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THE ACCOUNTING RATE OF RETURN WITHIN THE SOUTH AFRICAN ENVIRONMENT

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A research report submitted to the Faculty of Commerce, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree Master of Commerce.

Johannesburg, 1996.

DECLARATION

I declare that this research report is my own work and has not been submitted for any degree or examination in any other university.

Kagan

Harley Farrell Kagan

3 January 1977

Date:

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ABSTRACT

Accounting is a human creation designed to satisfy human need, and which must therefore, above all be useful. Financial statements should, therefore, provide information that is useful in making economic decisions. Academics and practitioners are however critical of the output of the accounting information system and propose that accounting profitability is of limited economic significance. They claim it is no longer sufficient to provide antiquated historical cost data, that in most respects cannot be processed further. There is an urgent need to develop both analytical systems for thinking about and anticipating changes in the business world and the mechanisms and structures to ensure that we respond appropriately from the standpoint of useful financial reporting. The Accounting Rate of Return (ARR) may assist in evolving the usefulness of financial reporting. In this report the usefulness of the Accounting Rate of Return is established. The purpose of this report is achieved through normative and empirical studies. The result of comparing the ARR to the opportunity cost of capital has been suggested to be absolute, but in reality this is not feasible. Investors would use the ARR as an input rather than the decisive factor for deciding whether to buy, hold or sell an investment. The proposals advocated in the paper communicate relevant, realistic and useful information for the purposes of investment performance appraisal.

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CHAPTER ONE
INTRODUCTION

"Usefulness, that is, being good information for the user and the purpose in mind, is generally perceived to be the key characteristic of all financial statements."

(Baillie, 1985: 22)

1.1 BACKGROUND

A lengthy, intricate, and at times rancorous debate involving academics and practitioners has failed to establish the appropriate formulation of company accounts for measuring income. In recent years, high inflation rates have served to exacerbate the issue. Reported accounting information does not in general portray economic reality. Such is the climate that many claim that theoretical objections are irresolute or that proposed solutions are impractical. The apparent reluctance of academics or regulators to employ accounting profitability data in investment performance appraisal is a reflection of the former; the recent failure by the accounting profession to ratify the proposed implementation of current cost accounting in the face of rising inflation is an example of the latter. Instead, academics turn to other sources of information to evaluate performance and accountants enshrine extant practices.

It is generally accepted, however, that there is one correct definition of income. This is the economist Hicks' definition of the maximum value which a man (company) can consume (distribute) during a period and still expect to be as well of at the end of the period as he (it) was at the beginning (Hicks, 1946: 172). MacNeal (1970: 295), related this definition to the definition of income as an increase in net wealth. He considered it to be terse, obvious and mathematically demonstrable

Unfortunately, in a world characterized by uncertainty and imperfect and incomplete markets computation of economic income founders practically on the extreme subjectivity of required predictions. Attendant problems include the timing of benefits, reinvestment predictions, growth factors and the choice of an appropriate discount factor (Lee, 1985: 44). The accountant, tackling real world difficulties, avoids valuing the firm and concentrates on supplying relevant information to the user who will perform his own valuation (Bromwich, 1977: 587). Together these constraints render the search for a unique multi-purpose income figure which satisfies the competing

needs of the wide variety of users in all circumstances (the 'holy grail') unrealistic (Barton, 1977: 233). The selection of an accounting technique forces a choice between the claims of different users (Whittington, 1983: 12).

Investors and other performance analysts are interested in evaluating the benefits from undertaking one activity as opposed to those obtained from another and one specifically concerned with investment performance appraisal, prospectively or retrospectively. These users require accounting information that permits an assessment of the relative desirability of undertaking particular economic activities. Although the Hicksian income measure exhibits some utility, it is not the most relevant for this objective.

> "Hicksian income and accounting profit are different concepts. The Hicksian notion is precisely appropriate for measurements of income and possibly corporate distributions, it does not, however, establish an appropriate basis for defining profit."
> (Edwards, Kay and Mayer, 1987: 24)

The user evaluating corporate performance is usually concerned about earnings in relation to competing investments. It is possible to provide information that is useful in making economic decisions without presenting an economic profit figure. At first glance this is surprising as the variable that holds most immediate interest is the economic profit figure. Edwards et al. (1987: 63), however, demonstrate that this can be done by constructing 'rate of profit' type figures, and using them in a manner similar to the internal rate of return (IRR) measure of an investment. That is, these rate of profit figures should be compared to the cost of capital to establish whether the activity being considered should be expanded, curtailed, or allowed to continue at the current level.

More specifically, the accounting rate of profit (ARP) is defined as the accounting profit divided by the opening book value of capital. It is found that the ARP can provide information useful for economic analysis if the financial statements are fully articulated and the sequence of accounting data being examined begins and ends with a zero book value of capital. This in itself is interesting, especially when contrasted with pessimism expressed by numerous authors about such a possibility (Vatter, 1966: 681).

> "There is no way in which one can look at accounting rates of return and infer anything about relative economic profitability."
> (Fisher and McGowan, 1983: 82)

To be useful, however, the techniques developed must facilitate the analysis of finite intervals of accounting data which may not begin and/or end with a zero book value of capital. In the more general setting (without beginning and end interval book values being zero) the valuation basis used for the firm's assets and liabilities will influence the ARP's generated. Edwards et al. (1987) investigate the 'value to the owner' (VTTO) valuation convention, and find that this valuation basis allows a particular accounting profit rate measure - accounting rate of return (ARR) - to have the economically useful properties desired. The ARR, over an interval, is defined as that return which makes the discounted value of immediate cash flows equal to the book value of capital at the beginning of the interval. Although the ARR is defined in a manner that is similar to the IRR, it is not a single figure throughout the lifetime of an activity and thereby avoids the arbitrary assumption that an equal rate of return is earned in each period. The relevance to users interested in periodic performance measurement is increased significantly.

Based on the above analysis it may be inferred that the performance evaluation function of accounting may be satisfied by a simple nominal comparison of ARR in the 'value to the owner' income model and the opportunity cost. When extending this analysis to inflationary economies, however, if profit is to answer additional questions about feasible distributions (in the Hicksian sense) while maintaining capital intact, real earnings potential must be established. Indeed, the reality is that financial reports must provide additional information about distribution. This implies that profit must truly represent the increment over and above a maintained level of real well-offness. This gives rise to the debate surrounding the selection of an appropriate concept of capital maintenance.

1.2 PURPOSE

The purpose of this report is to evaluate the usefulness of the Accounting Rate of Return within the South African environment in selecting from competing and alternative investments.

1.3 RESEARCH METHODOLOGY

The purpose of this report is achieved through normative and empirical studies. A comprehensive literature review is undertaken to reveal the established facts in the field

of study, and to ascertain current theories or models which have been used by previous researchers.

Investment performance appraisal and the objectives thereof are defined. The ARR is evaluated normatively against the objectives of financial reporting, the traditional performance measures and its merits, limitations and underlying assumptions are addressed.

The qualitative characteristics of reported financial information set out in the conceptual framework are the benchmark for the evaluation of the ARR. The valuation of an entity's assets and liabilities is integral to the ARR. As the value to the owner valuation base (VTTO) is used in the calculation of the ARR, it is evaluated against these qualitative characteristics and compared with other valuation bases similarly evaluated.

If the profit reported is to answer additional questions about distribution in inflationary economies, the analysis must be extended to consider the maintenance of capital. In consequence, the proprietary and entity capital maintenance concepts are compared and contrasted in the search for useful information about both performance and available distributions. Suggestions for investment performance appraisal in the inflationary South African environment are proposed based on the conclusions of the normative study.

The normative suggestions developed form the basis of a number of empirical generalizations. The descriptive survey method is used throughout this report; speculative evidence via structured interviews is obtained. The complexity and relative sophistication of the subject matter require the adoption of structured interviews as the data-gathering technique as well as the use of convenience or accidental sampling. Triangulation is employed, i.e. evidence from several sources - analysts, auditors and preparers will be obtained to facilitate the analysis of data from a wide spectrum of respondents. Content analysis forms the foundation of the review of speculative evidence obtained to ascertain whether the normative and empirical generalizations are supported. As the sample is selected judgementally and is not necessarily representative of the entire population, no attempt is made to draw statistical inferences.

1.4 SCOPE

This report is concerned with the reporting requirements of external performance analysts. It does not address the information needs of management, regulators or economists. It is concerned with evaluating:-

- the utility of the ARR in providing information that is useful in making economic decisions
- the benefits of utilizing VTTO as a valuation method.
- the benefits of reporting comprehensive income and of utilizing a proprietary capital maintenance concept.

The derivation of EKM's ARR is not evaluated; neither are the hypotheses generated by the ARR's results when compared against the opportunity cost of capital. No attempt has been made to calculate an ARR for a company as the information is not readily available for its calculation. The report does not address the implications for assessing barriers to exit and entry for an industry.

1.5 OUTLINE OF CHAPTERS

Chapter One : Introduction

This chapter presents the background, purpose, research methodology, scope and outline of the proceeding chapters.

Chapter Two : The Accounting Rate of Return

This chapter addresses an alternative presentation of financial information for measuring profitability for investment performance appraisal. Investment performance appraisal is defined and techniques are evaluated against the objectives of financial reporting. The benefits, limitations and fundamental assumptions of the Net Present Value, Internal Rate of Return and ARR are presented.

Chapter Three : The Conceptual Framework

The theory underlying the presentation of financial statements is discussed. The qualitative characteristics and the concepts of recognition and measurement are addressed. The principles set out in this chapter will be applied when evaluating and proposing accounting treatments.

Chapter Four : Asset Valuation Methods

As the valuation of an entity's assets and liabilities is critical to the ARR, the valuation bases are analyzed. The principles presented in the Conceptual Framework are applied to valuation methods employed . Pronouncements issued by standard setting bodies on the qualitative characteristics, recognition and measurement principles are employed in this analysis. In particular, the VTTO valuation base is evaluated against the overriding reporting criterion of usefulness.

Chapter Five : Capital Maintenance Concepts

This chapter compares and contrasts the entity and proprietary capital maintenance concepts. A review of the history of inflation accounting is also included. Together with the preferred valuation base, a capital maintenance concept is required to answer questions about performance and distribution.

Chapter Six : Empirical Research

The empirical information gathered is evaluated against the empirical generalizations. The salient features and an evaluation of the interviews is presented.

Chapter Seven : Conclusion

This chapter sets out the conclusions and demarcates areas for further research.

CHAPTER TWO

THE ACCOUNTING RATE OF RETURN

2.1 INTRODUCTION

> "If we are going to say that all we can do is just to take the dollars in and out, and that is all there is to it, and we are not going to interpret the significance of what is happening - then we are resigning ourselves to a position of hewers of wood and drawers of water, and we relinquish the goal that accounting hopes to attain - a position of a highly professional receptiveness to new ideas and a great social usefulness"
>
> (May cited in Baxter, 1950: 7)

Accounting is a human creation designed to satisfy human need, and which must therefore, above all be useful (Stamp, 1981: 21). Academics and practitioners are however critical of the output of the accounting information system and propose that accounting profitability is of limited economic significance.

> "...any man of words who compares rates of profits....and draws inferences from their magnitude ....does so at his own peril."
>
> (Harcourt, 1965)

> "There are no lessons to be learnt, except that accounting profitability should be disregarded forthwith."
>
> (Mayer, 1987: 1)

The purpose of this chapter is to explore an alternative formulation of company accounts for measuring profitability which may overcome some of the disillusionment outlined above. It begins by examining the objectives of financial reporting. The chapter supports the view expounded by EKM (1987) and Whittington (1983) which argues that much of the pessimism is a result of the failure to specify precisely the fundamental purpose for which financial statements are being prepared. It is submitted a single income figure is unlikely to meet all of the wide variety of needs of financial statement users. The focus is then shifted to the needs of investors concerned with investment performance appraisal. This perspective ensures that financial statements comply with the Standard Setting bodies objectives, in providing information that is useful for making economic decisions involving reasoned choices amongst alternative uses of scarce resources. The need for an accounting rate of return to assess profitability is underscored and various alternative accounting rates of return are

examined. EKM's Accounting Rate of Return (ARR) is selected as the most appropriate profitability measure. Finally, the basic framework of EKM's ARR is set out to ensure that the underlying methodology implicit in its calculation can be evaluated in further chapters.

2.2 OBJECTIVES OF FINANCIAL REPORTING

'Cheshire-Puss ,' she began rather timidly , '..would you tell me, please, where I ought to go from here?'
'That depends a good deal on where you want to get to, 'said the Cat.
'I don't care where.....,' said Alice.
'Then it does not matter which way you go,' said the Cat.
'.....so long as I get somewhere ,' Alice added as an explanation .
'Oh you're sure to do that ,' said the Cat,' if you only walk long enough.'
(Carsberg, Hope and Scapens, 1974: 162)

Accounting is not an end in itself. As an information system, the justification of accounting can be found only in how well accounting information serves those who use it.

The origins of accounting rests in the stewardship function. The whole purpose of ancient accounting was not to measure the rate of profit or loss but to keep accurate records of acquisitions and outgoings and to expose any losses due to dishonesty or negligence (Yamey, 1962: 15). The stewardsnip function has been described as a part of accountability, a control function and a means of enforcing the directors agency contract with shareholders and others (Page, 1991:31). Accountants have traditionally sought to record past events in an objective manner. They have thus favored the use of historical cost accounting. The traditional role of the accountant was thus backward looking, recording past transactions and giving great weight to objective description.

With the increasing complexity of modern business the role of stewardship has developed from the mere safeguarding of the resources to the effective use of those resources. Business enterprises have tended to be larger and more complex and their accounting systems have tended to play an increasing role not only in stewardship and control but also in planning and decision making. The literature shows the progression of a growing consensus that the usefulness of accounting statements should be judged according to the relevance of the information provided for decision making. Today it

is generally accepted that the objective of financial reporting is the provision of information that is useful to a wide range of users in making business and economic decisions (SFAC 1, 1978: para 33); to provide information useful for making reasoned choices amongst alternative uses of scarce resources (AICPA, 1973: 61).

The interdependence of the modern stewardship and decision taking functions of financial statements is generally recognized. In making economic decisions users are "...assessing future prospects by making predictions on currently available information or exercising a control function with regard to management's stewardship" (ICAEW 1991: 10). Economic decisions may include, for example, whether to hold, buy or sell an investment in the enterprise or whether to re-appoint or replace management (SAICA, 1990: para 14). This interdependence is highlighted in the United Kingdom's Accounting Practices Board's recent exposure draft 'Statement of Principles' which places both stewardship and economic decision making in the objective:

> "The objective of financial statements is to provide information about the financial position, performance and financial adaptability of an enterprise that is useful to a wide range of users for assessing the stewardship of management and for making economic decisions." (1995: para 1.1)

To execute the interrelated functions of decision making and stewardship effectively, users require information about profitability, financial position and changes therein .This knowledge base enhances the users faculty in ascertaining .."the ability of the enterprise to generate cash and cash equivalents and the timing and certainty of their generation." (SAICA, 1990: para. 15).

The overriding concern is with the future since the users of financial information are effectively interested in their future income and wealth. It is all about risk and return. Solomons (1989: 9) states that decision-making concerns the future and the future is uncertain. Furthermore, human nature is such that a sacrifice dictates a consequent benefit otherwise the futility of the risk is capricious.

