Valuing privately-owned companies in South Africa: Adjusting for unsystematic risk

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister Commercii at the Potchefstroom Campus of the North-West University

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November 2011

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To whom it may concern 5 December 2011

Re: Language editing of master's dissertation: Valuing privately-owned companies in South Africa: Adjusting for unsystematic risk

This is to certify that the above-mentioned dissertation by H Erasmus (student number: 21080372) was language edited by myself. Please feel free to contact me should you have any queries in this regard.

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English abstract

Business valuations have been an integral part of business for many years, and will stay an important part of business, as valuations are required for multiple reasons. The majority of businesses in South Africa (and the rest of the world) consist of privately-owned companies. A business valuation in general is a complex exercise that can be described as an inexact science. When the business valuation of a privately-owned company is added to the equation, the level of uncertainty is increased with another notch. The valuations of privately-owned companies are therefore a relevant topic.

As unsystematic risk in privately-owned companies is difficult to eliminate or mitigate by diversification, this study sets the goal to determine if the advisory departments of the big four audit, tax and advisory firms in South Africa (Ernst & Young, PwC, KPMG and Deloitte & Touch) consider and incorporate unsystematic risk into valuations of privately-owned companies and if it is taken into account, whether it is done objectively.

This study firstly focussed on the literature of privately-owned company valuations. The most frequently used approaches are found to be the market approach and the income approach. The asset approach is used to determine the minimum value of a company (the liquidation value). The topic of unsystematic risk is perceived as very much subjective and therefore receptive of manipulation. The second part of the study uses the mixed method approach to collect empirical data, using survey questionnaires and follow-up interviews (which are based on the literature review).

It was found that the preferred valuation approaches used by the participants are indeed the income approach followed by the market approach. It seems that these two approaches are used in conjunction with one another. Incorporating unsystematic risk is done in line with what the literature proposes, but as professional judgement is needed, the process is never entirely objective. Participants tend to agree that the identification and quantification of

unsystematic risk are not entirely objective and that it is possible to use unsystematic risk as a device to bring the final results of a valuation in line with the clients' objective.

This study recommends that a professional valuation body should be formed to regulate valuations in South Africa. This body should set valuation standards. It is furthermore recommended that the asset approach is used as a reasonableness test when going concern companies are valued, and to consider the use of CAPM variants (e.g. modified CAPM, the local CAPM, the Build-up method etc.) and non-CAPM variants (Estrada model and the EHV model) to determine the cost of equity when the income approach is followed, as is suggested by the literature.

The practical implication of the study is that the research can be used as starting point by role-players in the valuations sector to open the discussion on the topic formally so that valuation practitioners can engage with one another and work towards a professional valuation body and valuation standards.

The limitations of the study are that only top-level employees were used as the representatives of firms and the population only includes the big four audit, advisory and taxation firms. Areas for further research include extending the population to three strata, viz. big four firms, medium-sized firms and small-sized firms. Comparative valuations on a case study can be performed by the different approaches of each stratum using unsystematic risk as the only variable (if themes are identified in strata). Conclusions can be made based on the outcomes of the valuations to determine the impact when different approaches are followed.

Keywords: Privately-owned companies, Public (listed) companies, Systematic risk, Unsystematic risk, Valuation

Afrikaanse opsomming

Besigheidswaardasies is vir menige jare reeds ’n integrale deel van besighede, en sal ’n belangrike deel van besigheid bly, aangesien waardasies vir verskeie doeleindes benodig word. Die meerderheid besighede in Suid-Afrika (en die res van die wêreld) bestaan uit privaatbesitmaatskappye. ’n Besigheidswaardasie is oor die algemeen ’n komplekse oefening wat as ’n onpresiese wetenskap beskryf kan word. Wanneer die besigheidswaardasie van ’n privaatbesitmaatskappy ook hierby gevoeg word, word die onsekerheidsvlak ’n kerf opgestoot. Die waardasies van privaatbesitmaatskappye is dus ’n relevante onderwerp.

Aangesien onsistematiese risiko in privaatbesitmaatskappye moeilik is om deur middel van diversifikasie te elimineer of te mitigeer, stel hierdie studie die doelwit om te bepaal of die adviesdepartemente van die groot vier oudit-, belasting- en advies-ondernemings in Suid-Afrika (Ernst & Young, PwC, KPMG en Deloitte & Touch) onsistematiese risiko oorweeg en inkorporeer binne waardasies van privaatbesitmaatskappye, en, indien dit in ag geneem word, of dit objektief gedoen word.

Hierdie studie het eerstens gefokus op die literatuur van privaatbesitmaatskappy-waardasies. Daar is gevind dat die mees dikwels gebruikte benaderings die markbenadering en die inkomstebenadering is. Die batebenadering word gebruik om die minimumwaarde van ’n maatskappy (die likwidasie-waarde) te bepaal. Die onderwerp van onsistematiese risiko word as baie subjektief beskou, en is dus ontvanklik vir manipulasie. Die tweede deel van die studie maak van die gemengde metode-benadering gebruik om empiriese data in te samel, deur van opname-vraelyste en opvolgonderhoude (wat op die literatuuroorsig gebaseer is) gebruik te maak.

Daar is gevind dat die gekose waardasie-benaderings wat deur die deelnemers gebruik word, inderdaad die inkomstebenadering, gevolg deur die markbenadering, is. Dit wil voorkom asof hierdie twee benaderings in

samewerking gebruik word. Die inkorporering van onsistematiese risiko word in lyn met wat die literatuur voorstel, gedoen, maar aangesien professionele oordeel benodig word, is die proses nooit ten volle objektief nie. Deelnemers is geneig om saam te stem dat die identifisering en kwantifisering van onsistematiese risiko nie heeltemal objektief is nie en dat dit moontlik is om onsistematiese risiko te gebruik om die finale resultate van ’n waardasie in lyn met die kliënte se doelstelling te bring.

Hierdie studie beveel aan dat ’n professionele waardasieliggaam gestig behoort te word wat waardasies in Suid-Afrika reguleer en waardasiestandaarde daar stel. Daar word verder aanbeveel dat die batebenadering as ’n redelikheidstoets gebruik word wanneer lopende saak maatskappye waardeer word, sowel as die gebruik van CAPM-veranderlikes (bv. gemodifiseerde CAPM, die plaaslike CAPM-veranderlike, die Opbou-metode, ens) en nie-CAPM-veranderlikes (die Estrada-model en die EHV-model) om die koste van ekwiteit, wanneer die inkomstebenadering gevolg word, te bepaal, soos deur die literatuur voorgestel.

Die praktiese implikasie van die studie is dat die navorsing as beginpunt deur rolspelers in die waardasiesektor gebruik kan word om die bespreking van die onderwerp formeel aan die rol te kry sodat waardasiepraktisyns kan saamwerk om ’n professionele waardasieliggaam te stig en waardasiestandaarde daar te stel.

Die beperkings van die studie is dat slegs topvlakwerknemers as verteenwoordigers van organisasies gebruik is. Die populasie sluit slegs die groot vier oudit-, advies- en belastingondernemings in. Areas vir verdere navorsing sluit die uitbreiding van die populasie tot drie strata in, naamlik die groot vier ondernemings, mediumgrootte-ondernemings en klein ondernemings. Vergelykende waardasies op ’n gevallestudie kan uitgevoer word deur die verskillende benaderings van elke stratum deur gebruik te maak van onsistematiese risiko as die enigste veranderlike (indien temas in strata geïdentifiseer is). Gevolgtrekkings kan gemaak word gebaseer op die uitkomste

van die waardasies om die impak wanneer verskillende benaderings gevolg word, te bepaal.

Sleutelwoorde: Privaatbesitmaatskappye, Publieke (genoteerde) maatskappye, Sistematiese risiko, Onsistematiese risiko, Waardasie

Acknowledgements

I would like to express my utmost appreciation for the support and help I received from the following individuals who made an enormous contribution to complete this study:

- My God and Saviour, Jesus Christ, for his never failing grace and love.
- Professors Surika van Rooyen and Merwe Oberholzer for their excellent guidance throughout the study, and for never thinking that any of my questions are silly.
- Dr Sanlie Middelberg and Prof Pieter Buys for their willingness to always be of assistance (all the “quick questions”).
- To the participants of the study, for their willingness to be a part of the project.
- To Hester Lombard at the Ferdinand Postma Library, for her friendly assistance.
- To the language editor, Cecile van Zyl, for her professional assistance.
- To my parents, Robbie and Gerda Erasmus, who have always encouraged me and who always believe in me.
- To my friends, for their encouragement to finish the study.

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List of abbreviations used

APT	Arbitrage pricing theory
BClg	The slope of the regression between the local equity market index and the global market index
b	Regression coefficients
CAPM	Capital asset pricing model
CSRP	Company-specific (unsystematic) risk premium
CS	Semi-annual return in US dollars for country i
CCR	Country credit rating
D1	Next period dividend
EHV model	Erb-Harvey-Viskanta model
E&Y	Ernst & Young
EPS	Earnings per share
g	Projected growth rate
IARP	Industry adjustment risk premium
Ke	Cost of equity
n	Number of values there might be
P/E ratio:	Price/earnings ratio
P0	Value of the share
Rf	Risk-free rate of return

Rm	Return of the market
Rm – Rf	Equity risk premium
Rfl	Local risk-free rate, being the global risk-free rate and the country risk premium
Rml	Local return of the market
Rfg	Global risk-free rate
Rc	Country risk premium
R^2i	Variance in the equity volatility of the target company i, hence the inclusion of the (1 - R^2i) factor counters the overestimation of risk
Rmg	The global market return
Rfus	The United States of America (US) risk-free rate
Rmus	The US market return
RMi	Risk measure, proposed to use downside risk
SML	Security market line
SARP	Size adjustment risk premium
SWOT	Strengths, weaknesses, opportunities and threats
The G-E model	Godfrey-Espinosa model
USA	United States of America
WACC	Weighted average cost of capital
x	Selected microeconomic and/or macroeconomic variables

β	Beta
βll	Local company beta computed against a local market index
βgg	The average beta of comparable companies quoting in the global market
βA	Adjustment beta which = (σi/σus)/0.60 where the 0.60 factor depresses the equity risk premium to eliminate the overestimating of risk
σi	Standard deviation of returns in the local market
σus	Standard deviation of returns in the US equity market

1. CHAPTER 1 INTRODUCTION

1.1. PURPOSE, SCOPE AND PROGRESS OF STUDY

1.1.1. Background

Valuations of companies have become increasingly important. Most companies will have to be valued at some stage for one reason or another. For example, companies involved in mergers and acquisitions need to be valued to determine a reasonable purchase price for the relevant company. Valuations are also required for taxation purposes, estate purposes and divorce settlements (Gabehart & Brinkley, 2002:16). The relevance of valuations is further emphasised by the King Code of Governance for South Africa 2009 (King III), which indicates that the board of a company should ensure fair consideration when the company is subject to a merger, sale, workout, amalgamation or business rescue (King Code of Governance for South Africa 2009, 2009:24). Valuing listed companies is relatively easier than valuing privately-owned companies, as traditional valuation approaches do not provide much guidance for valuing the latter (Pereiro, 2001:331) and are mostly directed at valuing public companies.

It is reported that the vast majority of businesses in other parts of the world, such as the United States of America (USA), are privately owned (Anderson, 2009:87). As indicated by die registration statistics, the same trend is followed in South Africa with the overwhelming majority of active companies being owned privately (CIPRO, 2010). Still, the valuation of these companies is ignored in most valuation literature (Petersen *et al*., 2006:33). Valuation of public companies is already nothing short of being complicated with numerous subjective variables (Watkins, 2009:27). Add to this the issue of a company being privately owned and the product is an even more complicated valuation exercise (Kooli *et al*., 2003:48). If these companies are based in emerging markets, the valuation becomes even more complex. As substantial amounts

of investments have flowed to emerging economies in recent years, this is no trivial matter (Pereiro, 2006:161).

Techniques to value companies recommended by theorists are included in the three broad categories of the market approach, the asset-based approach and the income approach (Pratt & Niculita, 2008:62-63). Under the market approach, comparable public companies are often used as guideline to value privately-owned companies. The asset-based approach uses the value of assets as a basis to determine a company's value, while the income approach discounts future cash flow streams to arrive at a present value.

All of these approaches present difficulties when valuing privately-owned companies. When using the market approach, the market share prices of privately-owned companies are not available. It is practice in such cases to find information of comparable or guideline companies and adjust prices to match those of the specific company (Anderson, 2009:96). The asset approach again, is theoretically weak, as the historic asset prices cannot predict the future earning power of a business (Anderson, 2009:97) and the value of intangible assets, e.g. goodwill, is difficult to estimate (Ogilvie, 2009,227). The dilemma with the income approach is that subjectivity is demonstrated when information from different sources is obtained and used to estimate future earnings. Theoretically, a firm's value depends on the future economic benefits that will accrue to that business, with the value of such benefits being discounted back to a present value at some appropriate discount rate (Pratt & Niculita, 2008:175). This discount rate is not always adjusted for unsystematic risk (also referred to as specific risk or company-specific risk) associated with privately-owned companies (Pereiro, 2001:330).

A discount rate is therefore required to perform an income approach valuation. Such a discount rate (cost of capital) used for valuing public companies is determined using information from financial markets. Privately-owned companies do not have the necessary financial market information (Palliam, 2005a:335). Van Eeden (2005:58) defines the discount rate as the rate of return at which an investor would be willing to invest in a business, given a

perceived level of risk. The weighted average cost of capital (WACC) is generally accepted as the discount rate (Petersen *et al*., 2006:34). WACC consists of cost of debt and cost of equity. The cost of debt is relatively easier to calculate than the cost of equity (Sim & Wilhelm, 2010:40; Borgman & Strong, 2006:2). The capital asset pricing model (CAPM) is a widely-accepted model used to determine the cost of equity of public companies. CAPM calculates the required rate of return by taking into account three components: returns on risk-free bonds, the equity beta of the shares that measures the risk (volatility) of the shares relative to other risky (volatile) shares (Beta = 1 is average risk) and the market risk premium necessary to lure investors (Bruner *et al*., 1998:16). The details of how CAPM is implemented are notably disagreed on (Bruner *et al*., 1998:26) and if used, it is controversial (Pereiro, 2001:331). This model can therefore not be used in the original state for privately-owned firms (Sung, 2007:231), since their shares are not traded in the active market.

CAPM assumes that investors are well diversified and that investors should be compensated only for systematic risk (Petersen *et al*., 2006:43). Pratt and Niculita (2008:185) define risk as the degree of uncertainty as the realisation of expected future returns. Risk is divided into two categories: systematic risk and unsystematic risk. Systematic risk is furthermore defined as the uncertainty of future returns resulting from the sensitivity of the return on the subject investment to movements in the return on the investment market as a whole. Unsystematic risk is a function of characteristics of the industry, the individual company, and the type of investment interest. It is furthermore unique and specific to each individual company caused by factors such as management depth, profitability, supplier network and clientele, product innovation and lawsuits (Feldman, 2005:80).

The unsystematic risk premium has been used in the past to adjust the discount rate for the above-mentioned factors. Unsystematic risk is especially important in privately-owned company valuations, because many business owners are undiversified or under-diversified (Carlson, 2009). Research in

Denmark reported that most financial advisors ignored unsystematic risk in valuing privately-owned companies (Petersen *et al*., 2006:43). In another study in the USA, it was also found that participants do not always make adjustments for unsystematic risk (Bruner *et al*., 1998:18). At the same time, double-counting of a risk factor must be avoided as certain business risks are common within an industry and would therefore already be incorporated into beta or the risk premium (Sim & Wilhelm, 2010:41).

The question is then whether CAPM, as used in the traditional way, is a reliable and relevant cost-of-equity rate to be used for the valuation of privately-owned companies. These companies are still exposed to unsystematic risk, while CAPM does not consider all of it. To ensure that this risk is more objectively quantified and taken into account, Peter Butler and Keith Pinkerton reacted by developing the "Butler Pinkerton Calculator". Multiple empirically-derived reference points are used to select an appropriate unsystematic risk premium for privately-owned companies (Butler & Pinkerton, 2007). In another study, a multi-criteria model was used to attempt the determination of the cost of capital for a small business (Palliam, 2005b:341). The recent world recession has also resulted in the question being asked as to whether we should change the way we think about the key components of the cost of equity (PwC Corporate Finance, 2009/10:5).

To summarise, the three broad categories of valuations, i.e. the market-, the asset-based- and the income approaches have shortcomings when they are applied in privately-owned company valuations. The income approach, for example, relies on many variables, i.e. the discount rate (WACC), which includes the cost of equity, measured by a controversial method such as CAPM that only compensates for systematic risk, while unsystematic risk is neglected. In addition to the above, valuations of privately-owned companies need to be adjusted for the lack of marketability (including illiquidity and tradability) and ownership control (Pratt & Niculita, 2008:416). The marketability of privately-owned businesses will usually be limited, and such an adjustment will therefore have to be considered with the valuations of

these companies (Kooli *et al*., 2003:48). Although it is well accepted that privately-owned companies' value should be adjusted for lack of marketability, assigning this value of discount is a difficult matter (Block, 2007:33).

It can therefore be seen that there is simply not enough knowledge and insight into the market value of privately-owned companies (Anderson, 2009:87).

1.1.2. Problem statement

When privately-owned companies are therefore valued, the model used should be adjusted accordingly for unsystematic risk associated with the specific company, even though it seems like a difficult task. As South African valuation practitioners are not compelled to follow specific international or local valuation standards, uncertainty regarding this matter increases.

The problem of the study therefore arises from the background above (par 1.1.1, p. 1) and can be summarised by asking the **research question**: Do advisory firms in South Africa adjust the valuations of privately-owned companies for unsystematic risk, and, if adjusted, how objectively is it done? Companies which are in a financial position to trade in the foreseeable future (thus, going concern companies), are used as companies to be valued. For the purpose of this study, the "big four" audit, advisory and taxation firms are selected as research subjects. The "big four" firms, in no particular order, are:

- PwC;
- KPMG;
- Deloitte & Touch; and
- Ernst & Young (E&Y).

1.1.3. Goal and objectives

As a result of the research question, the goal of this study is to determine whether advisory firms valuing privately-owned companies in South Africa take unsystematic risk into account and, if they do, how it is done.

The goal is achieved by the following specific objectives:

- Objective 1: Conceptualising unsystematic risk from the literature and determining what the different aspects of unsystematic risk are that should be taken into account;
- Objective 2: Conceptualising, from the literature, how unsystematic risk should objectively be incorporated into different valuation techniques;
- Objective 3: Determining whether advisory firms do take unsystematic risk into account when valuations are performed;
- Objective 4: Determining how unsystematic risk is incorporated into different valuation techniques; and
- Objective 5: Making recommendations regarding the incorporation of unsystematic risk into the valuations of privately-owned companies in South Africa.

1.1.4. Hypothesis

The research question developed from the background (par 1.1.1, p. 1) leads to the hypothesis. For the purpose of this study, and considering the above discussions, the null-hypothesis of this study can be formulated as follows:

H_0 Unsystematic risk is not taken into account when advisory firms are valuing a privately-owned company in South Africa, and, if it is, it is not entirely objective.

1.2. RESEARCH METHODOLOGY

This study is classified as empirical, collecting new numerical and textual data (primary data), with a low level of control. To achieve the objectives set, a thorough literature review with an empirical study is conducted.

