

Introduction

During the 1980s, the value of management accounting practice was increasingly questioned and this led to a variety of attempts to rescue the subject (Goldratt and Cox 1984, Johnson and Kaplan 1987, Lovell 1988, Shank 1989). New techniques, such as activity based costing (Cooper and Kaplan 1988), backflush accounting (Bhimani and Bromwich 1991), throughput accounting (Dugdale and Jones 1998) and target costing (Hiromoto 1988), to name but a few, were developed to respond to the challenge.

This study suggests that the root of the doubts regarding the value of management accounting practice will not be understood fully unless the foundations of the subject have been laid bare. In examining the foundations, this research considers the influence of neo-classical economics on management accounting. In terms of neo-classical economics it is assumed that decisions are made by rational, utility maximising individuals with access to perfect and freely available information. It also has a limited focus, excluding social, cultural and historical considerations, and confines decisions to a moment in time. Further, this form of economics is based on premises of limited government intervention and perfect competition in the market (Marshall 1920, Barber 1967, Oser and Brue 1988). These aforementioned limitations and assumptions do not reflect reality, and therefore management accounting practice will continue to be perceived as inept as long as it is based on neo-classical economics.

For the purpose of this study, Marshallian neo-classical economics is considered to be the core of neo-classical economics. With the wide ranging ideas included within neo-classical

economics it is necessary to choose among the various schools of thought, and to define what is meant by this term. According to the History of Economic Thought website 2001 (<http://cepa.newschool.edu/het/schools/English.htm>), the Marshallian category is associated with the work of Marshall and his followers, and was the dominant form of neo-classical economics in the English-speaking world from the 1890s to the 1930s.

The primary aim of this investigation is to assess the extent to which management accounting practice in South Africa is based on Marshallian neo-classical economics (Marshall 1920), and to consider the impact this basis has had on the value of the subject. The purpose is not to criticise Marshallian neo-classical economics *per se*, but rather to evaluate the implications of using it as a basis for management accounting, and to consider whether or not the alleged shortcomings of management accounting practice can be ascribed to any Marshallian influence.

The investigation also compares the findings regarding management accounting practice in South Africa with Marshall's influence on management accounting practice and management accounting theory in other English-speaking countries. This examination is based on an overview of the historical development of management accounting practice and theory over a period of 125 years (Shotter 1999).

The study further undertakes an in-depth analysis of the influence of Marshallian neo-classical economics on current management accounting theory in the English-speaking world (Shotter 2001). This survey of theory provides a source for exploring alternative foundations for management accounting practice.

Finally the investigation considers whether or not management accounting education in South Africa is based on Marshallian neo-classical economics, and whether or not education has been successful in bridging the gap between theory and practice (Shotter 2000).

Chapter 1 examines and discusses Marshallian neo-classical economics and concludes by identifying the main characteristics. These characteristics provide the framework for the subsequent investigation. A discussion of the assumptions and limitations of Marshallian neo-classical assumptions reveals why its application as a basis could compromise the usefulness of management accounting practice.

In chapter 2, the approach and results of the investigation into the Marshallian influence on management accounting practice in South Africa are set forth. The cross section inquiry was carried out by means of a survey of South African management accounting practitioners from companies listed on the Johannesburg Stock Exchange. The survey requested practitioners to indicate their opinions on the assumptions of Marshallian neo-classical economics, and to supply information regarding how often they applied management accounting techniques that can be traced back to Marshall.

Chapter 3 describes the results of an investigation into the influence of Marshall on management accounting practice and theory in other English-speaking countries. The results can be compared with the level of Marshallian influence on South African practice. The same investigation also allows the level of the Marshallian influence on practice, to be compared with its influence on theory. The investigation takes the form of an overview of the historical development of

management accounting practice and theory over a period of 125 years, and is, as such, a time series analysis. The investigation is based on a review of secondary literature available in the English-speaking world.

A more in-depth analysis of the Marshallian influence on current management accounting theory is reported in chapter 4 in order to ascertain the extent of the Marshallian influence. To make the survey more manageable, the landscape is classified in terms of the framework proposed by Puxty (1993). Management accounting theory without a Marshallian neo-classical basis is considered as an alternative foundation for management accounting practice. The investigation is based on a review of literature available in the English-speaking world and takes the form of a cross section analysis.

Finally, chapter 5 describes the results of the investigation of the influence of Marshallian neo-classical economics on management accounting education in South Africa. The major sources of the influence on management accounting education in South Africa are identified by means of a survey of the textbooks prescribed by universities and technikons, as well as through a review of the syllabi of accounting institutes. The content of the most influential textbooks and syllabi in 2004 are analysed by means of a cross section analysis in order to assess the degree of the Marshallian influence.

1

The characteristics of Marshallian neo-classical economics

1.1 Background

The neo-classical approach to economic analysis became popular in the late nineteenth and early twentieth centuries and has its roots in both classical economic theory and marginalism (Fellner 1960:145). While classical economists, such as Adam Smith and David Ricardo, were of the opinion that the market price is based on the cost of production (supply), marginalists suggested that it depends on diminishing marginal utility (demand) (Jevons 1896:10, Backhouse 1985:19, 71, 79, Smith 1993:53-54). Marshall (1920:348) proposed that the market price is based on both supply and demand, thereby attempting to synthesize the views held by classical economists and marginalists on the functioning of the market, to form what is now commonly referred to as neo-classical economics (Backhouse 1985:94).

As in most other disciplines, the structure of neo-classical economics simply grew as economists pursued new lines of enquiry and dropped or modified old ones. The term neo-classical economics was coined by Veblen (1899-1900). Rather than being the work of one founder, neo-classical economics consists of diverse contributions, including those of Jevons, Walras, Menger, Böhm-Bawerk, Marshall, Fisher, Wicksell, Wicksteed, Edgeworth, Pigou, Chamberlin and Robinson, to name only a few (Backhouse 1985, Groenewegen 1990:13).

The essence of neo-classical economics is not perfectly self-evident (Colander 2000). It is defined in a variety of ways and can include the economics of Alfred Marshall and the working of the free enterprise system as well as the post–World War Two Samuelsonian synthesis (Samuels 1990:3, Heilbroner 1967:156). The History of Economic Thought website (<http://cepa.newschool.edu/het/thought.htm>) identifies sixteen different schools of neo-classical thought. These sixteen are divided into two broad categories namely, Anglo-American Neoclassicism and Continental Neoclassicism, with the Anglo-American Neoclassicism tending to rely on practical and intuitive arguments, while the Continental group emphasises the importance of mathematical formalism and precision. The term neo-classical is also described in a variety of ways. Colander (2000) preferred to write “neoclassical” without the hyphen, whilst the History of Economic Thought website refers to Neoclassicism. With the wide ranging ideas and descriptions included under neo-classical economics, as described above, it is necessary to choose among the various schools of thought and descriptions, and to define what is meant by neo-classical economics for the purpose of this study.

One of the eight schools listed under Anglo-American Neoclassicism is referred to as “Alfred Marshall and the Cambridge Neoclassicals”. This category of neo-classical economics, which is associated with the work of Alfred Marshall and his followers, is adopted as the core of neo-classical economics for this investigation, but will hereinafter be referred to as “Marshallian neo-classical economics”. The reasons for choosing Marshallian neo-classical economics for this study are that this school of neo-classical economics was the dominant form of neo-classical economics in the English-speaking world from the 1890s to the 1930s

(<http://cepa.newschool.edu/het/schools>) and Barber (1967:168) regards Marshallian neo-classical economics as more representative of the generally accepted characteristics of neo-classical economics than any other school of thought. In the next section the main assumptions and characteristics of Marshallian neo-classical economics are identified for the purpose of the analysis of management accounting practice, theory and education.

Although the following assumptions are associated with Marshallian neo-classical economics, some of these are also found in other forms of economics. Marshallian neo-classical economics does not consist of a unique list of characteristics or assumptions, but rather, is recognised through the fact that most or all of these characteristics or assumptions are present. In order to identify whether or not anything or anybody has been influenced by Marshallian neo-classical economics, it is necessary to consider the extent of the combined influence of all these assumptions, rather than the influence of the individual assumptions in isolation.

1.2 The main tenets of Marshallian neo-classical economics

In neo-classical economics, market price depends on supply and demand forces. The equilibrium price is found at the point of intersection where supply is equal to demand (Barber 1967:174, Roll 1938:460, Marshall 1920:345). Supply is measured as the compensation for the efforts and sacrifices related to production (Marshall 1920:348), whilst demand depends on the diminishing marginal utility of a rational consumer (Marshall 1920,

Barber 1967:171). In constructing the supply and demand curves, economists make several assumptions. In the section that follows these assumptions are investigated more closely. The discussion concentrates on these assumptions and where relevant, some of the significant subsequent developments are also considered.

1.2.1 Rationality

One of the assumptions of Marshallian neo-classical economics is that consumers act rationally (Barber 1967:170). The rational decision-maker is believed to balance pleasures and pains optimally, as well as present and future needs (Oser and Brue 1988:214). Marshall suggested that a rational consumer's expenditure will be in equilibrium if the marginal utility derived from the last unit of money spent cannot be increased by buying an alternative product. By way of illustration, if the marginal utility derived from buying product x at the price paid for x (MU_x/P_x) exceeds the marginal utility derived from product y at the price paid for y (MU_y/P_y), the rational consumer will prefer spending his resources on product x over product y. This will continue until the utility he derives from an additional unit of x equals that derived from an additional unit of y.

Simon (1959) subsequently questioned the assumption of rationality and argued that economic agents are only able to exercise bounded rationality, reflecting a world in which individuals are unable to understand the world fully, unable to identify all possible options and unable to process all available data. Simon (1959) maintains that the business environment is too complex to understand in its entirety and decision-makers can deal only with a limited amount of

information at a time. They explore alternatives until they find an acceptable solution and do not, thereafter, continue to search for an optimal one. Similarly, Ahmed and Scapens (2000:168) suggest that economic agents operate with a form of institutional (habitual) rationality rather than global rationality. Reisman (1986:19-20) also argues that Marshall made no allowance for the possibility that "much of human action is irrational or non-rational in nature".

1.2.2 Utility maximisation

A key assumption of Marshallian neo-classical economics is that consumers pursue their own advantage in order to achieve maximum satisfaction. Satisfaction is measured by means of the law of diminishing marginal utility, which sets forth that with the addition of each unit, the increment in total satisfaction declines (Barber 1967:171). As Marshall (1920:93) states: "the marginal utility of a thing to anyone diminishes with every increase in the amount of it he already has". The rational consumer would thus be prepared to pay less for the last unit than for the preceding one and a reduction in price would be necessary to induce him to buy more (Barber 1967:171). Marshall (1920) further assumed that the price that someone will be willing to pay for something is an approximation of the utility he gets from that source.

However, Shiozawa (1999:23) points out that with the number of commodities available it is impossible for any consumer to maximise his/her utility. Similarly, Simon (1959) questions this supposition of maximum satisfaction. He applies the assumption of maximum satisfaction to decision-makers, which could pertain to consumers and suppliers, and suggests that they are content to choose an action that will lead to a satisfactory, rather than maximum return.

In accordance with the belief in an equilibrium price that will result in maximum utility, techniques modelled on neo-classical economics are assumed to generate a single, determinate, optimal solution (Samuels 1990:9). The point of intersection between the supply and demand curves represents one optimal, equilibrium price. At that point the amount produced has no tendency to be increased or decreased (Marshall 1920:345, 471-472).

1.2.3 Stationary circumstances

To meet the requirements of the law of diminishing marginal utility, Marshall (1920:461) made the assumption of a stationary state since a change in taste can cause a consumer to be willing to pay more for the next unit than for the previous one. In terms of this assumption, the average general conditions of production and consumption as well as of distribution and exchange remain much the same as time goes by. Although there is a lot of individual movement the average remains unchanged.

The demand curve allows no time for any alteration in the character or tastes of the individual decision-maker. The analysis is therefore limited to a moment in time, or a short enough period to ensure that no change in fashion or taste occurs and no substitute appears that might affect the demand (Marshall 1920:94,342).

In keeping with the premises of the stationary state, Marshall (1920:109) assumed constant real incomes for the purpose of constructing the demand curve. Hicks (1946:117) suggested

that one could assume that, under the conditions of a stationary state, entrepreneurs would expect the continuance of current tastes, techniques and resources. Thus, it will be unnecessary to distinguish between price-expectations and current prices, and accordingly, inflation is effectively ignored.

1.2.4 Partial supply and demand equilibrium

Neo-classical economics is based on the assumption that, in the long term, markets tend towards equilibrium prices where supply equals demand (Barber 1967:174, Roll 1938:460, Marshall 1920:345). Where supply and demand do not match, the prices, wage structures and required return on capital will adjust in order to equate supply and demand. This adjustment results in full employment of all the resources offered on the markets in the long run (Marshall 1920:345, Fellner 1960).

The concept of a tendency towards equilibrium in the market is not unique to neo-classical economics, but other approaches to equilibrium analysis investigate different levels and aspects of utilisation of resources. Keynesians describe an equilibrium created by effective demand where a distinction is made between workers and entrepreneurs, and employment decisions are assumed to be in the hands of entrepreneurs (Torr 1988:15). The equilibrium level of employment or, state of rest, is one in which expectations of entrepreneurs are realised (*ibid.*). Another understanding of the equilibrium concept is that of Ricardians who refer to a long run centre of gravitation (equilibrium) in which all industries are earning a

uniform rate of profit (Torr 1992:162), whilst modern or new classicists suggest that markets are always in equilibrium and that all unemployment is voluntary (Torr 1988:18).

A distinction should be made between partial and general supply and demand equilibrium. An analysis that focuses on the changes in price that can occur in one market, without taking into account changes in other markets, is called a partial equilibrium analysis; whilst an analysis that takes account of the interrelationships between prices in different markets is a general equilibrium analysis (Mansfield 1982:412-413). Whereas Marshallian neo-classical economics adopts a partial equilibrium approach to analysis, Walrasian general equilibrium analysis considers the interrelationship between prices and quantities of commodities and factors of production for the economy as a whole (Schumpeter 1954:998-999, Backhouse 1985:78). The Walrasian framework assumes static consumer preferences, production functions and factor supply schedules as well as constant returns, the absence of externalities, perfectly flexible wages and prices together with perfect competition in all markets.

Not all schools of thought subscribe to the view that the market tends towards equilibrium. Institutionalists emphasise the principle of cumulative changes in terms of which maladjustments are a normal part of economic life (Oser and Brue 1988:363-364).

1.2.5 Limited focus

The equilibrium analysis employed by Marshallian neo-classical economists focuses on a limited number of variables. This method temporarily isolates the central nervous system of

the economic process (Marshall 1920:366) and other variables are presumed to remain equal and constant (*cæteris paribus*). Marshall (1920:366) explains the application thereof, as follows: "The existence of other tendencies is not denied, but their disturbing effect is neglected for a time. The more the issue is thus narrowed, the more exactly can it be handled: but also the less closely does it correspond to real life".

This form of deductive reasoning holds a number of benefits. It is suited to the application of mathematics which in turn causes economics to become more universally understandable and economic analysis and discussion to be more rigorous and consistent (Heilbroner 1967, Barber 1967:167). Unfortunately the price of this more exact science can be a separation from reality. According to Barber (1967:166-67), economics in the hands of neo-classical economists, was restricted to that which can be quantified and largely detached from historical events and specific social or cultural circumstances (Robinson 1933:15). This predominantly micro-economic approach to analysis also accepts that a study of the behaviour of the individual economic agent will reflect the behaviour of the collective society, and interrelationships are ignored (Marshall 1920:18, Barber 1967:164, Samuels 1990:10).

In contrast with Walras and the Continental neo-classicists who placed more emphasis on the importance of rigorous mathematical analysis, Marshall (1920: 781) promoted a form of neo-classical economics that sacrificed extreme rigour in exchange for a closer approximation of reality (Backhouse 1985:100). However, in spite of his stance regarding a balanced view of the use of deductive reasoning in economics, the Marshallian neo-classical approach still has

a more limited focus than alternative approaches to economic analysis. The German Historical School placed more emphasis on the importance of studying the economy historically, as part of an integrated whole. They saw the economy and other social phenomena as interdependent, and stressed the importance of observation to understand all the facets of economic behaviour (Oser and Brue 1988:195). The Institutionalists also suggest that the economy should be studied holistically. According to them, a complex situation cannot be understood by studying merely an isolated aspect of it (Oser and Brue 1988:363). The Keynesian school has a macro-economic emphasis and is less inclined to remove problems from their context. Rather than reducing analysis to the investigation of an individual or an organization, they too attempt to study the economy as a whole (Oser and Brue 1988: 412-413).

Another perspective on the choice between rigour and reality is that of Friedman, who suggests that it is irrelevant whether the assumptions of a theory are realistic or not. What counts is whether a theory yields sufficiently accurate predictions (Friedman 1964: 14, 15). This view of Friedman was later described as instrumentalism by Boland (1979:521), who also pointed out that instrumentalism is solely concerned with (immediate) practical success and that no criteria have yet been established for measuring accurate predictions.

1.2.6 Perfect information freely available at no cost

The availability of perfect information forms an integral part of the neo-classical model (Samuels 1990:9, Ashton, Hopper and Scapens 1991:4). Marshall (1920:341) took the view

that every dealer who has a perfect knowledge of the circumstances of the market expects the equilibrium price to be established. Although it is difficult to determine how much information constitutes perfect or full information, Marshall (1920:341) suggests that the level of knowledge required is that which will be generally sufficient to prevent him from asking a lower price or paying a higher price than others. With regard to the cost of information, Reisman (1986:359) suggested that Marshall treated information and its communication as free goods, but Mattesich (1980:218) reminds us that information is not free.

Although Marshall (1920:347) acknowledged that “we cannot foresee the future perfectly”, no specific adjustments are made to allow for uncertainty or risk in the equilibrium analysis. In terms of the principles of the stationary state, the current and unchanging situation is investigated without any consideration being given to the effect of unknown factors of the future. Keynes criticised this approach and stressed the importance of recognising uncertainty in economic analysis (Backhouse 1985:382-383). According to him we should recognise that “we have only the vaguest idea of any but the most direct consequences of our actions” (Keynes 1937:216).

1.2.7 Minimal government intervention

Neo-classical economics relies on the market process to ensure an optimal and equitable distribution of resources among all the members of society whilst pursuing their own individual interests (Oser and Brue 1988:214,272, Marshall 1920:712-3). This view was inherited from classical economists such as Adam Smith (1993:22), (first published in 1776),

who states that "It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest". The marginalists and neo-classical economists implicitly supported this view by proposing minimal government intervention in the market system (Oser and Brue 1988:214, 272). However, the validity of this assumption is questioned by the Cambridge (UK) school who found a discrepancy between the behaviour that benefits the individual firm and the actions that benefit the economy as a whole (Harcourt 1972). Whereas on the one hand the neo-classical view suggests that value and distribution are based on marginalist principles, the neo-Keynesian Cambridge (UK) interpretation is that power and the inherent institutions of the capitalist system determine value and distribution. Similarly, the Institutionalists suggest that market prices are inadequate indices of individual and social welfare and that unregulated markets do not lead to the efficient and just allocation of resources. They propose government intervention in economic and social affairs (Oser and Brue 1988:364). This is also the view of the Keynesian school of economic thought which suggests that the government should intervene actively through fiscal and monetary policies to promote full employment, price stability and economic growth (Oser and Brue 1988:364, 413).

1.2.8 Much free competition

The classical, marginalist and initial neo-classical economic approaches were based on the premise that inefficiencies by organisations would result in other organisations entering the market and forcing out inefficient producers (Ashton, Hopper and Scapens 1991:7). Thus it

was assumed that perfect competition in the market would correct sub-optimal situations and lead to the optimal and appropriate allocation of productive resources.

Marshall (1920:341) did not suggest *perfect* competition. Rather, in investigating equilibrium of normal supply and demand, he assumes that “the forces of demand and supply have free play; that there is no close combination among dealers on either side, but each acts for himself, and there is *much* free competition; that is buyers generally compete freely with buyers and sellers compete freely with sellers” (italics added) (Backhouse 1985:97-98, Reisman 1986: 127).

