Loebel
Jorge Mir

Approved By: C. R. Roy — C. R. Roy

Policy

It is the policy of Rexnord to value inventory at each location at the lower of cost (determined on a first-in, first-out basis) or net realizable value. Other Accounting Policies and Standard Practice Instructions that affect the valuation of inventory are:

3-1 General Inventory and Cost Accounting Controls
3-2 Standard Cost
3-3 Job Order Cost
3-4 Periodic and Cyclic Inventory Verification and Book Reconciliation
A-23 Inventory Obsolescence, Surplus, Disposition and Related Accounting Policy

Unit Product Cost - Excluded From Inventory

All elements of cost associated with the manufacturing activities are to be considered in determining unit product cost to be used in valuing inventories except for:

1. Costs of idle or excess productive capacity.
2. Costs that are abnormal, non-recurring and preclude their ascribability to units on hand.
3. Manufacturing Over/Under Absorbed Expenses*
4. Excess Material Costs*
5. Manufacturing Labor Variance*
6. Obsolescence Expense
7. Other Manufacturing Expenses (including customer complaints, warranties, allowances, inventory taking, etc.)
8. Estimating and Erection Not Charged to the Job

*Except for that part which is capitalizable into the inventory via the FIFO adjustment.

Form No. 104

ANNEXURE 1

Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 2 Date: 7-25-78
SUBJECT: INVENTORY VALUATION		Page 2 of 6

Engineering, selling, general and administrative expenses are to be excluded from inventory valuation, except for that portion of such expense that may be clearly related to production and thus constitute a part of inventory cost. Costs of the following functions are to be excluded from inventory valuation:

1. Shipping Expenses and Other Distribution Expenses
2. Selling, Marketing and Advertising Expenses (including Salesmen's Commissions)
3. Division/Subsidiary Management Expense
4. Corporate Administrative Charge
5. General and Administrative Departments including Purchasing, Accounts Payable, Cost Accounting, General Accounting, Payroll Accounting, Credit, Industrial Relations, Public Relations, Legal, Data Processing* and Personnel*
6. Research, Experimental and Development Engineering
7. Royalty Income and Expense
8. Interest
9. Government imposed (Federal and State) Income Taxes

*Portion not applicable to manufacturing

Unit Product Cost - Included in Inventory

Total inventory costs include those manufacturing activities, processes, functions and operations that combine materials and services to produce a product. The major components to be included in inventory values are:

Material

Direct material (Purchased materials - raw and finished) and supplies (if supplies are in the general ledger inventory account) are to be valued at the normal purchase price prevailing during the period of purchases without deduction for cash discount, plus incoming transportation costs, if any, assuming normal lot-size quantities from regular source of supply.

Labor

Direct manufacturing and engineering labor (related to custom designed equipment) is to be valued at the normal cost and at the hours required at reasonable attainable levels of production efficiency priced at the hourly (actual, standard or average) rates for the skills ordinarily required for the operation. The elements of labor to be included in inventory valuation either by the inclusion in the direct labor rate or overhead rate are as follows:

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Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 2
		Date: 7-25-78
SUBJECT: INVENTORY VALUATION		Page 3 of 6

1. Basic Compensation (including Cost of Living if applicable)
2. Overtime Pay and Shift Differential
3. Vacation and Holiday Pay
4. Sick Leave Pay
5. Payroll Taxes
6. Payments to Supplemental Unemployment Benefits

Overhead

Manufacturing and engineering overhead rates should be based upon the extent to which the various products use or consume the resources and facilities. Overhead rates should be applied to an appropriate activity base such as direct manufacturing labor and engineering hours, direct manufacturing labor and engineering dollars, machine hours, material dollars, material quantity, or a combination thereof. Either a standard or actual burden rate method may be used depending upon the cost system in use. Regardless of which system is used, the indirect production or engineering costs used in the computation of inventoriable costs must be in accordance with the "full absorption" method of inventory costing. The following guidelines should be used in the development of these rates:

1. Overhead rates must be reviewed and updated at least annually.

2. Separate overhead rates should be established for each major factory department.

3. The activity level should reflect current conditions and lend itself to volume analysis and determination of the practical or normal capacity of the department or facility.

4. Normal capacity should represent the activity levels experienced during periods of average or normal manufacturing volume. Normal manufacturing volume can be based upon historical experience representing production averages of three to five years. Normal expectancy levels approached from a theoretical capacity approach should be based upon ordinary scheduled work periods with appropriate allowances for vacations, holidays, work stoppages for inventory taking, rest periods, machine breakdown, idle time, etc.