1.2.1. Literature review

The literature review follows a two-pronged approach. Firstly, the work of theorists is carefully reviewed and considered. Consideration is also given to

published academic research performed locally (nationally) and internationally. Different opinions of theorists are compared. This is done to obtain a good insight into the valuation procedure and the extent to which the literature agrees and disagrees on various aspects. Secondly, user guides and application manuals of advisory firms are obtained and studied to evaluate and compare these documents with accepted theory.

The literature review aims to achieve the following:

- To obtain a sound foundation of theory widely accepted and reasoning behind the acceptance thereof;
- To determine whether previous studies locally (nationally) and internationally have found any discrepancies between how theory suggests a privately-owned company should be valued and how it is done in practice; and
- To determine whether advisory firms' policies and procedures are in line with what theorists suggest.

1.2.2. Empirical research

The empirical study is conducted by representatives of the big four auditing firms (Deloitte & Touch, KPMG, PwC, Ernst & Young) completing a structured questionnaire. For the purpose of this study, advisory firms are defined as registered audit firms providing audit, taxation and advisory services. The content of the questionnaire is developed to include questions regarding how valuations of privately-owned companies are executed. The results of the questionnaires are interpreted.

1.3. OVERVIEW

The study is conducted in five chapters as follows:

Chapter 1: Introduction

This chapter contains the introduction of the research study. The background of privately-owned company valuations is discussed and issues identified in other studies and texts are noted. The problem statement outlines the matter under discussion in this study. The research objectives are provided together with the methodology that is followed.

Chapter 2: Literature review

Chapter 2 consists of a literature review of the accepted theory of valuations of privately-owned companies. This is done to obtain a good insight into the valuation procedure and the extent to which the literature agrees on various aspects. The different aspects of unsystematic risk to be accounted for and how it should be accounted for are identified. The user guides and application manuals of participants are obtained and studied to get an overview of whether policies are in line with accepted theory. Published academic research performed locally and internationally is also studied.

Chapter 3: Research design and method

In this chapter, the research design and methodology are discussed. The development of the questionnaire as well as the rationale of how the population is determined is outlined. The explanation and justification of the sample to be selected from the population are also explained.

Chapter 4: Adjusting valuations of privately-owned companies for unsystematic risk

In Chapter 4, the results of the empirical study of whether advisory firms take unsystematic risk into account with valuations of privately-owned companies are reported. The methods used by these firms to incorporate unsystematic risk into the valuation techniques are also reported.

Chapter 5: Conclusions and recommendations

A summary of the study is provided in this chapter in the light of the objectives set out in Chapter 1. The conclusions and recommendations are discussed, followed by the identified limitations of the study, the potential value of the research and the possible areas for further research.

1.4. SUMMARY

The problem statement and motivation for the study were discussed in this chapter. The research objectives and the research method followed, which included a discussion of the research design applied in the study. The structure of the study was discussed in 1.3 above.

2. CHAPTER 2 LITERATURE REVIEW

2.1. BACKGROUND

This chapter consists of a literature review of the accepted theory of valuations of privately-owned companies to address Objectives 1 and 2 set in paragraph 1.1.3 on page 5. The purpose is to obtain sufficient information from the literature regarding business valuations of such companies. This will sketch a bigger picture of the subject under discussion and will provide a good indication of what the content of the questionnaire to be developed for the empirical study should be.

Various textbooks are visited to carefully review and consider the work of theorists. A sound foundation of theory widely accepted is laid and reasoning behind the acceptance thereof is obtained. This is done to obtain a good insight into the valuation procedure and the extent to which the literature agrees and disagrees on different aspects.

Consideration is then given to published academic research performed locally (nationally) and internationally to determine whether previous studies have found any discrepancies between how theory suggests a privately-owned company should be valued and how it is done in practice. The different aspects of unsystematic risk to be accounted for and how it should be accounted for are identified.

Advisory firms usually have policies on how work is performed (for example, an audit guide providing guidelines on the approach to follow when auditing a client). These policies or user guides or application manuals of participants are obtained and studied to get an overview of whether policies are in line with accepted theory.

2.2. UNSYSTEMATIC RISK

In the business world, the words risk and return are frequently used in the same sentence (Reilly, 2007:75). That is because the required return of a project depends on the risk of the investment. Investors are generally adverse to risk, except when expected returns are high (Brigham & Ehrhardt, 2006:128). The expected return should be high enough to compensate the investor for the perceived risk of the investment (James-Earles & Duet, 2002:12-17). Risk and return are therefore related. An expectation exists that the actual outcome of a project may differ from the expected outcome (Correia *et al.,* 2011:3-3). The relationship between risk and return is called the security market line (SML). The bottom line is that there is a reward for bearing risk and it therefore makes sense that risk should be considered (Miriti, 2004:38). It is often the case that the greater the potential reward of a project, the greater the risk (Firer *et al.*, 2008:376). This reward is called the risk premium.

Risk is divided into two categories: systematic risk and unsystematic risk. For both these risks more than one term exist. Systematic risk is also referred to as market risk, beta or non-specific risk. Systematic risk may also be described as a portfolio's inherent sensitivity to world political and economic events (Ogilvie, 2009:190). Systematic risk affects many different securities at the same time. Most shares are affected in the economy by this risk (Firer *et al.*, 2008:406). Examples of such events include changes in the market condition as a whole (recession or expansion of the macro economy), interest rates, exchange rates, wars or inflation.

Unsystematic risk is also known as non-market risk, investment-specific risk, property-specific risk, diversifiable risk, alpha, specific risk, unique risk, asset-specific risk, idiosyncratic risk, residual risk or company-specific risk. Unsystematic risk affects at most a small number of shares and is a function of characteristics of the individual company, the industry and the type of investment interest. Examples of company-specific characteristics could

include relations between labour and management, the success or failure of a particular programme, management's ability to weather economic conditions, lawsuits, the possibility of strikes, or any other factor specific to the company (Pratt & Niculita, 2008:187-188). As reported by Bello (2005:74), a significant linear relation exists between unsystematic risk and average returns.

Systematic risk cannot be eliminated through diversification, because all shares will be affected by this risk to some degree. Unsystematic risk in the case of listed companies can, on the other hand, be eradicated by a portfolio that is diversified (Miriti, 2004:30). Investors in companies can control their exposure to unsystematic risk through selecting certain securities in certain industries (Bennett & Sias, 2006:99). Spreading an investment across numerous shares will eliminate some, but not all of the risk (Firer *et al.*, 2008:422). A well-diversified portfolio will therefore contain very little unsystematic risk, but cannot escape all risk. A large portfolio will contain shares that will have a positive effect in certain circumstances, while other shares in the portfolio will have a negative effect in the same circumstances. The more shares are added to a portfolio, the lower the volatility of that portfolio (Megginson *et al.,* 2008:208). A portfolio containing about 25 different shares may eliminate risk to its maximum (Correia *et al.,* 2011:4-15). Unsystematic risk would therefore almost be completely eliminated in the case of such a large portfolio (Firer *et al.*, 2008:423).

Investors in privately-owned companies are, however, not able to diversify their portfolio adequately to ensure that unsystematic risk is eradicated. This risk should therefore be incorporated into a valuation of a privately-owned company, as it has had a large impact on the value of real shares (Pereiro, 2001:331). For each privately-owned company valuation, the first unsystematic risk hurdle to overcome is to identify the relevant risks and then to measure these risks. This is no trivial task, as unsystematic risk is difficult to identify, difficult to measure and difficult to correlate with an appropriate incremental rate of return (Reilly, 2007:76). Most texts do, however, not

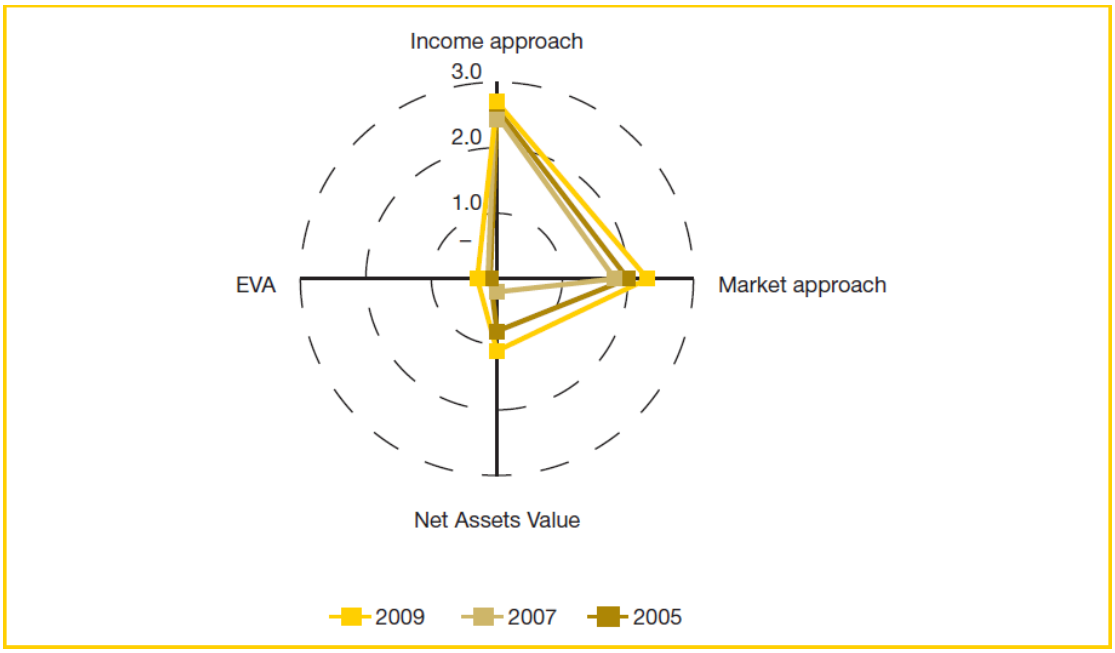
prescribe specifically how risks affecting the company to be valued should be quantified to be incorporated into the valuation thereof (Pereiro, 2001:331).

As mentioned above, there is a reward for bearing risk. It is, however, important to note that the market does not reward risks that are borne unnecessarily (Firer *et al.*, 2008:424). It is therefore clear that the return in the market will be determined by systematic risk (Megginson *et al.,* 2008:210) as unsystematic risk can be eliminated by diversification.

2.3. BUSINESS VALUATION APPROACHES

A valuation is not a fact, it is an estimate that is based on assumptions and can be seen as a form of art (or an inexact science) rather than a science (Grossfeld, 2004:338). The most probable of a range of possible outcomes will be the estimate valuation (International valuation standards council, 2010). PwC Corporate Finance (2009/10:19) performed a survey under 27 financial analysts and corporate financiers in South Africa and found that the valuation approaches most frequently used in South Africa are the income approach, followed by the market approach and then the asset approach (see Graph 2.1 below). The survey results of 2005, 2007 and 2009 are reported. These approaches are also the approaches prescribed by the International Valuation Standards (International Valuation Standards Committee, 2007).

Graph 2.1: Valuation approaches



Source: (PwC Corporate Finance, 2009/10:21)

Business valuations are in general a perplexed procedure. Watkins (2009:27) rightfully noted that valuations of public companies are nothing short of being complicated with numerous subjective variables. Mard (2010:30) illustrated the subjectivity of business valuations in a case where two experts each performed a valuation (both using the income approach) on the same company and arrived at very different values.

The valuation of privately-owned companies is even more difficult and subjective with more variables and uncertainties that make it so much more complicated if compared to a public company valuation (Koeplin *et al.,* 2000:94). It is not just financial aspects that need to be considered, but also non-financial concerns (Astrachan & Jaskiewicz, 2008:139). When privately-owned companies are valued, specific difficulties arise with the use of each valuation approach. The different approaches, together with the incorporation of unsystematic risk into these approaches, will now be focussed on:

2.3.1. The market approach

Multiples like the price/earnings (P/E) ratio are frequently used to determine the market value of a company. The P/E ratio is calculated by dividing the current share price by the annual earnings per share (EPS) (Ogilvie, 2009:227). To arrive at the market value of a company, a forecast is made of the EPS for the next quarter or year. A P/E ratio for a group of comparable companies in the same industry is calculated. The forecast EPS is then multiplied by die P/E ratio of the group to arrive at a value (Megginson *et al.,* 2008:180).

As indicated by PwC Corporate Finance (2009/10:19), the market approach values a privately-owned company by comparing the business to an identified comparable public company in the same industry. Adjustments are made for the unique characteristics of the company under discussion and the two companies should therefore be comparable in terms of the obvious characteristics (Gabehart & Brinkley, 2002:40).

There are, however, certain difficulties that arise when the market approach is used to value a privately-owned company. Other than when a public company is valued, a privately-owned company does not have an observable share price to serve as an objective measure of market value (Koeplin *et al.*, 2000:94). It is also not possible to make use of other privately-owned companies' share prices for comparison as they also do not have observable market values. It is therefore practice to find information of comparable or guideline listed companies and adjust prices and the multiple which is utilised to value the company (e.g. P/E ratio) to match those of the specific company (Anderson, 2009:96).

The advantage of the market approach is that many appraisers consider this information from the stock market to be objective, while others feel that the disadvantage is that there is a lack of comparability between listed companies and privately-owned companies (Helewitz, 2002:13; Trugman, 2002:201).

Incorporating unsystematic risk into a privately-owned company valuation when using the market approach

Reilly (2007:77, 84) noted that with the market approach unsystematic risk should be considered indirectly when:

- A listed company used as a guideline is selected as well as the selection of guideline merged and acquired companies; and
- The selected guideline companies are used to extract subject-specific pricing multiples.

The indirect consideration of unsystematic risk suggests that a premium for such risk is not directly added to a rate like the cost of equity.

When unsystematic risk is accounted for with privately-owned company valuations, the multiple used to value the business will have to be adjusted using knowledge obtained from exposure to the company and its industry, as well as professional judgement. The comparability of the characteristics (the company being valued versus the public company whose multiple is utilised) as well as the structure of the deal is used as foundation (Gabehart & Brinkley, 2002:40).

2.3.2. The asset approach

The asset approach revalues the statement of financial position to the market value, adding the piecemeal values of the underlying assets and subtracting the market values of the liabilities (Helewitz, 2002:14; Pratt & Niculita, 2008:62-63; PwC Corporate Finance, 2009/10:19). The net effect is essentially the liquidation value of the company (Dellinger, 2010:62). Assets and liabilities omitted on the statement of financial position must be identified to be included in the valuation (for example, off-balance sheet finance). Assets and liabilities of a personal nature included in the statement of financial position must be excluded from the valuation (for example, the owner's house) (Gabehart & Brinkley, 2002:37).

No additional issues other than already present in the valuation of public companies arise when the asset approach is used to value privately-owned companies. Before the liabilities are subtracted from the assets, these items are adjusted by updating them to the current market values. The valuation of assets to its market value might be a risk as these adjustments lend themselves to manipulation (Dellinger, 2010:62). Dellinger (2010:62) also noted that companies are generally worth much more than the sum value of their net assets.

The strengths of this approach are that the valuations are promptly available and a minimum value of the entity is provided. Weaknesses are, among others, that future profitability expectations are ignored and the value of intangible assets is difficult to allow for (Ogilvie, 2009:227).

Incorporating unsystematic risk into a privately-owned company valuation when using the asset approach

In the case of the asset approach, indirect consideration must be given when:

- Deciding which intangible assets (off-balance sheet) to value; and
- The selected intangible assets are valued using the income approach.

The indirect consideration of unsystematic risk suggests that a premium for such risk is not directly added to a rate like the cost of equity.

When using the asset approach, before the liabilities are subtracted from the assets, these items are adjusted by updating them to the current market values. The asset valuations are by design amended to account for unsystematic risk and unsystematic risk is therefore incorporated into the valuation (Dellinger, 2010:62).

2.3.3. The income approach

As a valuation is forward looking, the income approach focuses on the future cash flows expected to be generated by the company (Gabehart & Brinkley,

2002:36). When a company is purchased, what is actually bought is a prospective economic income stream (Pratt & Niculita, 2008:175). The future cash flows are discounted to a present value using an appropriate discount rate to take the time value of money into account (Helewitz, 2002:14). An appropriate discount rate is determined by considering the expected risk of the prospective income stream.

Although the income approach, together with the market approach, is most often used in South Africa (PwC Corporate Finance, 2009/10:21), a range of additional issues arise when the income approach is used valuing a privately-owned company. The steps to follow in such a valuation seem easy when described in theory, but are much more complicated when applied in practice (Evans, 1996:80).

The first issue has two facets and relates to the lack of marketability of the privately-owned company's shares and the ownership control (Kooli, 2003:48). The rationale of this issue is that shareholders of a privately-owned company are not able to convert their shares into cash as quickly as shareholders of a public company. This influences the value of the company. A controlling interest also influences the value of the business. A controlling interest has more power to affect changes in the business (Petersen *et al*., 2006:44). These facets should be incorporated into the valuations of privately-owned companies.

The second is the projection of cash flows. The lack of information from these companies may be problematic when the cash flows are estimated (Petersen *et al*., 2006:38; French & Gabrielli, 2005:76). Petersen *et al*. (2006:38) also found that although both internal and external information is regarded as important, emphasis is especially put on internal information. The quality of internal information varies with the period of forecasts being short and the quality of the forecasts being poor.

The third issue relates to the decision of the discount rate. The discount rate is the cost of capital and consists of the cost of debt and the cost of equity. The

cost of debt is relatively easier to calculate than the cost of equity (Sim & Wilhelm, 2010:40; Borgman & Strong, 2006:2). The discount rate is discussed later in this paragraph.

Valuations of privately-owned companies must take into account the following possible discounts and premiums, as mentioned by Trugman (2002:357):

- Control premium;
- Lack of control (minority) discount;
- Discount of lack of marketability;
- Small company discount;
- Discount from net assets value; and
- Key person discount.