In a subsequent development, Sraffa (1926) pointed out that in the long run, neither increasing nor decreasing returns to scale were compatible with perfect competition. If economies of scale existed, these must be internal to the industry (otherwise they would not affect the supply curve) but external to the firm (otherwise a firm would expand indefinitely until it dominated the market). Since this category of economics was hardly ever encountered, Sraffa (1926) suggested that increasing returns could not be compatible with perfect competition. He further suggested that decreasing returns could only arise in the long run through increasing factor costs, but this would raise costs in other industries, and thus lead to an increase in demand. This, however, contradicts Marshall’s assumption that supply and demand are independent, which led Sraffa (1926) to reject Marshall’s assumption of much free competition.

Robinson (1933) and Chamberlin (1937) pointed out that economic analysis should not be limited to perfect competition and monopoly but should cover a variety of market structures. These structures might include: monopolistic competition, where each producer has a

monopoly but products are very similar; oligopoly, which is a state of limited competition between few producers or sellers; and monopsony, which refers to a situation where there is either a single buyer in a market or a group of buyers acting as one (Backhouse 1985:139). Although Marshall (1920:329) did not specify these categories of market structures, he did make a distinction between perfect and imperfect competition and suggested that “about midway between these extremes lie the great majority of the markets, which the economist and the businessman have to study”.

1.3 The relationship between Marshallian neo-classical economics and the value of management accounting

A review of the various perspectives on management accounting, as set out in chapter 4, indicates that there is no consensus on the purpose of the subject. The only common threads that can be gleaned from the divergent views are that the subject should be valid, relevant and useful.

An investigation into the nature of Marshallian neo-classical assumptions reveals why using Marshallian assumptions as a foundation for management accounting could compromise the validity, relevance and usefulness of the subject. One of the assumptions is that consumers act rationally, but Simon (1959) questioned the proposition of rationality and Reisman (1986:19-20) suggested that much human action is irrational or non-rational in nature. Using Marshallian neo-classical economics as a basis therefore implies that the management accounting information cannot be applicable where decisions are made intuitively.

Another premise is that decision-makers pursue their own advantage in order to achieve maximum satisfaction, but Simon (1959) and Shiozawa (1999:23) showed that decision-makers are content to choose an action that will lead to a satisfactory rather than to a maximum return. Management accounting based on Marshallian neo-classical economics can again not be appropriate where satisfying rather than maximising decisions are made.

Marshall's (1920:461) assumption of a stationary state limits the analysis to a moment in time, and also assumes constant real incomes for the purpose of constructing the demand curve, which according to Hicks (1946:117) means, in effect, that inflation is ignored. The implication of this assumption is that information is provided on a snapshot basis and the effect of change, including inflationary change, is set aside.

It is further assumed that the market tends towards a long term equilibrium price resulting in the full employment of all the resources offered on the markets in the long run. Since the full employment of resources cannot be attained in practice, this assumption severely restricts the relevance of the subject.

Marshallian neo-classical economics focuses on a limited number of variables that can be quantified and is largely detached from historical events and specific social or cultural circumstances. It also accepts that a study of the behaviour of the individual economic agent will reflect the behaviour of the collective society, and interrelationships are ignored. This approach restricts information to that which can be quantified and disregards the influence of social, cultural and historical influences.

Other assumptions made in terms of Marshallian neo-classical economics are that perfect information is freely available and that the market process, under circumstances of much free competition, is expected to ensure an optimal and equitable distribution of resources. All these assumptions are removed from reality and it is questionable whether they are suitable as a basis for management accounting.

1.4 Summary

In this chapter the main assumptions of Marshallian neo-classical economics are identified. They are rational decision-making, utility maximisation as an incentive to action, an analysis based on stationary circumstances as well as partial supply and demand equilibrium. Further characteristics include a limited focus in terms of which optimal solutions are searched on the basis of free information available without any uncertainty. The approach also assumes that minimal government intervention will result in maximum benefit for the society as a whole, regulated by a state of much competition. An investigation into the nature of these aforementioned assumptions indicates why using them as a basis for management accounting could jeopardize the value of the subject.

The assumptions discussed in this chapter are used for the purpose of analysing management accounting practice, theory and education, as described in chapters 2 to 5.

2

The influence of Marshallian neo-classical economics on management accounting practice in South Africa

This chapter investigates the influence of Marshallian neo-classical economics on management accounting practice in South Africa. The discussion explains the research method, considers the reliability of the results, and analyses the outcome of the research among management accounting practitioners in South Africa.

2.1 Research method

In assessing to what extent management accounting practice in South Africa is influenced by Marshallian neo-classical economics, it was decided to apply a field research approach. This method was preferred since it is possible to obtain information from persons in their natural settings, whereas in terms of the experimental approach, the setting is controlled in order to infer a causal relationship (Graziano and Raulin 1993:115, 274, 277). It is not the objective of this investigation to infer a causal relationship.

In choosing between a survey and a case study, it was decided to employ the field research approach since this method is suitable for obtaining descriptive information about the attitudes, beliefs and behaviour of the population (Graziano and Raulin 1993:277,300).

Although a case-study has a superior explanatory value (Ferreira and Merchant 1992, Otley and Berry 1994), a survey is favoured since this particular study is designed to establish *whether or not* Marshallian neo-classical economics forms the basis of management accounting, and not *why* it forms the basis. The results are also more representative of the population and the investigation can be replicated.

Further decisions regarding the research method include choices between a longitudinal, time series and a cross sectional design. Since only a limited period was available it was decided to perform a cross sectional rather than a time-series or longitudinal study, which is useful only if carried out over a period of several years.

A questionnaire was used to conduct the survey and was based on a study of the main characteristics and assumptions of Marshallian neo-classical economics as identified in chapter 1. It aimed to assess to what extent the techniques applied and opinions of management accounting practitioners are based on these characteristics and assumptions.

The population consists of the management accountants of the South African companies that were listed on the Johannesburg Stock Exchange from 30 April 2004 to 2 July 2004. All the listed companies were included and only foreign companies were excluded from the population. The list of companies from the Johannesburg Stock Exchange was obtained from the McGregor Bureau for Financial Analysis (University of Pretoria, South Africa), and amounted to 344 companies. Companies that were listed from 30 April 2004 to 2 July 2004

were included since the first circulation was based on the list of 30 April 2004 and the second circulation took place on 2 July 2004.

The reason for selecting listed companies is that companies of this magnitude are more likely to have a management accounting system than smaller companies. The listing requirements indicate that the minimum size of issued share capital is R25 million in the case of the main board, R0.5 million for the Venture capital market companies, R1 million for the Development capital market companies and R2 million in the case of the alternative exchange. Additionally, by choosing listed companies the population includes management accountants from a variety of educational backgrounds, rather than just one professional qualification or academic institution. The listed companies also have a wide variety of operations.

A pilot questionnaire was tested by first circulating it among five academics who specialise in accounting or economics and two management accounting practitioners who fall outside the defined population. The pilot included a blind completion of the questionnaire as well as discussion of items that needed to be clarified. The questionnaires were circulated by means of conventional mail to ensure that they reached the recipients in the intended format.

An electronic mail address was provided in case recipients required further information or requested a summary of the results. The questionnaires were accompanied by a covering letter wherein respondents were given the assurance that results would be treated as strictly confidential and that no results regarding individual companies would be made public. To

increase the potential response rate, the questionnaire was kept as short as possible and was edited by a language specialist.

Closed questions were used as they are easier to complete, process and analyse. These closed questions were presented in a Likert scale or multiple-choice format. A closed question gives the respondent a limited number of options, whilst with an open question the response is unpredictable. The questionnaire was discussed with a consultant from the Department of Statistics of the University of Pretoria to ensure that it complied with the stated objectives and that it met the requirements for statistical testing.

No sampling was carried out and all 344 companies identified as the population were included in the circulation. The first circulation took place on 12 May 2004 and the second circulation on 2 July 2004. The circulation was closed on 25 August 2004, thus allowing 51 days between the first and the second circulation and 54 days between the second circulation and closing date. Due to unavailability of contact details at the time of the first circulation, seven questionnaires were sent out late, but these questionnaires were treated consistently with the others, namely allowing 51 days between the first and second circulation and 54 days between the second circulation and the closing date, in order to ensure that there would be no risk of bias in the way these respondents were treated. 134 responses were received from the 344 questionnaires circulated, resulting in a response rate of 39%. Although 134 questionnaires were returned, the respondents did not in all instances complete all the questions. This is reflected in the discussion of the results of the individual questions, where the number of responses received for that particular question is indicated.

2.2 Reliability of the results

To assess the reliability of the results, some background information was obtained regarding the respondents and their companies. The survey was aimed at management accounting practitioners, and therefore three questions were included to gain an impression of the extent to which the questionnaires were completed by persons who practice management accounting. These questions included information on the position and educational background of the person completing the questionnaire, as well as the time dedicated by them at work to management accounting.

Furthermore, two questions were asked to assess to what extent the response received was representative of the population. These questions requested information on the sector and size of the companies of the respondents.

2.2.1 Profile of the respondents

Question 1 requested the respondent to name his or her position in the organisation, whilst question 2 asked the respondent to indicate the percentage of his or her time dedicated to management accounting.

Of the 126 respondents for question 1, 90 described their positions as financial director, managing director, director (other), manager, officer, controller, company secretary or executive. 18 respondents could best be described as accountants, 17 as management

accountants and one respondent was an internal auditor. From these descriptions of their positions, it can be deduced that most of the respondents were either responsible for management accounting in the organization or were responsible for overseeing management accounting duties. It therefore seems appropriate to take the views expressed in the response as an indication of the views of management accounting practitioners.

The response showed that 74% of the 129 respondents to question 2 spend more than 20% of their time on management accounting, 44% spend more than 40% of their time, and 20% spend more than 60% of their time on management accounting tasks. This response confirms the impression gained in the previous question that the respondents are in positions where they are responsible for management accounting tasks and where they spend a significant proportion of their time in executing these tasks.

In question 3 where respondents were asked to indicate their qualifications and how long ago these qualifications were obtained, the response was as summarised in table 2.1:

Table 2.1 Qualifications of respondents

| Qualification | ≤ 10 years | 11 - 20 years | ≥ 21 years | Total | Percentage of total |
|----------------------|-------------------|----------------------|-------------------|--------------|----------------------------|
| CIMA | 7 | 4 | 2 | 13 | 8% |
| CA(SA) | 46 | 31 | 15 | 92 | 53% |
| Degree | 16 | 10 | 13 | 39 | 23% |
| Diploma | 3 | 1 | 3 | 7 | 4% |
| CIS | 2 | 1 | 3 | 6 | 3% |
| Other (specify) | 8 | 4 | 3 | 15 | 9% |
| Total | 82 | 51 | 39 | 172 | 100% |
| % of total | 48% | 29% | 23% | 100% | |

Respondents were given the option to indicate more than one qualification. Of the other qualifications that were specified, six indicated that they had further management qualifications, four had other accounting qualifications, two had banking and one had insurance related qualifications. Further qualifications included CMO and Insead IEP.

66% of the respondents have qualifications that are clearly identifiable as accounting qualifications, which confirms the aforementioned observations that respondents are likely to be in management accounting roles and have an understanding of the subject of management accounting.

2.2.2 Sectors of the Johannesburg Stock Exchange

The population consisted of all the companies listed on the Johannesburg Stock Exchange for the period 30 April 2004 through to 2 July 2004, to incorporate the dates of the first and second circulations. Foreign companies were excluded. To ensure that the response was distributed evenly and representative of all the sectors of the Johannesburg Stock Exchange, respondents were requested to indicate their sectors. The response is indicated in table 2.2:

Table 2.2 Sectors of companies of respondents

| | Sector | Response | Population | % |
|----|-----------------------------|-----------------|-------------------|----------|
| 1 | Resources | 17 | 38 | 45% |
| 2 | Basic industries | 12 | 26 | 46% |
| 3 | General industrials | 10 | 21 | 48% |
| 4 | Cyclical consumer goods | 9 | 18 | 50% |
| 5 | Non-cyclical consumer goods | 18 | 22 | 82% |
| 6 | Cyclical services | 19 | 76 | 25% |
| 7 | Non cyclical services | 4 | 5 | 80% |
| 8 | Financials | 29 | 81 | 36% |
| 9 | Information technology | 12 | 25 | 48% |
| 10 | Venture capital | 2 | 17 | 12% |
| 11 | Development capital | 1 | 13 | 8% |
| 12 | Alternative exchange | 1 | 2 | 50% |
| | Total | 134 | 344 | 39% |

From the above it seems appropriate to generalize the conclusions made to all the sectors of the Johannesburg Stock Exchange, with the exception of the Venture and Development capital sectors. These results support the approach of focusing on listed companies, since larger companies are more likely to have management accountants, as explained in 2.1. The minimum required size for the Venture and Development sector companies is much lower than that of the Main board and the Alternative exchange.

2.2.3 Size of the companies

In order to assess whether or not the response obtained was biased towards a certain group size, the respondents were requested to indicate approximate number of employees at the

time of completing the questionnaire. The response is summarised in column 1 of table 2.3.

Table 2.3 Number of employees of companies of respondents

| Employees | Number of respondents | Population | Revised population | Percentage |
|--------------------------|------------------------------|-------------------|---------------------------|-------------------|
| 5000 or less | 98 | 153 | 240 | 41% |
| 5 001 to 10 000 | 11 | 21 | 33 | 33% |
| 10 001 to 50 000 | 22 | 41 | 64 | 34% |
| 50 001 to 100 000 | 3 | 4 | 7 | 43% |
| 100 001 to 150 000 | 0 | 0 | 0 | - |
| More than 150 000 | 0 | 0 | 0 | - |
| Undisclosed | | 125 | | |
| Total respondents | 134 | 344 | 344 | 39% |

The information given in table 2.3 regarding the number of employees of the population was obtained from the McGregor Bureau for Financial Analysis at the University of Pretoria. In their records 125, of the 344 companies did not disclose information regarding the number of their employees, and are given in the second column of table 2.3 as undisclosed. In this survey, respondents did not have the option to withhold the information regarding the number of employees and none failed to complete this question. Two assumptions can be made about these respondents, namely that they either disclosed the number of employees as 0, in which case they would have opted for the 0-5000 bracket, or alternatively that they were willing to disclose the information in a anonymous survey where only estimates were requested and options are given in the form of wide brackets. For the purpose of this study the second assumption is made, namely, that respondents did disclose the number of employees. It was therefore decided to allocate these 125 evenly to the population, in proportion to the other companies in the population who have chosen to disclose their number of employees to the McGregor Bureau for Financial Analysis.

Subject to the assumption about the companies who have not disclosed their number of employees, it appears as if the respondents are representative of all the sizes of companies in the population.

2.3 Results of the survey : The main tenets of Marshallian neo-classical economics

The questionnaire (see appendix 2) is designed in order to assess to what extent management accounting practitioners in South Africa have been influenced by the main characteristics of Marshallian neo-classical economics. The results are firstly discussed according to the main tenets identified in chapter 1.

The discussion that follows include only a basic description of the eight assumptions of Marshallian neo-classical economics, followed by a summary of the empirical tests carried out to test the application of these assumptions by management accounting practitioners in South Africa. For a more detail discussion of these assumptions refer to 1.2.1 to 1.2.8.

2.3.1 Rationality

As discussed in more detail in chapter 1, one of the assumptions of Marshallian neo-classical economics is that consumers act rationally (Barber 1967:170). The rational or reasoning decision-maker is believed to balance pleasures and pains as well as present and future needs in a calculating way (Oser and Brue 1988:214).

In question 9 of the questionnaire, the respondents were asked to describe the decision-making process in South Africa, in commerce in general. 45% of the 131 respondents to this question felt that the process is mostly intuitive, whilst 55 % described it as reasoned or calculated. No respondents experienced the process as entirely intuitive.

Based on the response it appears as if the majority of management practitioners in South Africa perceive decision-making in South Africa to be rational but a significant percentage of the respondents thought that decisions are made mostly intuitively.

2.3.2 Utility maximisation

Another assumption of Marshallian neo-classical economics is that decision-makers pursue their own advantage in order to achieve maximum satisfaction. However, Simon (1959) suggested that the business environment is too complex to understand in its entirety and decision-makers can deal only with a limited amount of information at a time. They therefore explore alternatives until they find a solution that will lead to a satisfactory rather than to a maximum return. Shiozawa (1999:23) concurs and points out that with the number of commodities available, it is impossible for any consumer to maximise his/her utility. This is discussed in section 1.2.2.

In question 10 of the questionnaire, 43% of the 132 respondents were of the opinion that commerce in general in South Africa seeks satisfactory returns, while 57% stated that they think commerce in general seeks maximising returns. Based on the response it appears that the majority of the practitioners are of the opinion that decision-makers pursue maximum

satisfaction but that a large proportion of respondents support the view of decision-makers seeking satisfactory returns, as put forward by Simon (1959).

2.3.3 Stationary circumstances

To meet the requirements of the law of diminishing marginal utility, Marshall (1920:461) made the assumption of a stationary state since a change in taste can cause a consumer to be willing to pay more for the next unit than for the previous one. In terms of this assumption the average general conditions of production and consumption as well as of distribution and exchange remain much the same as time goes by (1.2.3).

Practitioners were asked in questions 8.5, 8.6 and 8.7, whether or not management accounting techniques encouraged them to take changes in sales, expenses and inflation into account and the response is summarised in table 2.4:

Table 2.4 Changes in sales, expenses and inflation

| | Never | Sometimes | Always | Respondents to this question |
|--------------------------------------|-------|-----------|--------|------------------------------|
| Changes in estimated sales | 12 | 24 | 96 | 132 |
| | 9% | 18% | 73% | 100% |
| Changes in estimated expenses | 9 | 22 | 101 | 132 |
| | 7% | 17% | 76% | 100% |
| Inflation | 12 | 35 | 86 | 133 |
| | 9% | 26% | 65% | 100% |

It appears from the above response that the limiting influence of the stationary circumstances approach has largely been set aside by management accounting practitioners in South Africa.

The majority of respondents indicated that management accounting techniques always encourage them to take account of changes in estimated sales, expenses and inflation.

2.3.4 Partial supply and demand equilibrium

Neo-classical economics is based on the assumption that in the long term the market tends towards an equilibrium price where supply equals demand (Barber 1967:174, Roll 1938:460, Marshall 1920:345). Where supply and demand do not match, the prices, wage structures and required return on capital will adjust in order to equate supply and demand, resulting in full employment of all the resources offered on the markets in the long run (Marshall 1920:345, Fellner 1960) (1.2.4).

In question 15 the management accounting practitioners were requested to indicate whether or not they think that the market tends towards an equilibrium price where supply equals demand, and whether or not they think that this tendency exists in one product or service market or in all markets. Marshallian neo-classical economics accepts partial supply and demand equilibrium, meaning equilibrium in one market, whilst Walrasian supply and demand equilibrium suggests general equilibrium in all markets (1.2.4). The response of the practitioners is summarised in table 2.5.

Table 2.5 Partial supply and demand equilibrium

| Market | Never | Sometimes | Always | Respondents to this question |
|---|--------------|------------------|---------------|-------------------------------------|
| In <i>one</i> product or service market | 23 | 76 | 31 | 109 |
| | 18% | 59% | 23% | 100% |
| In <i>all</i> markets | 10 | 86 | 36 | 132 |
| | 8% | 65% | 27% | 100% |

It appears from the results that the respondents did not fully comprehend the meaning of the question, which limits the usefulness of the results. Whereas 23 respondents thought that it will never be possible to have equilibrium in one product or service market, only 10 thought it impossible to achieve equilibrium in all markets. Obtaining equilibrium in all markets is much more difficult than in only one, and these results are therefore deemed to be contradictory.

Nonetheless, it appears from the findings that respondents are of the opinion that it is possible to obtain equilibrium, either sometimes or always. Only 18% felt that equilibrium can never occur in all markets and 8% that it can never take place in one market.

2.3.5 Limited focus

As explained in 1.2.5, the equilibrium analysis employed by neo-classical economists selects a limited number of variables to investigate. This method sets the economic process apart from those other variables that are assumed to remain equal and constant (Marshall 1920:366), which could result in economics becoming largely detached from historical events and specific social or cultural circumstances (Barber 1967:166-67, Robinson 1933: 15).

In questions 8.1, 8.2, 8.3 and 8.4, management accounting practitioners in South Africa were asked whether or not management accounting techniques encourage them to take cultural, historical, social and environmental factors into consideration and the response is given in table 2.6.