Financial information is compounded into the investment decision framework as a basis for assessing the allocation of scarce resources. In allocating scarce resources, users of financial accounts are attempting to assess the performance of firms, prospectively or retrospectively. Accounting information is used in assessing performance and this may be done through using an Accounting Rate of Profit

(ARP). It must be recognized that this function of accounting information is a subset of information relevant to the assessment of future cash flows. Steele (1991) submits that the true income measure of performance, the prediction of economic events, the capital market reaction and the individual user response can be viewed as mutually dependent in the formulation of theory which meets the fundamental objectives of accounting. There is, however, no single accounting number which will provide all the answers to all the economically interesting questions a user may potentially have (Whittington, 1983: 3).

A user will make economic decisions from a variety of sources of information including for example the rate of profit and the social and environmental concerns relevant to the user. It is all about making economic decisions, derived from various sources of information and data. If the market is efficient, all this information is impounded into the company's share price, which will then represent the best available estimate of present value; calculation of economic profit is then reasonably straightforward. Steele (1991: 62) however, hypothesizes that the South African market is not efficient as it is small and dominated by the institutions. Market capitalization may also not always be congruent with the value of the business. Another factor affecting market efficiency is that not all investors necessarily understand all newly available information and there is no guarantee about misinterpreting the information (Naciri and Tremblay cited in Steele, 1991: 62).

2.3 INVESTMENT DECISION MAKING

> "To be able to assess what is the appropriate definition of profit, we first have to know what questions we are trying to answer. That question then defines the appropriate basis against which to compare performance and determine appropriate accounting conventions."
>
> (Mayer, 1987: 4)

An investor who is assessing the performance of a business is in effect assessing an investment that involves forgoing potential consumption in the prospect of generating future returns. The investor would, *inter alia* , be interested in the return that the investment would be generating in the future that could be compared against some opportunity cost. This would necessitate calculating an accounting rate of profit from the best available information.

The investor is interested in a measure that tells us the benefit from undertaking one activity rather than another. The Hicksanian definition of income facilitates dividend policy determination (assuming corporate distributions are set at a level that is sustainable in the long term) and is therefore relevant to the formulation of company accounts. It is, however, not directly applicable to investment appraisal as it does not establish the benefit of pursuing one course of action rather than another. This is also supported by the Accounting Standards Steering Committee in the United Kingdom who state:-

> "Distributable profit can no longer be regarded as the sole or premier indicator of performance". (ASSC, 1975: para 4.30)

Moonitz (1962: 180) discusses that comparison of actual performance with forecasts or plans is also insufficient, unless it is assumed that the existing management group is the only one that can decide what to do with the resources under its control.

> "How do (investors) know that management's selection of the best plan is not in actuality to be improved upon in some other employment. Or that last year's dismal performance was not repeated this year ? If you tell me that either we cannot measure these things or that the measurements are useless, then I answer that we are in the intolerable position of asserting that management is beyond control, that we cannot assess its performance with respect to the objective of profitable employment of resources." (Moonitz, 1962: 180).

The historic accounting rate of profit according to Turvey (1971) "means little" in evaluating investments. Historic cost accounting in the narrowest traditional sense might provide a check on the honesty of the steward but not necessarily on his efficiency which might be assessed in terms of how the current value of the entities resources have grown. (Whittington 1983: 23). Thus a profit in historic terms may be the outcome of a change in the value of the resources that are being employed in the production process. Alternatively the firm may indeed be earning a profit over and above the amount that could be raised from employing the assets in their next best alternative. Historic costs accounts and the resultant profitability ratios are not able to distinguish between these two possible explanations.

Thus the theory concludes that historical rates of profits should not be used to assess performance. Nevertheless accounting rates of profit continue to be widely used to assess performance both by economists and others (EKM, 1987: 9). This can in large part be explained by the ready availability of accounting data and the fact that a rate of

return concept has intuitive appeal as a potential method of assessing the performance of investment activities .Moonitz (1962: 179) concludes that profitability is a rate, a ratio of an absolute amount of profit to an absolute amount of investment. The primary function of profit measurement is therefore to furnish the variables needed to calculate a rate of return on capital invested.

2.4 INVESTMENT DECISION MAKING TOOLS

Accounting and economics have been described by Boulding (1962: 44) as the 'uncongenial twins'. They are both concerned with the same raw material, economic activity, drawn from much the same mines, approached in different ways. Each discipline has evolved over several centuries, developing its own concepts, language, culture with remarkably little help from each other. However there has more recently been an increased interaction between the two disciplines as the accountants horizons have widened from recording to decision making and the economist has become more concerned with the observation and measurement of economic phenomena in order to test his *a priori* theories (Whittington, 1992: 11).

Whilst accounting and economics are both looking towards decision making as an end objective, economics focuses on analyzing rather than merely describing economic activity. Economics is concerned inter alia with normative issues such as the optimal investment decisions that should be made to maximize the wealth of the shareholder.

Optimal investment decisions theory suggests that the way to appraise investments is to discount the net cash flows generated by an investment using a discount rate as a measure of the opportunity costs tied up in the project and comparing the resultant figure with the initial investment: the Net Present Value (NPV) approach. If capital markets are perfect then firms acting in their shareholders interests should accept investments with a NPV greater than zero. Does this imply that optimal decisions can only be made with the calculation of NPV? It is the premise of this paper that financial statements could facilitate the calculation of a rate of return comparable with the opportunity cost of capital resulting in optimal investment decisions. Brealey and Myers (1988: 78)propose that in some cases certain optimal investment decisions can also be made by accepting activities whose rate of profit exceeds its opportunity cost. This defined rate of profit is referred to as the internal rate of return (IRR) and may be a suitable yardstick designed for this purpose.

The IRR of an investment is defined as the rate of discount which would yield an NPV of zero. The IRR rule states that investments offering an IRR in excess of the opportunity cost of capital should be accepted. The IRR is like the NPV: a technique based on discounted cash flows. It should therefore give the correct answer if properly used. The problem is that it is easily misapplied as there are numerous pitfalls in using the IRR .

Incomprehensible results are achieved when :

- There is more than one change in the sign of the cash flows which would lead to multiple rates of return being calculated.
- There are limited funds and a choice needs to be made between two mutually exclusive proj

There have been numerous attempts by accountants and economists to formulate relationships between the Accounting Rate of Profit (ARP) and the IRR. The results show that, except in exceptional circumstances, there is little relationship between the two. Conclusions are drawn that financial reports are uninformative about underlying economic performance as measured by the IRR (Luckett, 1984: 214). At a different level, however, difficulties associated with attempts to convert ARP's into IRR's leads to a conceptual questioning. In order to construct measures of IRR, the complete stream of cash flows is required and the discount rate that discounts these cash flows back to the initial investment has to be found .

What would this mean for a company like South African Breweries (S.A.B.) for example? It means that we have to trace the entire stream of cash flows back to 1895 when S.A.B. was established. But even that will not suffice as S.A.B. is still trading and we are therefore unable to determine the cash flows that are yet to accrue. Computing the IRR for S.A.B. is therefore not feasible. But even if it were, it is not at all clear what the relevance would be of a number that tells us the performance of a firm over a 100 or more years. This does not accord with any reasonable concept of performance .What we are interested in is the performance of the company this year last year next year etc. Those are not questions that an IRR can answer and is therefore of little practical relevance (Mayer, 1987: 3). The appropriateness of the IRR as an ideal standard is questionable (Vatter, 1966: 689).

Whether there exists an accounting profitability measure and an associated set of accounting valuation conventions that permit these economically relevant issues relating to an activities performance over a segment of the company's lifetime needs to be addressed.

2.5 THE ACCOUNTING RATE OF RETURN

> "The proof of the pudding is in the eating, not in the recipe. We need reports on how the pudding looks and tastes , not just assurances that the chefs are 'cordon blue'. "
>
> (Moonitz, 1962: 18)

EKM (1987: 63) have developed the Accounting Rate of Return which conceptually corresponds to the IRR for a segment of the activity's life and is therefore not a single figure throughout the lifetime of the activity. Its calculation provides answers to economically relevant issues relating to an activity's performance over a segment of its life.

EKM demonstrate that articulated financial statements employing Value To The Owner (VTTO) as the basis of valuation are necessary and sufficient for an economically meaningful ARR. The ARR's economic interpretation and usefulness is therefore critically dependent on the valuation conventions adopted. Contrary to what is often perceived, appropriately defined accounting profitability can be extremely useful for economic analysis. The ARR which is computed from accounting profitability measures based on VTTO conventions can in many cases be given a straightforward economic interpretation . A table that summarizes the benefits, limitations, and fundamental assumptions of the NPV, IRR and ARR is included in Appendix C.

The following assumptions are implicit in the calculation of the ARR (EKM, 1987:123):-

- Value to the owner rules should form the basis of the valuation of a company's assets and liabilities assuming that Replacement Cost is greater than Net Realizable Value.
- VTTO can be applied to any economically meaningful set of assets. When undertaking an ex ante analysis, the rules should be applied to the group of assets as a whole. In an ex post assessment of performance

replication of the firm may involve the employment of existing assets. The VTTO rules should then be applied to individual assets and then summed .In practice accounts are constructed on an ex post basis and the latter conventions are relevant to published statements.

- All changes in book value including those resulting from holding gains and losses (whether realized or unrealized) should be incorporated in the profit and loss account.

These proposals according to EKM (1987: 64) would than imply that :-

Accounts constructed on an *ex ante* basis (i.e. are forward looking and based on expectations) will convey the following signals :-

(i) an accounting rate of profit in excess of the cost of capital implies that the new investment is profitable.

(ii) an accounting rate of profit equal to the cost of capital implies that the starting of a new activity is not profitable but existing activities should continue.

(iii) if valuations are made on a net realizable basis then an accounting rate of profit less than an existing activity should be curtailed.

Ex ante accounting profitability figures obtained using value to the owner rules as the valuation convention can thus be used in the investment appraisal process and form an integral input into making an economic decision. They can in particular indicate the desirability of buying, holding or selling an investment.

Based on the above analysis, it may be inferred that the performance evaluation function of accounting may be satisfied by a simple comparison of the ARR and the opportunity cost.

Accounts constructed on an *ex post* basis according to EKM (1987: 65) i.e. using actual out-turn data convey the following signals :-

(i) an accounting rate of profit in excess of the cost of capital is prima - facie evidence of a barrier to entry or that expectations were more than fulfilled in the period.

(ii) if closing book value of capital is economic value then an accounting rate of profit less than cost of capital is prima - facie evidence of a

barrier to exit at the beginning of the period or expectations were disappointed.

Accounts constructed on an ex post basis can be used in a variety of ex post assessments. Investors are interested in the return that has been earned on equity funds invested in comparison with what could have been earned had a different management been in charge or different investment decisions been made. If for example the ex post ARR exceeds the cost of capital, then this implies, as above, either that expectations were more than fulfilled during the period in question; or that the present value at the start of the period, based on expectations held at that time, exceeded replacement cost. Therefore it was certainly worthwhile to undertake the activity and if possible the investment should have been expanded. The indicators of whether a barrier to entry or exit exist are beyond the scope of this dissertation and will not be explored.

The proposals of EKM, therefore, would require that the following changes be incorporated into financial statements :

- The reporting of comprehensive income (fully articulated accounts)
- The use of VTTO as a valuation base.

These issues need to be explored from a conceptual level and evaluated against the overriding criteria of usefulness which will be explored in the next chapter.

CHAPTER THREE
THE CONCEPTUAL FRAMEWORK

3.1 INTRODUCTION

In general terms, a conceptual framework is a statement of generally accepted theoretical principles which form the frame of reference for a particular field of inquiry. In terms of financial reporting these theoretical principles provide the basis for both the development of new reporting practices and the evaluation of existing ones.

The purpose of this chapter is to explore the conceptual foundations that underpin the acceptability or otherwise of EKM'S proposed accounting treatments. The FASB's objective for financial reporting indicates that above all the purpose for which information is provided should be useful. It is consequently necessary to review the qualitative characteristics which are needed to achieve the overarching goal of usefulness (Baillie, 1989: 22). These characteristics are the criteria by which 'good accounting' is distinguished from 'bad accounting. (Solomons, 1989: 29).

Before financial statements can be prepared it is necessary, *inter alia*, to agree on the criteria that must be satisfied before an item can be recognized. It is difficult to separate some questions on recognition from the problems of measurement; but a discussion on measurement cannot proceed without raising questions about the choice of the accounting model to be used. The choice of an accounting model is the subject of the next two chapters. The qualitative characteristics and the recognition criteria will form the foundation for the discussion on the choice thereof. The recommendations of EKM also require that the financial statements are fully articulated which necessitates therefore a discussion of Comprehensive Income.

3.2 THE QUALITATIVE CHARACTERISTICS OF AN ACCOUNTING MODEL

Accounting has been described as the language of business - a means of communicating information that will enhance decision making thereby enabling society to allocate resources more efficiently. This view regards the concept of accounting as being a financial information system. As an information system, the justification of accounting can be found only in how well accounting information serves those who

use it. The primary qualitative characteristics that make financial statements useful for decision making are according to SFAC 2 (1980) relevance and reliability.

Relevance is the characteristic which embodies the fundamental notion that corporate reports should seek to satisfy as far as possible users information needs. (ASSC, 1975: para 28). Information is relevant if it has the potential to assist a decision maker form, confirm or revise expectations about the future, or confirm or correct expectations about the past. Relevance ensures that information can be both forward or backward looking either adding predictive or confirmatory value respectively. Timeliness is an essential ingredient of relevance, enhancing information utility. In order to contribute to the investment decision model, information must be material and hence relevant to the decision making process.

A further aspect of usefulness is reliability. This implies that information must be representationally faithful, representing what it purports to represent. Unreliable information undermines the credibility of the information. The inevitable consequence is the disregard of such information for decision making purposes. By faithfully portraying economic reality, financial information facilitates a fair evaluation of risk and hence the assessment of a commensurate reward. Information must therefore also be verifiable. This is demonstrated by a high degree of consensus among measurers using the same methods.

Invariably a trade off is required between relevance and reliability - to improve the relevance of information it may be necessary to sacrifice absolute reliability. This trade off is exacerbated by the fact that the qualitative characteristics cannot be ranked in any relative order of importance. Stamp (1980: 124) however conducted a study, although not conclusive, which revealed 'relevance' as the most important criteria for useful information. Ultimately a balance must be reached which will yield an optimal level of useful information.

Comparability and consistency are secondary qualities. They are not qualities of the information itself , but rather qualities of the relationships between two or more pieces of information. Comparability is important because of the manner in which users make rational decisions. Information is critically analyzed and contrasted against some standard to appreciate its significance. Nevertheless measures to force comparability may result in a loss of relevance.

Understandability does not necessarily mean simplicity and that information must be presented in elementary terms, for that may not be consistent with the proper description of complex economic activities. The rewards emanating from a powerful information base cannot be fully appreciated unless this information is fully understood. This quality, however, relates to the characteristic of the user as well as the information itself.

All information is subject to two pervasive constraints: materiality and cost benefit. These concepts determine what information will be provided. The application of the cost benefit characteristic may cause a certain amount of difficulty, since the costs of providing financial information are normally borne by the enterprise whilst the benefits are reaped by the users. For this reason the normal forces of supply and demand will not prevail in the market for financial information since the external user will almost always view the benefits of additional information as outweighing the costs.

The qualitative characteristics discussed above will be utilized in assessing the desirability or otherwise of alternative valuation bases and of systems of accounting for inflation. At the outset it can be seen however that in implementing EKM's proposals there will be ultimately a trade off between relevance and reliability when choosing between different valuation bases.