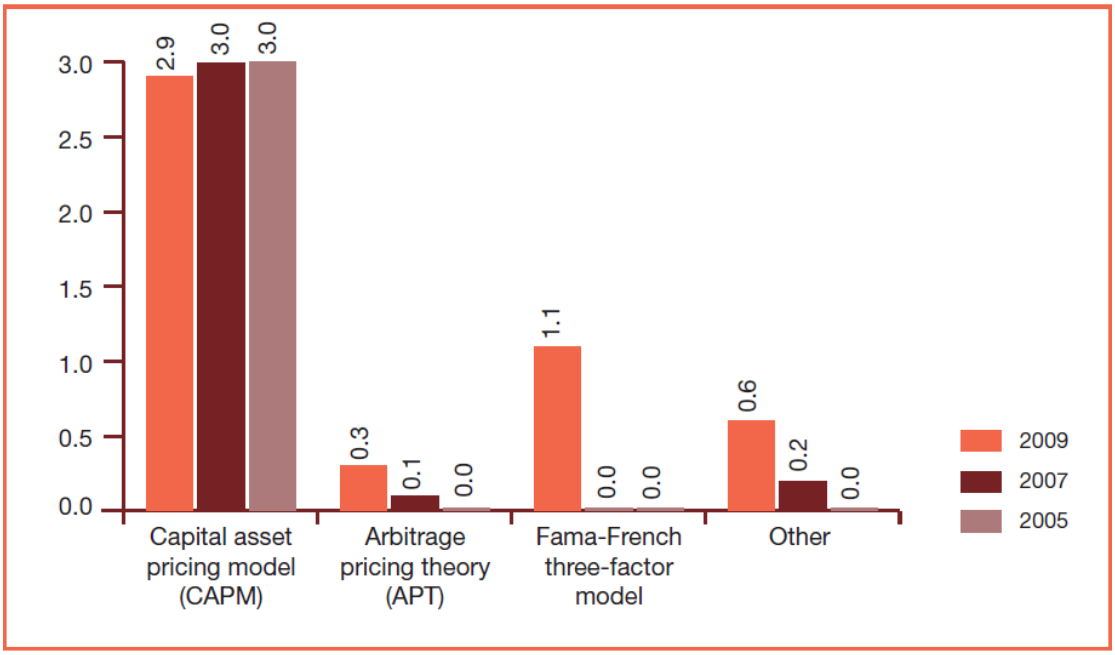
As South Africa is an emerging market, it is also important to notice that valuations in these markets present very different risks than those in developed markets (Miriti, 2004:10). When valuing companies in the emerging markets, assumptions and conditions of the developed market are used. These assumptions and conditions are very different from the actual state of affairs of the developing world (Miriti, 2004:12). Unsystematic risks in the developing markets that valuations need to be adjusted for include country risk (e.g. political instability), risk of market imperfections (e.g. inefficient markets) and illiquidity and correlation risk (Miriti, 2004:13).

Strong points of the income approach include the fact that the value of the company is determined by using the cash flows it produces. This approach is at times the only one to be used to value intangible assets. The mathematical application is also not as complex as the other approaches. The negative aspects of this approach are that it is often difficult to determine the estimated future cash flows as well as the discount rate to be used (Trugman, 2002:283-284; Helewitz, 2002:14). The next part focuses on the discount rate.

The discount rate

A discount rate is the opportunity cost, the rate of return, which will have to be given up to invest in this specific investment instead of another investment that is comparable in terms of the risk and other characteristics. Put in another way, it is the rate necessary to ensure that the necessary funds are committed to an investment, given the level of risk, so that potential investors become actual investors (Pratt & Niculita, 2008:181-182). Deciding on the discount rate is one of the most difficult tasks in the valuation process (Trugman, 2002:323). As mentioned earlier, the discount rate is the cost of capital and consists of the cost of debt and the cost of equity. The cost of debt is relatively easier to calculate than the cost of equity and the emphasis is placed on determining the latter (Sim & Wilhelm, 2010:40; Borgman & Strong, 2006:2). A survey performed by PwC indicated that valuation practitioners prefer the capital asset pricing model (CAPM) to estimate the cost of equity (see Graph 2.2 below).

Graph 2.2: Methods used to estimate cost of equity



Source: (PwC Corporate Finance, 2009/10:26)

An overview of the different methods available to determine the cost of equity will be discussed below:

Methods to determine the cost of equity

- ***Capital asset pricing model (CAPM)***

As pointed out by Pratt and Niculita (2008:184), the cost of capital is one of the most important variables in the valuation of a business. Large amounts of research have therefore been done to attempt to quantify the effect of risk and to ensure that the following elements of risk are included in the discount rate:

- An equity risk premium over the risk-free rate;
- The quantified effect of the industry and characteristics subject to the investment;
- The size effect; and
- Investment specific risk not captured in the above three elements.

When CAPM is used to determine the cost of equity, which is the case in most valuations (PwC Corporate Finance, 2009/10:26), systematic risk is incorporated by using beta in the formula (Megginson *et al.,* 2008:227). Beta measures the degree to which given share prices tend to move up or down with the market (Brigham & Ehrhardt, 2006:148). To determine the beta for a privately-owned company, a beta for the industry the firm is in will be estimated and adjusted for the purposes of a privately-owned company (Feldman, 2005:71; St-Pierre & Bahri, 2006:549). Unsystematic risk, mentioned in the fourth element above, remains a matter for the judgement of the analyst involved, without the commonly accepted empirical support evidence. CAPM assumes that unsystematic risk is eliminated by diversification of the portfolio of the company being valued (Ogilvie, 2009:191).

- ***The build-up method***

The build-up method includes the following components (Pratt & Niculita, 2008:200):

- A risk-free rate **plus**
- An equity risk premium **plus**
- A size premium **plus**
- An unsystematic risk premium.

Modica (2006:196-197) explained that the risk-free rate is included as this would be the minimum return an investor would accept if no risk existed. The equity risk premium is added to compensate the investor for the risk taken by investing in market shares. The size premium is included to reward the investor for investing in a smaller company as more risk is associated with smaller companies in comparison to publicly-traded companies. The unsystematic risk premium is added to provide for specific risks attached to the company under discussion (Reilly, 2007:77).

- ***Dividend yield***

This model assumes that the market price of a share correlates with the future dividend income from that share (Ogilvie, 2009:156). Litzenberger *et al.* (1980:374) found that relationships between risk premiums, betas and dividend yield should be applied to decide on the cost of equity. Analysts tend to use past data to estimate future risk and return, but when the dividend yield is utilised, estimated future data is used to determine the cost of equity (Borgman & Strong, 2006:7-8). The dividend yield method takes into account the dividend to be paid in one year, as well as the long-term growth rate (Borgman & Strong, 2006:2). Borgman and Strong (2006:2) also explain that the dividend yield method suggests that the price of shares (and therefore the valuation of the business) can be obtained by discounting all future dividend cash flows to the present value.

- ***Arbitrage pricing theory (APT)***

APT, in contrast to CAPM, recognises a variety of risk factors. APT is a multivariate of the CAPM, where CAPM only recognises systematic risk (Pratt & Niculita, 2008:205). This model is a regression analysis-based procedure and based on empirical data sources (Reilly, 2007:78-79).

APT therefore allows for multiple factors to influence returns and is an extension of the single-factor CAPM (Sun & Zhang, 2001:618; Galagedera, 2007:825). When the APT is used, choosing the risk factors is a very important step (Gagnon, 2005:18). Microeconomic- and macroeconomic variables that impact the cost of equity of the company being valued have to be selected and assembled by the valuation practitioner and the statistical validity of the formula used has to be tested (Reilly, 2007:79).

APT assumes that two shares offering identical returns and risks will sell for the same price (Ogilvie, 2009:192).

Incorporating unsystematic risk into a privately-owned company valuation when using the income approach

There is no need to adjust public company valuations for unsystematic risk as investors in these companies are seen to be adequately diversified. Investors in privately-owned companies do, however, not have sufficient diversified portfolios. Unsystematic risk should therefore be incorporated into the value of these companies (Feldman, 2005:80; James-Earles & Duet, 2002:12-17; Pratt, 2002:35-36). The quantification of such risk is, however, difficult to determine and therefore this is one of the key dangers when deciding on the cost of equity for privately-owned companies (Brigham & Ehrhardt, 2006:328). Unsystematic risk does appear to be significant and should therefore be taken into account (Feldman, 2005:82).

Two approaches (see below) can be followed to incorporate unsystematic risk. Care must be taken to avoid double counting as it might be overlooked that both approaches were used in the same valuation. If both approaches are

used in the same valuation, a negative factor may be adjusted in the economic income projection, while the discount rate may also be enlarged.

The first approach is to adjust the expected cash flows by, for example, modelling the impact of an unsystematic risk factor into the cash flows (Miriti, 2004:11). The second approach is to make an adjustment for unsystematic risk by adding a premium to the discount rate, therefore directly considering unsystematic risk. When this approach is used, risk is therefore directly incorporated and the cost of equity is estimated for the following purposes:

- The cost of equity component of the WACC for use in an invested capital level of income valuation analysis;
- A yield capitalisation method analysis using the discounted cash flow procedure;
- An equity level of income valuation analysis; and
- A direct capitalisation method analysis using the Gordon growth model procedure.

This adjustment is based on the appraiser's professional judgement and is very subjective (Trugman, 2002:339). Analysts should take great care to distinguish between those factors that influence the magnitude of the projection and those factors that affect the degree of uncertainty of achieving the projection (that is, the risk, which determines the discount rate) (Pratt & Niculita, 2008:214-215). It therefore seems that because of the subjectivity of the unsystematic risk factor, it is used by valuation practitioners as the device to bring their final results in line with the clients' objectives (Mard, 2010:32). As no financial market information exists, determining the risk premium is very difficult (Bufka *et al.,* 2004:68). The court even went so far in the case described by Mard (2010:33) to say that "It is not clear to me how one would or should value the appropriate company-specific risk (unsystematic) premium to use as an adjustment for such projections".

Reilly (2007:77-79) identified and discussed models that take privately-owned company issues, like unsystematic risk, into consideration. These models are the adjusted versions of those discussed above.

Cost of equity models adjusted for privately-owned company issues

The following are the models identified by Reilly (2007:77) as the most commonly used when valuing a privately-owned company (and therefore adding an unsystematic risk premium) in accordance with the income approach:

- Modified CAPM;
- Build-up model;
- Dividend yield plus capital gain yield model; and
- Arbitrage pricing theory (APT) model.

- ***Modified CAPM***

The CAPM is widely accepted (Ingram & Margetis, 2010:166) and frequently used in valuations (PwC Corporate Finance, 2009/10:26). The reason why CAPM cannot be used in its original state is that the CAPM was developed for diversified portfolios. CAPM therefore assumes that unsystematic risk is eliminated by diversification of the portfolio of the company being valued (Ogilvie, 2009:191).

Pereiro published research in 2001 where he studied the valuation of closely-held companies in Latin America, which is an emerging market. Although it is not a given that South Africa and Latin America will be affected by the same factors, an important similarity is that both are emerging markets. It might therefore be wise to consider findings from Latin America. The challenges of using CAPM in these markets, as reported by Pereiro (2001:334-337), are firstly imperfect diversification and secondly, no single market for gauging true asset prices. The third challenge is the fact that efficiency in Latin America is highly debatable because of the following reasons:

- Stock markets are usually relatively small;
- The importance of stock markets in the economy is small;
- Stock markets are highly concentrated;
- Market and cost of capital information is scarce, unreliable and volatile;
- Data series are extremely short; and
- Very few comparable companies are available.

As investors in privately-owned companies cannot diversify their portfolios adequately, unsystematic risk must be taken into account (Feldman, 2005:80; James-Earles & Duet, 2002:12-17; Pratt, 2002:35-36). Reilly (2007:79) mentions in his research that CAPM is based on the following assumptions that are most of the time not applicable to the valuation of privately-owned companies:

- Perfect liquidation;
- Many potential buyers;
- No transaction costs;
- No price fluctuation during sale;
- Perfect diversification;
- No wealth concentration;
- Liability limited to investment;
- Borrow/lend at risk-free rate;
- The investment can be divided into small units; and
- No transaction-related taxes;

To ensure that unsystematic risk is accounted for when valuing a privately-owned company, the CAPM is modified and the formula is therefore as follows:

$$ke = Rf + \beta(Rm - Rf) + SARP + CSRP$$

where:

- ke is the cost of equity

- Rf is the risk-free rate of return
- β is the beta of the company
- Rm is the return of the market
- Rm – Rf is the general equity risk premium
- SARP is the size adjustment risk premium
- CSRP is the company-specific (unsystematic) risk premium

For all of the above components, recognised data sources are used, except for CSRP.

- ***Build-up model***

As pointed out by Reilly (2007:77), the build-up model is also frequently used to determine the cost of equity with the valuation of a privately-owned company. An unsystematic risk premium is also added here.

The formula is as follows:

ke = Rf + (Rm – Rf) + IARP + SARP + CSRP

where:

- ke is the cost of equity
- Rf is the risk-free rate of return
- Rm – Rf is the general equity risk premium
- IARP is the industry adjustment risk premium
- SARP is the size adjustment risk premium
- CSRP is the company-specific (unsystematic) risk premium

As with the modified CAPM, all of the above components are based on recognised data sources, except for CSRP.

- ***Dividend yield plus capital gain yield model***

The dividend yield plus capital gain yield model also incorporates unsystematic risk. This model, also called the dividend discounted model (Correia *et al.,* 2011:6-11), is as follows:

Ke = D1/P0 + g + SARP + CSRP

where:

- ke is the cost of equity
- D1 is the next period dividend
- P0 is the value of the share
- g is the projected growth rate
- SARP is the size adjustment risk premium
- CSRP is the company-specific (unsystematic) risk premium

Again, there are recognised data sources for all of the components of this model, except for the CSRP.

- ***Arbitrage pricing theory model***

This model is not applied as often as the other models because of the practical application complexities. The first complexity is the fact that the valuation practitioner has to select the microeconomic variables (e.g. profit margin, revenue) and macroeconomic variables (e.g. national demographic data, national interest rate) that have an impact on the company under discussion's cost of equity. Secondly, all the microeconomic and macroeconomic datasets needed to create the regression equation have to be assembled together. And, lastly, the statistical validity of the selected regression formula needs to be tested. The model takes unsystematic risk into account and is as follows:

ke = b1x1 + b2x2 + b3x3 + b4x4 + bnxn + CSRP

where:

- ke is the cost of equity
- b is the regression coefficients
- x is the selected microeconomic and/or macroeconomic variables
- n is the number of values there might be
- CSRP is the company-specific (unsystematic) risk premium

Again, there are recognised data sources for all of the components of this model, except for the CSRP.

Pereiro (2001:337-345) also performed research on how to arrive at the cost of equity to be used by valuation practitioners in privately-owned company valuations. The following five different CAPM-based variants and two non-CAPM based models were identified and discussed, which may be considered to be applied in valuations of privately-owned companies in emerging markets:

CAPM-based variants adjusted for privately-owned company issues

- ***The global CAPM variant***

This variant uses global information to calculate CAPM (e.g. a global risk-free rate, a global market return, etc.). This model assumes that geographic diversification results in the disappearance of unsystematic risk and may therefore be a more valid option in developed markets. This model might be suitable in markets where strong financial integration is perceived.

- ***The local CAPM variant***

Country risk is taken into account in this CAPM variant. The local CAPM model is as follows:

$Ke = Rfl + \beta ll(Rml – Rfl)$

where:

- Ke is the cost of equity capital

- Rfl is the local risk-free rate, being the global risk-free rate and the country risk premium
- βll is the local company beta computed against a local market index
- Rml is the local return of the market

This variant of the CAPM therefore introduces a component of unsystematic risk. This model might be suitable in segmented markets.

- ***The adjusted local CAPM variant***

According to Pereiro (2001:342), research has found that the local CAPM variant tends to overstate risk. The inclusion of the country risk premium results in the double-counting of risk, since part of this risk may already be present in the market risk premium. To counter the overestimation of risk, the adjusted local CAPM variant is used:

$Ke = Rfg + Rc + \beta ll(Rml – Rfl)(1 – R^2i)$

where:

- Ke is the cost of equity capital
- Rfg is the global risk-free rate
- Rc is the country risk premium
- βll is the local company beta computed against a local market index
- Rml is the local return of the market
- Rfl is the local risk-free rate, being the global risk-free rate and the country risk premium
- R^2i is the variance in the equity volatility of the target company i, hence the inclusion of the $(1 - R^2i)$ factor counters the overestimation of risk.

This model might be suitable when the domestic market is partially or non-integrated with the world market. This variant will therefore be preferred above the plain local variant, as double-counting is countered.

- ***The adjusted hybrid CAPM variant***

Because of the high volatility of emerging markets, the adjusted hybrid CAPM variant combines the local and global risk parameters:

$Ke = Rfg + Rc + BClg\beta gg(Rmg – Rfg)(1 - R^2)$

where:

- Ke is the cost of equity capital
- Rfg is the global risk-free rate
- Rc is the country risk premium
- BClg is the slope of the regression between the local equity market index and the global market index
- βgg is the average beta of comparable companies quoting in the global market
- Rmg is the global market return
- R^2 is the coefficient of determination of the regression between the equity volatility of the local market against the variation in country risk, hence the inclusion of the $(1 - R^2)$ factor counters the overestimation of risk.

When the domestic market data series is too short, expected to be volatile in future, biased or incomplete, the adjusted hybrid CAPM model might be suitable to be used.

- ***The Godfrey-Espinosa (G-E) model***

Godfrey and Espinosa proposed the following model to deal with the issues of the traditional CAPM in emerging markets:

$Ke = Rfus + Rc + \beta A(Rmus – Rfus)$

where:

- Ke is the cost of equity capital

- Rfus is the United States of America (US) risk-free rate
- Rc is the country risk premium
- βA is an adjustment beta which = (σi/σus)/0.60 where the 0.60 factor depresses the equity risk premium to eliminate the overestimating of risk
- σi is the standard deviation of returns in the local market
- σus is the standard deviation of returns in the US equity market
- Rmus is the US market return

As with the adjusted hybrid CAPM variant, when the domestic market data series is too short, expected to be volatile in future, biased or incomplete, the G-E model might be suitable to be used. The adjusted hybrid CAPM variant might, however, be preferred over the G-E model because of the assumption made of correlation of markets and other variables.

Non-CAPM-based variants adjusted for privately-owned company issues

The validity of CAPM in emerging markets has not been validated by empirical evidence and this beta approach seems to have mixed results in developing markets (Pereiro, 2001:343). Two approaches outside the beta approach are:

- ***The Estrada model***

The following model is proposed for a US-based, internationally diversified investor:

Ke = Rfus + (Rmg – Rfg)RMi

where:

- Ke is the cost of equity capital
- Rfus is the United States of America (US) risk-free rate
- Rmg is the global market return
- Rfg is the global risk-free rate
- RMi is a risk measure, proposed to use downside risk

This model was compiled to better reflect the partial integration under which many emerging markets operate. When beta is heavily distrusted as a risk measure and a local stock exchange exits, the Estrada model might be best to use.

- ***The Erb-Harvey-Viskanta (EHV) model***

This model incorporates political, exchange, inflation and other typical country risk variables. Erb proposed that economies without stock markets use the following model, which is credit risk rating-based:

$CSi,t+1 = y0 + y1\ln(CCRit) + \varepsilon i,t+1$

where,

- CS is the semi-annual return in US dollars for country i
- CCR is the country credit rating
- t is measured in half years
- Epsilon is the regression residual

When beta is heavily distrusted as a risk measure and a local stock exchange does not exit, the EHV model might be best to use.

In both cases where Pereiro (2001:345) used the non-CAPM models at the country level, it resulted in higher values (higher rates) than the CAPM-based models. This might be as a component of unsystematic risk was included in the calculation.

Although all models recognise that unsystematic risk should be incorporated into privately-owned company valuations, no accepted model exists to quantify the risk. The only “model” available is the valuation practitioner’s professional judgement (Reilly, 2007:80).

2.4. FACTORS INDICATING THE EXISTENCE OF UNSYSTEMATIC RISK

Over time, analysts have identified CSRP-recognised factors to consider. Pereiro (2001:365) identified the primary ingredients of unsystematic risk to be the company size effect, control and illiquidity. Reilly (2007:80-82) identified three sets of CSRP factors to be considered when determining unsystematic risk. These three sets, together with the factors identified by the PwC Corporate Finance's valuation methodology survey (PwC Corporate Finance, 2009/10:45), are discussed below.

The Black/Green factors

Parnell Black and Robert Green studied unsystematic risk factors and came up with certain categories. These factors are frequently described in valuation publications and training materials. The six categories suggested by Black and Green are as follows:

- Competition;
- Financial strength;
- Management ability and depth;
- Profitability and stability of earnings;
- National economic effects; and
- Local economic effects.