Table 2.6 Cultural, historical, social and environmental factors

| Factor | Never | Sometimes | Always | Respondents to this question |
|----------------------|--------------|------------------|---------------|-------------------------------------|
| Cultural | 96 | 31 | 4 | 131 |
| % | 73% | 24% | 3% | 100% |
| Historical | 40 | 50 | 42 | 132 |
| % | 30% | 38% | 32% | 100% |
| Social | 70 | 55 | 6 | 131 |
| % | 53% | 42% | 5% | 100% |
| Environmental | 59 | 53 | 20 | 132 |
| % | 45% | 40% | 15% | 100% |

It appears from the above table that management accounting techniques often fail to encourage practitioners to incorporate cultural, historical, social and environmental factors.

When asked in question 11 whether or not respondents think that the same management accounting techniques can be applied in different countries with different business cultures, 14% of the 132 respondents to this question thought that it will always be suitable in different countries, 75% thought that it would mostly be suitable, 9% thought it would seldom be appropriate and only 2% thought it would never be suitable. This response is a reflection of the belief that management accounting techniques are universally applicable and that it is not

deemed necessary to adapt techniques for the different cultural circumstances found in different countries.

It appears from the response of the practitioners that the management accounting techniques have a limited focus and do not encourage them to take cultural, historical, social and environmental factors into consideration.

2.3.6 Perfect information freely available at no cost

As discussed in 1.2.6, the availability of perfect information is a central theme of the neo-classical model (Samuels 1990: 9, Ashton, Hopper and Scapens 1991:4). Marshall (1920:341) suggested that every dealer who has a perfect knowledge of the circumstances of the market expects the equilibrium price to be established.

When asked in questions 6.4, 6.5 and 6.6, how often they applied management accounting techniques that allow for risk, 64% of the respondents to this question indicated that they applied simulation annually or less often than annually, 58% applied sensitivity analysis annually or less often than annually and 64% used expected values annually or less often than annually. Simulation allows for risk by considering probability distributions for various factors that might affect the outcome of a decision, whilst sensitivity analysis takes risk into account by assessing how responsive the outcome of a decision is to changes in the variable considered (Drury 1992:404-405). Expected values are calculated by weighing possible outcomes by its associated probabilities, thus providing for risk (Drury 1992:322).

Table 2.7 Risk

| Technique | Weekly | Monthly | Annually | Never | Respondents to this question |
|----------------------|---------------|----------------|-----------------|--------------|-------------------------------------|
| Simulation | 2 | 40 | 40 | 34 | 116 |
| % | 1% | 35% | 35% | 29% | 100% |
| Sensitivity analysis | 10 | 41 | 52 | 18 | 121 |
| % | 8% | 34% | 43% | 15% | 100% |
| Expected values | 5 | 34 | 35 | 33 | 107 |
| % | 5% | 32% | 33% | 30% | 100% |

Based on the results of the response shown in table 2.7 it appears the majority of respondents do not often apply techniques that allow for risk.

With regard to the cost of information, Reisman (1986:359) suggested that Marshall treated information and its communication as free goods, but information is not obtained for free (Mattesich 1980:218). When asked in question 7 whether or not management accounting techniques used by the respondents take the cost of information into account, 40% of the 134 respondents to this question said never, 37% thought it was seldom the case, 18% thought that the techniques often did take the cost of information into account whilst 13% indicated that they always did.

It appears from the above that the majority of respondents are of the opinion that they do not apply management accounting techniques that take the cost of information into account.

2.3.7 Minimal government intervention

Marshallian neo-classical economics expects the market process to ensure an optimal and equitable distribution of resources among all the members of society, whilst working towards their own individual interests (Oser and Brue 1988:214,272, Marshall 1920:712-3) (cf. 1.2.7).

When respondents were asked in question 12 what level of government intervention they thought would be best for society as a whole, 10% of the respondents to this question felt that no government intervention will be best, 72% felt that a minimal amount of intervention will be optimal, whilst 18% preferred a moderate amount of intervention. None of the respondents favoured extensive intervention.

Respondents were also asked in question 13 whether they think that the way resources are distributed by means of the free market is fair. 8% of respondents to this question thought that it was completely fair, 81% thought that it was mostly fair, whilst 10% viewed it as mostly unfair. Only 1% thought that it was completely unfair. It appears from the above results that the vast majority of respondents support the Marshallian neo-classical approach which suggests that government intervention should be minimal and that the free market will mostly result in a fair distribution of resources.

It appears from the response as if the management accounting practitioners deem a minimal level of government intervention as best for society as a whole.

2.3.8 Much free competition

The classical, marginalist and initial neo-classical economic approaches suggested that inefficiencies by organisations would lead to other competitors entering the market and driving out inefficient producers (Ashton, Hopper and Scapens 1991:7). Perfect competition in the market would thus lead to the optimal and appropriate allocation of productive resources. Marshall (1920:341) did not suggest “perfect competition”, but rather assumed a state of “much free competition” (Backhouse 1985:97-98, Reisman 1986: 127, cf. 1.2.8).

The design of question 14 takes into account that practitioners might not clearly understand the use of the phrase “much free competition” or the distinction between “much” and “perfect competition”. Instead they were asked to indicate whether they thought competition made a 1) predominant, 2) important 3) limited or 4) insignificant contribution to the functioning of the free market. 34% of the 131 respondents thought it played a predominant role and 63% deemed the role of competition to be important. Only 3% thought that it made a limited contribution, and no respondents thought it played an insignificant role. Although the results do not allow us to make a conclusion about Marshall’s “much free competition”, it appears that management accountants in South Africa do believe that competition plays an important, but not a predominant, role in the functioning of the free market.

2.4 Management accounting techniques

Several of the management accounting techniques that are referred to in management accounting textbooks can be traced to the writings of Marshall. The concepts of the time value of money

and compensation for risk, which form the cornerstone of capital budgeting, were discussed by Marshall in 1890 (Marshall 1920:353) and the costs that are relevant for decision-making are addressed by Marshall in several instances (1920:360,374-375, 376).

When asked in questions 6.2 and 6.3 how often the respondents apply these techniques, the replies were as summarised in table 2.8.

Table 2.8 Management accounting techniques

| Technique | Weekly | Monthly | Annually or less often | Never | Respondents to this question |
|----------------------|---------------|----------------|-------------------------------|--------------|-------------------------------------|
| Discounted cash flow | 13 | 51 | 52 | 9 | 125 |
| % | 10% | 41% | 42% | 7% | 100% |
| Relevant costing | 19 | 49 | 23 | 25 | 116 |
| % | 16% | 42% | 20% | 22% | 100% |

It appears from table 2.8 that the respondents regularly apply both these techniques that can be traced back to the writings of Marshall.

Marshall (1920:94,342) further distinguished between the market, the short term, the long term as well as the secular periods for the purpose of creating the supply curve. The costs incurred in the short term are divided into prime and supplementary costs, which are referred to in modern conventional management accounting textbooks as “variable” and “fixed” costs. Cost-volume-profit analysis is based on this distinction between the aforementioned fixed and variable costs.

In question 6.1, respondents were asked to indicate how often the cost-volume-profit technique is applied in their organization. 15% of the respondents to this question said that

they used it weekly, 44% used it monthly, 26% used it annually or less often and only 15 % never used it. Since 59 % used the technique at least monthly, it can be deduced that the use of the technique is prevalent amongst management accounting practitioners in South Africa.

2.5 Combined average values

As explained under 1.1, Marshallian neo-classical economics does not consist of a unique list of characteristics or assumptions and some of the Marshallian assumptions can also be found in other forms of economics. The Marshallian form can be recognised through the combined existence of most or all of these characteristics or assumptions. In order to identify whether anything or anybody has been influenced by Marshallian neo-classical economics, it is necessary to consider the extent of the combined influence of all these assumptions, rather than by evaluating the influence of the individual assumptions in isolation.

To assess what influence Marshallian neo-classical economics has had on management accounting practice in general, averages were determined of several variables. These variables included the techniques applied and opinions of management accountants. A combined value of techniques applied and opinions should give an impression of the Marshallian influence on their practice in general.

The reason for including the opinions of the practitioners is that some of the tenets of Marshallian neo-classical economics are more closely related to the opinions of the practitioners than the techniques applied by them. It will, for example, not be possible to

judge whether practitioners subscribe to limited government intervention or much free competition, by asking them whether they apply a specific technique. It is necessary to obtain the opinions of practitioners on these matters in order to gain an impression of the application of these tenets to management accounting practice in South Africa, in general.

The Wilcoxon Signed Rank test was performed on a combination of the practice of management accounting practitioners, which included the techniques applied by them, as well as their opinions. The average value of their practice was calculated as 0.57, which can be accepted in term of the Wilcoxon Signed Rank test as significantly higher than 0.5, leading to the deduction that Marshallian neo-classical economics has had an influence on management accounting practice in South Africa.

2.6 Conclusion

This chapter considers the influence of Marshallian neo-classical economics on management accounting practice in South Africa, based on a survey of practitioners from companies listed on the Johannesburg Stock Exchange.

From the information obtained to assess the reliability of the results, it appears that the questionnaires were primarily completed by people who practice management accounting, and that the response received was representative of the whole population, with the exception of the Venture and Development capital markets. The discussion firstly addresses the

influence on the main tenets of Marshallian neo-classical economics and then considers the influence as reflected by a combined average value of their practices.

With regard to the main tenets as identified in chapter 1, there appears to be a mixed response. Marshallian neo-classical economics seems to have a strong influence on the practitioners' opinions regarding the level of government intervention. Practitioners also apply management accounting techniques with a limited focus and allow neither for cultural, historical, social or environmental factors nor for risk or the cost of information. Furthermore, they believe that management accounting techniques are universally understandable and that the diverse cultural and social backgrounds of organizations in different countries are unlikely to undermine the suitability of these techniques.

However, in the case of stationary circumstances, the limiting influence of Marshallian neo-classical economics has largely been set aside.

Insofar as the other characteristics are concerned, namely their opinion on the decision-making process in South Africa, as well as on the search for maximising returns in commerce in general, they appear to have been influenced by Marshallian neo-classical economics, but only to a limited extent. Similarly, as regards their opinion on the role of free competition in the market as well as on the possibility of obtaining equilibrium in the market, there seems to have been a limited level of influence. Due to an ambivalent response regarding the possibility of a partial versus a general equilibrium in the market, it is not possible to draw a conclusion on their opinions regarding these alternatives.

The tests performed on the individual characteristics indicate that Marshallian neo-classical economics has had an impact on management accounting practice in South Africa, but that in the case of several of the tenets and practices, practitioners are starting to move away from its limiting influence.

The statistical tests performed on the combined average value of the practices of management accountants, as expressed in the techniques applied by them and in their opinions, indicate that Marshallian neo-classical economics has had a significant influence on management accounting practice in South Africa.

It is, therefore, appropriate to accept that management accounting practice in South Africa is based on Marshallian neo-classical economics.

3

The influence of Marshallian neo-classical economics on the historical development of management accounting practice and theory

3.1 Introduction

The aim of this chapter is to assess to what extent the historical development of management accounting in other English-speaking countries has been influenced by Marshallian neo-classical economics, and to compare that level of influence with the influence on management accounting practice in South Africa. The historical overview incorporates both management accounting practice and theory. The Marshallian influence is examined in the light of the characteristics identified in chapter 1.

The inquiry is designed to provide an overview of the historical development of management accounting by referring to literature available in English. Although it is recognised that significant advancements occurred in several countries, the focus of this chapter is on the historical developments that took place in the English-speaking world, and in particular in the United Kingdom and in the United States of America (Shotter 1999).

During the 1920s the role of cost accounting broadened when its value was recognised not only for reducing factory expenses, but also for policy and decision making (Chatfield 1977:176).

This broader role of cost accounting eventually resulted in the name of the subject being changed to management accounting in the 1960s (Freedman 1992). The new name of management accounting incorporates cost accounting and it is not deemed necessary to distinguish between cost accounting and management accounting for purposes of reviewing its development. These terms are thus used interchangeably. Earlier developments (prior to the 1960s) are usually labelled in terms of cost accounting, whilst more recent developments are generally described as management accounting.

The distinction between practice and theory is not always self-evident but, for the purpose of this study, practice is seen as techniques that are applied in practice, whilst theory is seen as a means of understanding the world. It is also not always possible to pinpoint the date of the inception of a practice or theory, and for the purpose of this investigation the dates of publications related to these advancements are taken as indicative of the period of development.

Since the neo-classical approach to economic analysis became popular in the late nineteenth and early twentieth centuries and since Marshall's most influential book was first published in 1890, namely *Principles of economics*, it can be assumed that Marshallian neo-classical economics would not have had a significant influence on the developments of management accounting prior to 1880. This chapter thus investigates developments subsequent to 1880.

In order to make the discussion of the historical developments of the subject more manageable, the investigation is approached chronologically and the period of 125 years has been divided into four stages namely:

- the scientific management period (1880-1914);
- the period including the two World Wars (1915-1945);
- the period after the Second World War to 1970 (1946-1970); and
- the period from 1971 to 2005.

The ensuing discussion includes a review of the background and the specific developments that occurred during each of these four periods. In 3.6 the specific developments are presented in table form, distinguishing between management accounting practice (table 3.1) and management accounting theory (table 3.2). The tables summarise the developments and highlight the change in the level of influence of Marshallian neo-classical economics on the development of management accounting practice and theory, respectively.

3.2 The scientific management era (1880-1914)

3.2.1 Background

Prior to 1880 three watersheds influenced the development of the commercial world, namely the Industrial Revolution, the coming of the railways and the invention of the telegraph.

The Industrial Revolution, which gained momentum roughly between 1760 and 1830, can be ascribed to a vast number of reasons, but the most well known are the technical inventions that changed the manufacturing world. In Britain the Industrial Revolution was also associated with

a sharp growth in population, a more extensive use of capital, the conversion of rural communities into urban communities and a rise in new social classes (Ashton 1948).

In the United States of America the effect of the Industrial Revolution was not as marked and immediate as in the United Kingdom. Although it did have an indirect impact on the economy of the United States of America, the factors that had the most noteworthy effect were the coming of the railways and the telegraph around 1840 (Chandler 1977). Prior to 1840, traditional enterprise was, in nearly all cases, a family affair. Until the 1840s, factories appeared in substantial numbers only in the textile and the firearm industries (Chandler 1977:51, 75).

After 1840 and especially from 1850 to 1860 the railways and the telegraph revolutionised the traditional ways of production and distribution (Chandler 1977:79). Technological innovation, the expanding income per capita and the rapid growth of the population increased the complexity of existing production and distribution processes and increased the volume and the speed of transactions. The existing market mechanism was often no longer able to co-ordinate these transactions effectively. This, according to Chandler (1977:484) created a need for administrative co-ordination. Entrepreneurs formed large multi-unit organisations and appointed managers to administer them.

The prolonged economic depression of the 1870s brought a continuing drop in demand, resulting in spare capacity and decreasing prices. Manufacturers explored new avenues of increased efficiency and turned their attention from technology to improved management of operations (Chandler 1977:272, Chatfield 1977:160).

Subsequent to the 1880s the operations became increasingly capital intensive and new injections of capital were required. The entrepreneurs who created the firms gradually reduced their shareholdings and level of involvement in the management of the organisation. By 1917, representatives of families and banking institutions played a limited role in the management of organisations (Chandler 1977:491).

A merger wave in the United States around the turn of the century created large vertically integrated firms (Loft 1991:22). Examples of these are General Electric, American Tobacco, National Biscuit and Du Pont. By World War I, the modern business enterprise had come of age (Chandler 1977:455, Kaplan 1984).

3.2.2 Specific developments

By the beginning of the 1880s, cost accounting had developed into a sophisticated craft. Cost accounting provided information for pricing (Edwards, Boyns and Anderson 1995), transfer pricing (Edwards and Boyns 1992), responsibility accounting, overhead allocation, decision-making, budgets, forecasts, standards and inventory control (Fleischman and Parker 1990). Further techniques provided information for measuring the productivity of labourers (Walsh and Stewart 1993:790) as well as for determining the prices of products in large corporations in the absence of a market system (Chandler 1977, Williamson 1975).

Several significant cost accounting developments took place between 1880 and 1914. In 1885 Metcalfe described a system for assigning material and labour costs to jobs in terms of which each material requisition and the time spent on jobs were noted on shop order cards, presenting in essence what is now referred to as job costing (Chatfield 1977:161).

Two years later in 1887, Garcke and Fells described a double entry job costing system that was completely integrated with the financial accounting records. Cost accounting now became mainly an accounting task, which until then had predominantly been developed by industrial engineers (Chatfield 1977:163).

In 1889 Towne described a gain-sharing plan in terms of which any reduction in unit costs, achieved through improved utilisation of machines and materials or more productive labour, would be shared equally between the company and its workers (Chandler 1977:274). In 1895 Taylor suggested that savings such as those mentioned by Towne should not be based on past experience but rather on a standard time and output. This should be determined scientifically through detailed job analysis and time and motion studies. From this flowed the scientific management approach of providing information for programming and controlling behaviour in order to achieve the organisations' objectives (Hopper and Powell 1985:433).

Taylor also suggested a differential piece rate, in terms of which the workers who failed to comply with the standard would be paid a reduced rate, while those who excelled would be rewarded accordingly (Chandler 1977:275).

In 1901 Church pointed out the importance of knowing a product's cost before it was sold rather than at the end of the period when all the indirect expenses for the period had been accumulated and distributed. Church proposed that the allocation of overheads should be based on machine hours (Chatfield 1977:166).

In 1908 and 1909 Emerson suggested that accounting information systems could be employed to achieve efficiency objectives and distinguished between controllable and uncontrollable variances. In 1911 Harrison designed the earliest known complete standard costing system (Drury 1996:832).

3.3 The period including the two World Wars (1915-1945)

3.3.1 Background

During the First World War the ammunition factories in the United Kingdom developed into large organisations that required information for control. By the end of the War, the Ministry of Munitions controlled over 3,5 million workers and it had become the biggest operation of its time in the world. Cost accounting played an important role in enabling the manufacturers and the government to determine cost-based-prices and to control the factories (Loft 1991:34-35).

Many of the large vertically integrated firms that developed around the turn of the century evolved into multi-divisional organizations. Cost accounting played an important role in ensuring that the divisions worked together in furthering the objectives of the organization as

a whole (Loft 1991:22-23). The return-on-investment (ROI) technique was applied to evaluate the performance of the managers who were held responsible for the efficient use of capital in their divisions (Kaplan 1984:397-380), and the budgeting technique was developed to co-ordinate the internal flow of resources.

During the 1920s the general public first began buying corporate securities (Chatfield 1977:129). These investors required objective and verifiable information which in many instances resulted in management and financial accounting being merged into a single system.

3.3.2 Specific developments

Subsequent to the 1920s, managers employed cost accounting not only in protecting assets and controlling expenditure but also for the purpose of decision-making. According to Chatfield (1977:176) the focus moved from accumulating accurate cost information to providing information for specific decisions. Cost-volume-profit analysis began to appear in the accounting literature in the 1930s even though the first descriptions of the break-even chart were given in 1903 by an American engineer and in 1904 by a Scottish accountant (Chatfield 1977:178). Other cost accounting techniques that became popular during this period include flexible budgeting as well as variable costing (Chatfield 1977:179).

3.4 Period after the Second World War to 1970 (1946-1970)

3.4.1 Background

In the 1950s and 1960s western industrialised countries like the United Kingdom and the United States of America experienced limited competition in the international markets, and there was little need for innovation in respect of products or production processes (Ashton, Hopper and Scapens 1991:1). This secure position resulted in companies being primarily concerned with internal matters such as production capacity, and consequently management accounting moved into the forefront. Ashton, Hopper and Scapens (1991:4) describe the late 1950s to the mid 1970s as the “heyday of management accounting research”.

3.4.2 Specific developments

To a large extent, the management accounting research referred to in the background in 3.4.1 did not result in the development of new techniques but rather in the refining and popularising of pre-existing methods. Cost-volume-profit analysis was extended to allow for uncertainty, multiple products and multiple constraints, whilst standard costing was adapted to include the application of linear programming to product-mix decisions and statistical models for variance investigation (Scapens 1991).

Responsibility accounting became popular in the late 1950s and the early 1960s even though Emmerson already distinguished between controllable and uncontrollable variances in the early

decades of the twentieth century (Drury 1996:832, Scapens 1991:17). The residual income extension to the return-on-investment criteria, that can be traced back to Clarke (1923), became prevalent during the post World War II period (Kaplan 1984:402).