3.3 RECOGNITION AND MEASUREMENT

Recognition is the process of formally recording or incorporating an element into the financial statements of an entity. Recognition attempts to represent or depict in financial statements the effects on an entity of real world economic things and events (Johnson and Storey, 1982: 2). Recognition consequently involves depiction of the element both in words and by a monetary amount, and the inclusion of that amount in the statement totals.

An item should be recognized in the financial statements if :-

- it is probable that any future economic benefits associated with that item will flow to or from the enterprise; (SAICA, 1990: para 83) and
- its magnitude as specified by the accounting model being used can be measured and verified with reasonable certainty (Solomons, 1989: 43).

Recognition is consequently constrained by the accountants concern with usefulness. Reliability demands that only measurable attributes of wealth be recognized. In addition, to qualify for recognition it must be probable that the item will yield economic benefits (asset) or that there will be a future transfer of assets or services to others (liability). If the probability of yield or transfer of future benefits is zero or very small the item will not conform to the definition and the first criterion will not be satisfied (Solomons, 1989: 43).

Solomons (1989: 43) also states that it is clear from the second condition that questions about recognition and measurement are typically not separable, for if an item cannot be measured with reasonable certainty then it cannot be recognized. Determining therefore whether an estimate of cost or value of an asset or amount of a financial liability is sufficiently reliable is the matter for professional judgment in each case. This accords with Rubenstein's (1986: 26) perception that accounting is not an art nor is it a precise science. Judgment is involved in how the facts are gathered and how they are portrayed in the financial statements.

The failure to incorporate items satisfying the recognition criteria deprives the user of a full and fair understanding of the enterprise's affairs (Griffiths, 1986: 286). The omission is not rectified by disclosure of the accounting policies used nor by notes or explanatory material (SAICA, 1): 82). A significant aspect of both relevance and representational faithfulness is completeness, the inclusion in reported information of everything material that is necessary for faithful representation of the relevant phenomena (FASB, 1980: 79).

3.4 COMPREHENSIVE INCOME

EKM's proposals require that all the accounts are fully articulated. Articulation requires that the 'bottom line profit figure should equal the change in net worth in the balance sheet. This would exclude any new capital introduced by or distributions made to the owners. This proposition is however not alien to Accounting Standards bodies and is currently included in both existing standards and new proposals in the United States and the United Kingdom. A fully articulated profit figure is analogous to comprehensive income.

The increasing co.. ,exity and diversity of the business being reported on, the sophistication of the user and .he pressing need to reflect economic reality have all lead towards the drive for reporting Comprehensive Income (Robinson, 1991: 109).The FASB's Concept Statement No 6 (1984: para 70) defines comprehensive income as :-

> "... the change in equity of a business enterprise during a period from transactions and other events and circumstances from nonowner sources. It includes all change' in equity during a period except those resulting from investments by owners and distributions to owners."

Although the FASB has defined comprehensive income it has not require' that it be reported in financial statements even though in SFAC 6 (FASB, 1984 : para 13) it proposes its inclusion. The FASB is, however, moving from concept to application by ado ng a project to its technical agenda that addresses the reporting of comprehensive income. The objective of the project is to issue a Statement of Financial Accounting Standards that requires business enterprises to report all components of comprehensive income in one or more statements of income or financial performance for the period in which those items are recognized. This has resulted in the issuance of Exposure Draft 162a (FASB, 1996) *Reporting Comprehensive Income* .

The United Kingdom's Financial Reporting Standard 3 , *Reporting Financial Performance* (1992 :para 27), does not include a definition of comprehensive income. It nevertheless requires that a statement of total recognized gains and losses be included as a supplement to the profit and loss account. This statement would include gains and losses that are recognized in the period insofar as they are attributable to shareholders (ASB, 1995: 27). Gains and losses would be recognized, therefore, either in the profit and loss account or in the new fourth primary financial statement of 'Total Recognized Gains and Losses'. Gains which are earned and realized are recognized in the profit and loss account, whilst gains which are earned but not realized are recognized in the statement of 'Total Recognized Gains and Losses'.

The comprehensive income approach has a number of apparent advantages (Ernst and Young, 1994: 1124):-

- the omission of certain charges and credits from the computation of the net profit or loss for a period opens the door to possible manipulation or smoothing of results over a period;
- a profit and loss account which includes the effects of all transactions is more easily understood and less subjective to variations resulting from the application of subjective judgments; and
- full disclosure in the profit and loss account of the nature of all transactions will enable users to make their own assessments of the importance of the items and derive an appropriate measurement of income based on their own specific needs.

Comprehensive income demonstrates articulation between an enterprise's financial position at the end of the period and all aspects of its financial performance for the period, thereby enhancing not only the understandability of the statements but also user confidence in them (FASB, 1996 : para 61)

A differing view of income which contends that the net income should not be distorted by abnormal, unusual or non recurring events and transactions is often referred to as the ' current operating performance concept'. This is well entrenched in accounting practice. The emphasis is to eliminate from reported net income any distortive effects, resulting in a more meaningful figure for inter period and inter firm comparison. Management is regarded as being in the best position to decide what should be eliminated. Proponents of this view suggest that since net income for a period emphasizes an enterprise's current financial performance for each period, predictions concerning future enterprise performance might be best facilitated through the elimination of the aforementioned items. Nevertheless, because of the artificial nature of the accounting period and the subjectivity necessary in the application of this concept, the assessment of future performance can best be achieved if it is based on the entire historical performance of the enterprise over several years (Ernst and Young, 1994 : 1125).

Although comprehensive income is a useful measure of overall performance, information about the components that make up comprehensive income is also needed. Displays of income by desegregation into categories consisting of similar or like items is essential to users needs (Johnson, Cheri, Reither and Swieringa, 1995: 135). Furthermore academic research has also consistently demonstrated that capital markets

tend to place different weights on different components of reported income (Johnson et al, 1995: 135). Individual items may be interpreted differently. Consequently this calls for a display of comprehensive income that allows components of differing character to be seen and evaluated separately (AIMR, 1993: 63).

The selection of a valuation base and a financial maintenance concept cannot be made in isolation as it is impossible to assess a particular method fully without reference to the full system of which it is part. This chapter has consequently laid the foundations for the issues discussed in the following chapters.

CHAPTER FOUR
ASSET VALUATION METHODS

4.1 INTRODUCTION

The Accounting Rate of Return is dependent on a fully articulated income measure. The level of income determined is a consequence of the measurement basis applied to opening and closing capital. To yield the appropriate Comprehensive Income figure VTTO is employed as the method of asset valuation for the opening and closing values of capital. The purpose of this chapter is to outline and conceptually evaluate the appropriateness of VTTO as a valuation base. VTTO comprises of an algorithm that includes a choice of one of the following valuation methods:- replacement cost, net realizable value or present value. These alternative valuation methods, as well as VTTO, will be discussed.

Asset valuation comprises one part of a financial reporting system and the validity of the asset valuation method depends in part on its consistency with the aims and methods of the reporting system as a whole. The valuation method will be considered in conjunction with a capital maintenance concept, the two being combined to create a measure of income. Although the focus of the discussion is asset valuation, it is difficult to separate this from the question of income measurement or other aspects of the financial reporting system.

The chapter will begin with a discussion of why the historical cost valuation method is being rejected in favor of current valuation methods. The main methods of asset valuation will, thereafter, be outlined together with the arguments for and against those methods. The next chapter will develop these concepts in order to explore the capital maintenance concepts and a system of accounting in periods of inflation.

4.2 HISTORIC COST

> "The (historical cost) accounts which directors of a company are required to lay annually before the shareholders have evolved slowly over a long period of time and have almost invariably lagged behind the current needs of their users. Even the terminology has outgrown common sense. For example, a balance sheet is no longer a sheet of the residual balances of undepreciated original cost which are carried forward in an entity's books and which mean something to an owner; rather it is a hotchpotch of costs, valuations and adjusted figures which indicate neither the worth of an

> entity as a whole nor the separate worth of its individual components. Similarly, a profit and loss account does not produce a realistic figure of profit or loss since many changes in an enterprise's wealth are omitted from the statement." (Arnold, Boyle, Carey, Cooper and Wild, 1991: 13)

There is dissatisfaction with the use of historic cost as a valuation base. Historic cost is based on a venture rather than a going concern view of the firm . Under the venture concept, each asset is regarded as a separate venture, such that income is earned for each venture. Thus net income is measured by setting off against revenues the cost of the assets ventured in earning those revenues. The replacement of those assets is treated as a distinct venture for which funds should be raised independently. In an historical cost system , assets and liabilities are measured at their value at the time of acquisition. Historical cost, therefore, has two important properties: first it is based on transactions and secondly, it represents current value at the time of acquisition (ASB, 1995: para 5.12). In practice however the pure historical system has been modified to prevent assets from being reported at greater amounts than their current value (ASB, 1995: para 5.14) . There are also numerous other departures from the pure historical cost system that are permitted by statute and generally accepted accounting practice. The abridged version of the historic cost model results in proprietor's capital being a hybrid measure whose significance is not immediately clear (ASB, 1993: para 1).

Histo ic cost has the virtues of reliability, objectivity and low cost. The low cost is not only a function of preparation but also of processing by users, since this is the method to wh ch they have become accustomed. The reliability and objectivity are not however absolute and the method does involve aggregation and allocation problems. It involves aggregation problems because it is inappropriate to aggregate assets acquired some time ago with those acquired recently because they are expressed in different units of purchasing power. The sum total of assets, therefore, is meaningless and combining it with liabilities to show an entity's financial position, does not, in practice achieve anything (ICAS 1988 : 35).

Whittington (1983: 17) debates that if we aggregate the sum of individual assets we face the problem of what the total means. Is the total equal to the total v ue of the firm, and if not what is its significance? Clearly the sum of the assets under historical cost could mean many things. Allocation is concerned with the process of attributing values to individual assets when their combined value arises from joint activities.

There is also the allocation problem which arises when attributing values of the same asset to different time periods. Whittington (1983: 17) asserts that any allocation of the value of the asset to specific periods is arbitrary as the purchase, in some cases, is essentially the purchase of the asset's services over the whole lifetime, not for separable sub periods.

The main objection to historical cost is usually on the grounds of relevance (ASB, 1995: para 5.19). It is often argued that 'bygones are bygones' and economic decisions must depend on current values. Whittington (1983: 49) concludes that historic cost is found to be deficient with respect to decision making and valuations by shareholders and others. Another criticism which receives widespread support in the literature, and has previously been discussed, is that historic cost accounting does not yield a rate of return that has any relevance to economic evaluation or decision making.

The historic cost and realization principles lead to a measure of income that is a heterogeneous combination of current and prior years activities. Application of the doctrine of prudence results in an anomaly in that only the downside is reflected. The reported income misleads and confuses the decision maker; the user is deprived of relevant information with which to assess the operational and other activity of the period under review.(Lee, 1985: 67)

An entity's assets are normally held for either use or resale. There is a valid argument to be made in support of valuations which reflect either of these two courses of action - i.e. to use values appropriate to the purpose for which assets are held. By reflecting assets at their 'value to the business', user understanding would benefit most from the fact that the amounts ascribed to assets would now closely approximate the values now often assumed by shareholders and others (Miller, 1980: 129).

Carsberg and Page (1984: 170) emphasize that the worth of a resource entrusted to a manager is better measured by its current value than by its original cost probably many years earlier. This view is also supported by The Solomons Report (1988) and the ICAS Report (1988) whose authors plead for current values as a valuation method which would result in a better representation of economic reality. Edwards and Bell (1961 cited in Whittington, 1983: 111) provide the most compelling reason citing that current values provide an account of the economic progress of the firm to date, using the latest available market validated information.

In a current value system of accounting, assets and liabilities are measured regularly so that changes in value are recorded as they occur rather than simply when they are realized (ASB, 1995: para 5.2). The choice of a current valuation base is, however, a very complex issue. Not only are there three basic types of valuation bases available (RC, NRV, PV) but within each type there are a number of variations possible. There is also an eclectic approach known as VTTO which selects the valuation of a particular asset according to such circumstances as the relative values arising from the alternative bases (Whittington, 1983: 115).

4.3 CURRENT VALUATION METHODS

Current values are based upon current market prices which are incorporated in the traditional process of recognizing and recording past transactions. This accounting process does not abandon the objectivity of recorded transactions but it does require that when past values become outmoded owing to the effluxion of time, appropriate valuation adjustments be made to re-express the assets' and liabilities' underlying residual equity in contemporary terms.

The main disadvantage of current value is its apparent greater subjectivity and lower reliability than historical cost (ASB, 1995 : para 5.28). This is particularly likely to be the case for assets that are not regularly dealt with in active markets and when assets are stated at present value (ASB, 1995: para 5.28). In the majority of instances, however, where established and generally known market prices are available for use this would not be the case (Lee, 1985: 70). The use of current value can also raise the aggregation and allocation problems already discussed.

The most important advantage of current value is its relevance to users who wish to assess the current state or recent performance of the business (ASB, 1995: para 5.25). Current value attempts to minimize the faults of historic cost by presenting contemporary values, reporting unrealized gains and segregating prior period from current period income elements. In general it is argued that for decision making and comparative purposes current prices, position and progress are relevant. It should be noted that, in a world of perfectly competitive equilibrium, all of these values (RC, NRV, PV) should be equal, and differences between them will depend upon the degree of imperfection and/or disequilibrium in the relevant asset markets.

Practical decisions about the choice of a current valuation method will be strongly influenced by matters of costs. Accountants can record, report and interpret economic events in any (fair) manner, subject to the attendant costs being acceptable. Contemporary management information systems should be well developed to reflect current values. The availability of current value information is crucial to management; in order to perform effectively and maximize productive resource utilization, management needs to assess the benefits relative to the associated costs. McMonnies (ICAS, 1988: 20) reiterates that the information that stakeholder's need in order to make decisions is the same in kind, but not in volume as the information management needs to run it. Application of this postulation reveals that the cost of providing current value information to stakeholders *should* not exceed the benefit.

In choosing between the historical cost system and a current value approach there is clearly a trade off between relevance and reliability. The choice may favor current value or historical cost depending upon the circumstances and in particular the availability of reliable current values. Furthermore, in deciding between the two approaches the cost of obtaining current values must be weighed against the benefits from increased relevance. As markets develop for various kinds of assets however, the reliability and availability of current values may be expected to improve and the cost of using current values will probably reduce. The ASB (1995: para 5.38) believes that the practice should develop by evolving in the direction of greater use of current values to the extent that this is consistent with the constraints of reliability and cost.

Some specific issues with respect to each valuation method are addressed in the following section.

4.4 REPLACEMENT COST

Replacement cost is the current cost of replacing the asset in its current state. It is based on current market values and is often referred to as 'entry value'. The major authority for the replacement cost system is usually regarded as Edwards and Bell in a work published in 1961. Others such as Revsine (1973) have since developed or further enhanced the concept.

The relevant data provided by the replacement cost profit and loss account are a statement of the operating profit based on current replacement costs and a statement of both realized and unrealized holding gains. The operating profit assesses the profitability of operating activities and will be of direct assistance in predicting the future only if prices, costs and levels of activity are expected to remain the same (Whittington, 1983: 121). If, however, these assumptions do not hold the figures will still be a closer and more meaningful point of reference than Historical Cost.