It is suggested that individual quantitative and qualitative assessments are made for the first four categories. A points system could be used where a point value is assigned to each individual assessment (ranging from one point for low risk and ten for high risk). The point assigned is determined by the valuation practitioner's opinion of the risk factor in the specific situation. The last two categories are taken into account by assigning a minus one for a strong economy, plus one for a weak economy and zero for a neutral economy. The point assigned is again the valuation practitioner's opinion. The total sum of the points provides an indication of the estimated suitable CSRP.

The Warren Miller factors

Warren Miller has suggested using a competitive advantage/strategic analysis structure to determine the most suitable CSRP. Miller groups CSRP factors into the following categories:

- Macro-environmental;
- Industry; and
- Company

These factors should then be considered in the strengths, weaknesses, opportunities and threats (SWOT) analysis. Miller suggests that the following should be considered under the macro-environmental category:

- Economic;
- Political;
- International;
- Demographic; and
- Technological socio-cultural.

Miller furthermore argues that the company's competitive position should be studied in the subject industry to determine the suitable CSRP. These considerations include:

- Defining the industry;
- Determining market structure;
- Estimating relative market shares; and
- Applying Michael Porter's five forces.

Porter's five forces include the following (Rice, 2010:378):

- Threat of new entrants;
- Bargaining power of suppliers;
- Bargaining powers of customers;
- Rivalry; and

- Threat of substitution.

The Gary Trugman factors

Trugman did not come up with these factors, but merely listed the factors various analysts suggested. Trugman presents these factors in the following three categories that need to be quantitatively and qualitatively considered (Trugman, 2002:331-334):

Risk factors:

- Economic risk;
- Operating risk;
- Asset risk;
- Market risk;
- Regulatory risk;
- Business risk;
- Financial risk;
- Product risk;
- Technological risk; and
- Legal risk.

Non-financial risks:

- Economic conditions;
- Location of business;
- Depth of management;
- Barriers to entry into market;
- Industry conditions;
- Competition; and
- Quality of management.

Company-specific risks:

- Economic conditions;

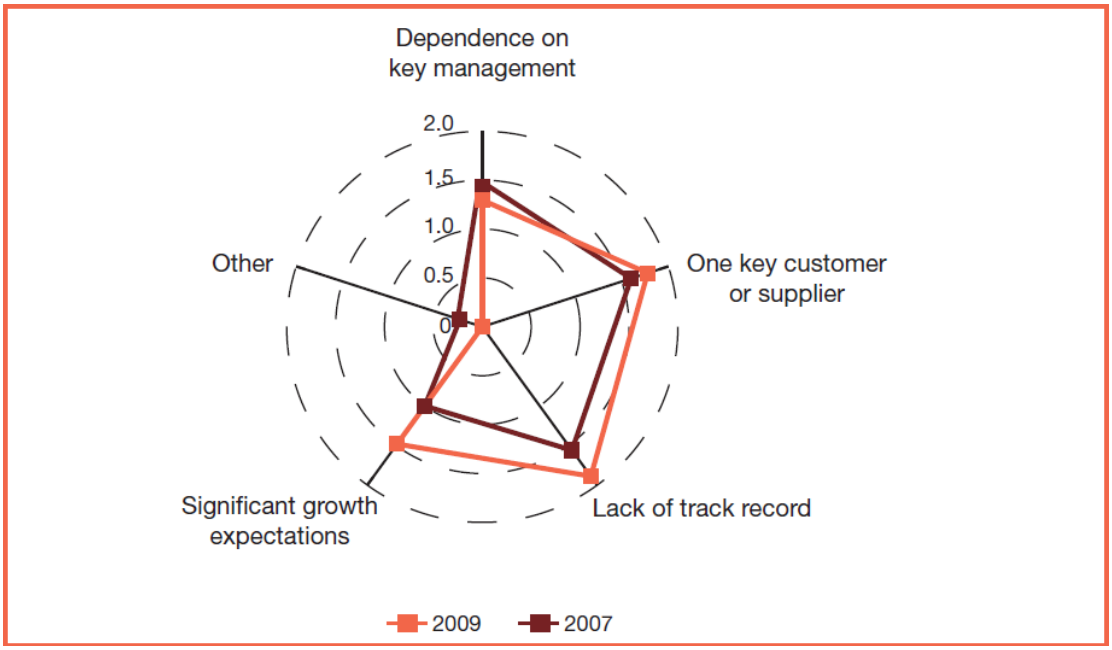
- Location of business;
- Depth of management;
- Barriers to entry into market;
- Industry conditions;
- Competition;
- Quality of management; and
- The bottom line.

Although there are overlaps in the above categories and the valuation practitioner has to rely on his professional judgement and experience, all of these factors need to be considered.

PwC corporate finance's valuation survey

The PwC valuation methodology survey asked the participants under which conditions they would consider applying an unsystematic risk premium. The results can be seen in Graph 2.3 below.

Graph 2.3: Unsystematic risk factors considered



Source: (PwC Corporate Finance, 2009/10:45)

2.5. PROCEDURES TO MEASURE UNSYSTEMATIC RISK

To measure risk, valuation practitioners usually identify a risk-free base and then add a certain percentage for certain levels of risk (Mard, 2010:30). Reilly (2007:82-83) describes three common procedures used in practice:

- The plus/minus procedure;
- The numeric procedure; and
- The listing procedure.

The plus/minus procedure

With the plus/minus procedure, a '+' notation is used to indicate that the factor increases the CSRP, while the '–' notation decreases the CSRP. A blank notation indicates a neutral effect. Double notations such as '+ +' or '- -' indicate a strong impact. The '+' notation does not signal the adding of one percentage point and the '- -' notation does also not indicate the subtracting of two percentage points. It is therefore not a mathematical exercise of adding all the '+' and '–' notations. The valuation practitioner still uses his/her judgement in deciding on the CSRP.

The numeric procedure

When the numeric procedure is used, each factor causes a specific percentage number that should be added to the CSRP. 1 indicates that one percentage should be added, while -1 means that one percentage should be subtracted. 0 indicates a neutral effect. In this procedure, the CSRP is the actual numeric sum of the individual assigned values for each selected factor.

The listing procedure

The listing procedure lists all the negative company-specific risk factors and all the positive company-specific risk factors. No numeric value is assigned to the factors and the importance is also not indicated. Again, the valuation practitioner uses his professional judgement to decide on the CSRP.

In all of the approaches above, the valuation practitioner should be able to describe, explain and defend the specific factors. The valuation practitioner should also avoid the double-counting of factors as they may already have been included in other sections of the valuation. Refer to Table 2.1 below for an illustrative example of an unsystematic risk analysis:

Table 2.1: Unsystematic risk analysis: an example

Family-Owned Corporation
Company-Specific Risk Premium Analysis
Comparison of Alternative CSRP Explanation Procedures

Closely Held Company Negative Risk Factors	The +/- Procedure	The Numeric Procedure	The Listing Procedure
1) Operating history, volatility of revenues and earnings	+++	3.5	▪
2) Lack of management depth	++	1	▪
3) Lack of access to capital resources	+	.5	▪
4) Over reliance on key persons	++	1	▪
5) Lack of size and geographic diversification	+	.5	▪
6) Lack of customer diversification		0	
7) Lack of marketing resources in light of competition	+	.5	▪
8) Lack of purchasing power and other economies of scale		0	
9) Lack of product and market development resources	+	.5	
10) Over reliance on vendors/suppliers		0	
11) Limitations on distribution system	-	0	
12) Limitations on financial reporting and controls	+	.5	▪
Closely Held Company Positive Risk Factors			
1) Long term contracts with customers or unique product or market niche		0	
2) Ownership/license of other proprietary patents, copyrights, trademarks, and trade secrets	-	(1)	▪
The Analyst-Selected CSRP Percent (to add to the cost of equity capital)	7%	7%	7%

Source: (Reilly, 2007:83)

2.6. CONCEPTUALISING FROM THE ADVISORY FIRM'S APPLICATION MANUALS ON HOW UNSYSTEMATIC RISK SHOULD BE INCORPORATED INTO A VALUATION

It was attempted to obtain the user guides and/or application manuals of participants (the equivalent of the "audit guides" that are used in the audit departments of the firms) to get an overview of whether policies are in line with accepted theory.

After discussions with the study's participants, it was concluded that all participants have house views, but none have a formal document (such as a user guide or application manual) outlining how valuations should be performed.

As the empirical study includes descriptive questions on how specific aspects of valuations are handled, the house views will be automatically covered in Chapter 4 of this study.

2.7. SUMMARY

It is clear from the research performed on the literature that three categories of approaches are used to perform valuations of listed as well as privately-owned companies, namely the market approach, the asset approach and the income approach. According to previous studies, researchers have found that the most frequently used approaches utilised are the market approach and the income approach. The asset approach is used to determine the minimum value of a company (the liquidation value).

As the focus of the study is privately-owned companies, the difficulties experienced with these companies' valuations were evaluated and concentrated on (see Table 2.2). It was noted that information of comparable listed companies is required to perform valuations when the market approach and the income approach are utilised. That being said, it often happens that real comparable information does not exist.

Systematic risk is incorporated into all of the valuation approaches. The market approach uses information of comparable or guideline listed companies and then adjusts the prices to match those of the specific company. In the case of the income approach, systematic risk is usually incorporated in the discount rate. In the case of CAPM, systematic risk will be incorporated by using beta in the formula. Beta measures the degree to which given share prices tend to move up or down with the market. To determine the

beta for a privately-owned company, a beta for the industry the firm is in will be estimated and adjusted for the purposes of a privately-owned company.

Unsystematic risk is also incorporated into all of the valuation approaches, directly in the case of the income approach, and indirectly when the market and asset approaches are used. Unsystematic risk factors are numerous and therefore practitioners, researchers and academia attempt to categorise them. Although unsystematic risk is identified, the quantification thereof is subjective and therefore receptive of manipulation. Three common procedures are used to take unsystematic risk into account, but the mechanics of all three are subjective.

It was furthermore determined that, at a minimum, at least one component used in every valuation approach is decided on by using a person's professional judgement. In the market approach, a guideline company has to be decided on using professional judgement. The asset approach uses a valuation practitioner, whose valuations are based on professional judgement, to determine the current market values of the assets and liabilities. The income approach also heavily relies on professional judgement when cash flows are estimated and the discount rate is decided on.

Only the income approach utilises a cost of capital rate to discount the future cash flows to the present value. The cost of equity component of the cost of capital is determined by using the modified CAPM, the Build-up model, the Dividend yield model, or the APT model. CAPM is the model that is used most frequently in South Africa.

In this chapter, a sound foundation of the theory widely accepted was obtained. Objective 1 was achieved by conceptualising unsystematic risk from the literature and determining the different aspects thereof to be taken into account. The different procedures used to incorporate unsystematic risk into a valuation were outlined, satisfying Objective 2. It was also ascertained that participants do not have formal documents outlining how privately-owned

company valuations are performed. Objective 3 was therefore not addressed in this chapter, but is wholly considered in Chapter 4.

Table 2.2: Privately-owned companies: valuation approaches

	Valuation approaches		
	Market	Asset	Income
Comparable company information utilised	✓	×	✓
Comparable information always obtainable	×	n/a	×
Systematic risk considered	✓	✓	✓
Unsystematic risk considered (directly incorporated)	×	×	✓
Unsystematic risk considered (indirectly incorporated)	✓	✓	×
Objective unsystematic risk consideration	×	×	×
At least one component of the valuation depends on professional judgement	✓	✓	✓
Cost of equity:			
CAPM	n/a	n/a	✓
Build-up	n/a	n/a	✓
Dividend yield	n/a	n/a	✓
APT	n/a	n/a	✓

Source: (Author)

3. CHAPTER 3 RESEARCH DESIGN AND METHOD

3.1. BACKGROUND

This chapter is aimed at and focused on providing insight into the research design and methodology used in the execution of this study. The method proposed for this project is therefore discussed (par 1.2, p. 6), and the research design described, which will detail the scientific procedures followed to investigate the problem stated (par 1.1.2, p. 5). In other words, the outlines of the plan to perform the study are set out (research design), and specifics of how to achieve the plan are discussed (research methodology). Motivation is also provided for the selected design and methodology and where tailored, explanations are supplied.

The first step in executing this study was to conduct a literature review to understand what has already been done on the specific topic (Adams *et al.*, 2009:49), and to analyse how others have already viewed this topic (Berg, 2007:25). This was performed to contextualise the study to argue a case, to synthesise the literature on the topic and to engage critically with it (Henning, 2009:27).

The literature review was used in developing the survey questionnaire to be completed by participants during the study. The survey questionnaire was followed up by interviews with the same participants. The literature review was also used to explain the findings obtained in Chapter 4.

The objectives are outlined, the research design reasoned and the research methodology discussed. The research methodology includes the description of the measuring instruments (the survey questionnaire and the follow-up interviews), which is followed by the study population. The objectives, study sample, design, structure, administration, analysis and reliability and validity of the survey questionnaire are discussed. The follow-up interview is detailed by referring to the objective, study sample, description, administration, analysis, reliability and validity thereof.

3.2. OBJECTIVES OF STUDY

The specific objectives of this research (par 1.1.3, p. 5) are as follows:

- Objective 1: Conceptualising unsystematic risk from the literature and determining what the different aspects of unsystematic risk are that should be taken into account;
- Objective 2: Conceptualising, from the literature, how unsystematic risk should objectively be incorporated into different valuation techniques;
- Objective 3: Determining whether advisory firms do take unsystematic risk into account when valuations are performed;
- Objective 4: Determining how unsystematic risk is incorporated into different valuation techniques; and
- Objective 5: Recommendations regarding the incorporation of unsystematic risk into valuations of privately-owned companies in South Africa.

3.3. RESEARCH APPROACH

3.3.1. Frame of reference

When engaging in a research project, it is important to organise the thinking about the practice of scientific research before deciding on a research design and the research methodology (Mouton, 2008:141). This is done to identify the frame (world) in which the study is performed. Mouton (2008:137) uses the "three worlds framework", which distinguishes between the following three worlds:

- World 1: The world of everyday life and lay knowledge
- World 2: The world of science and scientific research
- World 3: The world of meta-science

World 1 is the world we spend most of our lives in. This is the ordinary life of social and physical activities we exist in. World 2 is the world of science,

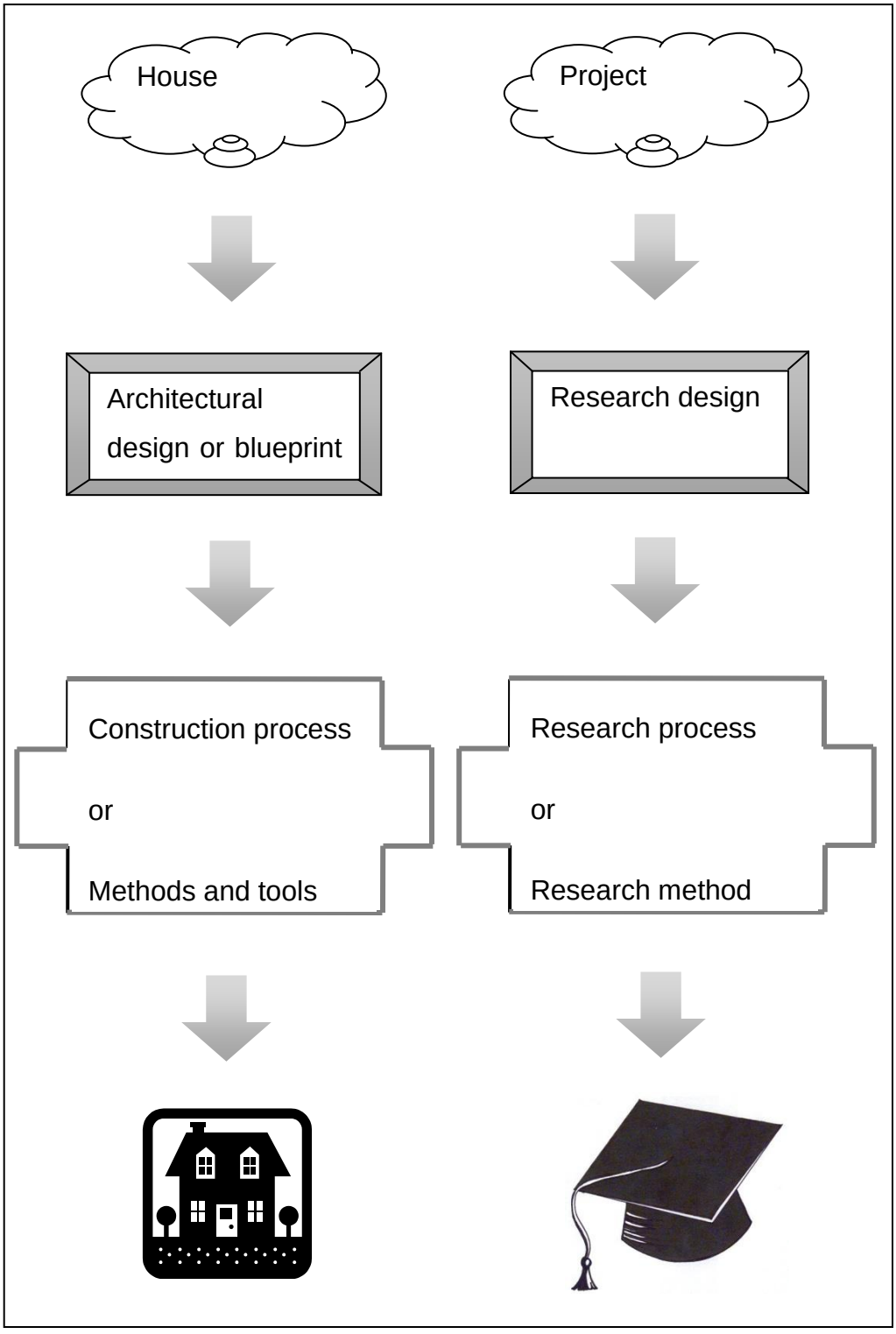
where the ultimate goal is truthful knowledge. Processes or phenomena are taken from World 1 and made objects of inquiry to obtain the truth thereon in World 2. World 3 goes beyond searching for truthful knowledge and reflects on the nature of science (Mouton, 2008:138).

This study finds itself in World 2, where an aspect (unsystematic risk) is taken from the world of business (business valuations of privately-owned companies) in World 1 and searched to find truthful knowledge thereon (is unsystematic risk objectively incorporated into privately-owned company valuations?).

3.3.2. Research design

Mouton (2008:55) clearly distinguishes between research design and research methodology. The distinction is made by explaining the difference with an analogy of building a house (see Figure 3.1 below). When a house is built, it would start with an idea of the style of the house, the size, the shape, etc. These ideas are used by an architect to draw a plan for the house (the blueprint), which will be changed by the owners until they are satisfied. When the plans are finalised, the building contractor will start building the house using the plans. The building contractor will use different tools and methods to perform the different tasks of building the house.