Although the use of capital budgeting only became more widespread during the 1950s, some of the underlying concepts like compounded interest date as far back as the Babylonian times. Knowledge of compounded interest was also a prerequisite for the development of scientific life insurance during the seventeenth and eighteenth centuries (Chatfield 1977:181). Marshall (1920:352) established a framework for capital budgeting in 1890. The concept of relevant costing was popularised among accountants only during the 1960s (Scapens 1991:13), even though neo-classical economists already referred to relevant costs for decision-making towards the end of the nineteenth century (Chatfield 1977:177).

During the 1960s the systems approach to management accounting was introduced and interpretative approaches emerged (Puxty 1993:31-51). Social systems theory, symbolic interactionism and ethnomethodology were considered to enhance insight into the purpose and function of management accounting in practice. A considerable amount of research in respect of the relationship between the behavioural sciences and management accounting was also carried out during the 1960s. It indicated that responsibility accounting and other instruments for control, such as budgeting and standard costing, could have negative motivational consequences, but in spite of these findings the effect on management (or cost) accounting's conventional wisdom was minimal (Scapens 1991:19, Kelly and Pratt 1992).

After the Second World War there was an increasing emphasis on the need for information to be appropriate for the needs of users, especially for managers (Scapens 1991). This is in accordance with information theory which describes the reason for the existence of management accounting as the designing of efficient information systems to serve certain managerial needs. Information theory is given in most conventional management accounting textbooks as the reason for the existence of the subject (Faul, du Plessis, Niemand en Koch 2001, Vigarito 2001, Julyan and Nel 2003). During this period many studies also adopted social systems theory to investigate management accounting practice, including psychological theory and social psychological theory (Becker and Green 1962, Driver and Mock 1975).

3.5 The period from 1971 to 2005

3.5.1 Background

International competition became more vigorous after 1970 because of the deregulation of markets, improved international transport and improved communication systems (Drury 1996:21). This increase in international competition resulted in increased pressure on organisations to improve the quality and efficiency of their operations and to focus on customer satisfaction (Drury 1996:22). Organisations turned to advanced manufacturing technologies, such as robotics, computer aided design (CAD) and flexible manufacturing systems (FMS) to address these challenges. These aforementioned changes revolutionised the manufacturing floor and dramatically changed manufacturing cost behaviour patterns: the direct labour and inventory

components of product costs decreased, while overheads such as depreciation, engineering and data processing costs increased.

The business world also changed its emphasis from producing material goods to focusing on information-processing activities (Carnoy, Castells, Cohen and Cardoso 1993:5). In the new global world economy, investment, production, management, markets, labour, information and technology were organised across national boundaries and information technology played a key role in the functioning of these international markets.

3.5.2 Specific developments

During the period subsequent to 1970 a number of diverse developments took place under the auspices of management accounting.

A branch of management accounting practice evolved in little more than a decade. Strategic management accounting, or accounting for strategic positioning, as referred to by Roslender (1996:536), is designed to support attempts by management to achieve a strategic position in the market place (Shank and Govindarajan 1989:xi). Roslender (1996:536) views the development of strategic management accounting in terms of a succession of three phases. Initially a number of new techniques were promoted including activity based costing (Cooper and Kaplan 1988), backflush accounting (Bhimani and Bromwich 1991) and throughput accounting (Dugdale and Jones 1998). These were followed by life cycle costing (Berliner and Brimson 1988), strategic cost analysis, the value chain and value engineering (Shank and Govindarajan 1989) as well as

target costing (Hiromoto 1988). The second phase can be identified as the development of approaches such as activity based management (Cooper and Kaplan 1991) and strategic cost management as well as continuous performance improvement (Turney and Anderson 1989). Total quality management can be added to these approaches. The third phase is described by Roslender (1996:538) as integrated modes of performance measurement for the strategic process, such as the balanced scorecard advocated by Kaplan and Norton (1992).

In management accounting theory, a great thrust of development occurred after 1970. These advancements include developments under the systems approach, the application of interpretive perspectives, the consideration of radical critiques, Foucauldian perspectives, deconstruction as well as Habermas. These approaches are discussed in chapter 2, and are mentioned here to illustrate the chronological development of management accounting theory.

The information theory approach was refined and adapted to include a consideration of the cost of information (Scapens 1985) and the systems approach continued to expand. These developments include transactions cost theory (Johnson 1983, Williamson 1975), contingency theory (Otley 1980) and pluralism (Hopper and Powell 1985). Although the origin of agency theory can be traced back to the period subsequent to the Second World War it only became a popular perspective on management accounting after 1970 (Baiman 1982, Jensen and Meckling 1976, Lambert 2001).

During the 1980s the interpretative approach gained ground as a method for researching the perceptions of the individuals who are affected by management accounting information (Hopper and Powell 1985:446). Developments including symbolic interactionism (Chua 1988), grounded theory (Parker and Roffey 1997) and structuration theory (Giddens 1984) also continued to advance during this period. Another perspective that can be categorised with the interpretative framework is the institutional framework of Scapens (1994).

The radical point of view also gained momentum during the 1980s and early 1990s. Radical theory questions the *status quo* and the current nature of society, including the distribution of power and class relationships (Hopper and Powell 1985:450). These developments include Neimark and Tinker's dialectical approach to social analysis (1986), the labour process approach (Hopper, Storey and Willmott 1987, Hopper and Armstrong 1991) and the political economy of accounting (Cooper and Sherer 1984, Tinker 1980).

Whilst the radical approach rejects the *status quo*, certain post-modern views deny the justification for any theory, including capitalism, Marxism, positivism and empiricism. These views which developed during the latter part of the twentieth century include the different Foucauldian perspectives (Loft 1991; Miller and O'Leary 1987; Hoskin and Macve 1988, 1994) and deconstruction (Arrington and Francis 1989). Habermas' (1987) alternative way of seeing management accounting, also became popular during this period.

3.6 Overview of the influence of Marshallian neo-classical economics on the historical development of management accounting practice and theory

In the overview that follows the historical development of management accounting *practice* and *theory* is summarised in tables and the Marshallian influence on these developments is discussed. Table 3.1 lists the various management accounting *practices* that developed during four periods, namely the scientific management period (1880-1914); the period including the two World Wars (1915-1945); the period after the Second World War to 1970 (1946-1970); and the period from 1971 to 2005.

Table 3.1 Summary of the historical development of management accounting practice

| 1880-1914 | 1915-1945 | 1946-1970 | 1971-2005 |
|--|-----------------------------|---------------------------|--------------------------------------|
| Job costing | Return-on-investment | Responsibility accounting | Activity based costing |
| Standard costing | Budgeting | Residual income | Backflush accounting |
| Allocation of overheads based on machine hours | Cost-volume-profit analysis | Capital budgeting | Throughput accounting |
| | Flexible budgeting | Relevant costing | Life cycle costing |
| | Variable costing | | Target costing |
| | | | Strategic cost analysis & management |
| | | | Value chain & value engineering |
| | | | Continuous performance improvement |
| | | | Total quality management |
| | | | Balanced scorecard |

The tables distinguish between the developments in management accounting practice and management accounting theory, whereas the discussions combine both categories. They also give an overview and highlights when the majority of the developments took place.

A consideration of the influence of Marshallian neo-classical economics on the practices of management accounting reveals that cost-volume-profit analysis, relevant costing and capital budgeting can be traced directly to the writings of Marshall (1920).

An analysis of the 22 practices listed in table 3.1 according to the eight characteristics of Marshallian neo-classical economics as identified in chapter 1, indicates that all the management accounting practices indicated in table 3.1 continue to retain the majority of the core characteristics of Marshallian neo-classical economics. The practices that developed prior to 1970 are based on the assumptions of Marshallian neo-classical economics. Job costing, standard costing, allocation of overheads, return-on-investment, budgeting, flexible budgeting, variable costing, responsibility accounting and residual income, are all based on the assumptions of rational, utility maximising decisions, derived from freely available information. These utility maximising decisions are taken with a limited focus and it is assumed that markets are optimal and self equilibrating and governed by much free competition. Circumstances are accepted to remain stationary.

Some of the developments in practice that took place since the 1970s have begun to relax some of the Marshallian assumptions. Life cycle costing changes the focus from a moment in time to the whole life cycle of a product. Strategic cost analysis and management, target costing, total

quality management, continuous performance improvement and the balanced scorecard as well as the value chain have wider perspectives than merely maximising the utility of the firm and cannot be said to have a limited focus. On the whole though, these practices are still predominantly Marshallian.

Turning the focus to the development of *theory* as summarised in table 3.2, it appears that the relaxation of Marshallian neo-classical economic assumptions has been much more pervasive. Prior to 1970, developments in management accounting theory were mostly based on the premise that decision-makers are able to achieve maximum satisfaction and that firms aim to maximise their profits. However, several of the developments in theory after 1970, rejected the possibility of attaining maximum satisfaction by means of rational decision-making. These include the interpretative, radical and Foucauldian approaches as well as deconstruction and Habermas' views.

Some of the perspectives that are associated with the systems framework, including pluralism and the institutional perspective, also dismiss the possibility that rational decisions will lead to maximum satisfaction.

Scientific management, information theory and agency theory assume that circumstances remain unchanged, and that the analysis is limited to a moment in time, or a short enough period to ensure that no change in fashion or taste occurs and no substitute appears that might affect the demand (Marshall 1920:94,342).

Table 3.2 Summary of the historical development of management accounting theory

| 1880-1914 | 1915-1945 | 1946-1970 | 1971-2005 |
|-----------------------|-----------|---|---|
| Scientific management | | Information theory Social systems theory | Agency theory Transaction cost theory Contingency theory Pluralism Symbolic interactionism Grounded theory Institutional framework Structuration theory Dialectical approach to social analysis Labour process approach Political economy of accounting Foucauldian perspectives Deconstruction Habermas |

The 1960s saw the introduction of the systems approach, which does not have the limited focus of considering only a moment in time. Several of the frameworks developed after 1970 (including the interpretative, radical, Foucauldian and Habermas perspectives) reject the approach of considering circumstances to be stationary.

Whilst perspectives developed prior to 1970 assumed rational utility maximising by means of supply and demand equilibrium, it is not possible to deduce whether any of these views accepted a partial or a general equilibrium. Most of the approaches that emerged after 1970, including pluralism, the institutional perspective on social analysis, the interpretative framework, radical

critique, Foucauldian perspectives and deconstruction as well as Habermas, rejected the possibility of supply and demand equilibrium.

As explained in 1.2.5, the analysis employed by Marshallian neo-classical economists focuses on a limited number of variables, and does not specifically consider historical events or social and cultural circumstances (Barber 1967:166-67, Robinson 1933:15). On the whole, the developments in theory prior to 1970 have a limited focus, whilst the perspectives which came to the fore after 1970 are wider. The exceptions are: social systems theory, which considers social influences but not the historical or cultural context, and contingency theory, which takes a more holistic view of the organisation, but also fails to consider the historical or cultural context. Transaction cost theory and pluralism retain a limited perspective.

Marshall (1920:341) took the view that every dealer who has a perfect knowledge of the circumstances of the market expects the equilibrium price to be established. Although Marshall (1920: 347) acknowledged that “we cannot foresee the future perfectly”, no specific adjustments are made to allow for uncertainty or risk in the equilibrium analysis. Reisman (1986:359) further suggested that Marshall treated information and its communication as “free goods”. All the approaches to management accounting theory that evolved prior to 1970 accepted the principle of perfect information at no cost. With the exception of contingency theory, the labour process approach and political economy of accounting, all the developments in theory after the 1970s rejected the possibility of perfect information being available at no cost to decision-makers. Pluralism accepts that information is available to a

limited extent, while the applicability of this principle does not enter the discussion in the case of structuration theory and Habermas' views.

As described in 1.2.7 Marshallian neo-classical economics relies on the market process to ensure an optimal and equitable distribution of resources among all the members of society, whilst pursuing their own individual interests (Oser and Brue 1988:214,272, Marshall 1920:712-3). All the management accounting theory developments prior to 1970, directly or implicitly, accepted the principle of limited government intervention. Several of the developments in management accounting theory after 1970, including the institutional perspective, the dialectical approach to social analysis, the labour process approach, the political economy of accounting approach, Foucauldian perspectives, deconstruction and Habermas' views, all reject the market as an efficient and fair co-ordinator and therefore propose a more extensive level of government intervention.

The classical, marginalist and initial neo-classical economists proposed that perfect competition in the market would facilitate the optimal allocation of productive resources. Marshall (1920:341) did not suggest perfect competition (Backhouse 1985:97-98, Reisman 1986:127), but rather a state of "much free competition" (section 1.2.8). All the developments in theory prior to 1970, directly or implicitly, accepted the principle of much free competition. With the exception of transaction cost theory, contingency theory, pluralism and the interpretative framework, all the developments in theory after 1970 dismissed the principle of much free competition.

3.7 Conclusion

Marshallian neo-classical economics has had a strong influence on the historical development of management accounting practice in the English-speaking world during the last 125 years. After the 1970s new developments in practice were not based on all the restricting assumptions of Marshallian neo-classical economics, but retained the majority of the Marshallian characteristics.

With regard to the influence of Marshallian neo-classical economics on management accounting theory, the theory that developed prior to the 1970s is based predominantly on Marshallian neo-classical economics, whilst theory developed after this period is almost entirely free from the limiting Marshallian influence.

4

The influence of Marshallian neo-classical economics on management accounting theory

4.1 Introduction

The aim of this chapter is to assess to what extent management accounting theory has been influenced by Marshallian neo-classical economics and to consider the other perspectives as alternative foundations for the subject. Whereas chapter 3 provides a chronological overview of the historical development of management accounting theory, chapter 4 provides a more in-depth analysis of the influence of Marshallian neo-classical economics on current management accounting theory.

A literature study is carried out to identify and describe the various types of theory of management accounting that are available in the English-speaking world. These perspectives are then analysed to ascertain the extent to which they are based on the characteristics of Marshallian neo-classical economics, as identified in chapter 1.

There are a wide variety of views regarding the purpose and practice of management accounting and ideas have been borrowed from several other disciplines in order to facilitate a more complete understanding of the subject. A universally accepted classification of the different views does not exist, but Puxty (1993) managed to classify the various perspectives on

management accounting into five frameworks. These are the traditional paradigm, the systems movement, the interpretative approach, the radical critique and finally, universal abandon. He also briefly addresses Habermas. In the discussion that follows, the background and philosophical underpinning of each view are explained and the influence of Marshallian neo-classical economics on these perspectives is considered.

4.2 The traditional paradigm

Most of the content of conventional management accounting texts falls into this category. This approach has a technical orientation, is problem-centred and focuses on the organisation as a closed system. It is rationalistic, prescriptive, functionalist, ahistorical, reductionist and positivist, and claims to be apolitical (Puxty 1993). Traditional management accounting includes scientific management (Hopper and Powell 1985), information-economics (Drury 2001) and agency theory (Jensen and Meckling 1976).

4.2.1 Scientific management

Scientific management, which incorporates standard costing (Hopper and Powell 1985), is based on the premise that the organisational world possesses the same characteristics as that of the physical world, and can therefore be governed by the same principles. Control accounting is used for stabilising and programming behaviour by defining goals and sub-goals and monitoring performance by means of formal feedback. The organisation encourages compliance with its objectives by linking performance with economic rewards (Hopper and Powell 1985: 433).

Despite the fact that scientific management ignores the influence of unpredictable human behaviour on accounting systems, these approaches persist, and still form a major part of traditional textbooks (Faul, du Plessis, Niemand en Koch 2001, Vigario 2001). The approach incorporates the core characteristics of Marshallian neo-classical economics namely maximum satisfaction by rationally seeking optimal solutions. Scientific management assumes a tendency towards equilibrium in the long term, but it is not possible to deduce whether partial supply and demand equilibrium is accepted. The analysis has a limited focus whilst perfect information is deemed to be freely available at no cost and demand is taken as stationary. Due to a lack of any explicit stance it is accepted that this view assumes minimal government intervention as well as much free competition, according to the radical approach which is described in 4.5.

4.2.2 Information theory

In terms of information theory, the reason for the existence of management accounting is the designing of efficient information systems to serve certain managerial needs. This view is widely held and also appears in most conventional management accounting textbooks as the reason for the existence of the subject (Faul, du Plessis, Niemand en Koch 2001, Vigario 2001, Julyan and Nel 2003). The information economics theory goes further and asserts that information has an economic value and suggests that a cost-benefit analysis should be performed when deciding whether to produce additional information (Scapens 1991).

The underlying assumption of this perspective is that information will enable managers to take rational, profit maximising decisions. It also accepts that information will be available regarding

the demand curve for the organisation's products and takes a limited perspective that ignores any social, historical or cultural influences on the organisation. Demand is taken as stationary and tending towards a long-term equilibrium price, but it is also not possible to deduce whether partial supply and demand equilibrium is assumed. It can be accepted that this view assumes minimal government intervention as well as much free competition, in the absence of a specific rejection of the *status quo*. According to the radical approach the traditional framework implicitly accepts current social and power relationships, as discussed in 4.5. The analysis indicates a strong Marshallian influence.

4.2.3 Agency theory

In the agency model of the firm, one or more principal(s) hire one or more agent(s) to perform some service on their behalf that normally involves delegating some decision-making authority to the agent. If both parties are utility maximisers it is probable that the agent will not always act in the interest of the principal (Baiman 1982, Jensen and Meckling 1976, Lambert 2001:4). The principal can limit the agent's potential sub-optimal and harmful actions by providing incentives for the agent, incurring monitoring costs and in some instances incurring bonding costs (Jensen and Meckling 1976:308). These costs are referred to as agency costs (Samuel, Wilkes and Brayshaw 1995, Jensen and Meckling 1976). The management accounting system plays an important role in the aforementioned monitoring process (Watts and Zimmerman 1986:196-197). Agency theory therefore explains the demands for management accounting information from the need to facilitate efficient contracting between principals and agents (Jensen and Meckling 1976:323).

With regard to Marshallian neo-classical economics, agency theory retains the assumption of rational utility maximisation. The analysis is removed from the historical, cultural and social context and focuses on a limited number of variables. Demand is taken as stationary and tending towards an equilibrium price, but it is not possible to tell whether a distinction is made between a partial and general equilibrium. Information is available at no cost and without uncertainty. The assumptions of minimal government intervention and much free competition are not specifically referred to or rejected, and it can therefore be assumed that they are implicitly accepted according to the radical approach which is explained in 4.5. This analysis indicates a strong Marshallian influence.

4.3 The systems perspective

One of the key characteristics of the traditional paradigm is that it has a narrow focus. The systems approach attempts to overcome this limited perspective by aiming to view every problem as a whole (holism) and by breaking down barriers between traditional disciplines. This approach further focuses on the interconnectedness of that which is being considered (Puxty 1993:31). Another feature of most systems theory is that systems aim to retain equilibrium or balance (Puxty 1993: 40). Instead of a stationary state where some of the variables are assumed to be constant, the systems approach suggests that organisations are expected to achieve a steady state of dynamic homeostasis. This means that they can use information to adapt and adjust continually to environmental disturbances. With regard to accounting, the systems approach suggests that it should be viewed in an organisational context. However, human nature continues to be viewed as being controllable and systems are designed to increase efficiency through

improved understanding and control. Management accounting theory that is normally classified under this framework includes social systems theory, transactions cost theory, contingency theory as well as pluralism. Another perspective that is categorised with this section is the institutional framework of Scapens (1994). Although this perspective does not conform to all the characteristics of the systems approach, it does take a holistic view and more closely resembles the systems approach than any of the other frameworks.

4.3.1 Social systems theory

Due to the limitations of the traditional approach, especially with regard to the social nature of human beings, many studies turned to social systems theory to investigate management accounting practice. These approaches include psychological theory and social psychological theory.

The aim of psychological theory is to identify the factors that affect the quality of human decision-making by investigating the functioning of information processing by individuals (Driver and Mock 1975). Once the factors have been identified, decisions could be improved by adjusting the design of presenting or processing information.

Whereas the above psychological theory aims to reduce the dysfunctional consequences of accounting systems by improving the design of the systems, social psychologists concentrate on motivation rather than on information processing (Becker and Green 1962). Both these

approaches to theory continue to view individuals as predictable and passive responders whose behaviour can be determined by external stimuli (Hopper and Powell 1985:437).