The basic assumption underlying replacement cost accounting is continuity of the firm. This assumption requires that charges for the consumption of assets should be based on the cost of replacing them. Assets are viewed particularly as representing future services or operating capacity (Baillie, 1989: 60). This choice reveals one of the problems in using replacement cost in that the question arises of what is being replaced? Replacement of the physical service (reproduction) or replacement of the physical object (Whittington, 1993: 118).This is a problem that involves replacement policy, obsolescence and technical change (Lee, 1985: 89). In other words, a particular resource may not be replaced in the future or a resource may be replaced by an equivalent one rather than an identical one (Lee, 1985: 89). Replication of the specific asset may not be economic if a technically equivalent cheaper asset is available. This suggests that replacement of the specific service by the cheapest possible means might be the best way to assess RC. The optimal technology may however have changed since the original asset was installed, either because of technical progress or because of movement round the production function due to relative factor price changes. In such cases the optimal economic replacement might involve a different technology with different factor costs and the replacement cost would need to reflect this.

McMonnies (ICAS, 1988: para 6.25) advocates that the main reason that the Institute of Chartered Accountants of Scotland did not recommend replacement cost '...as the principal base of asset measurement is that it does not represent worth, being a cost based measure.' He adds that business activity is about adding value, so financial statements should reflect this. Whittington (1983: 119) agrees that a replacement cost balance sheet fails to provide some important information about the value of the firms assets.

Replacement cost accounting is concerned with the maintenance of a given level of physical assets or operating capacity. As such the ASSC (1975: para 7.29) concludes that the application of replacement cost can provide useful measures for external managers and internal users, but the method is deficient in providing a complete answer.

4.5 NET REALIZABLE VALUE

Whittington (1983: 122) refers to NRV as an 'intuitively appealing' valuation basis for accounts. He supports this intuition by concluding that if accounts purport to represent value then a natural interpretation of value is the amount of money for which the asset can be exchanged in the market place. Under this method, assets are valued at their selling price in terms of the current cash equivalent of the benefits obtainable in an orderly program of asset disposal in current market conditions (ASSC, 1975: para 7.3). This method was first advocated by McNeal in the 1930's and has since been developed by Chambers and Sterling (Baillie, 1985: 74).

The use of selling prices raises one important issue: what selling price should be used, as various alternatives are available?

> "Should they be those arising from an assumed liquidation of the entire entity or should they be based on the assumption of orderly liquidation? Should they be the realizable values of the resources in their existing state, or should they be potential realizations of the resources in their finished state, but adjusted for future costs ? (Lee, 1985: 91).

Lee (1985: 91) advocates that it is generally accepted that the NRV's used should be those assuming orderly rather than forced resource realizations; and based on market prices existing at the time of measurement and reporting rather than adjusted future selling prices.

McMonnies (ICAS, 1988: para 6.20) in Making Corporate Reports Valuable advocates the use of NRV stating its principle advantages, inter alia, as:-

- The values assigned to assets and liabilities may be readily observable in the market place.
- NRV is a value which is readily understandable by investors and other users of accounts.

- The use of NRV has properties of additivity in that the amounts can be added together and mean something.

Whittington(1983: 126) concurs with the above and adds that NRV gives the user an indication of an important opportunity facing the firm, that of disposing of the asset.

McMonnies (ICAS, 1988: para 6.22) acknowledges that the merits of using NRV has been expounded with great conviction and enthusiasm by its proponents over many years, but it has not to date met with any significant measure of support from professional practicing accountants. There are a number of perceived disadvantages (ICAS, 1988: para 6.22):-

- It has no relevance for a continuing business which has decided not to dispose of its assets but continues to use them.
- For some fixed assets it may produce values which have no relationship to the asset's value to the business.

NRV is one measure that is relevant in a wide range of situations but is not the only relevant measure : in many cases it may be compared to alternative measures.

4.6 PRESENT VALUE

The present value method takes assets, or groups of assets or the enterprise as a whole and values them at the present value of the expected future stream of net cash flows attributable thereto, applying discount rates that reflect prime interest cost and enterprise risk (ASSC, 1975: para 7.34). The PV is often referred to as the 'true value of an asset of a firm. This would only hold under restrictive conditions that do not hold in the real world in which accountants operate (Whittington, 1983: 128).

Whittington (1992: 98) notes that there are some important issues relating to the precise choice of method in the use of PV for valuation:-

- Aggregation - clearly in a productive process, cash flows are the result of the interaction of many assets, if we try and disaggregate asset valuation precisely, the problem of allocation arises: how do we allocate a joint return to separate assets?

- Assumed use - the expected cash flows will depend on the use to which it is assumed the assets will be put. For example, it would be possible to assume either that the assets were to be put to their most profitable use or that they were to be applied to a less profitable use preferred by the management.
- Discount Rate - conceptually there are a number of discount rates available that can be used.

The information used is highly subjective, such as the amount and timing of cash flow, and the interest rate and risk factor which go to make the discount rate (Baillie, 1985: 91). Using PV inevitably involves a degree of uncertainty arising from estimating the future and the extent of this is likely to vary according to the type of asset, type of business activity and the specific situation of the firm owning the asset. The use of PV has typically been relaxed where current cost accounting has been used in practice in both the United States and the United Kingdom in FAS 33 and SSAP 16 respectively; it has euphemistically been referred to as 'value in use' as opposed to PV.

4.7 VALUE TO THE OWNER

As there are a number of opportunities available to an organization at any moment in time we can infer from the above discussion that there are as many valuation bases available. One opportunity currently available to the firm is to replace the assets (RC), another is to sell the assets (NRV) and the third is to continue to use the assets (PV). The fact that several current value bases are available raises the problem of whether any single valuation method should be chosen and if so which one (EKM, 1987: 39).

Whittington (1983: 131) concludes that each of the valuation bases is of potential relevance in particular circumstances and therefore it is only natural to consider an approach to valuation which makes use of all three pure current valuation bases, selecting one according to its relevance to the particular assets concerned. This method of valuation is referred to as VTTO which has intuitive appeal as a pragmatic compromise between rival current valuation methods (Whittington, 1983: 131). VTTO has over the years become part of accounting practice as well as receiving considerable attention in the literature. The most surprising aspect emerging from a survey of the

literature is that so little has been written about the concept's underlying theoretical basis despite the support that it has received (Ashton, 1987: 6).

Ma (1976: 163) traces the origin of VTTO from the 1937 writings of Bonbright who applied the principle in considering compensation for the loss of property.

> "The value of a property to its owner is identical in amount with the adverse value of the entire loss, direct and indirect, that the owner might expect to suffer if he were deprived of the asset." (Bonbright cited in Stamp, 1971: 279)

During the 1960's and 1970's various writers such as Baxter, Edey, Parker and Harcourt, and Solomons developed the idea further for accounting purposes. In 1975 the Sandilands Committee adopted VTTO as the appropriate valuation base and since then it has been the asset valuation base of all British proposals for current cost accounting including SSAP 16 in 1980. In the USA, VTTO was incorporated as the appropriate valuation base in the FASB's 1979 FAS 33 '*Financial Reporting and Changing Prices*' accounting standard. It was similarly incorporated in Canada, Australia, New Zealand and South Africa. Whittington (1993: 121) and others have referred to VTTO '... as a practical technique in search of a theoretical justification'. VTTO has also never been demonstrated to arise out of a particular information requirement of a potential user of financial reports, other than that of an insurer. Ashton (1987: 4) claims that no substantive, let alone cogent, reasons have been put forward by the standard setting bodies who so enthusiastically endorsed this concept. Their reasons have been very subjective and highly intuitively based. It appears more on faith than on logic (Ashton, 1987: 4). It would appear therefore that EKM, in developing the ARR, that utilizes VTTO as a valuation base, may have provided such a justification.

As previously discussed Lee (1985: 106) purports that the assets of an entity are either held for use or resale. There is therefore an argument to be made in support of valuations which reflect these two alternative courses of action - i.e. to use values appropriate to the purpose for which assets are held. In these circumstances, it can be further argued that the upper limit to the value of an asset to the entity is its RC, for that is as much as the entity will lose should it be deprived of it (Lee, 1985: 106). This is the foundation to the VTTO valuation method. In its purest form, the approach values an asset at RC or economic value (EV) whichever is the higher amount, where

economic value is defined as the higher of NRV or PV. It thus chooses one of RC, NRV or PV depending upon their relative values.

Table 1 (Ma, 1976: 163) below shows that there are only 6 possible outcomes from the application of these rules:-

Table 1

	Value to the Owner	
Case	**Interrelationship**	**VTTO**
Asset in Use		
1	PV>RC>NRV	RC
2	PV>NRV>RC	RC
3	RC>PV>NRV	PV
Asset in Trade		
4	NRV>PV>RC	RC
5	NRV>RC>PV	RC
Asset in divestiture		
6	RC>NRV>PV	NRV

These outcomes essentially inform in what case for example the asset will be held in use and valued at RC. It is valued at RC when PV in use is the firm's most profitable alternative and this would imply that the asset would be replaced when needed. Asset in Trade describes an asset that would be held for resale but which would be replaced since its NRV exceeds its RC. Assets in divestiture refers to the option when sale is the most profitable use of the asset and replacement is not considered worthwhile; NRV is greater than PV and RC is greater than the PV in use (Whittington, 1983: 132).

EKM (1987: 41). however, make the assumption for the ARR with respect to fixed assets that RC is never less than NRV. They claim that in practice '... for fixed assets, cases in which the asset's selling price exceeds its buying price are likely to be extremely rare. A situation in which NRV is greater than RC is unlikely to persist for long. Firms will be able to make a profit by selling the asset they possess and buy new ones. This process will raise RC and reduce NRV until the arbitrage is no longer viable. This therefore reduces the available configurations for fixed assets to cases 1,3 and 6 above.

The three valuation methods that form the foundation of VTTO each have their own set of advantages and disadvantages which have been explored. Would combining these three valuation methods lead to a summation of the underlying problems in each of the component methods because only one method is binding in a particular case? This is possible because all three valuation methods are considered when one is selected. Thus, rules of this type tend to combine the problems of alternative valuation methods. VTTO however also runs into additional criticism peculiar to it.

Lee (1985: 119) as well as many other authors proposes that VTTO concerns the notion of the entity being deprived of its assets. He claims that this is entirely hypothetical as, at the time of accounting, deprival has not taken place. He therefore questions whether this information is relevant for those persons interested in receiving information about the progress and financial position of the firm.

Baillie (1985: 103) suggests that mixing alternative values results in a heterogeneous non-additive list of values and an income measure which is meaningless or at least difficult to interpret; such difficulty impairs the usefulness. Whilst the values are heterogeneous at base level, however when considered at a higher level of the value to he firm more homogeneity is suggested (Baillie, 1985: 104).

Another problem in applying VTTO concerns aggregation. These rules have their roots in the valuation of individual assets, but the sum of the values to the owner of individual assets may, when the assets are interdependent, fail to indicate the VTTO of the group of assets taken as a whole (Whittington, 1983 :135).

Empirical evidence underscores VTTO's viability. Carsberg and Page (1984: 81) claim that companies adopting positive attitudes and common sense views of the measurements reveal that the usefulness of the system is not impaired. Furthermore, future research combined with experience in dealing with current values may one day provide the same level of assurance as exists in the present hybrid historical cost system.

The main case for VTTO must depend upon its relevance to a particular purpose. VTTO has been justified in terms of economists concepts of which values are relevant to decisions about disposals of assets. In other words the value represents the loss the

business would sustain if it were deprived of the asset, on the assumption that the business loss is minimized. Rules of this type usually have some theoretical claim to relevance.

> Accounting is not an art nor is it a precise science. Judgment is involved in how the facts are gathered and how they are portrayed in the financial statements. (Rubenstein, 1986: 26)

The objectivity, consistency and low cost associated with historical cost are of little merit if its application produces figures which are of no use to decision makers. Furthermore, the variety and complexity of modern business transactions means that historical cost is no longer as objective as once claimed. The need for judgment in financial reporting even under historical cost is often insufficiently understood, and may contribute towards the prevailing 'expectation gap' (Arnold, Boyle, Carey, Cooper ar ' Wild, 1991: para 1).

The VTTO valuation convention allows a particular ARP measure, the ARR, to have the useful properties desired for answering economically interesting questions. It also has been favored as a valuation method and seen to be a practical compromise between the rival valuation methods. VTTO has been seen to be superior but has been previously marred by its minimal theoretical foundations. It would appear, therefore, that the ARR provides the theoretical foundations needed. Current valuation methods must provide more useful information than HC. As VTTO is an integral part of the ARR and a favored valuation method it ought to be the selected current valuation method.

CHAPTER FIVE
CAPITAL MAINTENANCE CONCEPTS

5.1 INTRODUCTION

> The success of the whole system of business depends upon the truthfulness of reports. The truthfulness of reports depends mainly upon the truthfulness of accounting. The truthfulness of accounting depends largely upon the truthfulness of the dollar - and the dollar is a liar! For it says one thing and means another. (Sweeney, 1936)

Despite Sweeney's insightful statement, inflation adjusted profitability measures are not absolutely necessary. EKM (1987: 71) hypothesize that the performance evaluation function of accounting is satisfied by a nominal comparison of ARR and the nominal opportunity cost. It is therefore possible to answer a broad range of economically interesting questions without adjusting the accounts for the effects of inflation. Once the appropriate opportunity cost of capital can be identified then provided that all assets are valued at current prices, be that at NRV, PV or RC, problems for identifying price indices for inflation adjustments do not arise.

It is generally accepted that there is one correct definition of income in an accounting sense and that is the economist Hick's definition. Hicks (1946: 172) defined income as the maximum value which a man can consume at the end of the week and still expect to be as well off at the end of the week as he was at the beginning. Following on this idea the Sandilands Committee (1975 : para 201) analogously defined the income of a company as the maximum value which a company can distribute during the period and still expect to be as well off at the end of the period as it was at the beginning. Consequently, the reality is that financial reports must provide additional information about distribution; this implies that profit must truly represent the increment over and above a maintained level of real well-offnes. In other words, if profit is to be used to determine the income accruing to shareholders in the Hicksian sense of feasible consumption while maintaining capital intact , than the real earnings potential of capital has to be established .

This chapter will begin by reviewing the history of inflation accounting in South Africa, the United Kingdom and the USA. Thereafter, it will focus on the alternative capital maintenance concepts. The capital maintenance concept and the valuation

method chosen determine the resultant income measure produced. They are the two legs upon which an income concept stands. The concepts developed will be used to discuss the Real Terms systems of inflation accounting. This methodology combines a VTTO valuation base with a financial capital maintenance concept and has received much support over the years.

5.2 HISTORY OF INFLATION ACCOUNTING

> The environment in which the accountant lives may be likened to a vast, flat plain. We can go North, South, East or West as we wish. Things can be changed by agreement or by edict literally overnight, as we have seen in recent years. This may sound like a luxury; but on the contrary this is the very source of the battle in which all accountants are enforced to engage, because we must 'justify' what we do with very few sources of justification. (Ijiri cited in Ma 1982: 195)

There has been much concern world-wide about the impact of inflation on financial reports. Inflation may be defined as a decline in the purchasing power of money due to an increase in the general level of prices. It has been experienced throughout history. There are few subjects however on which more hot air has been expanded, papers written and ill feeling generated than the appropriate treatment of inflation in company accounts. (Tweedie, 1984: 155)

Despite innumerable reports, committees and guidelines the current state of play has not advanced much from where it was at the beginning of the 1970's. No one proposal gained lasting acceptance. Indeed, the various methods proposed and their rapid appearance and withdrawal probably resulted more in confusion than enlightenment (Tweedie and Whittington, 1985: 156).