Figure 3.1: A metaphor for research design



Source: (Mouton, 2008:56)

If the analogy of building a house is compared to a research project, the plans drawn up by the architect represent the research design, which keeps the end product in mind and plans the process of performing the research by deciding on the type of study to perform (Terre Blanche *et al*., 2006:161). The research design can also be explained by referring to it as the blueprint (Blumberg *et al.*, 2008:195). The tools and methods used by the building contractor to build the house are compared to the research methodology, which focuses on the process and the kind of tools and procedures to be used to arrive at the finish line.

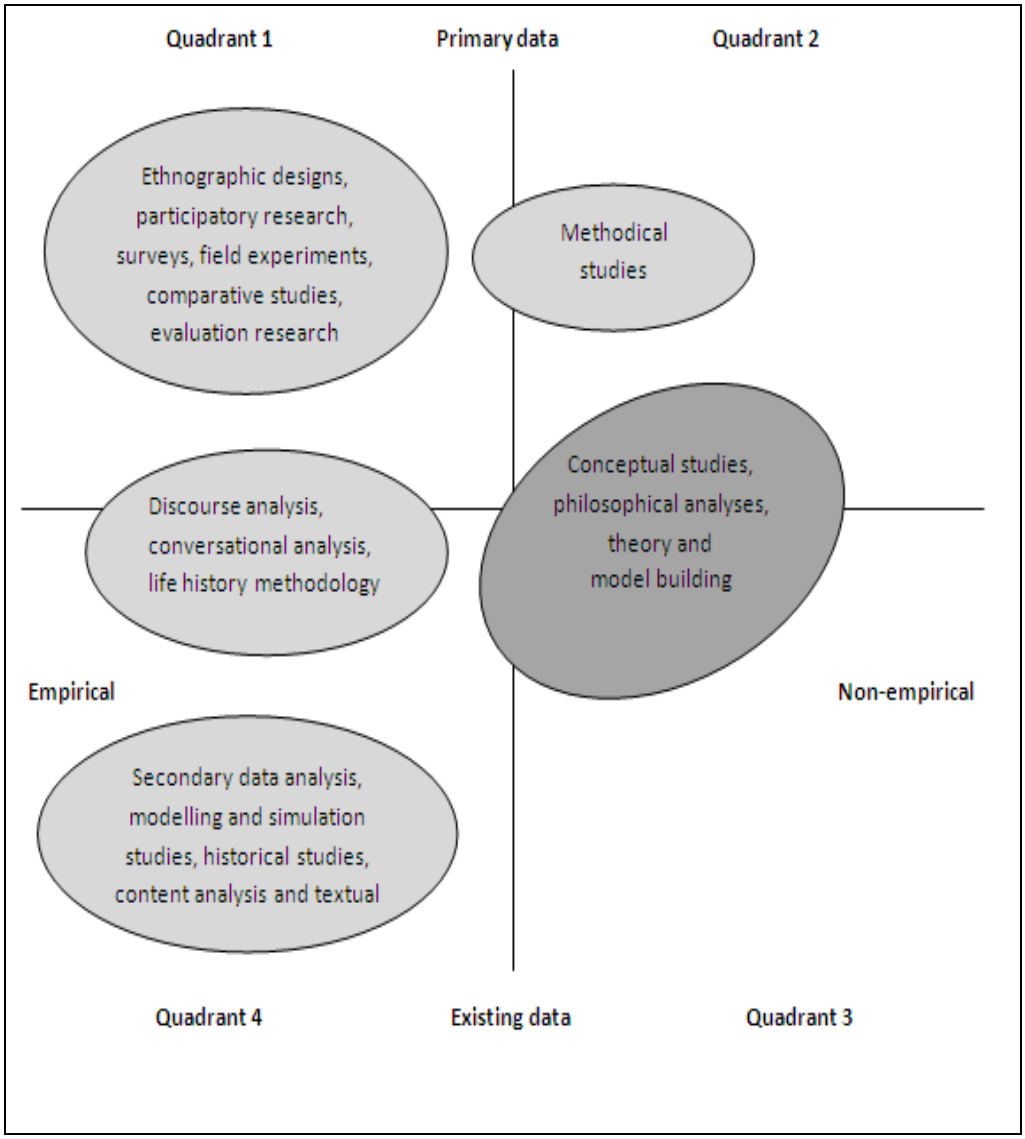
As indicated by Terre Blanche *et al.* (2006:34), the research design plays a very important role to link the research question to the execution of the research. The stages of research can be explained as follows:

- Stage 1: Defining the research question;
- Stage 2: Designing the research;
- Stage 3: Data collection;
- Stage 4: Data analysis; and
- Stage 5: Writing a research report.

Figures 3.2 and 3.3 below are used to explain the research design for this study. The research design is discussed by using Figure 3.2, which maps out the different dimensions of empirical versus non-empirical studies and primary data versus existing data. Existing data is data of a secondary nature where at least one interpretation is inserted between the data collection event and the recording thereof (Blumberg *et al.*, 2008:75).

This study falls into the first quadrant, as survey questionnaires (and follow-up interviews) are utilised empirically to gather new information (primary data), which is analysed. The primary data (responses from participants) is compared to the literature.

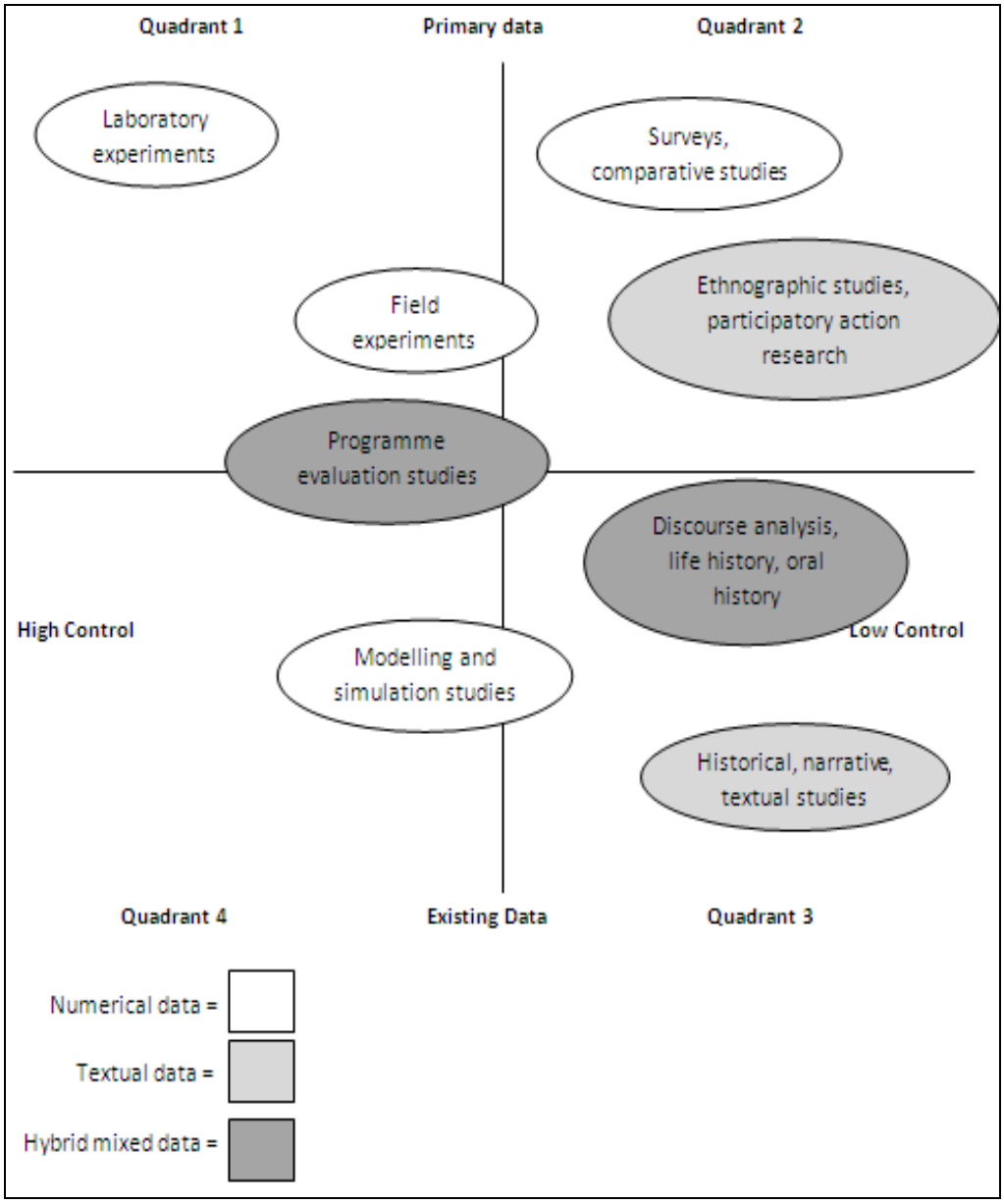
Figure 3.2: Mapping designs (Level 1)



Source: (Mouton, 2008:144)

Figure 3.3 below elaborates on empirical studies, which is mapped out using the dimensions of primary data versus secondary data and the degree of control. This study falls into the second quadrant, as primary data is used (data obtained from survey questionnaires and follow-up interviews) and the researcher interprets the information obtained from the responses of the participants. As interpretation is used, a low level of control is present as another individual will not interpret the data in exactly the same manner.

Figure 3.3: Mapping designs (Level 2)



Source: (Mouton, 2008:145)

Mouton (2008:146) goes on to put forward the following classification framework of design types as a summary:

Table 3.1: A classification framework of design types

Dimension	Type
Dimension 1: Empirical or non-empirical	Empirical Non-empirical
Dimension 2: Data collection of primary or secondary nature	Primary Secondary Hybrid
Dimension 3: Type of data	Numeric Textual Combination
Dimension 4: Degree of control	High control Medium control Low control

Source: (Mouton, 2008:146)

Using the classification framework in Table 3.1 above, the study is classified as empirical, collecting primary numeric and textual data (a combination thereof), with a low level of control.

To elaborate, the study is therefore classified as empirical, as survey questionnaires (and follow-up interviews) are used to gather information from participants. New data is collected from participants through these methods and data collection is therefore classified as of primary nature. The type of data used is a combination of numeric and textual data, as the responses of the scale questions are processed into numeric results, and responses on the descriptive questions are interpreted as textual results. As the researcher interprets the information obtained from the responses of the participants, a

low level of control is present. The reason for this classification is that another individual may not interpret the data in exactly the same manner.

3.3.3. Research methodology and measuring instruments

A mixed method approach was utilised in this study, more specifically, the explanatory design (Maree, 2010:266). A mixed method approach is built on both qualitative and quantitative methods (Maree, 2010:262). The best philosophical foundation for justifying this approach is pragmatism. According to pragmatists, the truth is what works best in interpreting a specific research problem. The research questions are considered more important than the methods used to answer them (Maree, 2010:265). The purpose of the explanatory mixed method design used in this study was to use the qualitative findings to help clarify the quantitative results.

The research included the following measuring instruments:

- A survey questionnaire completed by senior managers or directors in the business valuation departments to determine which risks firms perceive to have an impact on business valuations of privately-owned companies, how these risks are identified and how the risks are taken into account in the valuations; and
- The questionnaires were followed up by interviews with the participants to ensure the information communicated via the questionnaires is correctly interpreted by obtaining elaboration from participants where needed (Maree, 2010:263).

3.4. STUDY POPULATION

The “big four” audit, advisory and taxation firms were selected as research subjects for this research project. The “big four” firms, in no particular order, are:

- PwC;
- KPMG;
- Deloitte & Touch; and
- Ernst & Young (E&Y).

These four firms are the largest audit, advisory and taxation firms in the world. The advisory departments of each provide business valuation services to many clients. These firms were selected to determine how the leading firms, which are driven by the Charted Accountancy profession, incorporate unsystematic risk into the valuations of privately-owned companies. It was specifically the intention of this study to focus on these four international firms. The scope does exist for future studies to expand this study to medium- and small-sized firms. The findings of this study can then also be compared with the medium- and small-sized firms. The methods of the three groups (the big four firms, the medium-sized firms and the small-sized firms) used to incorporate unsystematic risk into privately-owned company valuations can be compared as well as the outcomes of the methods used.

Each of the big four firms has both technical departments and learning and development departments that keep up with the latest developments of all technical matters. These departments are usually not as big as, for example, the audit departments. If we focus on South Africa, as is done in this study, it can be seen that all of the four firms have offices all over the country. Most of the offices tend to mostly provide audit, accounting, basic taxation and other basic advisory services to clients. The head offices lead the way with the provision of audit, accounting, taxation and advisory services to clients. Other offices will therefore provide some business valuation services to clients, but most activity is at the head office.

The head offices of all four firms are situated in Johannesburg, Gauteng; not only the economic hub of South Africa, but also of Africa. South Africa is also seen as the port to Africa. Senior personnel (senior managers and directors) in the business valuations departments in the head offices of the firms were utilised for this project, because of their expertise and knowledge of the firm.

These personnel were used to obtain information for the literature review in Chapter 2, and also for the empirical research performed in Chapter 4. Empirical research was performed by utilising questionnaires that were developed for the study. Follow-up interviews were conducted with the participants after the completed questionnaires were analysed.

3.5. THE SURVEY QUESTIONNAIRE

The survey questionnaire represents both the quantitative section (Appendix 1, p. 112, Part A) of the mixed method approach and the qualitative section (Appendix 1, p. 112, Part B). The objective, study sample, design, structure, administration, analysis and reliability and validity of the survey questionnaire will be discussed next.

Objective of the questionnaire

The objectives of the questionnaire were to determine the following:

- Whether unsystematic risk factors are taken into account with the valuation of privately-owned companies;
- Whether the identification of unsystematic risk factors is objectively performed with the valuation of privately-owned companies;
- Whether the quantification of unsystematic risk factors is objectively performed with the valuation of privately-owned companies;
- Whether an objective method is utilised to bring unsystematic risk into account when a going concern privately-owned company is valued;
- Whether participants agree that it is possible to use unsystematic risk as a device to bring the final results of a business valuation of a privately-owned company in line with the client's objectives because of the subjectivity of unsystematic risk;
- Which unsystematic risk factors are perceived to affect the value of a privately-owned company the most;
- How unsystematic risk factors are identified;
- How unsystematic risk factors are quantified; and

- If unsystematic risk factors are taken into account with the valuation of privately-owned companies, how it is done using the market approach, asset approach and the income approach.

Study sample of the questionnaire

No sample was selected as the whole population was used in this study (called a census) (Adams *et al.*, 2009:128). The total population consists of the firms mentioned in paragraph 3.4. One questionnaire was sent to the advisory department of each of the four firms.

Design of the questionnaire

The research instrument chosen is the survey (Tan, 2008:25). The questionnaire was decided on as the data collection method, more specifically, the e-survey (Adams *et al.*, 2009:137). Senior managers and partners of the business valuations departments of the firms were identified and contacted in advance to obtain cooperation. The questionnaire was then sent, accompanied by a letter to the participant explaining the purpose of the questionnaire and stressing the fact that all responses will be treated confidentially.

The following aspects received attention during the development of the questionnaire (Maree, 2010:9; Adams *et al.*, 2009:130):

- Instructions: It was ensured that instructions are simple, clear and concise.
- Appearance: Effort was made to ensure that the questionnaire is user friendly.
- Completion time: As time is a scarce commodity for participants, the questionnaire was developed in the best way to gain the most accurate information without wasting the participants' time.
- Question sequence: The questionnaire has a short introduction explaining the survey to the participants. The questions were organised

in such a way as to not be confusing and ambiguous to the participants.

- Types of questions: Closed (structured) questions and open questions were used in the survey (Maree, 2010:160). See the structure of the questionnaire below for further discussion.
- Scales: A version of the Likert scale was utilised for the closed question section of the questionnaire to obtain an ordinal measure of the participants' attitude or feeling towards specific statements (Maree, 2010:167).

Structure of the questionnaire

The survey questionnaire (Appendix 1, p. 112) was developed based on the literature review of valuations of privately-owned companies performed in Chapter 2. The questionnaire was developed for completion by the business valuations departments of the participants.

To ensure the correct phrasing of questions, the following was considered while developing the questionnaire (Tan, 2008:51):

- Providing explanations of technical words used in questions;
- Avoiding vague questions;
- Using open-ended questions where many answers are possible;
- Avoiding questions that lead to particular answers; and
- Avoiding double-barrelled questions.

The questionnaire consists of two sections. The first section (Part A) of the questionnaire was set up using closed questions. Closed questions provide a set of responses the participant can choose from, restricting the choice available (Maree, 2010:161; Adams *et al.*, 2009:132). An interval response scale (a format of the Likert scale) was used for this part of the questionnaire (Trochim & Donnelly, 2007:130). This section dealt with general views the participants have on aspects of valuing privately-owned companies. This covered aspects from which valuation approach to use, to the objectivity when

identifying and quantifying risks, to the objectivity of methods used to account for risks. Ratings consist of six categories, where one on the scale means a strong disagreement with the statement made or question asked, and six means a strong agreement. An even number of categories is used to force the participants to decide whether they lean more towards the “agree” or “disagree” end of the scale for each question (Trochim & Donnelly, 2007:137).

The second section consists of open questions (descriptive). An open space is provided for comments on each question (Maree, 2010:161). In this section, participants were asked to describe and elaborate on the factors most commonly affecting the valuation of privately-owned companies, how these factors are identified, how these factors are quantified and how they are taken up in valuations.

The questionnaire was accompanied by a letter to the participant explaining the purpose of the questionnaire and stressing the fact that all responses will be treated confidentially. An example of the questionnaire is presented in Appendix 1, page 112.

Administration of the questionnaire

The websites of the participants were utilised to identify the persons at the helm of the valuation departments of the participants. These persons were contacted to explain the purpose of the research project and to obtain consent to participate in the study. A letter providing a brief overview of the objectives of the study, the survey questionnaires as well as the confidentiality letter were e-mailed to each of them.

A response date was negotiated with the participants. The questionnaires were electronically completed and e-mailed back within the agreed time span.

Analysis of the questionnaire

The data gathered was entered into a spreadsheet using Microsoft Excel and then analysed.

Reliability and validity of the questionnaire

As a general scale (a format of the Likert scale) and construct were utilised in this study, the questionnaire had to be standardised to measure it. For such a measuring instrument to be standardised, it must be reliable and valid (Maree, 2010:215).

- ***Reliability***

Reliability is the extent to which a measuring instrument is consistent when repeated (Maree, 2010:215). Therefore, if repeated, the outcomes will yield little variation (Tan, 2008:55). There are different ways to ensure reliability, namely the test-retest method and the split-half/equivalent method (Adams *et al.*, 2009:236). A tailored version of the test-retest reliability method was used in this study.

Reliability was ensured by following up the questionnaire with an interview. This was done to ascertain that information reflected in the questionnaire corresponded with information from the interview.

- ***Validity***

Validity of an instrument is the extent to which it measures what it is supposed to measure (Maree, 2010:216). The face validity was ensured by consulting the literature review (thus experts on the subject and other researchers) when the questionnaire was developed. To ensure clarity of the questions, the questionnaire was presented as a pilot to two experts in the field, one in practice and one in academia (Blumberg *et al.*, 2008:74).

3.6. THE FOLLOW-UP INTERVIEW

The objective, study sample, description, administration, analysis and reliability and validity of the follow-up interview will be discussed next.