As far as Marshallian neo-classical economics are concerned, social systems theory succeeds partially in moving away from the limited focus approach by considering social influences but it does not consider the historical or cultural context of decisions. This approach also implicitly accepts the assumption of the tendency towards equilibrium in the long term, but does not distinguish between a partial and a general equilibrium and makes no assumptions concerning a stationary state. It retains most of the main assumptions of Marshallian neo-classical economics, namely the process of rationally seeking optimal solutions which will result in maximum utility or profit. Information is assumed to be available at no cost and without uncertainty. Due to the absence of any explicit stance it is accepted that this view assumes minimal government intervention as well as much free competition. In terms of the radical approach as described in 4.5, social systems theory implicitly supports current social relationships and the distribution of power.

4.3.2 Transaction cost theory

Transaction cost theory is based on the premise that the concentration of diverse economic activities within large corporations is viable only when the cost of managerial co-ordination of these activities is less than the cost of the same transactions being co-ordinated by the market. These costs of co-ordination are called transaction costs. Management accounting derives its

existence from its ability to facilitate this co-ordination for internal transactions, otherwise carried out by the market (Johnson 1983, Williamson 1975).

Although transaction cost theory takes a more holistic view of the organisation than the types of theory classified under the traditional paradigm, it retains most of the core assumptions of Marshallian neo-classical economics. Decision-makers in organisations rationally seek to maximise the profit of the organisation by internalising transactions and it is indirectly assumed that it is possible to determine optimal solutions. The theory has a limited focus in that it does not consider the historical, cultural or social context of decisions. A long-term equilibrium price is assumed, but no distinction is made between partial and general equilibrium analysis and no specific assumptions are made regarding stationary circumstances. Information is assumed to be available at no cost and without uncertainty. The assumptions of minimal government intervention and much free competition are accepted in the absence of any specific rejection of the *status quo*. According to the radical approach as explained in 4.5, transaction cost theory tacitly supports current social relationships and the distribution of power.

4.3.3 Contingency theory

Contingency theory takes as its point of departure that there is no universally suitable accounting system for all organisations in all circumstances (Otley 1980:413). Different organisational principles are appropriate under different environmental circumstances, and within different parts of the organisation (Hopper and Powell 1985). The features of a suitable accounting system depend upon the specific circumstances in which the organisation finds itself (Otley

1980:413). By contrast the emphasis of much of the management accounting research published between the late 1950s and the mid 1970s was on the development of models that were intended to be suitable in a wide range of organisations (Ashton, Hopper and Scapens 1991:4). The theory has been applied widely but has, however, been unsuccessful in identifying the contingent factors that determine the form of an accounting system (Hopper and Powell 1985: 441; Otley 1980:419).

Contingency theory takes a holistic view of the functioning of the organisation but essentially continues to be based on Marshallian neo-classical economic theory. It subscribes to rational and profit-maximising decision-making, and fails to consider the historical, cultural and social context of organisations. It does not subscribe to the assumption of stationary circumstances made by Marshall. Due to a lack of any explicit stance to the contrary, it is accepted that the contingency theory assumes minimal government intervention as well as much free competition. In terms of the radical perspective discussed in 4.5, contingency theory inherently accepts current social relationships and the distribution of power. Contingency theory accepts that information is available at no cost and without uncertainty, and does not question the existence of a long-term equilibrium price.

4.3.4 Pluralism

In terms of pluralism, organisations are viewed as comprising sectional groups with divergent and often mutually inconsistent goals. Common purpose only exists when groups are interdependent (Hopper and Powell 1985). Control is achieved by maintaining a set of rules that

permit bargaining between the groups and the aim is to contain, rather than avoid, conflict so allowing for maximum freedom (Hopper and Powell 1985:443).

Pluralistic studies can be valuable in understanding management accounting practice since they recognise that accounts and accounting rules are not necessarily objective, rational and neutral, but instead based on sectional interests and arrived at by means of political processes (Hopper and Powell 1985). These studies have revealed that management accounting information may influence the relative strength of participants in organisations, and information may be rationed or manipulated to secure personal ends. Further pluralistic studies have revealed that accounting information serves to reassure decision-makers and to legitimise their actions, rather than to reflect an underlying reality (Burchell, Clubb, Hopwood, Hughes and Nahapiet 1980).

Pluralism thus departs from Marshallian neo-classical economics in that it allows for decision-making that is not rational and that it takes a more holistic view. Rather than assuming a unifying goal for the organisation of profit maximisation, pluralism recognises sectional and opposing interests. The conflicts in interest may also have a negative influence on the availability of information and there does not appear to be any provision for the cost or uncertainty of information. No specific assumptions are made regarding stationary circumstances or partial supply and demand equilibrium. It is accepted that pluralism assumes minimal government intervention as well as much free competition in the absence of any rejection of the *status quo*. In terms of the radical approach as explained in 4.5, pluralism implicitly supports current social relationships and the distribution of power. Pluralism further does not address the historical, cultural and social contexts of organisations.

4.3.5 Institutional perspective

Scapens (1994) views accounting practices as institutions or routines that enable organisations to reproduce and legitimise behaviour and to achieve organisational cohesion. Institutions are patterns that define proper and expected modes of action in a group or a society. They provide a way of coping in a complex and uncertain world, and enable individuals to make sense of their own actions and of the actions of others (ibid.). Management accounting can be viewed as a routine or institution of organisational behaviour. Budgets and reports, for example, are prepared in a regular and routine fashion (Burns 2000: 569).

The institutional framework provides a way of understanding management accounting practice as an alternative to using the neo-classical economic approach (Ahmed and Scapens 2000, Scapens 1994). The framework makes the institution its focus of analysis, rather than rational maximising behaviour of individual decision-makers observed under stationary circumstances. Although it recognises that firms are profit seekers, it questions the narrowness of the profit maximising assumption and suggests that, whereas individuals are conceived as rational in a general sense, they can not be deemed to be rational in the narrow sense of maximising within a framework of known alternatives. Furthermore, the institutional perspective recognises that knowledge is subjective and that agents create their own realities, but argues that the acquisition of knowledge is not an individual but a social experience (Scapens 1994). Institutional economists focus on economic change, rather than economic equilibrium and recognise the role of social institutions in co-ordinating economic activity instead of the market (Scapens 1994, Ahmed and Scapens 2000, Burns and Scapens 2000). The approach recognises the importance

of knowledge of human behaviour within its cultural, social, historical and institutional contexts (Scapens 1994:306-307), and can therefore not be deemed to have a limited focus. By rejecting the market as an efficient co-ordinator of economic activity, it also rejects the assumptions of minimal government intervention and much free competition.

4.4 The interpretative framework

In contrast with the traditional (section 4.2) and systems (section 4.3) views that accept that people are formed and constrained by the social world which they inhabit, interpretative (or natural) approaches primarily focus on the people's perception of reality and individual meaning (Hopper and Powell 1985: 446, Belkaoui 1992:515, Hopper, Storey and Willmott 1987). People constantly create their social reality in interaction with others and the aim of the interpretative approach is to analyse such social realities in the ways in which they are socially constructed and negotiated (Hopper and Powell 1985:446). The uniqueness of each situation is recognised and the framework rejects the positivistic notion that only those things that can be observed count.

The interpretative framework is rooted in hermeneutics (Puxty 1993) and incorporates various approaches including cognitive anthropology, symbolic interactionism, grounded theory as well as ethnomethodology. Cognitive anthropology focuses on the individual's communicative competence within a particular culture, for example, how actors communicate (Jönsson and Macintosh 1997), whilst symbolic interactionism (or interactionist sociology) pays special attention to the concepts and symbols that actors use to conduct their social lives. It is therefore concerned with what actors are thinking and how they make their actions meaningful. Grounded

theory (Parker and Roffey 1997, Goddard 2004) is similar to symbolic interactionism but whereas interactionists regard observation of human interaction to be their basic source of data, grounded theory generally includes additional sources such as interviews, written reports and related documents. Ethnomethodology has as its particular focus the everyday social practices of actors and how they choose to do what they do (Chua 1988, Jönsson and Macintosh 1997).

In this study, specific attention is given to symbolic interactionism, since it is most widely used for the purpose of management accounting studies (Chua 1988:74, Puxty 1993:60) as well as grounded theory which has grown in popularity for the purpose of understanding management accounting during the last decade (Kirk and Van Staden 2001, Goddard 2004). Whilst structuration theory (Giddens 1984) could be categorised under radical critique, because it deals with the effect of domination, or even under universal abandon (Macintosh and Scapens 1990), it is classified in this section since it specifically considers the objective-subjective tension.

4.4.1 Symbolic interactionism

In symbolic interactionism, reality is constructed through the interactions of self-reflective individuals and is mediated through symbols (Chua 1988:60). The way we perceive ourselves is based on the way we think others see us. Human beings act towards things in accordance with the meaning those things have for them, and the meanings that people attach to things depend on social interaction. Meanings are therefore not intrinsic properties of things, and meaning is not a result of one's psychological make-up, but instead depends on the way one sees others acting towards oneself. Individuals also use an interpretative process to modify and handle symbols or

signs in order to form meaning (Puxty 1993:61). Interactionist research asks “how” questions rather than “why” questions. It therefore aims to find out how a social experience is organised, perceived and constructed, rather than investigate causal explanations of social phenomena. This form of research is more concerned with understanding than with control, and the design of efficient and effective management accounting systems becomes less important. Interactionist research also rejects the possibility that observations can be generalised across non-observed populations, but proposes a search for universal explanations (Chua 1988:61).

With regard to the extent of influence of Marshallian neo-classical economics, symbolic interactionism rejects the possibility that all decision-makers are rational utility maximisers by means of supply and demand equilibrium. In terms of symbolic interactionism, true meaning can only be understood in its context and therefore the approach considers the social, historical and cultural circumstances of a decision. Interactionists deny the possibility that perfect objective information can be freely available. Instead, they suggest that the information used by decision makers depends on the meanings formed by them, which in turn depend on the individual’s interaction with other persons. Since interaction and the forming of meaning is an ongoing process, one can rule out the possibility of deeming the circumstances that influence the decision to be stationary. It is accepted in this study that symbolic interactionism assumes minimum government intervention as well as much free competition since *status quo* is not rejected. In terms of the radical approach as discussed in 4.5, symbolic interactionism implicitly accepts current social relationships and the distribution of power. The above analysis indicates that symbolic interactionism is not influenced by Marshallian neo-classical economics.

4.4.2 Grounded theory

Grounded theory is a method for generating new theory. The aim is to let theory emerge from the data and is therefore unconstrained by prejudice and advance theoretical views, but does not assume neutrality on behalf of the researcher (Goddard 2004: 544, Parker and Roffey 1997:213, Kirk and van Staden 2001:176).

Whereas symbolic interactionism regards observations of human interaction as its basic source of data, grounded theory researchers include additional qualitative and quantitative sources such as interviews, written reports and documents relating to the research phenomena (Parker and Roffey 1997:215). This is particularly appropriate for management accounting studies where the actors spend a large amount of their time creating written material.

This pragmatic approach takes a circular view and proposes a constant interplay between the researcher and the data. Induction, deduction and verification are used iteratively throughout the research process, whereas, for example, in experimental research these methods are used in a more linear and sequential manner (Parker and Roffey 1997:217). Procedures and techniques ensure that the research process remains rigorous (Kirk and van Staden 2001:176).

With regard to the influence of Marshallian neo-classical economics on grounded theory, the approach rejects any preconceived ideas about the decision-making process and the availability of information. Accordingly, the possibility that all decision-makers are rational utility maximisers by means of supply and demand equilibrium can be ruled out. Furthermore, true

meaning can only be understood in its context and therefore it can be accepted that the approach does not have a limited focus. The notion of perfect information is rejected and all data is considered for possible insights. In line with the iterative nature of the approach, circumstances are not deemed to be stationary. It is accepted that grounded theory assumes minimum government intervention as well as much free competition, since in terms of the radical approach as described in 4.5 grounded theory tacitly accepts current social relationships and the distribution of power. The analysis reveals that grounded theory is not based on Marshallian neo-classical economics.

4.4.3 Structuration theory

Structuration theory is concerned with understanding the relationship between human activities and the structuring of social systems (Giddens 1984; Macintosh and Scapens 1990:456). With structuration theory, Giddens (1984:2) aims to do away with the separation of societal totality (objectivist) on the one hand and the experience of the individual agent (subjectivist) on the other, and suggests that social science should not be limited to either, but should embrace social practices ordered across time and space. In terms of this notion of duality of structure, the structural properties of social systems are both the medium and the outcome of people's practices (Giddens 1984:25). Furthermore Giddens (1984:3) holds that human beings are purposive and rational agents who know and can explain the reasons for their activities, even though they do not always understand their motives.

Giddens (1984) suggests that we consider three dimensions of social structure; namely, signification (meaning), domination (power) and legitimation (morality). These dimensions are inextricably linked (Conrad 2005:20). The relationship between management accounting and structuration theory can best be described by means of examples. The rules, concepts and theory of management accounting comprise the *signification structure* by which activities are interpreted and communicated. This structure provides managers with a means of understanding the activities of their organisations and allows them to communicate meaningfully about them. A signification structure can also be compared to a language, and management accounting is thus the language used by business to communicate (Macintosh and Scapens 1990:460). Command over the management accounting system is a resource that can be used to exercise power. The management accounting system is an essential part of the process of accountability in an organisation and therefore an important facility in the *domination structure* to achieve power (Macintosh and Scapens 1990:461). The *legitimation structure* refers to the set of values concerning what is to be regarded as virtue and what is to be regarded as vice; what is to count as important and what is trivialised. Management accounting systems communicate a set of values and ideals about which actions should be awarded and which actions penalised. It is therefore not an objective and neutral means of conveying economic information to decision-makers (Macintosh and Scapens 1990:460).

This dual nature of structuration theory, which incorporates two opposing theoretical positions, impacts on the extent to which it incorporates the characteristics of Marshallian neo-classical economics. Structuration theory is not concerned with finding rational, optimal and determinate solutions that could lead to maximisation of utility or profit by means of self-equilibrating

markets, but rather an understanding of the relationship between human activities and the structuring of social systems. However, it does accept that the agents (individuals who act in social settings) will usually be able to rationalise (explain) the grounds for their actions, even if they are unaware of the consequences (Macintosh and Scapens 1990). The approach is concerned with the social context of human activities and can therefore not be deemed to have a limited focus. The fact that agents are deemed to be involved in a continuous flow of action rather than a series of acts is an indication that circumstances are not taken as stationary. In the absence of any information to the contrary, it is assumed that structuration theory accepts the assumptions of minimal government intervention as well as much free competition in terms of the radical approach which is explained in 4.5. The analysis indicates that structuration theory is not based on Marshallian neo-classical economics. Whether information is available and perfect is not an integral part of the discussion.

4.5 The radical critique

Radical theory rejects the *status quo* and questions the legitimacy of capitalism as a fair system for society. Traditional, systems and interpretative theory implicitly accepts and supports the current social relationships by not questioning the distribution of power and class relationships (Hopper and Powell 1985:450, Arrington and Francis 1989:2). In contrast, radical theory begins with the proposition that structural inequality characterises society and that the nature of a society as a whole is reflected and shaped in every aspect thereof. Radical theorists also reason that conventional accounting systems are an integral part of the capitalist society, and that capitalism and accounting are interdependent (Hopper and Powell 1985:450).

Much of the work of radical authors is based on Marxist theory (Hopper and Powell 1985). Management accounting perspectives that are normally classified under this framework include the dialectical approach to social analysis (Neimark and Tinker 1986), the labour process approach (Hopper, Storey and Willmott 1987) as well as the political economy of accounting (Cooper and Sherer 1984, Tinker 1980).

4.5.1 The dialectical approach to social analysis

The dialectical approach to social analysis (Neimark and Tinker 1986, Jinnai 2005) examines the relationship between organisations and society, which is believed to be dynamic and interactive. Neimark and Tinker (1986) name four important assumptions for their approach. Firstly they accept that social systems are subject to a continual process of transformation. Secondly, these changes in society are brought about by contradictions, which in the case of the capitalist society could, for example, be the tendency to pay workers as little as possible which is contradicted by the need to sell products to those same workers. Thirdly, they regard the organisation and its environment as interrelated, and fourthly, point out that the researcher cannot be deemed to be entirely objective since "the scientific analyst or observer is located within the phenomena under investigation". As the view of the researcher changes, so does the referent of inquiry (Neimark and Tinker 1986:377-378).

In contrast to the Marshallian neo-classical approach that examines a decision maker with a limited focus under stationary circumstances, the dialectical approach recognises that decision-

makers are part of a dynamic world and are active participants in the processes of social change. In the on-going conflict among social classes over the division of the social surplus there is no natural harmony of interests, as envisaged in the classical economics of Adam Smith, and no supply and demand equilibrium; only constant conflict. The possibility of maximizing solutions through the application of rational, informed, quantitative models is rejected. Based on the stance taken regarding the market, it can be accepted that the assumptions of minimal government intervention and much free competition are also dismissed, resulting in an analysis that indicates that the dialectical approach is clearly non-Marshallian.

4.5.2 Labour process approach

The labour process approach aims to demonstrate how the owners of capital have structured the work activities of labour to retain control over labour processes (Roslender 1990:357, Hopper, Storey and Willmott 1987, Hopper and Armstrong 1991). This perspective is based on the premise that in a capitalist society, work and employment, as well as the organisation and industrial relations, are all structured to serve the interests of the capitalist class at the expense of labour. It is essentially related to the writings of Marx (Roslender 1990). In a manner akin to the dialectical approach to social analysis, the labour process approach views the creation of capitalistic modes of control, such as management accounting, as reactions to eliminate or accommodate resistance from labour (Hopper and Armstrong 1991:406).

In a similar but distinct approach, Armstrong (1985, 1987) views management accounting techniques as a means for the profession to achieve managerial ascendancy due to the suitability

of these techniques to control labour. As a result of the creation of multidivisional structures during the 1920s and 1930s, accountants were equipped for being in control of organisations since they possessed the knowledge and techniques required for making decisions about allocating capital and controlling labour.

As regards Marshallian neo-classical economics, the labour process approach rejects the objective of profit maximisation as an unfair measure that only seeks to serve the interest of the providers of capital. Instead of viewing rationality as an incentive to action, economic agents are motivated by their desire to ensure control over the process of surplus production and extraction. The labour process approach suggests that markets are controlled by the monopolistic powers of corporations rather than by self-equilibrating competitive markets. The approach further proposes that decisions are influenced by patterns of class formation in specific cultural settings rather than by the atomised views of the individual at a moment in time (Hopper and Armstrong 1991:406). It appears that information is available at no cost and without uncertainty, since the accounting system is described as a brain centre for the surveillance and control of the organisation. Due to the rejection of the market system, it can also be assumed that the assumption of minimal government intervention is dismissed. The analysis shows that the labour process approach is distinctly non-Marshallian.

4.5.3 The political economy of accounting approach

The political economy of accounting approach is characterised by three features. It firstly recognises power and conflict in society and addresses the effect of accounting on the

distribution of income, wealth and power. According to this view accounting reports currently favour the interests of a specific class of society, namely capitalists (Cooper and Sherer 1984, Tinker 1980). A second feature of this approach is that it emphasises the importance of the specific historical and institutional environment of the society in which it operates, as well as the involvement of the state in the managing of the economy. The third characteristic acknowledges the ability of people and accounting systems to change as well as the fact that they also have differing interests and concerns (Cooper and Sherer 1984, Tinker 1980).

As far as Marshallian neo-classical economics is concerned, the political economy of accounting rejects the possibility of maximising social welfare by means of a competitive market and supports government intervention. It also dismisses the objective of profit maximisation as an unfair measure that only seeks to serve the interests of the providers of capital. The followers of this school of thought challenge the existence of rational, optimal determinate solutions, and regard the neo-classical approach to optimality as problematic. Political economy of accounting further recognises the importance of the specific historical and institutional environment of the society in which it operates, and does not therefore have a limited focus. The approach acknowledges change, rejects the notion of stationary circumstances and assumes the economy to be permanently in a state of disequilibrium. Information is assumed to be available at no cost and without uncertainty, since the accounting system is deemed to serve specific interests, without any mention of the cost or availability of information. Marshallian principles clearly do not form the basis of this school of thought.