5. The facts reasoning and calculations to obtain normal capacity should be well documented and be readily available for review by the government, internal and independent auditors.

6. Planned operations for the year should consider limited expansion or contraction necessary to accommodate short-term cyclical or seasonal demands. A separate fixed overhead rate should be related to the "normal" capacity, while the variable rate should be based on anticipated activity. Where a particular cost contains both fixed and variable elements, these elements should be segregated into a fixed and variable classification for the application of the practical capacity concept.

7. Indirect Production Costs include all costs which are incident to and necessary for production or manufacturing other than direct production costs and include the following:

   a. Material Handling, Receiving and Stores, including stockrooms
   b. Production Control, Production Planning, Scheduling and Expediting
   c. Personnel (portion that is applicable to Manufacturing)
   d. Maintenance
   e. Tool Design and Tool Room
   f. Inspection and Quality Control
   g. Timekeeping
   h. First Aid
   i. Time Study, Methods and Industrial Engineering
   j. Plant Engineering
   k. Subcontracting
   l. Manufacturing Management (Factory or Plant Manager, Superintendent, Foreman, etc.)
   m. Product Tooling (includes tooling for standard and non-standard products and vendor tooling)
   n. Salaries and Shop Bonuses of Departmental Supervision and Clerical Personnel
   o. Group Life, Medical Insurance, Pension, and Other Fringe Benefits for all manufacturing department personnel
   p. Small Tools and Equipment Not Capitalizable and Abrasives
   q. Shop and Office Supplies and Other Miscellaneous Shop Supplies
   r. Oxygen, Propane, Gas, Electric, Lubrating Oil, and Other Manufacturing Fuels
   s. Maintenance and Repairs of Buildings, Grounds and Equipment, and Replacement or Repair of Jigs, Fixtures and Dies
   t. Depreciation, Insurance, Property Taxes, and Rentals of Buildings and Equipment

Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 2 Date: 7-25-78
SUBJECT: INVENTORY VALUATION		Page 5 of 6

u. Utilities (Telephone, Telegraph, Electric and Gas), Janitorial, Security, Heat
v. Workmen's Compensation
w. State and Local Taxes (Property and Inventory) attributed to assets necessary for manufacturing
x. Data Processing relating to the manufacturing function

In valuing inventory at the lower of cost (FIFO) or net realizable value, certain inventory adjustments are to be considered.

FIFO Valuation Reserve

The FIFO valuation reserve is a reserve established for every location that uses other than actual cost in valuing their inventory. Locations using average cost, standard cost, current standard cost, etc. even in part of their inventory, should calculate the difference between the inventory value and the actual cost valuation based upon a first-in, first-out flow of inventory cost.

The FIFO calculation should take into consideration the over or understatement of the elements of the inventory (material, labor and overhead). The calculation can be based upon Variance Analysis Based on Turnover, Variance Analysis Based Upon Month Usage on Hand, Sampled FIFO Analysis, or a Detailed FIFO Analysis. Once an approach to the calculation is developed, this approach should be consistently applied during the interim periods, as well as year end. The Location Controller should inform the Corporate Manager - Costs and Inventories of the approach that is utilized in the calculation of the FIFO adjustment.

Each entity will be required to record FIFO inventory adjustments at the end of each quarter. Adjustments of less than U.S. $25,000 do not have to be recorded, however, the calculation must be submitted regardless of the amount.

The balance sheet classification of the FIFO adjustment will be an inventory valuation reserve reported in M-2 - Inventories - Reserve for Inventory Adjustment. In the general ledger of the location, a separate valuation account number should be established to ensure that this adjustment does not get co-mingled with other valuation reserves, such as obsolescence, surplus or shortage reserves.

On the Direct Cost and Absorption Division's typed profit and loss statements, the FIFO adjustment should be reported in the line Inventory Cost Adjustments. The net FIFO adjustment is footnoted on these statements. In Schedule M-1, the FIFO adjustment should be reported in Cost of Sales.

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		Date: 7-25-78
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The FIFO adjustments will be reported on Q-4. Attached to a copy of Q-4 should be the basic calculations that support the FIFO adjustment. The original should be retained by the location as permanent workpapers. This information should be sent directly to the Corporate Manager - Costs and Inventories.