As inflation is generally perceived to be receding, the urgency of reaching a consensus on the subject appears to be diminishing. Mayer (1987: 8) however cautions that:-

> ".....accepting historic cost accounting on the grounds that inflation has been eradicated is about as sensible as devising investment strategies that assume that bull markets will continue for ever; investors who do go bust, accountants who do lose trust."

Complacency is far from warranted. Kay and Mayer (1984: 11) demonstrate that the magnitude of the corrections that have to be made for inflation are considerable and that the inaccuracies involved in relying on historic cost accounts are not limited only

to periods of high inflation. Despite the obvious need Whittington (1983: 37) concedes that there is not a single model of accounting or single summary measure that will meet the needs of all users and uses of accounts in all circumstances; the historic and future debate on accounting is unlikely to lead to the emergence of an ideal solution.

It would appear that the standard setters in the United States were the 'first' to react when in 1961 they recognized that it was no longer tenable for preparers of financial statements to continue to ignore fluctuations in the value of the dollar. Presentation of supplementary general price level adjusted information was recommended by the Accounting Principles Board in Statement No. 3 in 1969. This involved translating all measurements in currency units into units at a common date by using a general index as an indication of the purchasing power of currency at different points in time. This became known as Current Purchasing Power accounting (CPP).

The movement by the accounting profession in the United States towards CPP accounting was however, *inter alia*, obstructed by the issue of ASR 190 by the Securities and Exchange Commission which called for supplementary disclosure of replacement cost information (BIC, 1979: 94) . The FASB responded in 1979 with the issue of Statement of Financial Accounting Standard 33 (SFAS 33) which required large businesses to report both CPP and Current Cost Accounting (CCA) information. The pure CCA approach measures the effect of changes in the specific price levels on the financial statements of the enterprise. CCA consequently uses current values for its asset valuation and in its pure form involves an entity capital maintenance concept. The reporting of both CPP and CCA was in effect the first move towards a modified Real Terms Accounting system. SFAS 33 was however withdrawn in 1986 by the FASB.

The initial move towards an inflation accounting standard in the United Kingdom was also directed towards a system of general price level restatement. The professional proposals for CPP accounting, Exposure draft 8 (1973) and Provisional Statement of Standard Accounting Practice No. 7 (PSSAP 7, 1974) resembled the United States APB 3 (1969). This called for the use of a consumer price index in providing restated supplementary financial statements. In 1975 however the Sandilands Report proposed a complete change of direction, favoring CCA. After a tortuous process an accounting standard, SSAP 16 was issued in 1980. This required large businesses to prepare at a minimum supplementary CCA information, in conjunction with Historic Cost

information. Following the fall in inflation rates, the experimental nature of SSAP 16 and the lack of general acceptance, inter alia, SSAP 16 was withdrawn in 1985.

Two further attempts were made in issuing a statement in the United Kingdom, Exposure Draft 35 (1984) *Accounting for the effects of changing prices* and Exposure Draft 38 (1985) *Reporting the effects of changing prices on earnings.* Due to the resistance and resultant innumerable problems the Accounting Standards Committee however announced that it would make no further attempt to deliver a standard on accounting for inflation (Whittington, 1996: 44).

Pong and Whittington (1996: 51) recently explored the reasons for the demise of inflation accounting in the United Kingdom. They put forward a number of reasons discussed below. It is interesting to note that these do not include lack of relevance:-

- The tension between the companies and their auditors resulting from the company tending to prefer flexible methods of reporting whilst the auditors preferred closely prescribed methods.
- The importance of the change in the economic environment, especially the decline in the inflation rates.
- The Accounting body's internal politics and membership composition.
- The reluctance of the government to legislate a number of the proposed solutions.
- The general absence of significant participation by users of accounts, particularly in responding to exposure drafts.

In their 1993 paper *'The Role of Valuation in Financial Reporting'*, the ASB (1993: 13) commented that whilst current cost financial statements are rare today in the UK, the benefits to be obtained from these statements are still perceived to be of sufficient importance to warrant their continuing use by former nationalized industries privatized in recent years. Publication of these financial statements are in line with the recommendations of the Byatt Report published in 1986. This therefore emphasizes the importance of accounting for changing prices where current cost financial statements were deemed to be more useful in determining, inter alia, the real return on capital employed (ASB, 1993: para 14).

In South Africa, despite relatively high inflation rates, a standard on inflation accounting has yet to be produced. In August 1978 an Accounting Guideline AC201: *Accounting for the Effects of changing prices* was issued. The guideline was based on CCA and called for supplementary adjustments to the income statement with no corresponding balance sheet adjustment. Exposure Draft 66 (ED66) which was issued in September 1986 concerned itself with the Balance Sheet and did not supercede AC201. Subsequently the Accounting Practices Board decided to pursue the route taken by ED66 but to expand the document to give more guidance on what the appropriate method of valuation should be and on the adjustments to the Income Statements (Singer, 1991: 167). Exposure Draft 77 was consequently issued in September 1989. Similar to overseas trends however, the quest for an acceptable solution was abandoned.

A review of the history of accounting for inflation reveals little general acceptance. The disparity between promoting the value of inflation accounting and implementing an appropriate system becomes strikingly obvious. Despite this Kay and Mayer (1984: 11) warn that even if we were able to predict with confidence the permanent eradication of inflation henceforth, a proposition which only fools and manifestos might support, we would never justify a return to historic cost accounting. The debate on inflation accounting has identified a pertinent inadequacy in modern day financial statements. The lack of an acceptable solution to date should not, however, imply that the problem can be ignored or that it will disappear.

The historical review was not intended to discuss the myriad methods that have been prop[illegible]he past. Instead it served to confirm that the vast array of methods are so numerous that a proposed solution can and must be considered only by referring back to the fundamental concepts. The ARR, as advocated by EKM adds a new dimension to the choice of a valuation base. It provides information that is directly relevant to economic decision making. Extending the model to account for the effects of inflation would theoretically als[illegible]nswer questions about the potential distributions of profits. The capital maintenance concepts which divide the return of capital from the return on capital are consequently explored.

5.3 THE CONCEPT OF CAPITAL MAINTENANCE

A particularly important aspect of accounting for changing prices is the choice of a capital maintenance concept. The measurement of income is central to the objective of financial reporting. Capital Maintenance implies some measurement of initial opening capital which must be maintained before an increase can be regarded as giving rise to a profit. It may be useful to emphasize the clear distinction between the valuation of resources (Chapter 4) which represent capital and the maintenance of that capital. The valuation of resources is necessary so that the amount of capital can be computed and compared at two different points in time. The change in the amount of capital forms the basis of the measurement of income. To this change in capital a charge is than applied for the maintenance of that capital, using either a propriety or entity concept. The remaining amount of movement would then represent the profit or loss for the period (Baillie, 1985: 14). Clearly when prices change during a period, the monetary measurement of the capital to be maintained will change, and the discussion of this problem is one of the most complex and potentially confusing areas of the inflation accounting debate.

The problem of incorporating general price changes into the process of capital maintenance arises because of the ever present problem of inflation (Lee, 1985: 132). General price restatement is a monetary adjustment to allow for the effects of the fluctuating value of money. Its purpose is to eliminate from the periodic capital value increment that part which is an inflationary increase, thereby leaving as income the residue of the value increment which arises from relative price movements reflecting real increases in capital.

In times of inflation users of financial statements will not easily be able to assess the capacity of the company to generate cash flows and dividends from its existing base unless profit can be analyzed between the relevant components i.e. operating profit and holding gains (ASB, 1993: para 21). The key to assist the user to understand the reality of the situation lies in the capital maintenance concept adopted.

As already indicated there are two central concepts of capital maintenance: the proprietary approach and the entity approach. The proprietary or financial capital maintenance, approach regards an enterprise as a financial fund administered by the managers for the benefit of the proprietors, who supply the finance. This approach

sees the objective of business as maximizing shareholder wealth with profit being equal to an increase in proprietor wealth. A profit is therefore earned only if the financial amount of capital at the end of the period exceeds the capital at the beginning of the period after excluding distributions to and contributions from the owners during the period. Financial capital maintenance can be measured in either nominal monetary units or units of constant purchasing power (SAICA, 1990: para 104a). This approach therefore superimposes a general index on capital to yield a capital measure which maintains its command over goods and services in general.

The entity, or physical capital maintenance, approach aims to preserve the productive power of the business. A profit is earned only if the physical productive capacity or operating capability of the enterprise at the end of the period exceeds the physical productive capacity at the beginning of the period; after excluding distribution to and contributions from owners during the period (SAICA, 1990: para 104b). Current operating profit consequently is the excess of revenue over the current cost of the assets consumed and is all that is available for distribution. Holding gains are retained in the business to ensure that sufficient capital will be available, at the enhanced prices, to replace the assets.

The essential difference between the two concepts is in the treatment of holding gains and losses i.e. differences between the historical costs of assets and their value to the business. The financial capital maintenance concept includes holding gains/losses in profit. Under this approach increases in prices, over and above the increase in the general levels of prices, are conceptually profits. The physical capital maintenance concept, however, excludes those gains or losses from income. All price changes are viewed as changes in the measurement of the physical productive capacity of the enterprise and are, therefore, treated as part of the capital to be maintained and are not regarded as a profit.

An abridged version of entity capital maintenance has evolved during the heated 'inflation accounting' debate. It is 'seemingly nameless' but has appeared in inter alia:- SSAP 16 in the United Kingdom and ED77 in South Africa amongst others. It was an attempt to somehow combine the financial capital maintenance with the entity capital maintenance concept. This occurred because the professional bodies were reluctant to implement CCA in its pure form as it took no account of the losses on holding assets fixed in money value or the gains on liabilities held in money terms. A compromise

solution therefore involved the introduction of a 'monetary working capital' and a 'gearing' adjustment respectively.

In its natural form the gearing adjustment was an attempt to bring into 'entity' profit the gain on long term borrowings by relating it to gains resulting from holding non monetary assets (Tweedie et al, 1985: 112). Conservatism, however, led to the gearing adjustment emerging in a completely different form - an abatement of what could be deemed to be only realized holding gains (Tweedie et al, 1985: 112). These adjustments have taken many forms and shapes and a comprehensive review is beyond the scope of this paper. Suffice it to say that according to Tweedie and Whittington (1984: 296) it is clear that these methods of grafting selected financial capital maintenance adjustments onto the entity method are subject to difficult problems of definition and interpretation. These problems are probably symptomatic of an underlying conceptual confusion, arising from the pragmatic way in which these adjustments have evolved, often as compromise solutions, in the course of the controversies surrounding CCA.

The financial and physical maintenance concepts should not however be regarded as mutually exclusive. Both can be incorporated in a 'real terms' system, which reports operating profit using a physical maintenance concept but then adds various gains and losses, resulting from changes in the value of the assets and liabilities of the business to yield a final measure of total gains which is based on real financial capital maintenance. The purpose of the next section is to examine, compare and contrast the alternative capital maintenance concepts.

5.4 THE CHOICE BETWEEN THE ALTERNATIVE CAPITAL MAINTENANCE CONCEPTS

> "The selection of one capital maintenance concept from the array of available options, unavoidably takes us out of the realm of rigorous analytical proof and into the domain of subjective preferences based upon criteria introduced by the evaluator."(Revsine, 1982: 75)

There is no uniquely correct solution to the problem of inflation accounting, or to the selection of the capital maintenance concept which is one aspect of the inflation accounting problem. The selection of the appropriate concept of capital maintenance

should be based on the needs of the users of its financial statements (SAICA, 1990: para 103).

Consideration of the reporting objectives of the company could also aid in the selection of an appropriate valuation base. If a comp. is seeking to report the return on its shareholders capital then it should measure this by comparing its wealth at the end of the period with the opening shareholders capital maintained in terms of general purchasing power, a financial maintenance concept. In this way the company will show its shareholders whether or not at the end of an accounting period it has succeeded not only in preserving their initial claim on the business but in increasing the purchasing power of that claim.

The Conceptual Framework recognizes that the reporting entity is, however, viewed as a collection of different stakeholders only some of which will be its owners. Not only is the entity approach an indicator of a commitment to physical capital and its maintenance but is of relevance to a general purpose reporting system which recognizes the existence not of one particular user group but of a collection of different stakeholders concerned with capital maintenance as a means of achieving a common objective - survival of the reporting entity. The entity perspective towards capital maintenance has more appeal to managers and other employees, whose jobs may depend upon the preservation of the operating capacity of the business, than the shareholders.

The Edmonton Capital Maintenance Symposium (1982: 10) featuring academics such as Carsberg, Revsine and Lee criticizes the physical capital maintenance concept due to the difficulty experienced when dealing with the dynamics of a changing economic and technical environment. Since firms change both direction and the composition of their product ranges, and there are associated changes in the nature and composition of physical plant and facilities, the entity concept is considered inferior.

Despite this, the maintenance of operating capability may also be of some use to the shareholder, as a convenient benchmark in assessing the company's current and future potential for generating distributable cash flows and therefore gaining insight into the economic value of the shareholders interest, which may be very different from the values attributed to it in the balance sheet (Tweedie et al, 1985: 159). The proprietary approach's advocates, well aware of this, would not, therefore, contend that the

resultant proprietary profit figure is 100% distributable if it would reduce the operating capacity of the business. Lemke (1982: 305) contends that in the jungle of business competition, maintenance of the physical size of the firm might well be a condition for long run survival and survival is necessary to long run maintenance of stockholder wealth measured in any terms.

Tweedie and Whittington (1984: 293) conclude that if they were to support a single capital maintenance concept that would favor the proprietary approach. The proprietary concept supports EKM's proposal in that their approach is based on articulation of the accounts with gains in value recorded in the balance sheet being included in a measure of returns to shareholders. The intuition behind this, according to Whittington (1995: 99), is that the value of the assets will be later charged to customers through depreciation or cost of sales charges, as the assets are used to provide goods and services. Thus, if that value is achieved partly by appreciation after purchase, the appreciation is a gain to shareholders, representing a saving achieved by buying early (before the price rise) rather than later.

The proprietor is concerned with whether the present operating capacity of a firm should be maintained, rather than being committed to maintenance of the existing form of the business as embedded in this approach (EKM, 1985: 72). Moreover, the entity concept violates the articulation principle, critical to the ARR, resulting in a misleading portrayal of profit which is not useful for performance appraisal. If financial reporting is to enable investors to make efficient allocation decisions it is essential to regard each enterprise as a stock of resources to be applied in whatever use is most beneficial to the shareholder (EKM, 1985: 72). This compels a proprietary approach.

The appropriate concept of capital to be maintained, therefore, is a fund of general purchasing power , which under inflationary conditions is adjusted by a general price index. The perfect index does not however exist but the considerable degree of overlap between most individual's consumption patterns partially justifies the use of a general index. Is it not better to be approximately right than completely wrong? This approach to inflation accounting in which general index adjustment is superimposed on a current valuation base is known as Real Terms accounting

If one of the capital maintenance concepts needs to be chosen over the other, a financial capital maintenance concept triumphs. Notwithstanding this, the two can be

combined and may provide more useful information than reporting only one concept. This together with Real Terms accounting will be the subject of the next section of the chapter.

5.5 REAL TERMS ACCOUNTING

The above analysis underscores that the inflation accounting debate can be phrased or cloaked in many ways. The debate can take the form of a selection of a valuation base or a capital maintenance concept or the choice of which capital maintenance concept be combined with what valuation base. There are many advocates for all these opposing views. Some have been put to the test in standards others only proposed. A compromise solution may include a variety of information that ultimately produces a profit figure that is useful in economic decision making. EKM advocate that if VTTO is used as a valuation base, the income statement is fully articulated and a financial capital maintenance concept is employed such a profit figure will result. The resultant figure will also facilitate answers to questions about feasible distributions.