4.6 Universal abandon

Whilst the radical approach rejects the *status quo* and especially capitalism, the writers that fall in this category of universal abandon or post-modernism, deny the justification for any meta-theory, including capitalism, Marxism, positivism and empiricism.

Post-modernism emerged due to a perceived failure by Modernism to fulfil its promises. Modernism is generally accepted to have started around the period of the Enlightenment and is associated with a belief in the power of science to demystify life. Modernism assumed that man has the ability to identify a problem rationally and objectively, find solutions, and implement the solutions to the advantage of all mankind (Koornhof and De Villiers 1999:148, Montagna 1997:128). This faith in the power of science stood in contrast with religious authority that had previously been accepted as the fount of knowledge. During this time the importance of individual rights and freedom came to the fore, together with a general belief in continued progress and the developmental potential of mankind. Modernism brought hope and optimism. Progress and improvement was expected in respect of individual, social and political institutions (Puxty 1993).

In contrast, post-modernism rejects any possibility of improvement through the exploration of knowledge (Roslender 1996:541, Puxty 1993, Montagna 1997:130). Whereas progress has been envisaged possible in each of the aforementioned categories (in the case of traditional, systems theory and interpretative theory by means of improvement of technique or understanding; in the case of radical theory by means of transformation of social structures), this possibility is rejected

here. In terms of post-modernism, interdisciplinary discourse and research is encouraged and the existence of any transcendental truth is denied. It is suggested that only localised truth can be found within a particular discourse. The approach also sees the role of language as central to the debate and suggests that there is no neutral, objective, scientific language that exists beyond the realm of tradition (Koornhof and de Villiers 1999:150). Further, postmodernists refute the possibility of discovering the origins of self which forms the basis of several modern philosophies including existentialism, psychoanalysis and phenomenology (ibid. 151).

The views associated with universal abandon or post-modernism include the different Foucauldian perspectives (Loft 1991; Miller and O'Leary 1987; Hoskin and Macve 1988, 1994) and deconstructionists (Arrington and Francis 1989).

4.6.1 Foucauldian perspectives

Foucault undertook social analyses through a combination of historical reconstruction and philosophic insight, and employed a methodology that was heavily reliant on archaeology and genealogy (Roslender 1990). Of special interest to management accounting researchers is his later work which focused on the power-knowledge relationship. The general theme was that whereas sovereign power had previously been the mode for the exercise of power, a move occurred towards knowledge based disciplinary power in modern society (Roslender 1990). Several authors, including Loft (1991), Miller and O'Leary (1987) as well as Hoskin and Macve, (1988, 1994) employ Foucault's views to reinterpret accounting as a disciplinary instrument. They contest the belief that accounting is a passive tool of economic efficiency (Arrington and Francis

1989:2) and trace accounting practices to specific historical archaeological sites to reconstruct them in terms of the social, academic and political practices of that era.

Clearly, Marshallian neo-classical economics can be ruled out as a basis for this approach, since all the above studies indicate that management accounting cannot simply be viewed as a rational instrument aimed at profit maximising solutions. Although Foucauldian studies reject the notion of historical progress, their analyses are usually historically and socially rich, leading to the conclusion that the Foucauldian perspective cannot be deemed to have a limited focus. Rather than restricting the analysis to a few items that have been made visible at a specific moment in time, it encourages a more complete and holistic view. By rejecting any meta-theory, including capitalism, it can be accepted that the assumptions of minimal government intervention, self-equilibrating markets and much free competition are also dismissed.

4.6.2 Deconstructionists

Deconstructionists such as Arrington and Francis (1989) abandon any attempt to ground knowledge in an external metaphysic, such as the positivist's faith in observation or the Marxist's faith in historical determinism. They hold nothing sacred and aim to upset attempts to attain closure around knowledge production that silence other voices and claim to possess a superior awareness of truth (Arrington and Francis 1989:2). The approach deconstructionists take is to evaluate a text in terms of the text itself, rather than on an external truth or value system. Deconstruction suggests that current accounting theory is permeated with unexamined commitments to particular moral and social orders and ignores the fact that a complex

combination of values, ideologies and opinions inform the construction of any theory (Arrington and Francis 1989:4).

Since deconstruction rejects any form or method of knowledge reproduction, it implicitly also rejects the validity and appropriateness of Marshallian neo-classical economics as a basis for a subject.

4.7 Habermas

According to Puxty (1993:149), Habermas attempts to save the “progress, systematicity and rationalism of modernity from the implicit helplessness of postmodernity”. Habermas (1987) explains a way of attaining genuine understanding and truth, undistorted by the normal basis of everyday speech, through what he describes as “universal pragmatics”. In what he defines as “discourse”, speech is specifically designed to reach an understanding. The participants of a discourse are not concerned with sharing experiences or any other objective, but rather to search for arguments and justifications with a view to reaching an understanding (Broadbent and Laughlin 1997).

Habermas (1987) also sees comprehension of the linguistic process as a key to gaining insight into the domination of some classes by others, which he suggests is upheld and legitimised by the communicative structures of society. Therefore, to understand the domination process as well as its implications, one needs to enquire into the linguistic process. The ultimate intention is to provide a mechanism by which the domination inherent in social structures might be

dissolved. Habermas further differentiates between three cultural spheres namely; the natural, social and subjective worlds. In the natural world, science is the corresponding practice and instrumental reason is the rationalisation process. The social world includes practices such as politics, morality and the law and employs practical reason, whilst the subjective world incorporates aspects such as art and literature and uses affective reason. Habermas perceives a danger that the instrumental sciences of the natural world, including economics and accounting, have begun to colonise the other spheres in the world of our everyday experience, also called our *lifeworld* (Power and Laughlin 1996, Lodh and Gaffiken 1997, Broadbent and Laughlin 1997).

With regard to Marshallian neo-classical economics, Habermas clearly subscribes to rationality. However, through the rejection of capitalism, he dismisses the possibility of maximising the utility of society by means of maximisation of individual utility or company profit. By implication he rejects the belief in minimal government intervention and self-equilibrating markets that are regulated by means of much free competition. Habermas's approach cannot be deemed to have a limited focus, since it investigates the complete *lifeworld*, including the natural, social and subjective worlds. Since the approach holds that all developments are the results of action, it can be deduced that he accepts change brought about by time, and the approach does not deem circumstances to be stationary. The availability, cost or certainty of information is not an integral part of the discussion. Although Habermas accepts rationality, he does not prescribe to the other Marshallian characteristics and the analysis indicates that Habermas is not based on Marshallian neo-classical economics.

4.8 Alternative foundations for management accounting practice

As mentioned under 4.1, the aim of this chapter is to establish whether or not management accounting theory is based on Marshallian neo-classical economics, and to consider other perspectives as alternative foundations for the subject.

The seventeen approaches to management accounting theory all provide different insights and perspectives on the subject and open up ways for further research into the purpose and the practice of management accounting. These views all contribute to a better understanding of the the subject and it should be concluded that none of the perspectives should be exclusively selected as *the* foundation, but that the combined insight provided by all the perspectives would be most beneficial for increasing the value of management accounting.

4.9 Summary

Table 4.1 summarises the extent to which management accounting theory is influenced by Marshallian neo-classical economics. The analysis is based on the main assumptions of Marshallian neo-classical economics, as discussed in Chapter 1. The abbreviations are explained below the table.

The table and the analysis of each of the perspectives indicate that Marshallian neo-classical economics has a strong influence on six of these perspectives, but not on the other eleven. The perspectives that are based on Marshallian neo-classical economics are scientific management, information theory, agency theory, social systems theory, transaction cost theory as well as

contingency theory. All the other perspectives are not using Marshallian neo-classical economics as a basis. If the quantity of perspectives can be taken as an indication of the influence on management accounting theory in general, it can be deduced that management accounting theory is not based on Marshallian neo-classical economics, since only six of the seventeen perspectives use Marshall as a foundation (Shotter 2001).

It is worth noting the varying levels of Marshallian influence on the different frameworks. The traditional framework contains almost all the characteristics of Marshallian neo-classical economics. Scientific management and information theory as well as agency theory all have seven of the eight characteristics present and all these three perspectives are clearly influenced by Marshallian principles.

The analysis of the systems perspective indicates a divide. Whereas the social systems, transaction cost and contingency perspectives are predominantly based on Marshallian neo-classical economics, pluralism and the institutional perspective do not use Marshall as a basis.

The interpretative framework is clearly not based on Marshallian neo-classical economics. Although this framework does not reject the assumptions of minimal government intervention and much free competition, neither symbolic interactionism, nor grounded theory or structuration theory possess any of the other characteristics that indicate a Marshallian influence.

The analysis of the three perspectives associated with radical critique, namely the dialectical approach to social analysis, the labour process and political economy approaches, indicates an

absence of any form of Marshallian influence. Similarly the two approaches that are associated with the universal abandon framework, namely the Foucauldian perspective as well as

Table 4.1 **Extent of the influence of Marshallian neo-classical economics on management accounting theory**

| | Traditional approach | | | Systems perspective | | | | | Interpretative framework | | | Radical critique | | | Universal abandon | | Habermas |
|--|--------------------------|------------------------------------|----------------------------|-----------------------------|--------------------------|----------------------------|----------------|-----------------------------------|------------------------------------|-------------------------|------------------------------|-----------------------------------|-------------------|----------------------|-------------------|--------------------------|----------|
| | Scien- tific mgmt. | Infor- mation econ- omics | Agen- cy theo- ry | Social systems theory | Transac- tion cost | Contin- gency theory | Plura- lism | Insti- tutio- nal persp. | Symbol inter- actio- nism | Groun- ded theory | Structu- ration theory | Dialec- tical ana- lysis | Labour process | Political economy | Fou- calt | Decon- struc- tion | |
| Marshallian neo-classical assumptions | | | | | | | | | | | | | | | | | |
| Rationality | √ | √ | √ | √ | √ | √ | X | X | X | X | ½ | X | X | X | X | X | √ |
| Utility Maximisation | √ | √ | √ | √ | √ | √ | X | X | X | X | X | X | X | X | X | X | X |
| Stationary Circumstances | √ | √ | √ | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Partial supply & demand equilibrium | ½ | ½ | ½ | ½ | ½ | n/a | X | X | X | X | X | X | X | X | X | X | X |
| Limited focus | √ | √ | √ | ½ | √ | ½ | √ | X | X | X | X | X | X | X | X | X | X |

Key to the above table:

√ = complies with the Marshallian neo-classical economic assumption; X = does not comply with the Marshallian neo-classical economic assumption;

n/a = issue of compliance of Marshallian neo-classical assumption is not applicable; ½ = complies halfway with the Marshallian neo-classical assumption

Table 4.1 (continued) Extent of the influence of Marshallian neo-classical economics on management accounting theory

| | Traditional approach | | | Systems perspective | | | | | Interpretative framework | | | Radical critique | | | Universal abandon | | Habermas |
|---------------------------------------|--------------------------|------------------------------------|-----------------------------|-----------------------------|--------------------------|----------------------------|----------------|-----------------------------------|------------------------------------|-------------------------|------------------------------|-----------------------------------|-------------------|----------------------|-------------------|--------------------------|----------|
| | Scien- tific mgmt. | Infor- mation econ- omics | Agen- -cy theo- ry | Social systems theory | Trans- action cost | Contin- gency theory | Plura- lism | Insti- tutio- nal persp. | Symbol inter- actio- nism | Groun- ded theory | Structu- ration theory | Dialec- tical ana- lysis | Labour process | Political economy | Fou- calt | Decon- struc- tion | Habermas |
| Perfect , free information | √ | √ | √ | √ | X | √ | X | X | X | X | n/a | X | √ | √ | n/a | X | n/a |
| Minimal government intervention | √ | √ | √ | √ | √ | √ | √ | X | √ | √ | √ | X | X | X | X | X | X |
| Much free competition | √ | √ | √ | √ | √ | √ | √ | X | √ | √ | √ | X | X | X | X | X | X |
| Total present | 7 | 7 | 7 | 6 | 5 | 5 | 3 | 0 | 2 | 2 | 2 | 0 | 1 | 1 | 0 | 0 | 1 |

Key to the above table:

√ = complies with the Marshallian neo-classical economic assumption; X = does not comply with the Marshallian neo-classical economic assumption;
n/a = issue of compliance of Marshallian neo-classical assumption is not applicable; ½ = complies halfway with the Marshallian neo-classical assumption

deconstruction, do not present any of the Marshallian characteristics. Although Habermas subscribes to the principle of rational decision making, none of the other Marshallian characteristics are applicable to this approach.

The analysis of the various management accounting perspectives indicates that the majority of the views are largely free from a Marshallian influence.

5

The influence of Marshallian neo-classical economics on management accounting education in South Africa

The aim of this chapter is to assess to what extent management accounting education in South Africa has been influenced by Marshallian neo-classical economics. The investigation is based on an identification and analysis of the main sources of influence on management accounting education in South Africa in 2004.

The chapter is divided into two sections. The first section explains the method applied to identify the main sources of influence on management accounting education in South Africa in 2004, whilst the second part analyses these sources.

5.1 Identification of the main sources of influence

This section of the chapter addresses the selection procedure to identify the main sources of influence on management accounting education. The focus is on the textbooks most widely used by technikons and universities as well as the syllabi of the most influential professional institutes. It is recognised that there are other influences, including political views, the media, the personal opinions and knowledge of lecturers as well as the practical experience of students. However, to make the investigation manageable, it was decided to limit the study to the aforementioned sources. Although there are other tertiary institutions that lecture management

accounting, universities and technikons were selected on the basis that they normally lecture management accounting on a more in-depth level and over a longer period than the alternative institutions.

In order to identify the most widely used management accounting textbooks in South Africa in 2004, 15 universities and 10 technikons were approached by means of electronic mail and requested to provide information regarding their prescribed textbooks and the estimated student numbers for 2004. The request included students at second year, third year and honours (fourth year) levels. Where institutions lecture management accounting in more than one department, or on more than one campus, they were approached separately, since they often prescribe different textbooks. Of the 41 departments at institutions which were approached, 21 responded, representing some 43079 students. The response comprises 17 university and 4 technikon departments and represents a 51 % overall response rate. The most popular textbooks identified are Faul, du Plessis, Niemand, en Koch (2001), Vigario (2001) and Julyan and Nel (2003).

These books were much more widely used than the other 17 textbooks that were also considered, and together, based on student numbers, represent approximately 66% of the management accounting textbooks prescribed in 2004 by the institutions which responded. Faul, du Plessis, Niemand en Koch (2001), alone represents 33% of the prescribed books (14267 students), Vigario 19% (8170 students) and Julyan and Nel 14% (5789). It can therefore be accepted that these three textbooks played an important role in management accounting education in South Africa in 2004.

It is recognised that some of the postgraduate textbooks could include management accounting techniques and theory that might have a different level of influence of Marshallian neo-classical

economics than the undergraduate books identified for the analysis. However, the higher ratio of undergraduate to postgraduate students resulted in the selection of undergraduate textbooks for the purpose of this study.

There are several professional institutes in South Africa that incorporate management accounting as one of the subjects in their curricula. These include the Association of Chartered Certified Accountants (ACCA), South African Institute of Chartered Accountants (SAICA), the Commercial and Financial Accountants (CFA) as well as the South African Institute of Chartered Secretaries and Administrators (ICSA). Further institutes are the Chartered Institute of Management Accountants (CIMA) as well as the Institute of Administration and Commerce of South Africa (IACSA). In order to focus on the major sources of influence on management accounting, certain criteria were employed to select the most influential institutes. These four criteria are 1) whether management accounting is one of the core subjects, whether 2) the institute is a self-examining body, whether 3) the students are at a graduate level and 4) the number of members of the institute in South Africa.

According to these aforementioned criteria, SAICA, CIMA and ICSA are the most influential professional institutes in respect of management accounting education in South Africa. Although management accounting is not a core subject of the audit specialism of the SAICA exam, it is a core subject for Part 1, which is a prerequisite for the specialism and also forms a core part of the financial management specialism. The CFA was omitted since it does not have a self-examining body, whilst IACSA were not selected since they are not on a graduate level. It was not possible to ascertain the membership of ACCA in South Africa in 2004, but according to a study by Shotter (2000) the institute had less than 500 members in 2000, which did not indicate that it is an important source of influence on management accounting in South Africa. Based on

these criteria SAICA (22 469 members), CIMA (1300 South African members) and ICOSA (3500 South African members) are the most influential institutes in respect of management accounting education in South Africa. The syllabi of these institutes therefore form the focus of this examination, together with three aforementioned textbooks.

In the rest of the chapter any reference to the six sources of influence refers to the influence in 2004 of Faul, du Plessis, Niemand en Koch (2001), Vigario (2001), Julyan and Nel (2003), and the syllabi of SAICA (2003), CIMA (2000) and ICOSA (2002).

5.2 Analysis of the main sources of influence

This section analyses the six main sources of influence on management accounting education in South Africa. The purpose of the analysis is to assess the extent of Marshallian influence. The eight characteristics of Marshallian neo-classical economics introduced in chapter 1 provide the framework.

5.2.1 Rationality

As explained in 1.2.1, one of the assumptions of Marshallian neo-classical economics is that consumers act rationally (Barber 1967:170).

In all the sources of influence, human nature is generally assumed to be rational, controllable and predictable. Human feelings are aggregated and the whole is seen as a summation of the parts. Although, Faul, du Plessis, Niemand en Koch (2001:438) and Vigario (2001:187) as well as SAICA (2003:86) mention the importance of the human factor in the budget

programme, and CIMA (Organisational management 2000) devotes 45% of one subject to human resources management and management of relations, none of the sources consider the possibility that decisions might be made on a non-rational or intuitive basis.

The analysis of management accounting sources of influence thus supports the suggestion that decision-making in commerce in South Africa is made on a rational basis.

5.2.2 Utility maximisation

Another assumption of Marshallian neo-classical economics is that consumers pursue their own advantage in order to achieve maximum satisfaction (section 1.2.2).

All six sources of influence include techniques that suggest optimal rather than satisfactory solutions. Faul, du Plessis, Niemand en Koch (2001:340-365, 393-420) refers to short term and long term decision making approaches and techniques that will result in maximum profit, including cost-volume-profit analysis, relevant cost decisions, linear programming and capital budgeting. Similar approaches are found in Vigario (2001:299-346) as well as Julyan and Nel (2003: 112-156). The pattern continues in the sources of the professional institutes, as can be seen in the SAICA syllabus (2003:59, 62), CIMA 2000 (Management Accounting – Decision Making: 2-3) as well as the ICSA (2002) syllabus on cost and management accounting.

The analysis of the six sources indicates that management accounting education in South Africa suggest techniques that assume maximum rather than satisfactory solutions.

5.2.3 Stationary circumstances

Marshall (1920:461) made the assumption of a stationary state in order to meet the requirements of the law of diminishing marginal utility, since a change in taste can cause a consumer to be willing to pay more for the next unit than for the previous one (1.2.3).

The approach of limiting the analysis to only a moment in time pervades all the sources of influence. Techniques for product costing, decision making, planning and control are largely based on snapshot information. However, all the sources incorporate learning curves, which take into account the effect of an improvement in productivity over the course of time, thus setting aside the limiting assumption of a stationary state (Faul, du Plessis, Niemand en Koch 2001:51, Vigario 2001:123, Julyan and Nel 2003:100, SAICA 2003:58, CIMA 2000 Management Accounting – Decision Making, ICSA 2002). SAICA also appears to be moving away from the approach of limiting the analysis to only a moment in time by including techniques for managing organizational change (SAICA 2003:81) as well as addressing the role of management accounting techniques in a changing business environment (SAICA 2003:84). Similar approaches referred to as change management are included in the CIMA syllabus 2000 (Organisational Management). Faul, du Plessis, Niemand en Koch, CIMA and SAICA also incorporate life cycle costing (Faul, du Plessis, Niemand en Koch 2001:373-375, CIMA Decision Making 2000, SAICA 2003:83) which redirects the focus from a moment in time to the whole life-cycle of a product.

With regard to inflation, the sources take different approaches. Neither Julyan and Nel (2003) nor Vigario (2001), SAICA (2003:57-59) nor ICSA (2002) refers to inflation. Faul, du Plessis,

Niemand en Koch (2001:412) addresses the effect of inflation on capital budgeting decisions and CIMA (2000) mentions the effect of inflation in Management Accounting – Decision Making and in Management Accounting – Financial Strategy (2000).