Objective of the follow-up interview

The goals of follow-up interviews were:

- To ensure that the responses provided by the participants in the questionnaires are correctly understood and accurately reflected in the study's results; and
- To obtain elaboration on questionnaire responses, if needed.

Study sample of the interview

The participants completing the survey questionnaires were interviewed in the follow-up interviews. These included senior managers and/or directors of the business valuation departments of the big four firms (PwC, KPMG, Deloitte & Touch and Ernst & Young). One person at each firm was interviewed.

Description of the interview

An interview is a conversation with a purpose. The purpose is to collect information (Berg, 2007:89).

The completed survey questionnaires were received back from the participants and analysed. Based on the analysis of each questionnaire, the interview with each participant was planned. Each interview was planned to ensure:

- Uncertainty of responses on the questionnaire was eliminated so that results are accurately reported; and
- If elaboration was needed on questionnaire responses, it was obtained.

Each interview was therefore a semi-structured (semi-standardised) conversation in which the interviewer asked questions that were formulated prior to the interview. The participant answered the questions and the interviewer recorded the answers. Questions in reaction to responses were asked by the interviewer if needed (Berg, 2007:93). Interviews were either a

personal interview, or a telephone interview, depending on the availability and preference of the participant (Tan, 2008:50).

Questions were either open-ended (unstructured) or close-ended (structured) (Trochim & Donnelly, 2007:100). With open-ended questions, the interviewer gave the participant the opportunity to give any answer. With the close-ended questions, specific options were given to the participant to choose from. The open-ended questions have the advantage that the participant is not led into a specific answer. When close-ended questions are utilised, the interviewer should have a good idea of the possible answers (Maree, 2010:161). The following potential problems with interviews were kept in mind while constructing the interview questions (Berg, 2007:104):

- Affectively worded questions: The words used in the questions and the way in which questions are asked can cause a specific response, possibly negative, which can inhibit an interview subject.
- Double-barrelled questions: This is when a single question encompasses two issues. The solution is to separate the issues and ask two questions.
- Complex questions: When questions are long and involved, the participants may not hear the question in its entirety and the response might be incomplete. Questions should therefore be brief and concise.
- Question sequencing: To develop and build trust with the participant, the initial questions should not be difficult to answer. More complex and sensitive questions can be asked as the conversation progresses.

Administration of the interview

The interviews were conducted after the questionnaires were completed and received back from participants.

As indicated above, semi-structured interviews, either a personal interview, or a telephone interview (Tan, 2008:50), depending on the availability and preference of the participant, were performed.

Analysis of the interview

The responses of the participants were penned down exactly as they were given. Participants were asked to confirm the content of what was written down as the responses.

Reliability and validity of the interview

- ***Reliability***

As described above, there are different ways to ensure reliability, namely the test-retest method and the split-half/equivalent method (Adams *et al.*, 2009:236). A tailored version of the test-retest reliability method was used in this study, where the interview forms part of the retest section of the method. The questionnaire and the interview are therefore used in conjunction with one another to ensure reliability.

- ***Validity***

Validity is seen as more important than reliability, because if an instrument measures something incorrectly, it does not matter if it is done reliably (consistently) (Adams *et al.*, 2009:237). The four types of validity most commonly examined in research methods were considered in this study, viz. internal validity, external validity, construct validity and conclusion validity. The responses of the follow-up interviews, as penned down by the interviewer, were read back to the participants. Participants were asked to confirm the content of the responses, which was as read back to them.

3.7. SUMMARY

In this chapter, the objectives of the study were discussed and referred to, where applicable (par 1.1.3, p. 5). The research design and method of research were outlined and the steps of conducting the study discussed. The population and sample the study was based on were described. This was followed by a discussion on the measuring instruments, viz. the survey

questionnaire and the follow-up interview. The discussion on the questionnaire included the objective, study sample, design, structure, administration, analysis and reliability and validity thereof. The objective, study sample, description, administration, analysis and reliability and validity of the follow-up interviews were then described.

4. CHAPTER 4 ADJUSTING VALUATIONS OF PRIVATELY-OWNED COMPANIES FOR UNSYSTEMATIC RISK

4.1. BACKGROUND

The goal of this study is to determine whether advisory firms valuing privately-owned companies in South Africa take unsystematic risk into account and, if they do, how it is done (par 1.1.3, p. 5).

This chapter focuses on reporting the results obtained from the empirical study. As discussed in Chapter 3, primary data was collected through survey questionnaires and follow-up interviews in order to address the goal with its specific objectives. This was done after performing a literature review in Chapter 2, of which the knowledge obtained was used to compose a questionnaire. To ensure clarity of the questionnaire, pilot copies were first sent to two experts in the field, one in practice and one in academia. This feedback was used to adjust the questionnaire. The final questionnaire was distributed to the four participants. The questionnaire consisted of two sections, viz. i) scale questions, and ii) descriptive questions (refer to Appendix 1, p. 112 for the detailed questionnaire). The questionnaire was followed up to ensure that the responses provided by the participants are correctly understood and accurately reflected in the study's results and also to obtain elaboration on responses if needed.

From the goal, several specific objectives have been formulated, of which Objectives 3 and 4 were addressed by the research questionnaire and the follow-up in this chapter. Both the questionnaire and the follow-up were utilised to achieve Objectives 3 and 4.

To ensure firms are kept anonymous and are not linked to specific responses, the letters Q, R, S and T were used to refer to firms.

4.2. QUESTIONNAIRE: SCALE QUESTIONS SECTION

This section dealt with general views the participants have on aspects of valuing privately-owned companies and to get a definite view from the participants on specific issues when valuing a privately-owned company. To ensure participants express their opinion, the Likert scale was tailored into a six category scale, where one on the scale means a strong disagreement with the statement made or question asked, and six means a strong agreement. An even number of categories was used to force the participants to decide whether they lean more towards the "agree" or "disagree" end of the scale for each question (Trochim & Donnelly, 2007:137). For analysing purposes, the scale was divided into two sections, viz. Section A (option 1 to 3) and Section B (option 4 to 6).

The following results were obtained:

Statement/Question 1: The market approach (using information of a comparable listed company, e.g. Price-earnings ratio) is frequently applied to determine the value of going concern privately-owned companies.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A 1 - 3	Section B 4 - 6
1		0	0	1	1	1	1		
	Q						✔		
	R					✔			
	S				✔				
	T			✔					
Distribution %		0%	0%	25%	25%	25%	25%	25%	75%

Three of the four firms tend to frequently use the market approach when valuing privately-owned companies and their responses fall in Section B. These three responses are distributed in the three segments of Section B and the average is therefore 5 out of a possible 6. Although the fourth firm indicated that the market approach is utilised less frequently, a "weak"

disagreement segment was selected (option 3 in Section A), indicating that this firm does occasionally use the market approach. The average for the whole population is 4.50. It therefore seems that, on average, firms do use the market approach when valuing privately-owned companies, but the average of 4.50 signifies that this approach is probably not the preferred one to use.

Statement/Question 2: The asset approach is frequently applied to determine the value of going concern privately-owned companies.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
2		2	2	0	0	0	0		
	Q		✔						
	R	✔							
	S		✔						
	T	✔							
Distribution %		**50%**	**50%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**

The participants rarely use the asset approach when valuing going concern privately-owned companies, as all the responses fall in Section A. The responses are distributed in two segments of Section A and the average is therefore 1.5 out of a possible 6. Two firms chose option 1 and the other two firms option 2, which indicates a strong disagreement with the statement. The asset approach is essentially the liquidation value of a company, which is not the going concern value and therefore probably the reason why the firms do not use this approach as a primary tool. The average of 1.50 signifies that this approach is probably not the preferred one to use.

Statement/Question 3: The income approach (e.g. discounted cash flows) is frequently applied to determine the value of going concern privately-owned companies.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
3		0	0	0	0	0	4		
	Q						✔		
	R						✔		
	S						✔		
	T						✔		
Distribution %		**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**	**100%**

All four firms use the income approach frequently when valuing privately-owned companies, which is a going concern as the responses fall in Section B. The responses are all focused in one segment of Section B, as all firms chose option 6 and the average is therefore 6 out of a possible 6. These results indicate a strong agreement with the statement. As this approach focuses on the future cash flows expected to be generated by the company, it provides a good indication of the value of the company. The average of 6 signifies that this approach is probably the preferred one to use.

Statement/Question 4: An approach other than the market-, asset- or income approach is frequently applied to determine the value of going concern privately-owned companies.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
4		2	2	0	0	0	0		
	Q	✔							
	R		✔						
	S		✔						
	T	✔							
Distribution %		**50%**	**50%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**

None of the firms often use other approaches than the market-, asset- or income approach when valuing going concern privately-owned companies. All of the participants chose options in Section A. The responses are distributed

in two segments and the average is therefore 1.5 out of a possible 6. Two firms chose option 1 and the other two firms option 2, which indicates a strong disagreement with the statement. This might indicate that the firms tend to stick to the well-known, recognised approaches. The average of 1.50 signifies that other approaches are probably not utilised often.

Statement/Question 5: Systematic risk is always taken into account with the valuation of going concern privately-owned companies.

Question number	Firm	Options						Summary	
								Section A	Section B
		1	2	3	4	5	6	1 - 3	4 - 6
5		0	0	0	0	0	4		
	Q						✔		
	R						✔		
	S						✔		
	T						✔		
Distribution %		0%	0%	0%	0%	0%	100%	0%	100%

All four firms will always account for systematic risk when performing a valuation as the responses fall in Section B. The responses are all focused in one segment of Section B, as all firms chose option 6 and the average is therefore 6 out of a possible 6. These results indicate a strong agreement with the statement.

Statement/Question 6: Unsystematic risk is always taken into account with the valuation of going concern privately-owned companies.

Question number	Firm	Options						Summary	
								Section A	Section B
		1	2	3	4	5	6	1 - 3	4 - 6
6		0	0	0	0	0	4		
	Q						✔		
	R						✔		
	S						✔		
	T						✔		
Distribution %		0%	0%	0%	0%	0%	100%	0%	100%

All four firms will always account for unsystematic risk when performing a valuation as the responses fall in Section B. The responses are all focused in one segment of Section B as all firms chose option 6 and the average is therefore 6 out of a possible 6. These results indicate a strong agreement with the statement.

Statement/Question 7: The identification of unsystematic risk factors is entirely objective.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
7		0	2	1	1	0	0		
	Q		✔						
	R			✔					
	S				✔				
	T		✔						
Distribution %		0%	50%	25%	25%	0%	0%	75%	25%

Three of the four firms are of the opinion that the identification of unsystematic risk is not entirely objective, as options in Section A were chosen. These three responses are distributed in two segments and the average in Section A is therefore 2.33. Firm S chose a “weak agreement” segment (option 4). In the follow-up conversation, the firm indicated that even though they do believe there is subjectivity involved in the identification of unsystematic risk factors, they lean slightly more towards the objective side of the spectrum (maybe in the form of knowledge of the business). The average when all four participants are taken into account is 2.75. It therefore seems that, on average, firms do agree that the identification of unsystematic risk factors is not entirely objective.

Statement/Question 8: The quantification of unsystematic risk is entirely objective.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A 1 - 3	Section B 4 - 6
8		0	2	2	0	0	0		
	Q		✔						
	R			✔					
	S			✔					
	T		✔						
Distribution %		**0%**	**50%**	**50%**	**0%**	**0%**	**0%**	**100%**	**0%**

By choosing options in Section A, all of the participants indicated that it is their opinion that the quantification of unsystematic risk is not entirely objective. The responses are distributed in two segments. Two firms chose option 2 and the other two firms option 3 and the average is therefore 2.5 out of a possible 6. The disagreement with the statement does indicate that firms are of the opinion that the quantification of unsystematic risk is not entirely objective, but the average of 2.5 shows that it is not a strong disagreement, and therefore a degree of objectivity might be present.

Statement/Question 9: An objective method is utilised to bring unsystematic risk into account when the market approach is used to value a going concern privately-owned company.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A 1 - 3	Section B 4 - 6
9		0	2	2	0	0	0		
	Q		✔						
	R			✔					
	S			✔					
	T		✔						
Distribution %		**0%**	**50%**	**50%**	**0%**	**0%**	**0%**	**100%**	**0%**

By choosing options in Section A, all of the participants indicated that it is their opinion that the method used to account for unsystematic risk when utilising the market approach is not objective. The responses are distributed in two

segments. Two firms chose option 2 and the other two firms option 3 and the average is therefore 2.5 out of a possible 6. The disagreement with the statement does indicate that firms are of the opinion that the method used is not objective, but the average of 2.5 shows that it is not a strong disagreement, and therefore a degree of objectivity might be present.

Statement/Question 10: An objective method is utilised to bring unsystematic risk into account when the asset approach is used to value a going concern privately-owned company.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
10		1	2	1	0	0	0		
	Q	✔							
	R			✔					
	S		✔						
	T		✔						
Distribution %		**25%**	**50%**	**25%**	**0%**	**0%**	**0%**	**100%**	**0%**

Although participants indicated that the asset approach is rarely used in the valuation of going concern privately-owned companies, the question was asked if an objective method is utilised to bring unsystematic risk into account when the asset approach is in fact used. By choosing options in Section A, all of the participants indicated that it is their opinion that the method used to account for unsystematic risk when utilising the asset approach is not objective. The responses are distributed in three segments. One firm chose option 1, two firms chose option 2 and the other firm option 3 and the average is therefore 2 out of a possible 6. The disagreement with the statement does indicate that firms have the opinion that the method used is not objective, but the average of 2.5 is an average strong disagreement, which indicates that there might be a degree of objectivity present.

Statement/Question 11: An objective method is utilised to bring unsystematic risk into account when the income approach is used to value a going concern privately-owned company.

Question number	Firm	Options						Summary	
								Section A	Section B
		1	2	3	4	5	6	1 - 3	4 - 6
11		0	2	2	0	0	0		
	Q		✔						
	R			✔					
	S			✔					
	T		✔						
Distribution %		0%	50%	50%	0%	0%	0%	100%	0%

By choosing options in Section A, all of the participants indicated that it is their opinion that the method used to account for unsystematic risk when utilising the income approach is not entirely objective. The responses are distributed in two segments. Two firms chose option 2 and the other two firms option 3 and the average is therefore 2.5 out of a possible 6. The disagreement with the statement does indicate that firms are of the opinion that the method used is not objective, but the average of 2.5 shows that it is not a strong disagreement and therefore a degree of objectivity might be present.

Statement/Question 12.1: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the capital asset pricing model (CAPM) is mostly used.

Question number	Firm	Options						Summary	
								Section A	Section B
		1	2	3	4	5	6	1 - 3	4 - 6
12.1		0	0	0	0	0	4		
	Q						✔		
	R						✔		
	S						✔		
	T						✔		
Distribution %		0%	0%	0%	0%	0%	100%	0%	100%

All four firms indicated that the capital asset pricing model (CAPM) is mostly used when deciding on the cost of equity to be used in the cost of capital calculation (Section B). The responses are all focused in one segment as all firms chose option 6 and the average is therefore 6 out of a possible 6. These results indicate a strong agreement with the statement.

Statement/Question 12.2: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the arbitrage pricing theory (APT) is mostly used.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
12.2		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise the arbitrage pricing theory (APT) when calculating the cost of equity to be used in the cost of capital computation (Section A). The responses are all focused in one segment as all firms chose option 1 and the average is therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 12.3: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the dividend growth model is mostly used.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
12.3		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise the dividend growth model when calculating the cost of equity to be used in the cost of capital computation (Section A). The responses are all focused in one segment as all firms chose option 1 and the average is therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 12.4: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the build-up model is mostly used.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
12.4		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise the build-up model when calculating the cost of equity to be used in the cost of capital computation (Section A). The responses are all focused in one segment as all firms chose option 1 and the average is therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 12.5: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the Fama-French three-factor model is mostly used.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
12.5		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise the Fama-French three-factor model when calculating the cost of equity to be used in the cost of capital computation (Section A). The responses are all focused in one segment as all firms chose option 1 and the average is therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 12.6: When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, a model other than the above models is mostly used.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
12.6		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise other methods than those mentioned when calculating the cost of equity to be used in the cost of capital computation (Section A). The responses are all focused in one segment as all firms chose

option 1 and the average is therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 13.1: When the income approach is utilised to value a privately-owned company, unsystematic risk is taken into account by adjusting the cost of equity.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
13.1		0	0	0	1	0	3		
	Q						✔		
	R				✔				
	S						✔		
	T						✔		
Distribution %		**0%**	**0%**	**0%**	**25%**	**0%**	**75%**	**0%**	**100%**

All of the four firms tend to adjust the cost of equity to account for unsystematic risk when applying the income approach (option 4 to 6 in Section B). These responses are distributed in two segments. Three of the firms strongly agreed with the statement choosing option 6, while the other firm does adjust the cost of equity for unsystematic risk, but less frequently than the other participants. The average is therefore 5.5 out of a possible 6. It therefore seems that, on average, firms do adjust the cost of equity to account for unsystematic risk.

Statement/Question 13.2: When the income approach is utilised to value a privately-owned company, unsystematic risk is taken into account by adjusting the forecast cash flows.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
13.2		0	1	0	1	1	1		
	Q					✔			
	R						✔		
	S		✔						
	T				✔				
Distribution %		0%	25%	0%	25%	25%	25%	25%	75%

Three of the four firms indicated that they do adjust the forecast cash flows to account for unsystematic risk (option 4 to 6 in Section B). These three responses are distributed in three segments and the average of the responses in Section B is therefore 5 out of a possible 6. The other firm indicated that the cash flows are not adjusted for this risk (option 2 in Section A). The average when all four participants are taken into account (Section A and B combined) is 4.25.

Statement/Question 13.3: When the income approach is utilised to value a privately-owned company, unsystematic risk is taken into account by another means than adjusting the cost of equity or the forecast cash flows.

Question number	Firm	Options						Summary	
		1	2	3	4	5	6	Section A	Section B
								1 - 3	4 - 6
13.3		4	0	0	0	0	0		
	Q	✔							
	R	✔							
	S	✔							
	T	✔							
Distribution %		100%	0%	0%	0%	0%	0%	100%	0%

None of the participants utilise other techniques than those mentioned when bringing unsystematic risk into account (Section A). The responses are all focused in one segment as all firms chose option 1 and the average is

therefore 1 out of a possible 6. These results indicate a strong disagreement with the statement.

Statement/Question 14: It is possible to use unsystematic risk as a device to bring the final results of a business valuation of a privately-owned company in line with the client's objectives, because of the subjectivity of unsystematic risk.

Question number	Firm	Options						Summary	
								Section A	Section B
		1	2	3	4	5	6	1 - 3	4 - 6
14		0	0	0	2	1	1		
	Q						✔		
	R				✔				
	S				✔				
	T					✔			
Distribution %		**0%**	**0%**	**0%**	**50%**	**25%**	**25%**	**0%**	**100%**

All of the four firms agreed with the statement made (option 4 to 6 in Section B). These responses are distributed in three segments. One firm strongly agreed with the statement choosing option 6, one chose option 5, while the other two firms chose option 4. The average is therefore 4.75 out of a possible 6. In the follow-up conversations with the firms, it was emphasised that although they do believe that it is possible to use unsystematic risk as a device to bring the final results of a business valuation of a privately-owned company in line with the client's objectives because of the subjectivity of unsystematic risk (therefore manipulating the result of the valuation), it is not practice to do so.