The synthesis between the two approaches of CCA and CPP to produce a Real Terms system was first advocated by H.W. Sweeney in 1936. This approach mainly differs from the proposed solution in that Replacement Cost was advocated as a valuation base. He advocated the inclusion of holding gains in income but suggested that they be split between realized and unrealized portions. Sweeny's approach remained virtually untouched and undeveloped for nearly quarter of a century. In 1961 Edwards and Bell proposed a much more elaborate presentation of the income statement distinguishing between operating and holding gains, money gains and real gains and realized and unrealized income. Edward's and Bell's profit figure provides a broad set of information that includes the effects of both general and specific price changes. Tweedie and Whittington (1984: 271) note that this is consistent with the user orientated view of accounting in that there are a variety of users with a variety of information needs.

This does not, necessarily, advocate the reporting of multiple income figures but the presentation of the information in a way that would allow the calculation by the user of alternative measures. Sterling (1982: 53), however, disagrees with offering a 'smorgasbord of data' and advocates selecting one position to avoid the possible muddled confusion and attendant dissatisfaction amongst users.

The APB's Statement of Principles Exposure Draft (1995: para 5.24) suggests that the income statement be divided into operating and holding gains. Operating gains are those gains arising from the central trading or operating activities of the business, whereas holding gains represent changes in the value of net assets of the business due to changes in market prices. The concept of operating capital maintenance may be used for distinguishing between the two types of gains. Operating gains may be defined as the gains made from the central operating activities of the business, after charging for the maintenance of the assets necessary to sustain those activities valued on a VTTO basis. Any gains in the value of those operating assets are treated as holding gains. RTA can therefore segregate operating profit from holding gains. Solomons (1986: 106) however notes that unless the respective functions can be separated the dichotomisation of income is useless for performance purposes.

The Byatt Advisory Group was set up to advise the Treasury how, and to what extent, accounting policies might be developed so that the accounts of nationalized industries can provide appropriate measures of economic cost. The Byatt Report claims that its central proposals are equally relevant to the unregulated private sector (Byatt, 1986: 10). The Byatt Report's proposals start with the reporting of current cost operating profit utilizing VTTO as the preferred valuation base. Current Cost Operating Profit (CCOP) is not however seen as the ultimate bottom line. Further adjustments are considered necessary if the objective is to measure the real economic return (Whittington, 1988: 262). These like EKM require that all changes in equity not already reflected in CCOP be added and that the effects of general inflation must be eliminated by applying a general index adjustment to opening capital. This implies that the accounts should show the profit on the basis of both operating capability and of real financial capital maintenance (Byatt, 1986: 31). Byatt (1986: 32) does not propose presenting the CCOP information in the existing profit and loss account. Instead a new statement of total invested returns would de drawn up to show profit after the maintenance of real financial capital. An example that illustrates these proposals is included in Appendix A.

Finally, both the Byatt Report and the work of EKM therefore suggest two conclusions that are contrary to popularly held beliefs (Whittington, 1988: 265):-

- Current Cost Accounting based on VTTO and using a financial capital maintenance concept has a sound justification in economic theory.
- The ARR plays an important role in the interpretation of such data and can be used as a single period proxy for the economists internal rate of return.

In his paper *'Reporting Corporate Performance - for what purpose'*, Custis (1984: 25) states that:-

> "Quick, simple answers to the problems yet to be overcome are not possible. We must make accounting as open, understandable and comparable as is practical for users of accounts. We will then be justified in making it clear to them that accounts represent the best answers we are able to give. Where appropriate, we must explain the methods adopted and draw attention to the subjective nature of many of the values stated. The user of accounts is taking part in an increasingly complicated communication process."

EKM's Real Terms accounting proposal combines the most appropriate building blocks. It communicates relevant, realistic and useful information for the purposes of performance measurement and distribution. In the final analysis however, there is no single method which will provide all the answers and this choice of income measure is explicitly dependent on the delineated objectives of financial reporting.

CHAPTER SIX
EMPIRICAL RESEARCH

"It seems extraordinary that so many people who like to think of themselves as plain, down to earth, practical men should dismiss the critical examination of models as an unpractical activity. If you do not drag out into the light the pre-suppositions of your thinking you remain simply the prisoner of whatever the reigning orthodoxy in the matter at issue happens to be. Thus the model of your age, or the model of your day, becomes your cage without you even realizing it."

(Magee cited in Bromhich and Hopwood, 1981: 134)

6.1 INTRODUCTION

Ijiri (1972: 59) states that research findings generally need to have three essential characteristics namely '... novelty, defensibility and availability'. Novelty permits us to distinguish research activities from production activities. Availability requires that research findings be made available to others. Finally the research findings must be defensible, which demands that the method of defense may vary from logical proofs to empirical verifications. The objective of this empirical study, therefore, is to accept or refute the normative generalizations that have been developed from the literature review.

The descriptive survey method is used in this report. This survey method is employed to process the data that comes to the researcher through observation and inquiry. In employing this method the researcher makes a careful record to study the observations that have been described (Leedy, 1988: 141).

The complexity and relative sophistication of the subject matter required the adoption of structured interviews as the data-gathering technique as well as the use of convenience or accidental sampling. Simple survey techniques such as the questionnaire are not appropriate as many of the questions posed require explanation and speculative discussion. Triangulation was employed, i.e. evidence from several sources - analysts, auditors and preparers - was obtained to facilitate the analysis of data from a wide spectrum of respondents. The questionnaire, the list of interviewees and a précis of the responses is included in Appendix B. Content analysis forms the foundation of the review of speculative evidence obtained to ascertain whether the

normative and empirical generalizations are supported. As the sample was selected judgmentally and is not necessarily representative of the entire population, no attempt is made to draw statistical inferences.

6.2 SALIENT FEATURES OF THE INTERVIEWS CONDUCTED

The empirical evidence obtained from the interviews will be analyzed as either refuting or supporting the following empirical generalizations developed from the normative suggestions:-

- the utility of the ARR in providing information that is useful in making economic decisions
- the benefits of utilizing VTTO as a valuation method
- the benefits of reporting comprehensive income and of utilizing a capital maintenance concept

Salient features from the interviews conducted form the foundation of the following discussion.

6.2.1 THE USEFULNESS OF THE ARR

The usefulness of the ARR was explored along three dimensions:-

- What are the objectives of investment performance appraisal and what measures are currently employed?
- Would the ARR serve as a useful input into investment performance appraisal?
- What other types of information are also considered?

6.2.1.1 What are the objectives of investment performance appraisal and what measures are currently employed?

When undertaking investment performance appraisal users are interested in predicting two fundamental factors. They are concerned with predicting the future growth in share price as well as the anticipated dividend stream. The annual financial statements play a role insofar as they help predict the future growth in share price and / or the dividend stream. In general it would appear, however, that the interviewees were concerned with the lack of usefulness of present day financial statements. They have turned to other sources of information and measures that have proven to be more indicative of future value. The interviewees attributed this to the following:-

- the financial statements do not necessarily provide the relevant predictive and correlative factors that are being sought
- the financial statements are based on historical costs which are no longer relevant and consequently of limited use
- the South African market is not efficient and the underlying reasons for changes in the share price are not necessarily related to the performance of the company's management or respurces
- access to superior sources of information, for example management
- the majority of the interviewees do not have the time available to undertake adequate reviews and therefore turn to other professionals for advice
- disclosure by the majority of the companies is inadequate and that new or more timeous information is imperative.

Despite this pessimism, the current measure utilized by the majority of the interviewees is an adjusted earnings per share (EPS) figure. This is commonly referred to as 'Headline Earnings' whereby adjustments are made for abnormal and exceptional items. One of the preparers extolled the virtues of a cash flow based measure as this is reflective of how the business is managed. Cash is the most factual basis, it is not easily manipulated, and has produced successful results. Most of the interviewees do, however, consider a range of information and measures in coming to their end decision as no one measure can serve any useful purpose in isolation. Hence the evaluation requires consideration of all the facets of a company's health. Investors are ultimately trying to procure an acceptable risk return relationship.

The perceived inefficiency of the South African market is, however, a severe limitation. One interviewee expressed the opinion that the market is only efficient when rumors are spread quickly enough. The interviewees' contend that they would like to use the financial statements for comparative purposes and for establishing trends. Any trend or measure must be comparable with prior periods and with other companies, otherwise its utility is futile.

6.2.1.2 Would the ARR serve as a useful input into investment performance appraisal?

In determining whether the ARR would be a useful input into the decision making framework the user would want firstly to observe whether any new measure has credibility and status. The market needs time to absorb and interpret new measures and enable trends to be identifiable. A new measure ought prove its utility otherwise there is no real incentive to move away from the familiar measures towards the unknown ones. A new measure that adds incremental information is beneficial but nothing can be utilized in isolation.

The ARR was perceived as having longer term implications than an EPS figure. Over time the performance of the company's management and resources could be evaluated in relation to its capital. The ARR would facilitate an evaluation of whether the funds were put to their best use in assessing alternatives. A rate of return type measure has intuitive appeal but does not, however, reflect the risk that is inherent in the investment. The opportunity cost of capital would need to be adjusted to fairly reflect differing risk profiles resulting in numerous opportunity costs for different investment proposals. Investors need comparability and an ideal measure would incorporate both a rate of return and the risk and variability in that return.

The ARR might possibly serve a specialist rather than a generalist function. Investors need to compare alternative investments in coming to a decision. They would need to rank all outcomes against a measure of risk in forming the decision. The ARR model does not necessarily allow the ranking of competing investments as the interpretation does not result in consistent outcomes. This could impede the selection process.

In general it can be [illegible] majority of the interviewees would find the ARR useful for investment performance appraisal. Whilst the result of comparing the ARR

to the opportunity cost of capital would appear to be absolute, in reality this would not be practical. Users see it as an input into rather than the decisive factor for, deciding whether to buy, hold or sell an investment.

The ARR falls into the net of useful information as it takes financial statement data and turns it into information useful for making economic decisions. The measure would, however, not be utilized in isolation but with a variety of other information and information sources.

The ARR was deduced according to the needs of the financial investor for reasons set out in Chapter 2. This favoring of one stakeholder , albeit the investor, would not be endorsed in the South African environment. Consequently the usefulness of the ARR to other stakeholders should be further explored to ascertain its usefulness in meeting their needs.

6.2.1.3 Other types of information that are considered?

Increasingly in South Africa users employ non-financial information as indicators of future performance. One interviewee was of the opinion that he is primarily interested in the quality of the management of the company, due to the present shortages of good quality management.

6.2.2 THE BENEFITS OF UTILIZING VTTO AS A VALUATION METHOD

The ARR employs VTTO as the valuation method for both assets and liabilities. The use of the VTTO valuation method was explored. The objective was to:-

- ascertain the interviewees' favored valuation method and the reasons therefor
- establish the perceived limitations of using VTTO as the valuation method
- determine whether VTTO can be reasonably calculated and verified

6.2.2.1 Ascertain the interviewees' favored valuation method and the reasons therefor

The interviewees were asked to select a valuation base and provide reasons therefor. The results are presented below:-

INTERVIEWERS CHOICE OF VALUATION METHOD

Historical Cost	3
Replacement Cost	3
VTIU	5
Net Realizable Value	1
Total	**12**

It was surprising the number of interviewees that selected HC as their favored valuation base. The reasons proposed were that '...this base is objective, verifiable and understandable'. HC is a 'standardized base' from which adjustments can be made; a new valuation method would, in one of the interviewees' opinion '...still require adjustments which would complicate an already complicated situation'. It was also felt that, except for hyper-inflationary economies, over time HC valuations are not materially incorrect.

Replacement cost was regarded by some interviewees as giving '... relevant and realistic information' for predicting the future. The interviewees supported the basic assumption underlying replacement cost accounting being continuity of the firm. This assumption requires that charges for the consumption of assets should be based on the cost of replacing them. RC was felt to be the pointer in the right direction for establishing sustainable earnings. NRV was felt to be the '...most reliable of the current valuation bases as it reflects what the firm could get for the asset', even though '...it is acknowledged that this violates the assumption of the entity as a going concern'.

6.2.2.2 Establish the perceived limitations of using VTTO as the valuation method

Those interviewees favoring VTTO claimed that the resultant figures '...were values grounded in common sense'. This valuation method considers a range of possibilities in deriving the end value. As each of the valuation bases is of potential relevance in particular circumstances it was considered natural to utilize a valuation approach which considers all three pure current valuation bases, selecting one according to its relevance to the particular assets concerned. The subjectivity of this valuation method might be a limiting factor but as one interviewee said '..we are not looking for an exact answer but a responsible indicator of value'. VTTO was felt to be a 'workable concept'. If the ARR imparts benefits, it would as a tool go a long way in encouraging the use of VTTO as a valuation method. . VTTO could require an entirely new education process that would encapsulate a comprehensive understanding of all three valuation methods and their respective underlying assumptions.

6.2.2.3 Determine whether VTTO can be reasonably calculated and verified

Current value financial statements of some form were used in managing the business by all the preparers interviewed. The precise method of valuation differed according to the type of business. This information, therefore, is available for use by management and could easily be made available to the investor. Three quarters of the preparers actually publish abridged 'current value financial statements'. The auditors expressed the view that if the information is available for use by management than it can be reasonably verified. It is as one interviewee put it '...a question of time and money, a question of the integrity of the preparer'.

6.2.3 COMPREHENSIVE INCOME, CAPITAL MAINTENANCE AND INFLATION ACCOUNTING

The ARR requires the reporting of comprehensive income and the use of a capital maintenance concept. Consequently the following was explored:-

- reporting Comprehensive Income
- utilizing and presenting a capital maintenance concept
- why inflation accounting failed in South Africa

Over two thirds of the interviewees supported the reporting of comprehensive income:-

6.2.3.1 Reporting Comprehensive Income

SUPPORT FOR REPORTING COMPREHENSIVE INCOME

YES	8
NO	4
TOTAL	12

Comprehensive income reveals the total performance of the management and resources of the company. It was felt that the user should be '...privy to all the actions of management not only those that are sustainable as every action either creates or destroys value'. This figure would in all probability be more volatile than the currently reported earnings figure but volatility is a fact of life. The analysts would like to know both about sustainable earnings and about the potential volatility of earnings in relation to performance. They would like management to report the undivided picture. This is contrasted with the need to establish trends for prediction and to forecast what is sustainable in the long run.

A balance needs to be achieved between reporting total performance against sustainable performance. It was suggested that the income statement be split between operating and non operating activity. The results from operating activities could be sustainable whilst the results from non operating activities may or may not be repeated. This could be, as suggested in Chapter 5, reported separately in two statements.

Reporting Comprehensive Income can be seen as a first step for companies to '...come clean and reveal the hidden reserves without fear of being penalized'. Investors are always looking for the characteristic of comparability. They want to be able to compare like with like. If one company discloses their hidden reserves and another company does not the former is penalized. The latter company has an '...undisclosed buffer with which they can protect themselves in the event of a poorer

performance and smooth their income if necessary'. It would be required, therefore, that all companies disclose the same levels and types of information.

The value in reporting comprehensive income was considered not only in the incremental disclosed information but also in the possibility of a reduction in the manipulation of reported earnings due to the fact that all changes in equity would now be reported. One interviewee stated that '...comprehensive income would eliminate the need to continually reconcile opening and closing capital to understand the entire years results'. Comprehensive income is well supported. Those interviewees who did not support reporting it are '...sitting on the fence ...as compared to rejecting the concept outright'.