Although all the sources of influence incorporate learning curves, and some of the sources include other techniques that allow for change and inflation, these methods only amount to a small modification to the approach of limiting the analysis to a moment in time, and on the whole, the content of the six sources of influence continue to be based predominantly on the principles of a stationary state.

5.2.4 Partial supply and demand equilibrium

As discussed in 1.2.4, Marshallian neo-classical economics is based on the assumption that in the long term, the market tends towards an equilibrium price where supply equals demand (Barber 1967:174, Roll 1938:460, Marshall 1920:345).

All the sources appear to assume that the market is in equilibrium, and do not refer to the possibility of adjustments to interest rates, wages structures or prices by the market forces in order to correct factors that are not in equilibrium (Faul, du Plessis, Niemand en Koch 2001:307-334, Vigario 2001:137-147, Julyan and Nel 2003:43-73, SAICA 2003, CIMA 2000, ICSA 2002). However, none of the sources refer to a distinction between partial and general equilibrium.

The analysis therefore indicates that the six sources of management accounting education in South Africa assume a form of supply and demand equilibrium in the market but none of the sources refer to a distinction between partial and general equilibrium.

5.2.5 Limited focus

The equilibrium analysis employed by Marshall examines a limited number of variables. This method temporarily separates the core of the economic process and other variables are expected to remain constant (Marshall 1920:366).

Faul, du Plessis, Niemand en Koch (2001) includes techniques that normally only focus on a limited number of variables affecting the individual person or the individual firm, and does not specifically mention the effect of historical, social or cultural circumstances on management accounting, whilst Julyan and Nel (2003) recognises the importance of considering qualitative factors at the beginning of the book, but does not specifically incorporate historical, social or cultural factors in any of the techniques included in the book. There is no indication in the ICSA (2002) syllabus that they are moving away from a limited focus.

SAICA (2003), CIMA (2000) as well as Vigario (2001) appear to be moving away from the limited focus approach by including several strategic management accounting topics which are typically outward focused. Strategic management accounting is aimed at supporting attempts of management to achieve and sustain a strategic position in the market (Roslender 1996:536, Shank and Govindarajan 1989:xi). Examples of techniques with a wider focus than

the firm are: cost-benefit analysis (SAICA 2003:83), which considers the impact of projects in the community and target costing, which endeavours to determine a price that will permit an acceptable market share after taking into account the affect of competition (CIMA Decision making 2000, SAICA 2003:83). A further example is benchmarking, which compares the performance indicators of one organisation with that of another (CIMA Business Strategy 2000, SAICA 2003:83). CIMA (Business Strategy 2000), SAICA (2003:84) and Vigario (2001:376-377) also include strategic information management and environmental factors in the strategic cost management process, which widens the perspective of the material.

The analysis of the six sources indicates that whilst some of the sources retain a limited focus, other sources are moving away. The content of the material of Faul, du Plessis, Niemand en Koch (2001), Julyan and Nel (2003) and ICSA (2002) consists of techniques that take a limited focus, whilst SAICA (2003), CIMA (2000) as well as Vigario (2001) all contain techniques with a wider perspective.

5.2.6 Perfect information freely available at no cost

As discussed in 1.2.6, the availability of perfect information forms an important part of the neo-classical model (Samuels 1990: 9, Ashton, Hopper and Scapens 1991:4).

Faul, du Plessis, Niemand en Koch (2001:380-390), Vigario (2001:275-292) and CIMA 2000 (Decision Making) as well as Julyan and Nel (2003:157-175), discuss and provide for risk in decision making by means of expected values, standard deviations and decision trees. With the exception of ICSA (2002), all the sources of influence incorporate risk in some of the

management accounting techniques. The economic order quantity of inventory allows for risk by calculating the required safety stock levels (Julyan and Nel 2003:254-259) and similarly, capital budgeting takes risk into account by means of standard deviations (Faul, du Plessis, Niemand en Koch 2001:414-415, SAICA 2003:62, CIMA Financial Strategy 2000). The PERT (Programme Evaluation and Review Technique) also allows for risk by attributing probabilities to the duration of activities (Faul, du Plessis, Niemand en Koch 2001:425-430, Julyan and Nel 2003:188).

Reisman (1986:359) suggests that Marshall treated information and its communication as free goods, but Mattesich (1980:218) reminds us that information is not obtained for free. None of the six sources of influence refer to the cost of information.

The analysis therefore indicates that the six sources of influence include techniques that provide for risk, but none of the sources specifically take the cost of information into account.

5.2.7 Minimal government intervention

As described in 1.2.7 Marshallian neo-classical economics relies on the market process to ensure an optimal and equitable distribution of resources among all the members of society, whilst pursuing their own individual interests (Oser and Brue 1988:214,272, Marshall 1920:712-3).

In five of the six sources, no mention is made of the desirability of government intervention (Faul, du Plessis, Niemand en Koch 2001, Vigario 2001, Julyan and Nel 2003, ICSA 2002, SAICA 2003). CIMA 2000 (Business Strategy) refers in general to the consideration of the

effect of regulation, both voluntary and legal, on corporate performance, but does not express any opinion on such regulation. However, none of the sources of influence questions the current power and class relationships, and it can therefore be implicitly assumed that they accept the *status quo* of minimal government intervention.

5.2.8 Much free competition

As explained in 1.2.8, Marshall suggested a situation of much free competition in investigating the supply and demand curve.

No mention is made of the role of competition in the efficient functioning of the market, in any of the six sources. However, it can again be assumed that the sources of influence implicitly accept the *status quo* of power relationships and the working of the free market to regulate power relationships. Hopper and Powell (1985:450) suggest that since conventional accounting systems form an integral part of the capitalist society, they also support this form of society and consequently, accept the role of competition in the market.

5.3 Management accounting techniques

Several of the management accounting techniques that are referred to in management accounting textbooks can be traced to the writings of Alfred Marshall. The concepts of the time value of money and compensation for risk, which form the cornerstone of capital budgeting, were discussed by Marshall in 1890 (Marshall 1920: 353), (first published in 1890), and the costs that are relevant for decision-making are addressed by Marshall in several instances (1920:360,374-375, 376). He also briefly discusses on some of the aspects of pricing (1920:396)

Faul, du Plessis, Niemand en Koch (2001:393-420) includes capital budgeting as one of their topics and so do SAICA (2003:62, 88) and CIMA 2000 (Decision Making). All the sources refer to relevant costing (Faul, du Plessis, Niemand en Koch 2001:342-352, Vigario 2001: 213-274, Julyan and Nel 2003:134-156, SAICA 2003:59, CIMA 2000 - Management Accounting Fundamentals, ICSA 2002). Faul, du Plessis, Niemand en Koch (2001:366-373), SAICA (2003:59) as well as CIMA 2000 (Decision Making) address the aspects of pricing referred to by Marshall (1920:396).

Principles and techniques for product costing form a significant part of the material of all the sources of influence (Faul, du Plessis, Niemand en Koch 2001:11-85, Vigario 2001:13-108, Julyan and Nel 2003:4-42, SAICA 2003:58, CIMA 2000 - Fundamentals, ICSA 2002), but it has to be pointed out that the cost of a product as referred to in management accounting is not the same as the value of a product in terms of neo-classical principles. The principles of product costing are largely based on the conventions of external financial reporting, and are an accumulation of materials, labour and overheads that are incurred to transform the product into a saleable condition. Product costing normally excludes any selling, shipping and insurance costs and profit is usually excluded and shown separately (Faul, du Plessis, Niemand en Koch 2001:14, Vigario 2001:16, Julyan and Nel 2003:7). This approach is not dissimilar to the classical approach where writers such as Ricardo and Smith suggested that value is based on the costs of the product (Backhouse 1985, Smith 1993:53-54). However, the Marshallian neo-classical approach does not agree with a simple link between the cost of a product and its value. Marshall (1920:348) suggested that the value of a product is determined by a combination of demand and supply, where market conditions influence demand, whilst supply is influenced

by the marginal costs of the factors of production. The factors of production include a portion of profit, insurance, selling and shipping costs.

Marshall further distinguishes between four different supply periods, namely the market, short, long and the secular periods, in preparing the supply curve and divided costs incurred in the short term into prime and supplementary costs, i.e. variable and fixed costs. One of the fundamental techniques of management accounting is cost-volume-profit analysis which is based on the distinction between the aforementioned fixed and variable costs. This technique is referred to in all the sources of influence (Faul, du Plessis, Niemand en Koch 2001:307-334, Vigario 2001:137-147, Julyan and Nel 2003:43-73, SAICA 2003:58, CIMA-Management Accounting Fundamentals 2000; ICSA 2002).

The management accounting techniques that can be traced to the writings of Marshall (1920), of relevant costing and cost-volume-profit analysis are all included in the six sources of influence, whilst capital budgeting and pricing are found in three of the sources.

5.4 Alternative perspectives on management accounting

In chapter 4 the traditional and emerging management accounting theory is discussed. These approaches are reviewed in order to assess to what extent management accounting theory is based on Marshallian neo-classical economics and to provide a survey of alternative foundations for the subject.

When examining to what extent these traditional and emerging perspectives on management accounting have been incorporated in the textbooks and syllabi of the professional institutes,

it becomes apparent that the sources have included virtually no discussion on theory or the assumptions which form the basis for the material.

Vigario (2001) does not refer to any theory in his textbook. The book contains techniques, rather than different perspectives or approaches for understanding the subject. Julyan and Nel (2003:2) describes the information economics approach, namely the provision of information, as one of the main goals of the management accountant. No other management accounting perspectives are considered or discussed. Faul, du Plessis, Niemand en Koch (2001) also describes the provision of information as the purpose of the subject of management accounting, and see competition as the main reason such information is required. No mention is made of alternative perspectives on the subject. A similar pattern is found in the SAICA (2003) syllabus where the aim of management accounting can be described as providing relevant information. Alternative theory is not addressed. The objective of the subject as portrayed in the CIMA (2000) syllabus can also be summarised as the provision of information. CIMA (2000) does not include a discussion of management accounting theory in its syllabus, and neither does ICASA (2002).

Thus theory can be thought of as different ways of seeing (Scapens 1994:302), and an inclusion of theory in the material should result in a wider and more critical perspective by students, whereas as complete omission of theory from material could result in students taking a narrow view and accepting the *status quo* without questioning it. The omission of theory from education material could result in what Craig and Armeric (2002) and Mingers (2000) describe as the “de-contextualized transmission of abstract and universal knowledge and expertise”. Such an approach will not equip students to provide valid, relevant and useful information in a changing world.

5.5 Summary of the results

The results of the investigation of the influence of Marshallian neo-classical economics on management accounting education in South Africa are summarised in table 5.1. The inquiry revealed that all the six sources of influence are largely based on Marshallian neo-classical economics.

Table 5.1 Extent of the influence of Marshallian neo-classical economics on management accounting education in South Africa

| | Marshallian neo-classical assumptions | Faul | Vigarito | Julyan & Nel | SAICA | CIMA | ICSA |
|---|--|---------------|-----------------|-------------------------|----------------|----------------|---------------|
| 1 | Rationality | √ | √ | √ | √ | √ | √ |
| 2 | Utility maximisation | √ | √ | √ | √ | √ | √ |
| 3 | Stationary circumstances | Predominantly | Predominantly | Predominantly | Predominantly | Predominantly | Predominantly |
| 4 | Partial supply and demand equilibrium | Partly | Partly | Partly | Partly | Partly | Partly |
| 5 | Limited focus | √ | Moving Away | √ | Moving away | Moving away | √ |
| 6 | Perfect information freely available at no cost | Partly | Partly | Partly | Partly | Partly | √ |
| 7 | Minimal government intervention | √ | √ | √ | √ | √ | √ |
| 8 | Much free competition | √ | √ | √ | √ | √ | √ |

√ = A tick indicates an extensive degree of compliance with Marshallian neo-classical economics.

All six sources accept that decision making will be based on reason and do not make allowance for the possibility that decision making could be intuitive or irrational. Similarly, all the sources suggest that it is possible to maximise utility and include techniques that are aimed at maximising profit or utility. In a business environment an approach that proposes that all decision making is rational and will lead to maximum utility can have only a limited usefulness. The same pattern is followed in terms of stationary circumstances, where all the sources of influence include techniques that focus merely on a moment in time.

Among the sources of influence, a difference in respect of the approach of taking a limited focus is noted. Whereas Faul, du Plessis, Niemand en Koch (2001), Julyan and Nel (2003) and ICOSA (2002) continue to take a limited inward focus, Vigario (2001), SAICA (2003) and CIMA (2000), are moving away. SAICA (2003), CIMA (2000) as well as Vigario (2001) appear to be steering away from this restricted view by including several strategic management accounting topics which are typically outward focused.

Regarding the assumption of perfect information freely available at no cost, none of the six sources refer to the cost of information. With the exception of ICOSA (2002), all of the sources include management accounting techniques that provide for risk. None of the sources of influence appear to challenge the *status quo*, and as such implicitly accept the assumptions of minimal government intervention and self-equilibrating markets by means of much free competition.

None of the six sources include discussions on management accounting theory, although four of the sources include brief descriptions of the provision of information as being the main purpose

of the subject (Faul, du Plessis, Niemand en Koch 2001, Vigario 2001, Julyan and Nel 2003, SAICA 2003, CIMA 2000, ICSA 2002).

Table 5.1 illustrates that management accounting education, as portrayed in the most widely used textbooks and syllabi in South Africa, is largely based on Marshallian neo-classical economics. The majority of the assumptions of Marshallian neo-classical economics are found in the dominant sources of influence in management accounting education in South Africa in 2004.

These results indicate that management accounting education in South Africa is based on Marshallian neo-classical economics.

Conclusion

This study aims to establish the extent to which management accounting practice in South Africa has been influenced by Marshallian neo-classical economics and to consider the impact of this influence on the value of the subject.

The investigation indicates that management accounting practice in South Africa is based on Marshallian neo-classical economics, which emanates from empirical work undertaken with management accounting practitioners from companies listed on the Johannesburg Stock Exchange. Although practitioners appear to be moving away from several of the restricting assumptions, the overall conclusion is that management accounting practice remains predominantly based on Marshall.

A comparison of the influence of Marshallian neo-classical economics on management accounting with other English-speaking countries shows that management accounting practice in other English-speaking countries also seems to be predominantly based on Marshall, whilst management accounting theory that developed after 1970 appears to be almost entirely free from the restricting Marshallian influence. This finding is based on an overview of the historical development of management accounting practice and management accounting theory from 1880 to 2005.

The finding in the historical overview led to an in-depth analysis of the influence of Marshallian neo-classical economics on current management accounting theory. This analysis reveals that although traditional management accounting theory is based on Marshallian neo-classical economics, emerging theory is not. This observation is the result of a review of literature

available in the English-speaking world. Whilst the theory falling under the traditional paradigm has been influenced by Marshallian neo-classical economics, none of the approaches that are categorised under the interpretative, radical and universal abandon perspectives are Marshallian. The systems approach is divided insofar as social systems, transaction cost and contingency theory are based on Marshallian neo-classical economics, whilst pluralism and the institutional perspectives are not.

With regard to education, the study finds that management accounting education in South Africa is based on Marshall. This finding emerges from an analysis of the textbooks and syllabi prescribed by South African education institutions. The analysis further indicates that the potential liberating influence of alternative management accounting theory has largely been ignored in composing textbooks and syllabi prescribed by educational institutions.

In endeavouring to understand why management accounting practice in South Africa is based on Marshall, one could take a Darwinian approach and suggest that neo-classical economics has survived because it is the fittest foundation. Alternatively one could put forward that the influence of management accounting education has been so strong that management accounting practice has simply continued along the route paved for it by education. The investigation into the nature of Marshallian neo-classical economics might shed some light on this question. This form of economics accepts premises of limited government intervention and much free competition in the market, and assumes that decision-makers are rational, utility maximising individuals with access to perfect, freely available information. Marshallian neo-classical economics also takes a limited focus disregarding social, cultural and historical circumstances and restricts decisions to a moment in time. The aforementioned assumptions are unrealistic and cannot be used as a basis for a subject which aims to provide relevant information to decision

makers in today's business environment. It seems unlikely that such a foundation would have withstood the rigours of practice and survived as the most suitable basis for the subject, without some external support. In light of this, the Darwinian approach is rejected as an explanation for the endurance of Marshallian neo-classical economics as a basis for management accounting practice. In preference, it is suggested that the strong influence of education has played the leading role in forming management accounting practice in South Africa.

In exploring a way forward, I would like to suggest that management accounting practice in South Africa could be freed from the restricting influence of Marshallian neo-classical economics, by taking a number of steps regarding management accounting education.

Firstly, the review of management accounting theory described in chapter 4 indicates a growing number of perspectives on the subject. Several of these views provide rich and honest attempts to understand the real nature of management accounting. In contrast, the textbooks and syllabi that form the major sources of influence on management accounting in South Africa are largely based on Marshallian neo-classical economics and little or no attempt is made to consider alternative ways of approaching the subject. I would suggest that these management accounting textbooks and syllabi be revised to include a comprehensive overview of management accounting theory in order to create an awareness among students of the different perspectives on the subject, and to encourage management accounting students to think critically during the learning process. This approach to learning should stimulate students' scepticism of conventional wisdom and rhetoric, thus equipping them with skills and insight to provide appropriate information in a changing world.

Secondly, I would urge the editorial boards of South African accounting research journals to continue fostering interest in the theory and foundations of management accounting, so as to raise the level of awareness of alternative theory amongst students and lecturers, and to encourage debate on appropriate foundations for management accounting practice in South Africa.

These recommendations are small measures which might change the mindset of students and lecturers and in so doing could eventually lead to a process which ultimately frees management accounting to increase its value in South Africa.