4.3. QUESTIONNAIRE: DESCRIPTIVE QUESTIONS SECTION

The descriptive questions section consists of open questions. The decision was made to include such questions as many answers to these might be possible. Care was, however, taken to ensure that questions are not asked in

a way that will force participants into a specific direction and therefore to particular answers (Tan, 2008:51).

Space was provided after each question where participants could comment on and/or answer the question (Maree, 2010:161). The questions were constructed in such a way that participants could describe and elaborate if needed.

The following results were obtained:

Statement/Question 1: List the factors most commonly affecting the value of privately-owned companies.

Participants listed various factors as those most commonly affecting privately-owned company values. Firms did indicate that their lists are not exhaustive. This is acceptable as only the most common factors were requested. In many cases, the same factors were listed by different firms. The following matrix presents a summary of the responses. The factors were ranked based on which were listed the most to which were listed the least:

Table 4.1: Factors most commonly affecting the value of privately-owned companies

Factors listed by firms	Firms				Ranked
	Q	R	S	T	
Reliance on key management	✔	✔	✔	✔	1
Reliance on key customer/supplier	✔		✔	✔	2
Over optimistic forecasts/growth prospects	✔	✔	✔		2
Lack of marketability		✔		✔	3
The size of the interest being valued		✔	✔		3
Lack of product diversity	✔		✔		3
Lack of geographic diversity	✔	✔			3
Historical volatile results	✔		✔		3
Lack of track record	✔				4
Lack of access to capital markets		✔			4
Market share			✔		4
Competitive landscape			✔		4
Labour relations			✔		4
Regulations and changes therein			✔		4
Possible non-market related or personal expenses in business				✔	4
Quality of management		✔			4

Source: (Author)

Statement/Question 2: How are unsystematic risk factors to be considered, identified?

The following matrix presents a summary of the responses. The identification methods were ranked based on which were listed the most to which were listed the least:

Table 4.2: Identification methods of unsystematic risks

Identification methods	Firms				Ranked
	Q	R	S	T	
Discussions with management	✔	✔	✔		1
Scrutinising documents	✔	✔	✔		1
Industry research		✔	✔		2
Analysing forecasts		✔	✔		2
Sensitivity analysis to determine level of impact				✔	3

Source: (Author)

Statement/Question 3: Describe how unsystematic risk is quantified and taken into account when the market approach is used to value privately-owned companies.

Firm Q

The multiple used to value the business (e.g. P/E ratio) is adjusted by this firm to account for unsystematic risk factors. A corroborative discounted cash flow approach is also prepared. An adjustment to the multiple is benchmarked against a change in the cost of equity to gauge the relative impact of a xx% change in the multiple to a yy% change to the cost of equity. This is done to get a feel for the impact of the type of adjustment that is made.

Firm R

Adjustments are made to peer company multiples by this firm. The firm did indicate that no objective basis exists for making adjustments to multiples for unsystematic risk.

Firm S

This firm indicated that unsystematic risk is taken into account by means of a discount or premium to comparable listed company multiples.

It was emphasised by this firm that the size of the discount or premium to comparable listed company multiples is determined based on the valuation

practitioner's professional judgement and experience in valuing other privately-owned companies.

Firm S furthermore explained that the valuation practitioner is not only comparing the riskiness of the subject company to its own peers, but also to all previous companies that have been valued by the firm and the discounts or premiums applied to the multiples for those companies.

Firm T

An adjustment is made to the earnings or multiple. Firm T emphasised that care must be taken not to duplicate the accounting of unsystematic risk in the valuation.

Statement/Question 4: Describe how unsystematic risk is quantified and taken into account when the asset approach is used to value privately-owned companies.

Firm Q

This firm indicated that this is not applicable. It is their opinion that the value of the underlying assets should be considered.

The asset approach would normally only be used by Firm Q to value property or investment holding companies, and the underlying asset valuations would be amended to account for any unsystematic risk factors.

Firm R

Firm R indicated that this is not applicable as they do not use the asset approach to value going concern businesses.

Firm S

Firm S indicated that the asset approach is rarely applied to value a privately-owned company that is a going concern.

It was also noted by this firm that as most of the factors noted in the first statement/question in paragraph 4.3 page 76 above do not affect the fair value of a company's assets or liabilities, no adjustment is necessary for these risks. If a discount is applied to the asset approach, it is likely to be limited to a discount for lack of liquidity or marketability as the subject company is privately owned.

It was emphasised that the above comments are not relevant for valuations where a price-to-book ratio or adjustment to embedded value is applied as a valuation methodology (e.g. banking, insurance, property portfolios).

Firm T

It was signalled that the price-to-asset multiple would normally be adjusted for risks.

Statement/Question 5: Describe how unsystematic risk is quantified and taken into account when the income approach is used to value a privately-owned company.

Firm Q

An unsystematic risk premium would typically be added to the cost of equity, most often a figure in the range of 0 to 10% depending on the specific circumstances. Exceptional cases could potentially warrant a greater adjustment.

Consideration is given to all positive and negative unsystematic factors affecting the prospects of the company, and using their knowledge and professional judgement, the firm will then make what they consider to be an appropriate adjustment.

Firm R

Unsystematic risks are addressed in the cash flows as far as possible. Uncertainties relating to unsystematic risks are modelled as scenarios and

their impact on value is understood. The example was given that if an unsystematic risk is the potential loss of a key customer, the impact of a loss of this key customer will be modelled to assess the impact on the value of the business. Such scenarios may be considered in the final assessment of the likely value range for the business.

The firm did suggest that other risks are less easy to model as scenarios; for example, there is a great deal of research supporting the notion that smaller companies are riskier than larger ones. The size premium is not, however, captured in the capital asset pricing model (CAPM) and therefore is a risk that appears to be rewarded by the market, but which is not captured in the return predicted by the CAPM. A size premium also represents unsystematic risk, which is often considered in discounted cash flow analyses.

Other risk premiums may be applied to the cost of equity for other factors that cannot be modelled in the cash flows (such as regulatory uncertainty or dependence on a key customer). The reason is that there is either a positive cash flow, or no cash flow.

The firm furthermore emphasised that their approach is to avoid making subjective adjustments to the cost of equity as far as possible.

Firm S

This firm takes unsystematic risk into account by means of an adjustment to the cost of equity. The size of the adjustment is determined as described in the answer to statement/question 3 above (par 4.3, p. 76).

Firm T

The discount rate used in the cash flow analysis is adjusted through sensitivity analyses.

4.4. SUMMARY

The results of the empirical study were reported and discussed in this chapter. The responses obtained from senior personnel in the advisory firms in Part A of the questionnaire were reported. Part A gathered the general views that participants have on specific aspects of valuations of privately-owned companies. This information was summarised and discussed. The overall impression drawn from the responses is that unsystematic risk is accounted for in valuations, but none of the elements around the subject of unsystematic risk (both the identification and quantification thereof) are entirely objective.

The information obtained from the descriptive section of the questionnaire, Part B, was also presented. Part B's broad objective was to establish specific approaches that firms utilise in performing a valuation of a privately-owned company, whether unsystematic risk is (objectively) incorporated in a valuation of a privately-owned company, and how this is done.

To ensure reliability of the feedback received from the firms, any uncertainties identified in the responses were followed up and resolved. No contradictions were however noted. This was done to ensure that the intention of the responses of the firms was accurately reported in the study.

Objective 3, determining whether advisory firms do take unsystematic risk into account when valuations are performed, was therefore satisfied in this chapter. The methods firms use to incorporate unsystematic risk into valuations using different valuation approaches were also determined in this chapter, and therefore Objective 4 was achieved.

The literature reported on in Chapter 2, in conjunction with the empirical results from Chapter 4, will be used in Chapter 5 to identify any shortcomings, or discrepancies, relating to the accounting for unsystematic risks in privately-owned company valuations. Conclusions are made and recommendations on gaps are discussed in this final chapter.

5. CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

5.1. BACKGROUND

As discussed in Chapter 1 (par 1.1.3, p. 5), the goal of this study was to determine whether advisory firms valuing privately-owned companies in South Africa take unsystematic risk into account and, if they do, how it is done.

The specific objectives as provided by Chapter 1 were:

- Objective 1: To conceptualise unsystematic risk from the literature and to determine what the different aspects of unsystematic risk are that should be taken into account;
- Objective 2: To conceptualise from the literature how unsystematic risk should objectively be incorporated into different valuation techniques;
- Objective 3: To determine whether advisory firms do take unsystematic risk into account when valuations are performed;
- Objective 4: To determine how unsystematic risk is incorporated into different valuation techniques; and
- Objective 5: To make recommendations regarding the incorporation of unsystematic risk into valuations of privately-owned companies in South Africa.

The findings of the research investigation (which is based on the literature review), consisting of the compiled survey questionnaire and the follow-up communication with the firms, were presented in Chapter 4.

The final objective (Objective 5), to make recommendations regarding the incorporation of unsystematic risk into privately-owned company valuations in South Africa, is addressed in this concluding chapter. The aim of the chapter is to first draw conclusions for each objective, which is based on the findings discussed in Chapters 2 and 4, and then to move on to the recommendations, where applicable.

The chapter will conclude with the limitations of the research, the value of the research and the possible areas for further research.

5.2. CONCLUSIONS

The conclusions of the study will be discussed based on the specific objectives of the research investigation.

5.2.1. Conclusions regarding the objectives based on literature reviews

The results obtained in Chapter 2 from the literature review to reach Objectives 1 and 2 are discussed below:

The different aspects of unsystematic risk that should be taken into account with valuations of privately-owned companies

A literature study was foremost performed on the broad subject of valuations of privately-owned companies to sketch the outline thereof to know incisively where unsystematic risk fits into the bigger picture. This way, what is expected in a valuation according to theory was pin pointed and a good indication was given of what the content of the questionnaire to be developed for the empirical study should be.

It was revealed from the literature that unsystematic risk should be taken into account in valuations. It was furthermore found that unsystematic risk can be eliminated by a diversified portfolio. According to the literature, public company valuations usually need not be adjusted for unsystematic risk as investors in these companies are seen to be adequately diversified. Privately-owned companies, on the other hand, are not sufficiently diversified and therefore unsystematic risk should be incorporated into the value of these companies as it seems that this risk could have a significant impact on valuations (par 2.2, p. 11).

It was identified through the literature that the primary elements of unsystematic risk are control, company size and illiquidity. Although authors

(practitioners, researchers, academia, etc.) categorise factors differently, the core elements (control, company size and illiquidity) are always reflected. Categories of three authors were investigated and discussed in Chapter 2 (par 2.4, p. 34).

The factors in these categories will be compared to the factors firms identified as those they take into account when performing a privately-owned company valuation. The empirical results are therefore compared and linked to the literature (and/or best practices) as identified by authors (par 5.2.2, p. 87).

It can therefore be concluded that the different aspects of unsystematic risk that should be taken into account with valuations of privately-owned companies were identified and discussed.

Incorporating unsystematic risk into different valuation techniques

Literature was studied to determine the methods that are commonly utilised to incorporate unsystematic risk into the different valuation approaches. The modus operandi of the different valuation approaches were identified (par 2.3, p. 13). The highlights thereof together with a conclusion will be presented in the following paragraphs.

It was found that with the market approach, unsystematic risk is indirectly considered. This means that a premium is not directly added to a rate (such as the cost of equity). The multiple (e.g. P/E ratio) used to value the business should be adjusted when unsystematic risk is incorporated into a valuation (par 2.3.1, p. 15).

In the case of the asset approach, unsystematic risk is also indirectly considered. This approach values a company by adjusting the items (assets and liabilities) in the statement of financial position to the market value. The net assets then represent the value of the company. The asset valuations are by design amended to account for unsystematic risk (par 2.3.2, p. 16).

The literature indicated that, with the income approach, two approaches may be followed to incorporate unsystematic risk into valuation, either by adjusting the expected cash flows or by adding a premium to the discount rate (direct consideration). It was emphasised that double counting may be a risk if both approaches are used in one valuation and firms should be on the lookout to avoid this (par 2.3.3, p. 17).

The methods identified in the literature to incorporate unsystematic risk into the different valuation techniques will be compared to those that firms utilise in practice (as determined by the empirical results) (par 5.2.2, p. 87, Table 5.5).

It can therefore be concluded that the methods to be used to incorporate unsystematic risk into different valuation approaches were successfully identified from the literature and thoroughly discussed.

5.2.2. Conclusions regarding the objectives based on empirical results

The results obtained in Chapter 4 from the empirical research to reach Objectives 3 and 4 are discussed below: To evaluate the requirements as per literature and compare them to the outcome of the empirical results, reference is made to the literature studied in Chapter 2 as well as the empirical results in Chapter 4. This way the objectives set (par 1.1.3, p. 5) are put into context.

Determining whether advisory firms do take unsystematic risk into account when valuations are performed

Objective 3 sought to determine if advisory firms do incorporate unsystematic risk into privately-owned company valuations as proposed by the literature.

To sketch a bigger picture and elaborate on Objective 3, two additional questions were asked of which the responses are analysed and also concluded on in this paragraph, viz. do firms consider all categories of risk factors that most commonly affect the value of privately-owned companies, if compared to the categories as per literature and how do firms go about to

identify these factors? An overall conclusion on all three aspects mentioned above is also made as the final thought in this paragraph.

- ***The incorporation of unsystematic risk into privately-owned company valuations***

It was determined from the literature that risk should be accounted for with the valuation of privately-owned companies (par 2.2, p. 11). As risk consists of both systematic and unsystematic risk, two questions were put to participants to determine whether risk is incorporated into valuations. One question dealt with systematic risk (par 4.2, p. 63, statement/question 5), and the other with unsystematic risk (par 4.2, p. 63, statement/question 6). All participants chose option 6 on the six-option Likert scale in both cases, indicating a strong agreement with the statements made.

It can therefore be concluded that both systematic risk and unsystematic risk are constantly incorporated into valuations of going concern privately-owned companies by the participants, as prescribed by the literature.

- ***Determining if participants consider all the categories as per literature when identifying the factors most commonly affecting privately-owned valuations***

The risk factors that most commonly affect privately-owned companies as per the literature were identified in paragraph 2.4, page 34. The participants were asked to list the factors they believe most commonly affect the value of privately-owned companies. The factors listed by the firms were reported in Table 4.1, page 78. To establish if all risk factor categories as per literature are considered, all the factors listed by the participants are sorted into the categories as reported by the literature. As a complete list of factors was not required from the participants, the factors listed by the population as a whole are used. The categories of all three authors discussed in the literature review are individually utilised (Tables 5.1 to 5.3 below). The factors identified by the

PwC survey are also compared to those listed by the participants (Table 5.4 below):

Table 5.1: The Black/Green factors category evaluation

Black/Green factors (literature)	Factors listed by participants (empirical results)	Black/Green category considered?
Competition		✓
	Market share	
	Lack of marketability	
	Competitive landscape	
	The size of the interest being valued	
Financial strength		✓
	Lack of access to capital markets	
	Historical volatile results	
Management ability and depth		✓
	Reliance on key management	
	Labour relations	
	Possible non-market-related or personal expenses in business	
	Quality management	

Profitability and stability of earnings		✓
	Over optimistic forecasts/growth prospects	
	Lack of product diversity	
	Lack of track record	
National economic effects		✓
	Lack of geographic diversity	
	Regulations and changes therein	
Local economic effects		✓
	Reliance on key customer/supplier	

Source: (Author)

Based on Table 5.1 above, it can therefore be concluded that all the categories, as specified by Parnell Black and Robert Green, are considered jointly by the firms when identifying the factors most commonly affecting privately-owned valuations.

Table 5.2: The Warren Miller factors category evaluation

Warren Miller factors (literature)	Factors listed by participants (empirical results)	Warren Miller category considered?
Macro-environmental		✓
	Labour relations	
	Regulations and changes therein	
Industry		✓
	Reliance on key customer/supplier	
	Market share	
	Lack of product diversity	
	Lack of geographic diversity	
	Competitive landscape	
Company		✓
	Reliance on key management	
	Possible non-market-related or personal expenses in business	
	Quality management	
	Over optimistic forecasts/growth prospects	
	Lack of marketability	
	The size of the interest being valued	

	Historical volatile results	
	Lack of track record	
	Lack of access to capital markets	

Source: (Author)

Based on Table 5.2 above, it can therefore be concluded that all the categories, as specified by Warren Miller, are considered jointly by the firms when identifying the factors most commonly affecting privately-owned valuations.

Table 5.3: The Gary Trugman factors category evaluation

Gary Trugman factors (literature)	Factors listed by participants (empirical results)	Gary Trugman category considered?
Risk factors		✓
	Over optimistic forecasts/growth prospects	
	Lack of marketability	
	The size of the interest being valued	
	Lack of product diversity	
	Historical volatile results	
	Lack of track record	
	Lack of access to capital markets	
	Regulations and	

	changes therein	
	Possible non-market-related or personal expenses in business	
Non-financial risks		✓
	Lack of geographic diversity	
	Competitive landscape	
	Quality management	
	Reliance on key management	
Company-specific risks		✓
	Reliance on key management	
	Market share	
	Labour relations	
	Quality management	
	Reliance on key customer/supplier	
	Lack of geographic diversity	
	Lack of track record	
	Possible non-market-related or personal expenses in business	

Source: (Author)

Based on Table 5.3 above, it can therefore be concluded that all the categories, as specified by Gary Trugman, are considered jointly by the firms

when identifying the factors most commonly affecting privately-owned valuations.

Table 5.4: The PwC valuation survey evaluation

Factor identified by PwC valuation survey	Factor considered by participants
Dependence on key management	✓
One key customer or supplier	✓
Significant growth expectations	✓
Lack of track record	✓
Other	✓

Source: (Author)

Based on Table 5.4 above, it can therefore be concluded that all factors, as identified by the PwC valuation survey, are considered jointly by the firms when identifying the factors most commonly affecting privately-owned valuations. It was furthermore noted that the top-ranked factors listed by the participants (par 4.3, Table 4.1, p. 78, ranking 1 to 3) agree with the factors identified by the PwC valuation survey.

- ***Determining how participants identify the unsystematic risk factors***

To take Objective 3 even further (which sought to determine if advisory firms do incorporate unsystematic risk into privately-owned company valuations), a question was asked to participants to determine how these unsystematic risk factors are determined. The results were reported in Table 4.2. (par 4.3, p. 79, statement/question 2). It was determined that firms mostly have discussions with management, scrutinise company documents (such as financial statements, strategic plans, board minutes, etc.), analyse the company's forecasts and do research on the industry the company is trading in.

Based on the responses of the firms, it can be concluded that even though external information is used in the identification process, internal information is

the main source. This seems correct, as unsystematic risk is mostly an internal risk.

An overall conclusion can therefore be made that firms incorporate both systematic risk and unsystematic risk into privately-owned company valuations. Unsystematic risk is identified by considering all categories of risks factors as proposed by the literature, using mostly internally originated information as identification tool.

Determining how unsystematic risk is incorporated into different valuation techniques

Objective 4 sought to establish how advisory firms incorporate unsystematic risk into privately-owned company valuations. This object was introduced by a series of questions (see below for reference to each question). The reasoning behind this was to get the viewpoint of each participant on the whole valuation process as well as insight into their thought processes. Conclusions are made using both the review of the literature and the empirical results obtained on each question. An overall conclusion is made drawing from those made on the individual questions.