Obsolete and Surplus Valuation Reserve

For the accounting treatment of obsolete and surplus inventory, see SPI A-23.

Net Realizable Value Reserves

This valuation reserve is used when changes in costs or selling prices indicate a potential loss in the utility value of inventory. In all cases where a significant net realizable value reserve is thought to be required, the Corporate Manager - Costs and Inventories should be informed before the establishment of this reserve.

Other Inventory Reserves

Other inventory reserves (loss, standard revisions, etc.) may be established at the locations provided they meet the following criteria:

1. Are based upon known facts which are documented by past history.

2. Are established in a separate inventory reserve account, which is usually closed out at year end.

3. The Corporate Manager - Costs and Inventories has been informed of this reserve.

Change in Accounting Method

Any change in the method of valuing inventory items is considered an accounting change, including a change in the cost accounting system, different treatment of any material item used in the cost accounting system, or a method or classification. A change in accounting method does not include:

1. Corrections of mathematical or posting errors.

2. Treatment resulting from a change in the underlying facts unless it has been consistently treated over a period of time, and then it would be considered a change in method.

The Director of Taxes and the Corporate Manager - Costs and Inventories must approve all changes in accounting methods before they are implemented.

ANNEXURE II

Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 19
		Date: 8-2-85
SUBJECT: COST-VOLUME-PROFIT REPORTING (FORM Q-13)		Page 1 of 6
Date of last revision: 8-2-85		

This Accounting Policy summarizes the guidelines to be followed by all Strategic Business Units (SBU's) regarding the calculation and reporting of cost-volume-profit relationships.

Written By: Thomas Larsen Approved By:

I. General Comments

The interrelationship of cost and volume and their impact on profit is complex, particularly in a cost competitive, multiple product line environment. Many critical business decisions such as pricing, are the result of the exercise of judgement by management after evaluation of certain facts. The controllership function, with the aid of production, sales, marketing and other departments, can provide statements, statistics, analyses and other data regarding cost-volume-profit relationships that will help management in the exercise of that judgement.

Therefore, management has determined that identification of costs between those which are fixed and those which are variable is fundamental in understanding profitability and has requested that each SBU make this identification consistent with the facts and circumstances at their operation and report such costs along with contributed margin and breakeven point to Corporate on a quarterly basis. A form has been designed for this purpose (See Exhibit A).

II. Effective Date for Reporting

Reporting of breakeven data becomes effective with the first quarter of 1986F. Comparative prior year-to-date amounts will be reported as well.

III. Due Date

Initially, breakeven data will be due on the 15th work day of the month following a quarter end. The form should be sent to the attention of the manager of financial planning.

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Rexnord	Rexnord Inc. ACCOUNTING POLICY	Number: 19 Date: 8-2-85
SUBJECT: COST-VOLUME-PROFIT REPORTING (FORM Q-13)		Page 2 of 6
Date of last revision: 8-2-85		

IV. Who Must Report

Only SBU's are required to report breakeven data. It is not necessary for each operation within an SBU to report this information to Corporate. The SBU controller should accumulate the information from within the division, summarize and report to Corporate on a single form.

V. Distinguishing Between Direct (Variable) Costs and Fixed Costs

A basic requirement in cost-volume-profit analysis is the classification of all costs as either fixed or variable. There is no rule which says that in all cases, certain types of costs are fixed while others are variable. Some costs may be classified either way depending upon their behavior under the circumstances. Other costs are of the mixed type and are called semi-variable or step costs.

Because of the varying behavior of costs from locations to location, Rexnord will not dictate which costs are to be classified as fixed vs. variable. Rather, that determination will be left up to each division. However, certain guidelines have been included with this policy which may be helpful (See Exhibit B).

VI. Consistency of Cost Classification

Once the determination is made that a particular cost is either fixed or variable, that classification should be handled consistently in all future reporting. Should it become necessary to reclassify a particular cost, prior year analyses should be restated so as not to distort breakeven trends.