The majority of the interviewees expressed the view that the reporting of comprehensive income should be communicated by way of two separate income statements. The foremost reflecting income from operations and the subsidiary one reflecting the total performance.

6.2.3.2 Utilizing and presenting a capital maintenance concept

The interviewees were asked to choose one capital maintenance concept; there was equal support for the entity and proprietary approaches:-

CHOICE BETWEEN THE CAPITAL MAINTENANCE CONCEPT

ENTITY CONCEPT	6
PROPRIETARY CONCEPT	6
TOTAL	**12**

Proponents for the proprietary approach consider that an investor would like to know the real rate of return earned. The financial structure of the firm, with respect to debt and equity, remains flexible and investors can choose to allocate their funds based on their expected real rate of return. The entity supporters expound the view that management is managing the operations of the business and hence this must be maintained to enable meaningful forecasts of sustainable earnings. They are looking at establishing an operating structure that will generate consistent sales at a consistent rate of profit. This operating structure is what needs to be maintained.

Despite the various reasons endorsed by the proponents the majority of the interviewees would like to see both concepts being reported:-

REPORTING BOTH THE ENTITY AND THE PROPRIETARY CAPITAL MAINTENANCE CONCEPTS

YES	10
NO	2
TOTAL	12

Reporting both concepts would '...provide the user with invaluable information as they would be privy to information that tells them the real rate of return they are earning as well as the fact that the operations that generated those returns have or have not been maintained'. Numerous advantages and disadvantages can be proposed for each concept which could sway the user choosing one over the other with real synergy being achieved if both are reported. Concern was, however, expressed that presenting both concepts might result in information overload as it is felt that there is already too much information for the users to digest.

6.2.3.3 Why inflation accounting failed in South Africa

As expected, many of the interviewees pointed out that the foundations for the calculation of the ARR are similar to those presented in many proposed solutions for inflation accounting. No acceptable standard was, however issued. This leads to one stating that reporting the impact of changing prices 'failed' in South Africa. This is not entirely true as the preparers interviewed utilize particular inflation accounting proposals in the management of their business. What failed in South Africa was the lack of a standard that was acceptable to the relevant stakeholders. A number of reasons were cited for this:-

- the lack of user demand and support for this information which may be attributable to general user apathy
- inflation accounting was not implemented uniformly by companies. Consequently, the comparability of the results was not possible. This impinged on the credibility of the reported information
- declining inflation rates

- the proposals were thought to be far too complex for the user to comprehend and digest
- the subjectivity of the resultant information as opposed to the hard verifiable HC

The reasons advocated were similar to those deduced by Pong and Whittington (1996) discussed in Chapter 5.

6.3 SUMMARY

> "The value and worth of financial reporting lies, in an almost exclusive way, in its usefulness to users. I would expect it is the rare observer who finds an aesthetic benefit or poetry in financial statements or reads notes for a clever turn of phrase. Moreover, the most elegant solution to an accounting and disclosure problem, which some may see pursuing as an interesting end in itself, like solving a puzzle, is not worth much if users do not find the solution useful." (Wallman, 1995: 83)

In summary it can be said that the interviewees found the ARR to be useful. The adjustments that are necessary to compute the ARR would also assist in providing useful information. Any change, however, not only requires an education process to overcome resistance but also may require statutory backing if it is to succeed. Users require information that is comparable in order that competing investments can be fairly evaluated. Investors are interested in profiting from their investments. In essence they are looking for indicators that will predict changes in the share price and dividend streams. The perceived inefficiency of the South African market would appear to be a limiting factor. This inefficiency might, however, have been exacerbated by the use of an inappropriate method and the disclosure of inadequate information

CHAPTER SEVEN
CONCLUSION

7.1 CONTRIBUTIONS TO ACCOUNTING

Firstly, this report has proposed an alternative method of measuring accounting profitability and an associated rate of return measure. This measure, the ARR, provides answers to economically interesting questions that assist the investor in evaluating an investment. This report has not attempted to alter the premise on which financial statements are prepared but challenges the manner of presentation. It is suggested that for too long accountants have attempted to provide a measure of Hicksian economic profit and have been misguided in the basic premise of measurement. It is proposed that it is possible to provide information that is useful in making economic decisions without presenting this figure. Users require information that permits an assessment of the relative desirability of undertaking particular activities. This can be performed by constructing an ARR type measure.

Secondly, this report furnishes an evaluation of the array of competing valuation methods. It sets out to review the arguments for and against each method with an emphasis on favoring current values over historical cost. It is concluded that each of the current valuation bases is of potential relevance in particular circumstances but the end selection is an approach to valuation that makes use of all three pure current valuation methods found in VTTO. This report provides, in many ways, a theoretical foundation for this preferred valuation method, VTTO, which has previously been referred to as a '... practical technique in search of a theoretical justification' (Whittington, 1993: 121).

Thirdly, this report advocated the reporting of comprehensive income. This would allow the user to observe the total performance of the company's management and resources for the period. There is a worldwide transition to reporting comprehensive income with an Exposure Draft in issue in both the United States and the United Kingdom. Reporting comprehensive income could also alleviate the burden on the user for detecting 'reserve accounting' and 'income smoothing'.

Finally, if profit is to answer additional questions about feasible distribution in an inflationary environment, whilst maintaining capital intact, then real earnings potential

needs to be established. Indeed, the reality is that financial reports must provide additional information about feasible distributions. The report consequently explores the two primary capital maintenance concepts and advocates the reporting of both. If, however, a choice needs to be made the report espouses the proprietary capital maintenance concept. As the proposals outlined above are similar to those proposed for inflation accounting, some of the reasons for the demise of inflation accounting are offered.

7.2 AREAS FOR FURTHER RESEARCH

The report suggests two main areas requiring further research. Firstly, research needs to be undertaken that calculates the ARR for a range of companies for a range of periods. This should facilitate the derivation and testing of a number of hypotheses. Secondly, the proposed framework for reporting the necessary information for the calculation of the ARR needs to be further tested. This should address, inter alia, whether the information is comprehensible and understandable.

7.3 CONCLUSION

Financial statements should provide information that can be useful in making economic decisions. It is no longer sufficient to provide antiquated data, that in most respects cannot be processed further. There is an urgent need to develop analytical systems for considering and anticipating changes in the business world and the mechanisms and structures to ensure that we respond appropriately from the standpoint of useful financial reporting. In this report the usefulness of the ARR was established both in the normative and the empirical studies. The result of comparing the ARR to the opportunity cost of capital has been suggested to be alternate, but in reality this is not feasible. Investors would use the ARR as an input into rather than the decisive factor for deciding whether to buy, hold or sell an investment. The proposals advocated in this paper communicate relevant, realistic and useful information for the purposes of investment performance appraisal. According to Wallman (1995: 91):-

> "The issue now is not whether we should continue to tinker with the existing financial reporting system but whether we have the knowledge, courage and vision to evolve and make forward looking changes in our reporting system that will make available to investors the most relevant and useful information."

APPENDIX A

EXAMPLE OF THE PREPARATION OF REAL TERMS ACCOUNTS

This example gives a comprehensive, yet simplistic, illustration of the preparation of Real Terms accounting statements for the year. It includes the book-keeping entries and the calculations required.

The facts of the situation are as follows:

1. The balance sheets and sales proceeds are as shown. Fixed assets, stocks and investments are stated at their value to the business.

2. Specific price increases on fixed assets, stocks, debtors and creditors are 8 percent per annum.

3. General inflation is 10 percent per annum.

4. All transactions take place at the end of the year. Stocks turn over once a year.

5. Fixed assets have a useful life of five years and are replaced at the end of that life. An additional fixed asset, to expand operating capability, is purchased at the year end.

6. The value to the business of a fixed asset is equal to the proportion of its current replacement cost, calculated on a straight line basis, represented by its unexpired life. (This is a much simplified situation.)

7. During the year investments show capital growth of 8 percent and earn 5 percent in income, calculated by reference to their opening amount.

8. For R100,000 per annum the business rents a warehouse to hold its stocks. It carries a provision for repair to the warehouse arising from damage due to a single event in the past. This provision was established on a discounted basis assuming that the assets of the business would earn a real return of 5 percent per annum. The Directors consider this provision to be part of the long term finance of the business. They believe the basis on which the provision was established to be appropriate for the future.

9. For simplicity, tax is calculated at the rate of 35 percent of profit on ordinary activities, before taxation and is due one year after the end of the year to which it relates. Deferred taxation is ignored.

10. Loan finance carries a 12 percent coupon and is repayable at par (the issue price).

11. The costs of fixed assets and of warehouse are included in distribution costs. There are further cash distribution costs of R200,000 per annum.

12. Administrative expenses are R400,000 per annum, paid in cash.

13. Costs of sales includes the historical cost of goods sold, COSA and MWCA and other costs of R100,000 per annum, paid in cash.

14. There are no other operating income or charges.

15. Changes in the volume of stocks, debtors and creditors held are indicated in the appropriate notes.

16. R500,000 of dividends are paid on the last day of the year.

17. On the last day of the year an extraordinary profit of R1,068,000, which is subject to taxation at the rate of 35 percent, is received in cash. The profit does not have any associated capital maintenance implications.

The Balance Sheet of the business at the beginning and end of the year is as follows:

	Beginning of year R'000	End of year R'000
OPERATING ASSETS		
Fixed Assets - (Note 1)	3,000	4,320
Current Assets		
Stocks (Note 2)	2,000	2,460
Debtors (Note 3)	1,500	1,720
	3,500	4,180
Creditors (Note 5)	(1,000)	(1,200)
Net Current Assets	2,500	2,980
	5,500	7,300
INVESTMENTS (Note 6)	250	417
	5,750	7,717
FINANCED BY:		
LOAN FINANCE (Note 8)	2,300	3,300
Taxation (Note 9)	350	470
FINANCING PROVISIONS (Note 10)	100	115
EQUITY		
Share Capital	3,000	3,000
Capital Maintenance Reserve (Note7)	-	300
Profit and Loss Account	372	
Other Gains Retained	-	160
	3,000	3,832
	5,750	7,717

The **Profit and Loss Account** of the business for the year is as follows:

		R'000
Turnover		4,632
Cost of sales (Note 11)		(2,300)
Gross profit		2,332
Distribution costs (Note 12)		(1,380)
Administrative expens (Note 13)		(400)
CURRENT COST OPERATING PROFIT		552
Income from investment asset (Note 6)		13
Increase in provision (Note 10)		(15)
Profit before taxation and interest payable		550
Interest payable (Note 8)		(276)
Profit on ordinary activities before taxation		274
Tax on profit on ordinary activities (Note 9)		(96)
Profit on ordinary activities after taxation		178
Extraordinary profit	1,068	
Tax on extraordinary profit	(374)	
		694
Distributable profit		872
Dividends		(500)
Distributable profit retained		372

The **Statement of Total Investment returns** of the business for the year is as follows:

	R'000
Current Cost Operating Profit	552
Depreciation and other changes, not reflected in CCOP, in the real value of operating assets in the balance sheet (Note 14)	(110)
Current Cost Operating Return	442
Investment gains (Note 6)	8
Total Investment Returns arising in ordinary course of business	450
Extraordinary profit	1,068
TOTAL INVESTMENT RETURNS ARISING IN YEAR (of which unrealized real gains R -)	1,518
Attribution of investment returns	
Real cost of loan finance (Note 8)	46
Real cost of taxation (Note 9)	435
Real return ascribed to financing provisions (Note 10)	5
Dividends	500
Total returns distributed	986
Retained in business - profit and loss account 372	
- other returns retained 160	
	532
TOTAL INVESTMENT RETURNS ARISING IN YEAR	1,518

Notes

1. Fixed Assets

	R'000
In summary:	
Depreciation on an OCM basis	1,080
Additional real decrease in current cost of fixed assets in balance sheet	60
Net book amount of fixed assets held at the beginning of the year, including replacement assets, as at the end of the year	3,240
Purchase of fixed assets at the year end to expand operating capacity	1,080
	4,320
Net effect of revaluation of current year cost and accumulated depreciation of fixed assets held at the beginning of the year	240

2. Stocks

	R'000
Current cost of stocks held at year end	2,460
Stocks purchased at year end, increasing volume of stocks held	(300)
Current cost of stocks held at year end, equivalent in volume to stocks held at the beginning of the year	2,160
Current cost of stocks held at the beginning of the year	(2,000)
COSA	160

	R'000
Impact of general inflation on stocks held throughout the year (R2m x 10%)	200
COSA	(160)
	40

3. Debtors

	R'000
Debtors at the year end	1,720
Additional volume of debtors at the year end	(100)
Debtors at the year end equivalent in volume to debtors at the beginning of the year (alternatively, debtors at the beginning of the year at specific year end prices)	1,620
Debtors at the beginning of the year	(1,500)
MWCA on debtors	120
Impact of general inflation on debtors held throughout the year (1.5m x 10%)	150

4. Cash

	R'000
Opening balance	-
Sales (Turnover of R4,632,000 less closing debtors of R1,720,000)	2,912
Receipt of extraordinary item	1,068
Receipt of opening debtors	1,500
Payment of opening creditors	(1,000)
Purchase (Year end stocks of R2,460,000 less closing creditors of R1,200,000)	(1,260)
Rent	(100)
Cash distribution costs	(200)
Cash costs of sales	(100)
Cash administrative costs	(400)
Investment income	13
Interest on loan stock	(276)
Tax paid	(350)
Dividends	(500)
Purchase of fixed assets - replacement	(1,080)
- additional	(1,080)
Proceeds of new borrowing	1,000
Closing balance (invested)	147

5. Creditors

	R'000
Creditors at the year end	1,200
Additional volume of creditors at the year end	120
Creditors at the year end equivalent in volume to creditors at the beginning of the year (alternatively, creditors at the beginning of the year at specific year end prices)	1,080
creditors at the beginning of the year	1,000
MWCA on creditors	80
Impact of general inflation on creditors held throughout the year (R1.0m x 10%)	100

6. Investment

	R'000
The value of investments at the year end is R250,000 plus 8% =	270
Impact of general inflation on investments (R250,000 x 10%)	(25)
Increase in value to the business of investments held (R270,000 - R250,000)	20
	(5)
Investment income R250,000 x 5%)	13
Investment gains	8

For balance sheet purposes investments include cash as none of the cash balances forms part of monetary working capital

	R'000
Year end balance on investments:	
Investments as shown above	270
Cash balance (Note 4)	147
	417

7. Capital Maintenance Reserve

	R'000
Opening balance	-
Monetary holding gains on investments (Note 6)	20
Monetary increase in the current cost of operating assets:	
Fixed assets (Note 1)	240
Stocks (Note 2)	160
Real holding gains on:	
Taxation due (Note 9)	(35)
Provision (note 10)	(10)
Loan finance (Note 8)	(230)
Real decrease in the current cost of operating assets:	
Fixed assets (Note 1)	60
Stocks (Note 2)	40
Debtors (Note 3)	150
Creditors (Note 5)	(100)
Real holding loss on investments (Note 6)	(5)
Closing balance	300

The closing balance is equivalent to the rate of general inflation applied to the opening amount of equity capital: R³ x 10% = R300,000

8. Loan Finance

	R,000
Interest paid (R2.3m x 12%)	276
Benefit of loan finance being fixed in money terms (R2.3m x 10%)	(230)
Real cost of loan finance	46

(Note: this real cost is equivalent to the principal at the real rate of interest of 2% i.e. R2.3m x 2%).