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Appendix 1

Listed companies included in the survey

Resources sector

Diamond mining

- 1 AFRICAN GEM RESOURCES LTD
- 2 DIAMOND CORE RESOURCES LTD
- 3 GOOD HOPE DIAMONDS (KIMBERLEY)
- 4 TRANS HEX GROUP LTD

Gold mining

- 5 THE AFRIKANDER LEASE LTD
- 6 ANGLOGOLD ASHANTI LTD
- 7 DURBAN ROODEPOORT DEEP LTD
- 8 GOLD FIELDS LTD
- 9 HARMONY GOLD MINING COMPANY LTD
- 10 RANDGOLD & EXPLORATION COMPANY
- 11 SIMMER AND JACK MINES LTD
- 12 STILFONTEIN GOLD MINING COMPANY
- 13 SUB-NIGEL GOLD MINING COMPANY LTD
- 14 VILLAGE MAIN REEF GOLD MINING COMPANY
- 15 WESTERN AREAS

Platinum mining

- 16 ANGLO AMERICAN PLATINUM CORPORATION
- 17 BARPLATS INVESTMENTS LTD
- 18 IMPALA PLATINUM HOLDINGS LTD
- 19 LONMIN PLC
- 20 MESSINA LTD
- 21 MVELAPHANDA RESOURCES LTD
- 22 NORTHAM PLATINUM LTD
- 23 ASSMANG LTD

Other mineral extractors and mines

- 24 AFRICAN RAINBOW MINERALS LIMITED
- 25 ASSORE LTD
- 26 BHP BILLITON PLC
- 27 KELGRAN LTD
- 28 KUMBA RESOURCES LTD
- 29 METOREX LTD
- 30 PALABORA MINING CO LTD
- 31 SOUTH AFRICAN CHROME AND ALLOYS LTD
- 32 SALLIES LTD
- 33 SCHARRIG MINING LTD
- 34 THABEX EXPLORATION LTD

Mining finance

- 35 JCI LTD
- 36 MATODZI RESOURCES LTD

Oil and gas

- 37 EXXOTEQ LIMITED
- 38 SASOL LTD

Basic industries sector

Chemicals

- 39 AECI LTD
- 40 AFRICAN OXYGEN LTD
- 41 OMNIA HOLDINGS LTD
- 42 SPANJAARD LTD

Forestry and paper

- 43 SAPPI LTD
- 44 YORK TIMBER ORGANISATION LTD

Steel and other metals

- 45 HIGHVELD STEEL & VANADIUM CORPORATION
- 46 ISCOR LTD

Construction and building materials

- 47 AG INDUSTRIES LTD
- 48 AVENG LTD
- 49 BASIL READ HOLDINGS
- 50 BUILDMAX LTD
- 51 CASHBUILD LTD
- 52 CEMENTATION COMPANY (AFRICA) LTD
- 53 CERAMIC INDUSTRIES LTD
- 54 CONCOR LTD
- 55 DISTRIBUTION AND WAREHOUSING NETWORK LTD
- 56 DORBYL LTD
- 57 ELB GROUP LTD
- 58 GROUP FIVE LTD
- 59 ILIAD AFRICA LTD
- 60 ITALTILE LTD
- 61 MURRAY AND ROBERTS HOLDINGS LTD
- 62 MASONITE (AFRICA) LTD
- 63 PRETORIA PORTLAND CEMENT (COMPANY) LTD
- 64 WILSON BAYLY HOLMES-OVCON LTD

Financials sector

Investment companies

- 65 AQUILA GROWTH LTD
- 66 BRIMSTONE INVESTMENT CORPORATION
- 67 CAPE EMPOWERMENT TRUST LTD
- 68 CORWIL INVESTMENTS LTD
- 69 EUREKA INDUSTRIAL LTD
- 70 REAL AFRICA HOLDINGS LTD
- 71 REMGRO LTD
- 72 SABVEST LTD
- 73 TREMATON CAPITAL INVESTMENTS LTD
- 74 VENFIN LTD

Banks

- 75 ABSA GROUP LTD
- 76 FIRSTRAND LTD
- 77 MERCANTILE LISBON BANK HOLDOMHS
- 78 NEDCOR LTD

- 79 RMB HOLDINGS LTD
80 STANDARD BANK GROUP LTD
Speciality and other finance
81 AFRICAN BANK INVESTMENTS LTD
82 BARNARD JACOBS MELLET HOLDINGS LTD
83 CADIZ HOLDINGS LTD
84 CAPITEC BANK HOLDINGS LTD
85 CORONATION FUND MANAGERS LTD
86 CORPCAPITAL LTD
87 DECILLION LTD
88 ENTERPRISE RISK MANAGEMENT LTD
89 GENCOR LTD
90 IMR INVESTMENTS LTD
91 INCENTIVE HOLDINGS LTD
92 INVESTEC LTD
93 INVESTEC PLC
94 M CUBED HOLDINGS LTD
95 MICROMEGA HOLDINGS LTD
96 PEREGRINE HOLDINGS LTD
97 PETRA MINING LTD
98 PROPER GROUP LTD
99 PSG GROUP LTD
100 SASFIN HOLDINGS LTD
101 TISEC LTD
102 ZELTIS HOLDINGS LTD

Life assurance

- 103 AFRICAN LIFE ASSURANCE COMPANY
104 CAPITAL ALLIANCE HOLDINGS LTD
105 CLIENTELE LIFE ASSURANCE COMPANY
106 LIBERTY HOLDINGS LTD
107 LIBERTY GROUP LTD
108 METROPOLITAN HOLDINGS LTD
109 SAGE GROUP LTD
110 SANLAM LTD

Insurance

- 111 ALEXANDER FORBES LTD
112 DISCOVERY HOLDINGS LTD
113 GLENRAND MIB LTD
114 MUTUAL & FEDERAL INSURANCE COMPANY
115 SA EAGLE INSURANCE COMPANY LTD
116 SANTAM LTD

Real estate

- 117 ACUCAP PROPERTIES LTD
118 ALPINA INVESTMENTS LTD
119 AMBIT PROPERTIES LTD
120 ANNUITY PROPERTY FUND
121 APEXHI PROPERTIES A & B
122 ARNOLD PROPERTY FUND
123 ATLAS PROPERTIES LTD
124 CAPITAL PROPERTY FUND

- 125 ALLAN GRAY PROPERTY TRUST
- 126 EMIRA PROPERTY FUND
- 127 GROWTHPOINT PROPERTIES LTD
- 128 HYPROP INVESTMENTS LTD NPL
- 129 IFOUR PROPERTIES
- 130 MARSHALLS LTD
- 131 MARTPROP PROPERTY FUND
- 132 METBOARD PROPERTIES LTD
- 133 MICC PROPERTY INCOME FUND
- 134 OCTODEC INVESTMENTS LTD
- 135 PANGBOURNE PROPERTIES LTD
- 136 PARAMOUNT PROPERTY FUND LTD
- 137 PREMIUM PROPERTIES LTD
- 138 PRIMA PROPERTY TRUST
- 139 PUTCO PROPERTIES LTD
- 140 REDEFINE INCOME FUND LTD
- 141 RESILIENT PROPERTY INCOME FUND LTD
- 142 SA RETAIL PROPERTIES LTD
- 143 SABLE HOLDINGS LTD
- 144 SPEARHEAD PROPERTY HOLDINGS LTD
- 145 SYCOM PROPERTY FUND

Non cyclical consumer goods sector

Beverages

- 146 AMALGAMATED BEVERAGE INDUSTRIES LTD
- 147 AWETHU BREWERIES LTD
- 148 DISTELL GROUP LTD
- 149 KWV BELEGGINGS BPK

Food producers and processors

- 150 AVI LTD
- 151 ASTRAL FOODS LTD
- 152 CROOKES BROTHERS LTD
- 153 ILLOVO SUGAR LTD
- 154 INTERTRADING LTD
- 155 KOLOSUS HOLDINGS LTD
- 156 OCEANA GROUP LTD
- 157 RAINBOW CHICKEN LTD
- 158 SOVEREIGN FOOD INVESTMENTS LTD
- 159 TIGER BRANDS LTD
- 160 TONGAAT-HULETT GROUP LTD
- 161 W B HOLDINGS LTD

Health

- 162 AFROX HEALTHCARE LTD
- 163 ALLIANCE PHARMACEUTICALS LTD
- 164 FORIM HOLDINGS LTD
- 165 MEDI-CLINIC CORPORATION LTD
- 166 NETWORK HEALTHCARE HOLDINGS LTD

Pharmaceuticals and biotechnology

- 167 ASPEN PHARMACARE HOLDINGS LTD

Cyclical consumer goods sector

Household goods and textiles

- 168 ADONIS KNITWEAR HOLDINGS LTD
- 169 AMALGAMATED APPLIANCE HOLDINGS
- 170 ANBEECO INVESTMENTS HOLDINGS LTD
- 171 BURLINGTON INDUSTRIES LTD
- 172 THE HOUSE OF BUSBY LTD
- 173 GLODINA HOLDINGS LTD
- 174 NU-WORLD HOLDINGS LTD
- 175 PALS HOLDINGS LTD
- 176 SEARDEL INVESTMENT CORPORATION LTD
- 177 STEINHOFF INTERNATIONAL HOLDINGS LTD
- 178 VENTER LEISURE AND COMMERCIAL TRAILERS LTD

Automobiles and parts

- 179 BRIDGESONE FIRESTONE MAXIPREST LTD
- 180 COMBINED MOTOR HOLDINGS LTD
- 181 METAIR INVESTMENTS LTD
- 182 TIGER WHEEL LTD
- 183 VAALAUTO LTD
- 184 VAAL TRUCAR LTD
- 185 WESCO INVESTMENTS LTD

Cyclical services sector

General retailers

- 186 AFRICAN & OVERSEAS ENTERPRISES
- 187 BEARING MAN LTD
- 188 BRANDCORP HOLDINGS LTD
- 189 CONNECTION GROUP HOLDINGS LTD
- 190 EDGARS CONSOLIDATED STORES LTD
- 191 ELLERINE HOLDINGS LTD
- 192 FOSCHINI
- 193 INMINS LTD
- 194 JD GROUP LTD
- 195 LA GROUP LTD
- 196 MASSMART HOLDINGS LTD
- 197 MATHOMO GROUP LTD
- 198 METRO CASH & CARRY LTD
- 199 MR PRICE GROUP LTD
- 200 NICTUS LTD
- 201 NEW CLICKS HOLDINGS LTD
- 202 RELYANT RETAIL LTD
- 203 REX TRUEFROM CLOTHING COMPANY
- 204 TRADEHOLD LTD
- 205 TRUWORTHS INTERNATIONAL LTD
- 206 WINHOLD LTD
- 207 WOOLWORTHS HOLDINGS LTD
- 208 WOOLTRU LTD

Support services

- 209 ACUITY GROUP HOLDINGS LTD
- 210 ADCORP HOLDINGS LTD

211 ADVTECH LTD
212 ALEX WHITE HOLDINGS LTD
213 ASRAPAK LTD
214 THE BIDVEST GROUP LTD
215 BOWLER METCALF LTD
216 CCN HOLDINGS LTD
217 COMMAND HOLDINGS LTD
218 ENVIROSERV HOLDINGS LTD
219 EXCELLERATE HOLDINGS LTD
220 GLOBAL VILLAGE HOLDINGS LTD
221 NAMPAK LTD
222 ONELOGIX GROUP LTD
223 PRIMESEV GROUP LTD
224 QUYN HOLDINGS LTD
225 REBSERVE HOLDINGS LTD
226 TRANSPACO
227 UNITED SERVICE TECHNOLOGIES LTD

Leisure and hotels

228 ADMIRAL LEISURE WORLD LTD
229 CITY LODGE HOTELS LTD
230 CULLINAN HOLDINGS LTD
231 DON GROUP LTD
232 FAMOUS BRANDS LTD
233 GOLD REEF CASINO RESORTS LTD
234 KERSAF INVESTMENTS LTD
235 KING CONSOLIDATED HOLDINGS LTD
236 MORIBO LEISURE LTD
237 PHUMELELA GAMING AND LEISURE LTD
238 SAIL GROUP LTD
239 SUN INTERNATIONAL (SOUTH AFRICA) LTD
240 SPUR CORPORATION LTD
241 TOURISM INVESTMENT CORPORATION

Media and entertainment

242 AFRICAN MEDIA ENTERTAINMENT LTD
243 CAXTON CTP PUBLISHERS AND PRINTERS
244 HERITAGE COLLECTION HOLDINGS LTD
245 JOHNIC COMMUNICATIONS LTD
246 JOHNIC HOLDINGS LTD
247 KAGISO MEDIA LTD
248 MONEY WEB HOLDINGS LTD
249 NEW AFRICA INVESTMENTS LTD
250 NASPERS LTD N
251 PRIMEDIA LTD
252 SASANI LTD

Transport

253 CARGO CARRIERS LTD
254 COMAIR LTD
255 GRINDROD LTD
256 MOBILE INDUSTRIES LTD
257 PUTCO LTD

258 SUPER GROUP LTD
259 TRENCOR LTD
260 UNITRANS LTD
261 VALUE GROUP LTD

General industrials sector

Diversified industrials

262 ARGENT INDUSTRIAL LTD
263 BARLOWORLD LTD
264 IMPERIAL HOLDINGS LTD
265 MONTEAGLE SOCIETE ANONYME
266 SEKUNJALO INVESTMENTS LTD

Electronic and electrical equipment

267 ALLIED TECHNOLOGIES LTD
268 ALLIED ELECTRONICS CORPORATION LTD
269 CONTROL INSTRUMENTS GROUP LTD
270 DELTA ELECTRICAL INDUSTRIES LTD
271 DIGICOR HOLDINGS LTD
272 GRINTEK LTD
273 IST GROUP LTD
274 JASCO ELECTRONICS HOLDINGS LTD
275 PASDEC RESOURCES SA LTD
276 REUNERT LTD
277 SETPOINT TECHNOLOGY HOLDINGS LTD

Engineering and machinery

278 BELL EQUIPMENT LTD
279 HOWDEN AFRICA HOLDINGS LTD
280 HUDACO INDUSTRIES LTD
281 INVICTA HOLDINGS LTD
282 KAIROS INDUSTRIAL HOLDINGS LTD

Information technology sector

Information technology hardware

283 MUSTEK LTD
284 PINNACLE TECHNOLOGY HOLDINGS LTD

Software and computer services

285 AST GROUP LTD
286 BYTES TECHNOLOGY GROUP LTD
287 COMPU-CLEARING OUTSOURCING
288 CS COMPUTER SERVICES HOLDINGS
289 DATATEC LTD
290 DATACENTRIX HOLDINGS LTD
291 DIMENSION DATA HOLDINGS PLC
292 ELEXIR TECHNOLOGY HOLDINGS LTD
293 ENTERPRISE OUTSOURCING HOLDINGS LTD
294 ERP.COM HOLDINGS LTD
295 FARITEC HOLDINGS LTD
296 FRONTRANGE LTD
297 GLOBAL TECHNOLOGY LTD
298 IDION TECHNOLOGY HOLDINGS LTD

299 INTERVID LTD
300 MGX HOLDINGS LTD
301 PARACON HOLDINGS LTD
302 PRISM HOLDINGS LTD
303 SPESCOM LTD
304 SQUARE ONE SOLUTIONS GROUP LTD
305 UCS GROUP LTD
306 VESTA TECHNOLOGY HOLDINGS LTD
307 Y3K GROUP LTD
308 PICK N PAY STORES

Non cyclical services sector

Food and drug retails

309 PICK N PAY HOLDINGS LTD
310 SHOPRITE HOLDINGS LTD

Telecommunication services

311 MTN GROUP LTD
312 TELKOM SA LTD

Development capital board

313 ALUDIE LTD
314 APS TECHNOLOGIES LTD
315 CASEY INVESTMENT HOLDINGS LTD
316 CENMAG HOLDINGS LTD
317 INDEQUITY GROUP LTD
318 INDEPENDENT FINANCIAL SERVICES
319 INFOWAVE HOLDINGS LTD
320 INTEGREAR LTD
321 JIGSAW HOLDINGS LTD
322 S & J LAND HOLDINGS LTD
323 SPECTRUM SHIPPING LTD
324 STELLA VISTA TECHNOLOGIES LTD
325 SYNERGY HOLDINGS LTD

Venture capital board

326 ABC CASH PLUS LTD
327 ALL JOY FOODS LTD
328 AVASA HOLDINGS LTD
329 BEGET HOLDINGS LTD
330 BRYANT TECHNOLOGY LTD
331 CREDITVISION HOLDINGS LTD
332 INDUSTRIAL CREDIT COMPANY AFRICA HOLDINGS LTD
333 INTERCONNECTIVE SOLUTIONS LTD
334 JOHN DANIEL HOLDINGS LTD
335 LABAT AFRICA LTD
336 MOULDMED MEDICAL SUPPLIES LTD
337 SA MINERAL RESOURCES CORP LTD
338 SOUTHERN ELECTRICITY COMPANY LTD
339 STRATCORP LTD
340 WINECORP LTD

341 ZAPTRONIX LTD
342 ZENITH CONCESSIONS LTD

Alternative exchange board

343 BEIGE HOLDINGS LTD
344 INSURANCE OUTSOURCING MANAGERS HOLDINGS LTD

Appendix 2

Questionnaire

MANAGEMENT ACCOUNTING: A SOUTH AFRICAN PERSPECTIVE

Respondent number

V1 1

Please complete this questionnaire by circling a number in a shaded box or by writing your answer in the shaded space provided.

General Information

1. Please name your position in your organization.

V2 5

2. What percentage of your time at work is dedicated to management accounting?

| | |
|------------|----------|
| 0 to 20% | 1 |
| 21 to 40% | 2 |
| 41 to 60% | 3 |
| 61 to 80% | 4 |
| 81 to 100% | 5 |

V3 7

3. Which of the following **best** describes your qualifications, and **how long ago** did you complete these qualifications? (You may indicate more than one option if applicable)

| Qualification | ≤ 10 years | 11 - 20 years | ≥ 21 years |
|-----------------|------------|---------------|------------|
| CIMA | 1 | 2 | 3 |
| CA(SA) | 1 | 2 | 3 |
| Degree | 1 | 2 | 3 |
| Diploma | 1 | 2 | 3 |
| CIS | 1 | 2 | 3 |
| Other (specify) | 1 | 2 | 3 |
| | | | |
| Other (specify) | 1 | 2 | 3 |

V4 8
 V5 9
 V6 10
 V7 11
 V8 12
 V9 13
 V10 14
 V11 15
 V12 16

4. Please indicate the **sector** of your organization as **listed** on the Johannesburg Stock Exchange:

| | |
|-----------------------------|-----------|
| Resources | 1 |
| Basic industries | 2 |
| General industrials | 3 |
| Cyclical consumer goods | 4 |
| Non-cyclical consumer goods | 5 |
| Cyclical services | 6 |
| Non-cyclical services | 7 |
| Financials | 8 |
| Information technology | 9 |
| Venture capital | 10 |
| Development capital | 11 |

V13 17

5. Please indicate the **estimated number** of employees in your organization.

| | |
|--------------------|----------|
| 5000 or less | 1 |
| 5 001 to 10 000 | 2 |
| 10 001 to 50 000 | 3 |
| 50 001 to 100 000 | 4 |
| 100 001 to 150 000 | 5 |
| More than 150 000 | 6 |

V14 19

Decisions in your organization

6. How often do you apply the following management accounting techniques in your organization?

Please use the code:

- W** = **Weekly** (1)
- M** = **Monthly** (2)
- A** = **Annually or less often** (3)
- N** = **Never** (4)
- D** = **Do not know** (5)

| Technique | W | M | A | N | D |
|--|----------|----------|----------|----------|----------|
| Cost-volume-profit analysis (distinction between fixed and variable costs) | 1 | 2 | 3 | 4 | 5 |
| Discounted cash flow | 1 | 2 | 3 | 4 | 5 |
| Relevant costing | 1 | 2 | 3 | 4 | 5 |
| Simulation | 1 | 2 | 3 | 4 | 5 |
| Sensitivity analysis | 1 | 2 | 3 | 4 | 5 |
| Expected values | 1 | 2 | 3 | 4 | 5 |

V15 20

V16 21

V17 22

V18 23

V19 24

V20 25

7. Do management accounting techniques used by you take the cost of information into account?

| | |
|--------|---|
| Never | 1 |
| Seldom | 2 |
| Often | 3 |
| Always | 4 |

V21 26

8. Do management accounting techniques encourage you to take the following factors into consideration?

Please use the code:

N = Never (1)
 S = Sometimes (2)
 A = Always (3)

| Factor | N | S | A |
|-------------------------------|---|---|---|
| Cultural | 1 | 2 | 3 |
| Historical | 1 | 2 | 3 |
| Social | 1 | 2 | 3 |
| Environmental | 1 | 2 | 3 |
| Changes in estimated sales | 1 | 2 | 3 |
| Changes in estimated expenses | 1 | 2 | 3 |
| Inflation | 1 | 2 | 3 |

V22 27
 V23 28
 V24 29
 V25 30
 V26 31
 V27 32
 V28 33

Your opinion

9. How would you describe the decision making process in **commerce in general**, in South Africa?

| | |
|----------------------|---|
| Completely intuitive | 1 |
| Mostly intuitive | 2 |
| Reasoned/calculated | 3 |

V29 34

10. Do you think **commerce in general** in South Africa...

| | |
|------------------------------------|---|
| Seeks <i>satisfactory</i> returns? | 1 |
| Seeks <i>maximizing</i> returns? | 2 |

V30 35

11. Do you think that the same management accounting techniques can be applied in **different countries** with different business cultures?

| | |
|--------|---|
| Always | 1 |
| Mostly | 2 |
| Seldom | 3 |
| Never | 4 |

V31 36

12. How much government intervention in the market will be best for society as a whole?

| | |
|-----------|---|
| None | 1 |
| Minimal | 2 |
| Moderate | 3 |
| Extensive | 4 |

V32 37

13. Do you think the way resources are distributed by means of the free market is ...

| | |
|--------------------|---|
| Completely fair? | 1 |
| Mostly fair? | 2 |
| Mostly unfair? | 3 |
| Completely unfair? | 4 |

V33 38

14. What role does competition play in the efficient functioning of the free market?

| | |
|---------------|---|
| Predominant | 1 |
| Important | 2 |
| Limited | 3 |
| Insignificant | 4 |

V34 39

15. Do you think that the market tends towards an equilibrium price where supply equals demand?

Please use the code:

N = **Never** (1)
S = **Sometimes** (2)
A = **Always** (3)

| Market | N | S | A |
|---|---|---|---|
| In <i>one</i> product or service market * | 1 | 2 | 3 |
| In <i>all</i> markets* | 1 | 2 | 3 |

V35 40

V36 41

(* A *market* refers to a market for a product or service, for example the fish market, and not to a particular geographical area.)

Please return the completed questionnaire to us in the enclosed envelope.

THANK YOU FOR YOUR VALUABLE TIME.