VII. Costs Included (Excluded) From Cost-Volume-Profit Analysis

The SBU cost-volume-profit analysis is intended primarily to track cost and profit relationships from an operating viewpoint. Therefore, certain "non-operating" expenses which are reported on the Profit and Loss Statement (M-1) will be excluded from the breakeven analysis. Costs and expenses which are included (or excluded) from the cost-volume-profit analysis are as follows:

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Costs and Expenses on M-1 INCLUDED in Cost-Volume-Profit:

	Ref. M-1
Cost of Sales	L 04
Engineering, Selling, General & Admin.	L 09
Royalties Earned	L 13
P/L on Disp. of Capital Assets	L 14
Purchase Discounts Earned	L 15
Goodwill Amortization	L 16
Minority Interest	L 17
Equity in Earnings of Affiliates	L 18
Foreign Currency Adjustments	L 20
Plant Relocation Expense	L 21
Misc. Income (Expense)	L 23
Corporate Charge	L 26

Costs and Expenses on M-1 EXCLUDED from Cost-Volume-Profit:

Interest Earned*	L 11
Interest Expense	L 12
Dividend Income	L 19
Product Line Discontinuance	L 22
Income Tax Provision	L 28

* Interest income/expense as a result of "operating" receivables/payables (i.e. long-term receivables/payables) should be included.

VIII. Breakeven on Sales vs. Breakeven on Production

For the sake of simplicity, breakeven reporting is based on the breakeven point in sales dollars as opposed to a computation based on production during the period. The sales and production approaches will yield similar results in periods of stable inventory levels. In periods where SBU inventory levels change dramatically, SBU management may want to report cost-volume-profit information on a production basis, however, this is not required.

IX. Breakeven Trend Reconciliation

From time-to-time, the SBU may report a significant change in their breakeven point. SBU management should provide an explanation (i.e. product mix, volume, etc.) of major changes when they occur.

X. Appendix

A. Exhibit A - Form Q-13
B. Exhibit B - Guidelines

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EXHIBIT B

Distinguishing Between Fixed and Variable Costs

The following list shows a sample of costs according to their usual classification. This, however, may vary from location to location and is intended as a guide only.

MANUFACTURING COSTS:

Variable	Fixed
Raw Material	Supervision
Labor	Indirect Labor
Power	Depreciation[1]
Packaging	Supplies
	Property Taxes
	Repairs
	Utilities

SELLING AND ADMINISTRATIVE COSTS:

Variable	Fixed
Sales Salaries[2]	Officers' Salaries
Sales Commission	Sales Salaries[2]
Advertising[2]	Office Salaries
	Delivery Expense
	Advertising[2]
	Depreciation
	Insurance
	Property Taxes
	Rent
	Office Supplies
	Postage
	Legal Expense
	Repairs
	Utilities
	Travel Expense
	Gifts and Donations
	Interest Expense

[1] Usually fixed if depreciation is based on time.
[2] May be either fixed or variable.

ANNEXURE II

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EXHIBIT B (Cont'd.)

This list is by no means complete - it is a sample only. The final classification of a cost depends to a large extent on its behavior in the range of planned activity.

A. Variable Cost Characteristics

Variable costs behave as follows:

1. There is no variable cost if there is no production (of goods or services).

2. The amount of the variable cost will tend to be proportional to the amount of production. For example, if the amount of production is twice as great for this period as for the previous one, the variable cost should be about twice as great.

3. A variable cost is not a function of time. Passage of time alone does not mean the incurring of a variable cost or expense.

B. Fixed Cost Characteristics

Fixed costs must be considered within the range of the existing plant capacity. For example, a plant capable of producing 1,000 units will have certain fixed costs whether the production is 100 units or 1,000 units. However, if the plant capacity were increased to 1,500 units by adding buildings or machinery, fixed costs would tend to increase.

For a given range of activity, fixed costs have these characteristics:

1. Fixed costs tend to remain the same in total regardless of the volume of production (of goods or services).

2. Fixed costs are a function of time. The amount of cost recognized as an expense increases with the passage of time.

3. The amount of a fixed cost is not basically changed without a significant, permanent change in the division's potential to produce goods or services.

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EXHIBIT B (Cont'd.)

The characteristics of fixed and variable costs can be summarized as follows:

Type	Function of	Cost	
		In Total	Per Unit
Variable	Production	Varies directly with production	Remains constant
Fixed	Time	Remains constant	Varies inversely with production

C. Semi-Variable Costs

In some cases where the range of activity changes substantially during the year (because of seasonal factors, for example), certain costs which normally are fixed will vary or be semi-variable depending on production. In these cases, it may be desirable to differentiate these expenses into two parts -- fixed and variable.