	R'000
Opening loans	2,300
Additional borrowing at year end	1,000
Closing loans	3,300

9. Taxation

	R'000
Tax charge for the year (computation given below)	96
Tax on extraordinary items (computation given below)	374
Benefit of taxation liabilities being fixed in money terms (R350,000 x 10%)	(35)
Real cost of taxation	435
Tax computation:	274
35% thereof	96
Tax on extraordinary items:	
Extraordinary profit	1,068
35% thereof	374

10. Provision

	R'000
Opening provision	100
Add: Increase in provision required by discounting assumption that assets representing it will achieve a real rate of return of 5%, i.e. R100,000 (10% + 5%)	15
Closing provision	115
The real increase in the provision is R100,000 x 5% =	5
The real holding gain on the provision is R100,000 x 10% =	10

11. Cost of Sales

	R'000
Historical cost of goods sold	2,000
COSA (Note 2)	160
MCWA - Debtors (Note 3)	120
- Creditors (Note 5)	(80)
Other costs (Fact 4)	100
	2,300

12. Distribution Costs

	R'000
Depreciation on an OCM basis	1,080
Rent of warehouse	100
Other (Fact 11)	200
	1,380

13. Administrative Expenses

	R'000
As given in Fact 12	400

14. Real Decrease in Current Cost of Operating Assets

	R'000
Fixed Assets (Note 1)	60
Stocks (Note 2)	40
Debtors (Note 3)	150
Creditors (Note 5)	(100)
MWCA - Debtors (Note 3)	(120)
- Creditors (Note 5)	80
	110

APPENDIX B

LIST OF INTERVIEWEES

Douglas Brooking	Ivor Jones Roy
Bob Garnett	Anglo American
Pat Dixon	University of the Witwatersrand
Charles Hattingh	P.C. Finance Research
Roger Hogarth	Afrox
Selwyn McFarlane	South African Breweries
Bill Mckenzie	KPMG
Janet Mills	Flemming Martin
Noreen Stegman	RAU
Syd Vianello	BOE Natwest
Peter Warton Hood	Rogers
Peter Wilmot	Deloitte and Touche

APPENDIX B (CONT)

QUESTIONNAIRE

QUESTION 1

The objective is to obtain the interviewee's views about investment performance appraisal, the ARR and how this measure fits into the overall objectives of financial reporting .

- For investment performance appraisal, where you have access to only the annual report, what measure are you currently using? Is the measure satisfactory based on the annual report? If not, what adjustments do you make to the financial statements?
- Would the ARR be useful in making investment decisions?
- What other types of information are utilized in making an investment decision?

QUESTION 2

The objective is twofold. Firstly, to understand the interviewees preferences amongst the valuation bases available for financial reporting purposes. Secondly to understand whether the interviewee thinks that it is feasible to use VTTO as a valuation base.

- There a number of valuation methods available, which valuation base do you prefer and why?
- If you found the ARR to be a good measure, would this encourage the use of VTTO?
- Can the values obtained from VTTO be reasonably calculated and reasonably verified?

QUESTION 3

The objective is to obtain the interviewees views towards reporting Comprehensive Income and their preference towards a capital maintenance concept

- The ARR requires that all changes in net worth be incorporated in the Income Statement resulting in the reporting of Comprehensive Income. What is your view on the reporting of Comprehensive Income?
- What concept of capital maintenance do you support why?
- Is there any benefit in displaying both the entity and the propriety capital maintenance concepts?
- Why has an acceptable solution for inflation accounting failed to be implemented?

APPENDIX B (CONT)

PRÉCIS OF RESPONSES TO QUESTIONNAIRE

QUESTION 1

1.1 For investment performance appraisal, where you have access to only the annual report, what measure are you currently using? Is the measure satisfactory based on the annual report? If not, what adjustments do you make to the financial statements?

Comments

- Investors are concerned with predicting two things:- growth in share price and dividends receivable
- Currently Earnings per share is being utilized. It is the best of a bad bunch. The lack of disclosure in SA is a serious problem which limits the usefulness of the information. Adjustments are made that eliminate extraneous and non recurring items so that sustainable EPS is deduced.
- A measure is calculated from the information provided in the annual accounts which is the increase in share price and dividends received divided by the initial investment. Whilst EPS is reviewed it is not used directly. The investor is interested in what the potential cash profits are that have been generated by the investment. Financial statement ratios are not necessarily indicative of that. Disclosure is very poor in the South African market.
- A variety of standard ratios is used from debt: equity to price earnings ratios. There is a tendency not to make to many adjustments as the information just moves further away from reality. It is difficult to judge. Our client base cannot cope with a variety of adjusted figures. Simple, clear and concise information is requisite
- It is difficult as there is an inherent lack of trust in the numbers. Allot of information is gained directly from interviews with management.
- A wide variety of performance ratios are used together, there is no single number. We are looking for a story, one number can be fudged but the whole picture tells us more. Financial statements only really play a stewardship function.
- Cash flow per share and cash equivalent per share are the measures that tell the story of company performance. Cashflow is what is used to manage both the business and the employees. Cash EPS is more difficult to manipulate than EPS and consequently more reliable and trustworthy. Investor's should use performance measures that are actually used by management to manage and motivate.
- Reported EPS in not utilized. Adjustments are made in order that extraneous and non recurring items are eliminated. Thereafter, fully diluted adjusted EPS is calculated.

1.2 Would the ARR be useful in making investment decisions?

Comments

- The ARR would be useful if it could provide information that is understandable, comparable and will facilitate the calculation of trend information
- A rate of return measure is useful as it has longer term implications than an earnings figure.
- The ARR would facilitate in evaluating the performance of the management and the resources of the company. It would assist in assessing the quality of earnings
- The ARR would be useful but would need to be comparable and understandable. Analysts would use it as an input into their framework but the test would be its success in helping to predict growth in share price and dividends.
- If the ARR can be established as a credible ratio in that it returns information over time that correlates to profitability of the investment than it will undoubtedly will be useful. Intuitively it appeals and would seem to provide information that would be directly relevant in making economic decisions.
- The ARR would appear to be able to process what was previously data into decision useful information.
- The ARR would serve a specialist rather than a generalist function. It would be useful once trends and ranking of projects can be established. If ARR's cannot be ranked this would be a limiting factor.
- The ARR would be a useful measure. It is based on current values which add immense value. It is certainly encouraging to move away from striving to report economic profit to moving to reporting a measure that can actually be calculated. The ARR could not however be used in isolation as there are many other inputs that are needed when deciding to invest or otherwise
- Even though the measure would be useful the South African audience will resist it. They are reluctant to move away from the EPS holy grail towards the unknown. Also favoring only one stakeholder, the investor, would be very unpopular.
- The ARR would be useful as it provides incremental information. It might however be too simplistic as it does not reflect any measure of risk. Users might therefor want to compare ARR's which have different risk profiles. The ARR would be useful but cannot be used in isolation.

1.3 What other types of information are utilized in making an investment decision?

Comments

- Information about the future is critical if an investment decision is to be made. Forward predictions are always useful but the underlying assumptions are very restrictive.
- The information utilized is never assessed in isolation. It always needs to be viewed relative to something. This could be a sector, a select group of companies or the market as a whole.

- The market is looking for stable trends. What is required is past and future information that will allow the user to establish what the volatility of the future earnings stream will be.
- Decision useful information is only one element in the decision making process increasingly in South Africa you are buying the skill and quality of management especially due to the current shortages
- A variety of ratios is used. Financial stability ratios are however critical, they link financial performance to risk.
- Analysts and stockbroker reports on specific sectors and companies. Investors are looking for analysis that has already been performed on the Annual Financial Statements where expert opinion and adjustments are advocated. Investors feel that they do not have the time to read and read through the AFS and its hidden corners.
- Any information that one can get their hands on which is reliable is requisite. The market in South Africa is only efficient when rumors are spread quickly enough.
- The management of the company probably provides the most useful information. They principally know the business and its prospects better than anybody else and are willing to provide that information which can be disseminated into the market.
- Gearing, interest rate cover, cash flows, etc... . A number of general ratios are used. What is imperative is that nothing is taken in isolation. Everything needs to be considered together and compared to other companies, the market and the specific sectors.

QUESTION 2

2.1 There a number of valuation methods available, which valuation base do you prefer and why?

Comments

SELECTED VALUATION BASE	ANALYSTS	AUDITORS	PROFESSIONALS
HC	1	1	1
RC		1	
VTTO	1		4
NRV	1		
TOTAL	3	2	7

- HC is objective, verifiable and understandable it is a standardized base from which adjustments can be made.
- HC is the best of a bad bunch as any new valuation method still requires adjustments which would complicate an already complicated situation.

  VTTO could require an entirely new education process that would encapsulate a comprehensive understanding of all three valuation methods and their respective underlying assumptions.
- Replacement cost provides relevant and realistic information in predicting the future. Its basic underlying assumption being continuity of the firm. This assumption requires that charges for the consumption of assets should be based on the cost of replacing them.
- RC is a pointer in the right direction for establishing sustainable earnings.
- NRV is the most reliable of the current valuation bases as it reflects what the firm could get for the asset in the event of disposal.
- VTTO values are grounded in common sense. VTTO considers a range of possibilities in deriving the end value.
- Except for hyper-inflationary economies, over time HC valuations are not materially incorrect.
- The subjectivity of VTTO method can be a limiting but there is no exact answers there are only responsible indicators of value.
- VTTO is a workable concept.

2.2 If you found the ARR to be a good measure, would this encourage the use of VTTO?

Comments

ANSWER	ANALYSTS	AUDITORS	PROFESSIONALS
YES	3	1	5
NO		1	1
UNDECIDED			1
TOTAL	3	2	7

2.3 Can the values obtained from VTTO be reasonably calculated and reasonably verified?

Comments

- If the information is available for use by management than it is possible to reasonably verify the information.
- It is possible to do anything it just takes time and time is money.
- If management is credible and uses the information to manage the business than the information should be reliable
- If there is sufficient value attached to the output of a valuation method than an attempt can be made to calculate the VTTO values.
- To be reasonably calculated you need a set of ground rules for valuing assets and liabilities. This will give consistency and comparability.
- The values will not be calculated unless preparers are told to use it. It needs to be enforced. Users will never force the issue it is all up to the standard setters.
- You are looking for a reasonable compromise situation. Rules are good and would enable preparers to attempt to calculate the values.

QUESTION 3

3.1 The ARR requires that all changes in net worth be incorporated in the Income Statement resulting in the reporting of Comprehensive Income. What is your view on the reporting of Comprehensive Income?

Comments

SUPPORT FOR REPORTING COMPREHENSIVE INCOME

	ANALYSTS	AUDITORS	PROFESSIONALS
YES	2	1	5
NO	1	1	2
TOTAL	3	2	7

- The user should be privy to all the results of the actions of management, not only those that are sustainable as every action either creates or destroys value.
- Comprehensive income would be more volatile than the currently reported earnings figure but volatility is a fact of life

- It is necessary to know the whole picture including what the sustainable earnings are and how volatile the firms total performance
- There is a need to establish trends for prediction and to forecast what is sustainable in the long run
- The problem with reporting comprehensive income is that if it is not implemented uniformly than company's that dislikes there hidden reserves are penalized. This is due to the fact that once reserves are disclosed they can no longer be used to 'smooth income'.
- Reporting comprehensive income could eliminate the need to continually reconcile opening and closing capital to understand the entire years results.
- Comprehensive Income should be reported through two separate income statements:- reflecting income from operations and the total performance respectively.
- There is inadequate disclosure of information which results in the hiding of reserves. Reporting comprehensive income would hopefully go a long way in eliminating this undesirable reporting practice.

3.2 What concept of capital maintenance do you support why? Is there any benefit in displaying both the entity and the propriety capital maintenance concepts?

Comments

CHOICE BETWEEN THE CAPITAL MAINTENANCE CONCEPT

	ANALYSTS	AUDITORS	PROFESSIONALS
PROPRIETARY	1	1	4
ENTITY	2	1	3
TOTAL	3	2	7

- An investor would like to know the real rate of return earned.
- The financial structure of the firm, with respect to debt and equity, remains flexible and investors can chose to allocate their funds based on their expected real rate of return.
- Management is managing the operations of the business and hence this must be maintained to enable meaningful forecasts of sustainable earnings. They are looking at establishing an operating structure that will generate consistent sales at a consistent rate of profit. This operating structure is what needs to be maintained.
- The entity concept is consistent with how the managers manage the business . If we are reporting on the performance of management than we should report on whether a profit was earned after the operations were maintained
- Choosing one concept really depends on who you see as the stakeholders. If we are only looking at investors than the proprietary concept wins hands down.

REPORTING BOTH THE ENTITY AND THE PROPRIETARY CAPITAL MAINTENANCE CONCEPTS

	ANALYSTS	AUDITORS	PROFESSIONALS
YES	3	2	5
NO			2
TOTAL	3	2	7

- This would provide the user with invaluable information as they would be privy to information that tells them the real rate of return they are earning as well as the fact that the operations that generated those returns have or have not been maintained.
- Real synergy can be achieved if both concepts are reported, we are giving the user all the possible information
- Presenting both concepts might result in information overload as there is already too much information.
- If both concepts were presented than we would require one in each of the two income statements. The two would also need to be reconciled to each other.

3.3 Why has an acceptable solution for inflation accounting failed to be implemented?

Comments

- the lack of user demand and support for this information which may be attributable to general user apathy.
- inflation accounting was not implemented uniformly by companies. Consequently, the comparability of the results was not possible which impinged on the credibility of the reported information.
- It is possible that the standard was not allowed to run for a sufficient length of time together with the fact that there was insufficient user education.
- declining inflation rates.
- the proposals were thought to be far too complex for the user to comprehend and digest.

APPENDIX C

TABLE OF ASSUMPTIONS, LIMITATIONS AND BENEFITS OF THE ARR, NPV AND IRR

	ASSUMPTIONS	LIMITATIONS	BENEFITS
ARR	• VTTO rules should form the basis of the valuation of the companies assets and liabilities assuming that RC is greater than NRV. • When undertaking an ex-ante analysis the rules should be applied to the group of assets as a whole; in an ex -post assessment the rules should be applied to individual assets and then summed • All changes in book value should be incorporated in the Income Statement.	• In interpreting the rankings of ARR's. • The uncertainty involved in estimating the current values of the activities in question. • In applying the VTTO rules at the aggregate level of a groups assets, firms or industries.	• Allows the user to evaluate the benefits from undertaking one activity as opposed to another • Provides information about the fensible distribution of profits in times of inflation. • Provides information for a single accounting period. • May be the theoretical underpinning for VTTO • May encourage the production of inflation adjusted accounts
IRR	• A Perfectly competitive capital market. • An equal rate of return is earned in each period. • See NPV below	• If there is more than one change in the sign of the cash flows utilized. • Information is needed for the entire lifetime of the activity. • The subjective valuation and use of forecasts • There are limited funds and a choice needs to be made between 2 mutually exclusive projects. • If short term interest rates differ from long term rates numerous cost of capital values are obtained.	• Except for the limitations discussed, IRR can lead to the same investment decisions as NPV.
NPV	• A Perfectly competitive capital market. • No barriers preventing access to the capital markets. • Access to capital markets is costless, and there are no friction's preventing the free trading of securities • The relevant information about the pricing and quality of each security is widely and freely available. • There are no distorting tax effects.	• Information is needed for the entire lifetime of the activity. • The subjective valuation and use of forecasts	• NPV is the appropriate rule to use for optimal investment decisions.

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