The empirical results showed that all firms indicated that the asset approach (par 4.2, p. 63, statement/question 2) is not preferred and not used frequently for valuations of going concern companies, as the result of such valuations will only provide an estimate of the liquidation value. This finding agrees with literature, which explained the results obtained when using the asset approach as the liquidation value of the company (par 2.3.2, p. 16). It was also proved that although participants regularly use the market approach (scoring an average 4.5 out of 6) to value privately-owned companies, all are prone to prefer the income approach (paragraph 4.2, p. 63, statement/question 1 and 3). This finding also concurred with the literature, which suggested these two approaches are most often utilised in South Africa (par 2.3, p. 13, Graph 2.1). All participants scored the income approach as 6 out of a possible 6, indicating a strong agreement with the statement that this

approach is frequently applied. This might be because this approach focuses on the future cash flows expected to be generated by the company, which provides a good indication of the value of the company. Firms seldom use other techniques, which might indicate that the firms tend to stick to the well-known, recognised approaches (par 4.2, p. 63, statement/question 4). This finding appears to be in line with the literature, which indicates the preferred approaches to be, in order of preference, the income-, the market-, the asset- and then other approaches (par 2.3, p. 13, Graph 2.1). Results also indicated that all four firms use the capital asset pricing model (CAPM) as the cost of equity in the income approach, and no other method or model is used (par 4.2, p. 63, statement/question 12.1-12.3). Literature studied indicated that CAPM is used most frequently in South Africa (par 2.3.3, p. 17, Graph 2.2), but recommends that CAPM be adjusted for relevant risks (par 2.3.3, p. 17).

It can therefore be concluded that the participants prefer the income approach, but also utilise the market approach to value privately-owned going concern companies, using CAPM as the cost of equity.

The identification of unsystematic risk is perceived by three of the four firms as not being objective (par 4.2, p. 63, statement/question 7). The other firm indicated in the follow-up conversation that even though they do believe there is subjectivity involved in the identification of unsystematic risk factors, they lean slightly more towards the objectivity side of the spectrum. The average score was 2.75 out of 6. Theorists categorise factors to be considered differently, and it therefore seems that identification of risk factors is also not seen by the literature as being objectively done (par 2.4, p. 34).

It can therefore be concluded that the participants agree with the literature that some degree of subjectivity is involved with the identification of unsystematic risk factors.

The opinions of participants on the objectivity of the quantification of unsystematic risk were also tested (paragraph 4.2, p. 63, statement/question 8). The results confirmed the view point of the literature that the methods used

to quantify unsystematic risk are by their very nature not objective, as judgement is used (par 2.5, p. 38). All firms indicated that they lean more towards the viewpoint that quantification is not objective, as the average score came to 2.5 out of 6, indicating disagreement with the statement that quantification is objective.

It can therefore be concluded that the participants agree that some degree of subjectivity is involved with the quantification of unsystematic risk factors.

The empirical results also indicated, and it can therefore be concluded, that the methods utilised to account for unsystematic risk under the market-, the asset- as well as the income approach are not objective (par 4.2, p. 63, statement/question 9 - 11), as all three questions scored an average of 2.5 out of 6, indicating disagreement with the statement that the methods used are objective. The results confirmed the viewpoint of the literature that professional judgement is needed in all three approaches and therefore none of the approaches are entirely objective in incorporating unsystematic risk (par 2.3, p. 13).

It was furthermore determined that all of the firms adjust the cost of equity for unsystematic risk when using the income approach. Three of the four firms strongly agreed (choosing the highest agreement option) with the adjustment of cost of equity option, while the other firm chose a weak agreement option (par 4.2, p. 63, statement/question 13.1). When asked if firms would adjust the forecast cash flows to account for unsystematic risk, three of the four firms indicated that they would, but only one of the three strongly agreed, choosing options 6 (par 4.2, p. 63, statement/question 13.2). It therefore seems that three of the four firms prefer adjusting the cost of equity, while the fourth firm prefers adjusting the forecast cash flows. The firm (Firm R) that prefers to adjust the forecast cash flows elaborated by indicating that their approach is to avoid making subjective adjustments to the cost of equity. None of the firms use other methods than the two mentioned to account for unsystematic risk (par 4.2, p. 63, statement/question 13.3). It can therefore be seen that the approaches suggested by the literature, viz. adjusting the cost of equity or

adjusting the forecast cash flows, were utilised by the participants (par 2.3.3, p.17).

It can therefore be concluded that most of the participants (three of the four) agree that the adjustment of the cost of equity is most suitable to account for unsystematic risk, but that the adjustment of forecast cash flows can also be used for this purpose. One of the firms did, however, indicate that the last method mentioned (adjusting the forecast cash flows) is not regularly used.

The literature indicated that deciding on unsystematic risk factors is very subjective and that it is possible for this variable to be used as a device by valuation practitioners to bring the final results of a valuation in line with the clients' objectives (par 2.3.3, p. 17). This statement was put to participants and the results showed that all participants agreed that it is indeed possible for a valuation practitioner to do this (par 4.2, p. 63, statement/question 14). Participants emphasised that it is, however, not practice for them to do this.

It can therefore be concluded that the results of this empirical question support the literature, which indicates that it is possible to use unsystematic risk as a device to manipulate the outcome of valuations of privately-owned companies.

The final part of the research investigation was to determine how firms quantify and account for unsystematic risk when the different approaches, viz. market approach, asset approach and the income approach, are utilised. Table 5.5 is presented below to link the empirical results, as reported in Chapter 4 (par 4.3, p. 76, statement/question 3-5), to the literature (par 2.3, p. 13) so that a conclusion can be drawn based on the comparisons.

Table 5.5: Incorporation of unsystematic risk: literature versus practice

The market approach		
Incorporation according to literature	Incorporation as done in practice as per empirical results	Practice agrees with literature
The multiple used to value (e.g. P/E ratio) the business should be adjusted.	The multiple used to value (e.g. P/E ratio) the business is adjusted.	✓
The asset approach		
Incorporation according to literature	Incorporation as done in practice	Practice agrees with literature
Valuation of assets to the market value by design amends for unsystematic risk.	Not applicable as the value of underlying assets is considered.	✓
The income approach		
Incorporation according to literature	Incorporation as done in practice	Practice agrees with literature
Add a premium to the cost of equity or adjust the forecast cash flows	Add a premium to the cost of equity and/or adjust the forecast cash flows	✓

Source: (Author)

It can be clearly seen from Table 5.5 that firms incorporate unsystematic risk in accordance with the prescription of the literature. Firms did, however, not indicate the specific procedure (e.g. the plus/minus procedure, the numeric procedure, the listing procedure, etc) used to incorporate unsystematic risk. Participants did indicate that the adjustments made are based on professional

judgement, which is based on information gathered (par 4.3, p. 76, statement/question 3-5).

It can therefore be concluded that for each of the three approaches, the incorporation of unsystematic risk into privately-owned company valuations is done in line with the literature studied. Specific procedures used by firms could not be determined, but it appears that professional judgement, which is based on experience and information gathered on the company being valued, is used to make the necessary adjustments.

The overall conclusion for Objective 4, which flows out of the "sub-category" conclusions above, is now presented. It was found that the preferred valuation approaches used by the participants are the income approach, followed by the market approach and then the asset approach. It does seem that more than one approach is utilised when a valuation is performed (e.g. the income approach with the market approach). Approaches other than the three recommended by literature are not frequently utilised. When the income approach is utilised, CAPM is used as cost of equity, and most participants prefer to adjust the cost of equity to incorporate unsystematic risk into a valuation. In the case of all of valuation approaches, incorporating unsystematic risk is done in line with what the literature proposes, but as professional judgement is needed, the process is never entirely objective. Participants tend to agree that the identification and quantification of unsystematic risk is not entirely objective and that it is possible to use unsystematic risk as a device to bring the final results of a valuation in line with the clients' objective.

5.3. RECOMMENDATIONS

To achieve Objective 5, recommendations are made based on the research done and conclusions made in this study. As concluded above, the different aspects of unsystematic risk to be considered and the incorporation tools to be used were identified and discussed using the literature review. The empirical results indicated that participants consider the necessary risk factors

and that risk (systematic and unsystematic) is incorporated into privately-owned company valuations. Participants utilise only the recommended approaches, and it appears like the income approach is used in conjunction with the market approach. It seems that a degree of subjectivity exists when unsystematic risk is identified, quantified and incorporated into any privately-owned company valuation, and that it is possible to use unsystematic risk as a device to manipulate a valuation. When the income approach is utilised, CAPM is mostly used as the cost of equity and is also used as mechanism to incorporate unsystematic risk. An overarching conclusion can therefore be made that subjectivity and professional judgement form a substantial part of the subject on business valuations of privately-owned companies.

Valuations practitioners in South Africa do hold themselves to best valuation practice, but are not specifically bound by any international or local valuation standards. Even though subjectivity with valuations will not be able to be eradicated completely, recommendations relating to this study are made to limit subjectivity as far as possible. It was kept in mind that the practical implication, if recommendations were to be executed, should be that it leads to clear-cut guidelines for valuations so that uncertainties relating to unsystematic risk incorporation are eliminated as far as possible. The following recommendations can be considered:

- To ensure comparability, uniformity and transparency valuation practitioners should be compelled to adhere to certain valuation standards (in the same manner as International financial reporting standards, namely IFRS, for accounting). Such standards will better identification and communication of uncertainties in valuations and improve investor confidence in valuations. Standards used in other parts of the world (e.g. International valuation standards) can be used as starting point, adjusting them for South African purposes. Adjustments might include factors such as the fact that South Africa is an emerging market which might affect valuations. These standards should include the following:

- A check list of categories of unsystematic risk to be considered;
- Prescribed methods to choose from to identify unsystematic risk that should be considered;
- Prescribed methods to choose from to quantify unsystematic risk that was identified; and
- Prescribed methods/procedures to choose from to incorporate unsystematic risk (e.g. plus/minus procedure, the numeric procedure, the listing procedure) into a valuation.
- An institute for valuation practitioners should be formed (the equivalent of the South African Institute of Chartered Accountants, namely SAICA). Valuation practitioners should be members of such an institute. The mission of such an institute could include:
- To provide services to the members to uphold their professional competence as valuation practitioners and providing a platform for continuous development, thereby enabling them to create value for their clients;
- To enhance the quality of valuations performed by the members; and
- To improve the confidence investors and other users have in valuations performed by the members.
- The asset approach should be performed as a reasonableness test for each going concern valuation. Even though this approach is preferred when determining the liquidation value (therefore not a going concern company), it can be used to determine the minimum value of a going concern company;
- Variants of CAPM (e.g. modified CAPM, the local CAPM variant, the Build-up method etc.) suggested by the literature should at least be considered to be used as the cost of equity. These variants of CAPM put more thought into determining the premium for unsystematic risk, even though it is still not based on recognised data sources. The local CAPM for example specifically incorporates local conditions into the rate.

- Non-CAPM variants (the Estrada model and the EHV model) suggested by the literature should also at least be considered to be used as the cost of equity. These variants consider other unsystematic risk factors. The Estrada model considers for example the fact that emerging markets operate in partially integrated environments and the EHV model incorporates political, exchange, inflation and other typical country variables.

5.4. LIMITATIONS OF THE RESEARCH

The following shortcomings should be kept in mind:

- Even though the valuation departments at the firms are not that large (compared to, for example, the audit departments), and the top-level employees that know the ins and outs of the processes were used as representatives of participants, it could have been more advantageous to include junior-level, senior-level as well as top-level employees of each firm in the population; and
- Even though they are the pacesetters, the study chose to only include the large four audit and advisory firms (KMPG, PwC, Deloitte and Ernst and Young) as the population.

5.5. VALUE OF THE RESEARCH

Very little literature and research exist that concentrate on the valuation of privately-owned companies. No South African research was encountered that focuses on the incorporation of unsystematic risk into privately-owned company valuations.

This study was the first one performed in South Africa that zoomed into this specific topic, which has been a relevant one for a long time, and will be for a prolonged period of time to come. As one of the participants mentioned, this topic is often discussed in their South African firm, as well as across the board in the international firm.

The contribution of this study is that the research can be used as starting point by role-players in the valuation sector to open the discussion on this topic formally so that valuation practitioners can engage with one another and work towards recommendations as discussed in paragraph 5.3, page 100.

5.6. AREAS FOR FURTHER RESEARCH

The following areas for further research were identified during the study:

- The population can be extended to include three strata, viz. big four firms, medium-sized firms and small firms;
- Research regarding unsystematic risk can be performed on samples of firms in each of the three strata, including all levels of employees of each firm as participants;
- If themes of how unsystematic risk is incorporated into valuations are identified per stratum, a case study can be developed where only unsystematic risk incorporation is the variable. The approach of each stratum can be used to perform a valuation each on the case study; and
- The outcome of the valuation of each stratum can be compared to establish if outcomes are very different if different approaches are followed to incorporate unsystematic risk.

5.7. FINAL CONCLUSION

This chapter focussed on analysing the literature in conjunction with the empirical results, concluding on each objective. The goal and specific objectives of the study, as set in paragraph 1.1.3, page 5, were achieved in this study. Objectives 1 and 2 were addressed in Chapter 2, while Objectives 3 and 4 were accomplished in Chapter 4.

The research question was to enquire if the valuation of privately-owned companies performed by the big four audit firms in South Africa reflects the true risk involved, and, if it is incorporated, how objectively it is done. This

question was answered through the objectives that were met. The participants indicated that unsystematic risk is incorporated into privately-owned company valuations, but that the whole subject of valuations, especially privately-owned company valuations, does not entail entire objectivity.

Based on the conclusions above, the null hypothesis is therefore not rejected. Participants indicated that unsystematic risk is incorporated into privately-owned company valuations, but it is not entirely objective.

The chapter was concluded with the recommendations, the identified limitations of the study, the potential value of the research and the possible areas for further research.

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Appendix 1

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24 June 2011

Dear Sir/Madam

Master's degree research: Henro Erasmus

Valuations of companies have become increasingly important. Most companies will have to be valued at some stage for one reason or another. Valuing listed companies is relatively easier than valuing privately-owned companies. The reason for this is that the traditional valuation approaches do not provide much guidance for valuing privately-owned companies and are mostly directed at public companies. This is despite the fact that the vast

majority of active companies in South Africa are privately owned, following the same trend as the rest of the world.

Techniques to value companies recommended by theorists are included in the broad categories of the market approach, the asset-based approach and the income approach. Under the market approach, comparable public companies are often used as guideline to value privately-owned companies. The asset-based approach uses the value of assets to determine a company's value, while the income approach discounts future income streams to arrive at a present value.

Risk is divided into two categories: systematic risk and unsystematic (company-specific) risk. Systematic risk is furthermore defined as the uncertainty of future returns resulting from the sensitivity of the return on the subject investment to movements in the return on the investment market as a whole. Systematic risk is usually incorporated into valuations.

Unsystematic risk is a function of characteristics of the industry, the individual company, and the type of investment interest. Company-specific risk is unique and specific to each individual company caused by factors such as management depth, profitability, supplier network and clientele, product innovation and law suits. Privately-owned companies are exposed to unsystematic risk, but the question arises as to whether these risks are incorporated in an objective manner into the valuations of these companies.

The **main aim of this study** is to determine whether advisory firms valuing privately-owned companies in South Africa take unsystematic (specific) risk into account and if they do, how it is done.

I kindly request you to complete the attached questionnaire and send it back to me. It should not take more than a few minutes of your time. This questionnaire is a vital part of the research for this master's degree. All completed questionnaires will remain anonymous and all information will be

kept strictly confidential. You may indicate whether you would like to receive a report on the research findings after completion of the study.

After you electronically completed the questionnaire, please e-mail it to henro.erasmus@nwu.ac.za by replying to this email.

Yours sincerely,

MCom student: Mr H Erasmus

Study leader: Prof S van Rooyen (School of Accounting Sciences, North-West University, Potchefstroom Campus)

Assistant study leader: Prof M Oberholzer (School of Accounting Sciences, North-West University, Potchefstroom Campus)

QUESTIONNAIRE

Part A: Scale questions

You are kindly requested to mark the option that describes your opinion of the question the most with a cross (X), unless otherwise stated.

Legend:

Respond (answer) to the following statements (questions) where **1** represents a **strong disagreement (SD)** and **6** a **strong agreement (SA)** with the statement (question):

	SD					SA
Statement/questions	**1**	**2**	**3**	**4**	**5**	**6**
The market approach (using information of a comparable listed company e.g. Price-earnings ratio) is frequently applied to determine the value of going concern privately-owned companies.						
The asset approach is frequently applied to determine the value of going concern privately-owned companies.						
The income approach (e.g. discounted cash flows) is frequently applied to determine the value of going concern privately-owned companies.						
An approach other than the market-, asset- or income approach is frequently applied to determine the value of going concern privately-owned companies.						

	SD					SA
Statement/questions	**1**	**2**	**3**	**4**	**5**	**6**
Systematic risk is always taken into account with the valuation of going concern privately-owned companies. (**Systematic risk definition** (also referred to as market risk): can be defined as the uncertainty of future returns resulting from the sensitivity of the return on the subject investment to movements in the return on the investment market as a whole).						
Unsystematic risk is always taken into account with the valuation of going concern privately-owned companies. (**Unsystematic risk definition** (also referred to as company-specific risk) can be defined as a function of characteristics of the industry, the individual company, and the type of investment interest. Company-specific risk is unique and specific to each individual company caused by factors such as management depth, profitability, supplier network and clientele, product innovation and law suits).						
The identification of unsystematic risk factors is entirely objective.						
The quantification of unsystematic risk is entirely objective.						
An objective method is utilised to bring unsystematic risk into account when the market approach is used to value a going concern privately-owned company.						

	SD					SA
Statement/questions	**1**	**2**	**3**	**4**	**5**	**6**
An objective method is utilised to bring unsystematic risk into account when the asset approach is used to value a going concern privately-owned company.						
An objective method is utilised to bring unsystematic risk into account when the income approach is used to value a going concern privately-owned company.						
When calculating an appropriate cost of equity for cost of capital to apply to future cash flows in the income approach, the following method is mostly used:						
12.1 Capital asset pricing model (CAPM)						
12.2 Arbitrage pricing theory (APT)						
12.3 Dividend growth model						
12.4 Build-up model						
12.5 Fama-French three-factor model						
12.6 Other						
If “Other”, please specify:						

	SD					SA
Statement/questions	**1**	**2**	**3**	**4**	**5**	**6**
When the income approach is utilised to value a privately-owned company, unsystematic risk is taken into account by:						
13.1 Adjusting the cost of equity						
13.2 Adjusting the forecast cash flows						
13.3 Other						
If “Other”, please specify:						
It is possible to use unsystematic risk as a device to bring the final results of a business valuation of a privately-owned company in line with the client’s objectives because of the subjectivity of unsystematic risk.						

Part B: Descriptive questions

You are kindly requested to answer the following questions.

1. List the factors most commonly affecting the value of privately-owned companies.

2. How are unsystematic risk factors to be considered, identified?

3. Describe how unsystematic risk is quantified and taken into account when the market approach is used to value privately-owned companies.

4. Describe how unsystematic risk is quantified and taken into account when the asset approach is used to value a privately-owned company.

5. Describe how unsystematic risk is quantified and taken into account when the income approach is used to value a privately-owned company.