Various methods can be used to achieve this split. These methods include:

1. Rough estimate
2. High - Low differential
3. Regression Analysis

The selection of method will depend upon the importance of the cost and the degree of accuracy desired. In many cases, the rough estimate or high-low differential method would yield acceptable results.

ANNEXURE III

JOHNSON & JOHNSON INTERNATIONAL

MASTER CLASSIFICATION

OF COST ACCOUNTS

OVERHEAD ACCOUNTS

Indirect Production Costs (Overhead or Burden) - expenses which are related to or caused by the act of converting raw materials into semi-finished or finished products. These costs can be classified as:

Variable - costs which vary directly with production volume. These costs, for the most part, may be considered as "out of pocket expenses." Examples are - indirect labor, operating supplies, etc.

Fixed - costs which do not vary proportionately with production volume. These costs are functions of time rather than of operations and are incurred to be in a position to produce rather than by the act of producing. Examples are - rent, property taxes, insurance, depreciation, production supervisor's earnings, etc.

Semi-Variable - expenses which contain amounts of both variable and fixed costs, and expenses that tend to vary seasonally. Examples are - employee related costs, utilities, etc.

Accounts which are included in the Overhead Expense Category are described in the following pages.

IAM
REV. 1/15/81

ANNEXURE IV

ABSORPTION COSTING QUESTIONNAIRE

INSTRUCTIONS

A. Where the question provides a choice of answers, please select ONLY ONE by ticking the appropriate ONE.

B. Where the question requires either a YES or a NO answer, please tick the one of your choice.

1. INTRODUCTION

Please complete the following section if you would like a summary of the research results :

NAME OF COMPANY : .....

POSTAL ADDRESS : .....

.....

TELEPHONE : .....

NAME OF PERSON COMPLETING THIS QUESTIONNAIRE : .....

POSITION IN ORGANISATION : .....

2. COMPANY PARTICULARS

2.1. In which industry category does your Company operate ?

Beverages & Hotels	
Building & Construction	
Chemicals & Oils	
Clothing, Footwear & Textiles	
Electronics	
Engineering	
Fishing & Food	
Furniture & Household Appliances	
Motor	
Paper & Packaging	
Pharmaceutical & Medical	
Printing & Publishing	
Steel & Allied Products	
Tobacco & Match	
Transportation	
Trading & Stores	
Other	

2.2. TYPE OF ACTIVITY :

JOBBING	
CONTINUOUS PROCESS	
BATCH PROCESS	
NON-MANUFACTURE (e.g. Wholesale, Distribution or Retail)	

2.3. IS THIS ACTIVITY SEGREGATED INTO

COST CENTRES	
PROCESSING DEPARTMENTS	
PROFIT CENTRES	
INVESTMENT CENTRES	
NOT SEGREGATED AT ALL	

IF SEGREGATED, HOW MANY ALLOCATED AREAS ARE THERE ---------

2.4. PARENT PARTICULARS :

NAME OF ULTIMATE PARENT : .....

COUNTRY IN WHICH ULTIMATE PARENT IS REGISTERED : .....

PERCENTAGE OF SHAREHOLDING HELD BY ULTIMATE PARENT : .....

2.5. COMPANY STATISTICS

ANNUAL TURNOVER : .....

NET INVENTORY VALUE : .....

ANNUAL AMOUNT OF EXPENDITURE CLASSIFIED AS OVERHEAD : .....

ANNUAL AVERAGE INVENTORY TURN : ..... (TIMES)

3/ ...

3. POLICIES

3.1.	DOES COMPANY HAVE DOCUMENTED ACCOUNTING POLICIES INCLUDING INVENTORY VALUATION?	YES / NO
3.2.	DOES PARENT HAVE DOCUMENTED ACCOUNTING POLICIES INCLUDING INVENTORY VALUATION?	YES / NO
3.3.	DO PARENT POLICIES IN ANY WAY CONTRADICT LOCAL ACCOUNTING POLICIES OR LOCAL GENERAL ACCEPTED ACCOUNTING PRACTICE?	YES / NO
3.4.	DO LOCAL AUDITORS HAVE TO REPORT ON WHETHER LOCAL COMPANY COMPLIES WITH PARENT POLICIES?	YES / NO
3.5.	WHERE LOCAL COMPANY CHOOSES NOT TO FOLLOW PARENT COMPANY POLICIES, DOES THE COMPANY HAVE TO SUPPLY THE NECESSARY INFORMATION IN ORDER FOR THE PARENT TO MAKE THE REQUIRED ADJUSTMENTS?	YES / NO

4. INVENTORY VALUATION

4.1.	INDICATE WHICH OF THE FOLLOWING COST ELEMENTS ARE INCLUDED IN THE VALUATION OF INVENTORY FOR MANAGEMENT & FINANCIAL REPORTING PURPOSES :	
	DIRECT MATERIALS	YES / NO
	DIRECT LABOUR	YES / NO
	DIRECT OVERHEAD	YES / NO
	INDIRECT OVERHEAD	YES / NO
4.2.	DOES THE PARENT COMPANY INSIST ON INCLUDING ALL THE COST ELEMENTS LISTED IN 4.1.?	YES / NO

4/ .....

4.3. WHICH OF THE FOLLOWING INDICATES THE TREATMENT OF OVERHEAD IN THE VALUATION OF INVENTORY FOR TAX PURPOSES?

INCLUSIVE OF FIXED AND VARIABLE OVERHEAD	
INCLUDES ONLY VARIABLE OVERHEAD	
EXCLUDES OVERHEAD	
OTHER (Specify)	

NOTE QUESTIONS 5 TO 7 SHOULD ONLY BE ANSWERED IF INVENTORY VALUATION FOR MANAGEMENT & FINANCIAL REPORTING INCLUDES OVERHEAD

5. *BASIS OF OVERHEAD*

5.1. ON WHAT BASIS IS OVERHEAD RECOVERED?

MATERIAL QUANTITY	
MATERIAL VALUE	
MACHINE HOURS	
LABOUR HOURS	
LABOUR VALUE	
OTHER (Please specify)	

5.2. IS OVERHEAD SEGREGATED BETWEEN FIXED AND VARIABLE EXPENSES IN YOUR OVERHEAD RECOVERY RATE

YES	NO

5/ .....

5.2. (Cont)

If the answer is YES -

HOW IS FIXED AND VARIABLE DETERMINED

VISUAL CLASSIFICATION ☐
GRAPHIC REPRESENTATION ☐
LINEAR REGRESSION ☐
LEAST SQUARES METHOD ☐
HIGH LOW CALCULATION ☐
OTHER (Please specify) ☐

_____

_____

_____

5.3. HOW OFTEN ARE THE CALCULATIONS PERFORMED?

MONTHLY ☐
QUARTERLY ☐
BI-ANNUALLY ☐
ANNUALLY ☐
PERIODICALLY ☐
SPORADICALLY ☐

6. BASIS OF EXPENDITURE

6.1. WHICH TYPE OF EXPENSE IS USED IN THE CALCULATION OF OVERHEAD EXPENDITURE?

BUDGET EXPENSES ☐
ACTUAL HISTORICAL EXPENSES ☐
CONTINUOUS UPDATED/ROLLING FORECAST ☐
OTHER (Please specify) ☐

_____

_____

6/ ....

6.2. IS EXPENDITURE ALLOCATED TO THE AREAS OR CENTRES REFERRED TO IN 2.3.? | YES | NO |

IF THE ANSWER IS YES,

ARE DIFFERENT RECOVERY RATES DETERMINED FOR EACH COST CENTRE? | YES | NO |

IF THE ANSWER IS NO,

IS A GLOBAL RECOVERY RATE USED | YES | NO |

6.3. IS OVERHEAD ALLOCATED SPECIFICALLY TO EACH INDEPENDENT PRODUCT OR PRODUCT GROUPS | YES | NO |

IF THE ANSWER IS NO,

IS A DISTINCTIVE OVERHEAD POOL ACCOUNT MAINTAINED IN THE GENERAL LEDGER SEPARATELY FROM THE OTHER COST ELEMENTS? | YES | NO |

7. ACTIVITY LEVELS

7.1. WHAT ACTIVITY LEVEL IS USED IN THE DETERMINATION OF THE FIXED RATE?

BUDGETED LEVEL	
ACTUAL LEVEL	
MAXIMUM CAPACITY	
PRACTICAL CAPACITY	
OTHER (Please specify)	

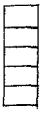
_____

_____

7/ ....

7.2. WHAT ACTIVITY LEVEL IS USED IN THE DETERMINATION OF THE VARIABLE RATE?

BUDGETED LEVELS
ACTUAL LEVELS
MAXIMUM CAPACITY
PRACTICAL CAPACITY
OTHER (Please specify)



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