The use of business valuation methods in Africa, Europe and Australia

Bachelor thesis



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Abstract

This study is performed on behalf of Henk Kroon, Ir. At the University of Twente. It's also part of the bachelor phase of the study Business Administration.

Business valuation is the process of determining the fair market value of a firm. A business valuation is not just for business owners who want to sell their company, but there are more purposes. The various purposes of valuations can be placed into essentially three categories: Tax, Legal, and Sale situations (Advisors, 2013). Because of these many purposes business valuations form an important topic in finance. Because it is an important topic it's interesting to see or these methods differ, or the use of these methods differ, between different regions. Questions that form the basis for this study are: "Which business valuation method is used frequently by valuers in practice where and why? Do business valuers in Africa choose especially for DCF valuation as the valuation method? And why would business valuers in Europe use multiples to value companies? Or, are there no differences in the use of valuation methods, but are there small changes between these 'similar' methods in Africa, Australia and Europe with respect to approaches to certain 'ingredients' of these methods? Is the DCF approach still the most used approach, or are their other approaches gaining more and more popularity?" These are all very interesting questions and the answers can help to get a better understanding of a valuation and its outcome performed in different regions.

To get an answer on these questions this literature study is established. It is a descriptive analysis about the use of different business valuation methods in practice by financial analysts and business valuators in practice. The focus is on Africa, Europe and Australia. A distinction between these regions has been made in this study.

The methodology used as a roadmap for this report is 'Geen problem; Een aanpak voor alle bedrijfskundige vragen en mysteries' by Hans Heerkens and Arnold van Winden. First of all the research question has been formulated: "Which business valuation methods are used in Africa, Europe and Australia and what are the differences between these business valuation methods and the regions their used in?" To answer this question sufficient literature has been searched. Because this is a literature study it is very important to find valuable and reliable literature. To do so the method by Boxem (2011) has been used. An overview of the literature used is given in chapter 4. Due to this literature it was possible to give an answer on the sub questions in the following chapters and finally answer the research question and draw a conclusion.

It turned out that In West, South and Eastern Africa the most used valuation methods are the DCF method and the market approach (using multiples). The most used multiple is the PE ratio in Africa. In Australia the DCF and the market approach (using multiples) are most used too, but in Australia they prefer the EV/EBITDA multiple. In Europe the DCF and relative valuation approaches are equally popular methods and often used in combination. In Europe they prefer the EV/EBITDA too. There were however some differences in the calculations of valuation methods and their values between the different regions. These are presented further in this report.

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1. Introduction

Business valuation is the process of determining the fair market value of a firm. There is a difference between 'fair market value' and 'fair value'. Fair value is the value of a shareholder's pro rata portion of the entire corporation. Generally, minority discounts are not taken into account when determining fair value. Fair market value is the value of shareholder's percentage interest in the corporation, which takes into account minority discounts and discounts for lack of marketability of the shares (Pietrafesa, 2009). First of all it is important to state that value differs from price. "Price is the quantity agreed between the seller and the buyer in the sale of a company. This difference in a specific company's value may be due to a multitude of reasons. For example, a large and technologically highly advanced foreign company wishes to buy a well-known national company in order to gain entry into the local market, using the reputation of the local brand. In this case, the foreign buyer will only value the brand but not the plant, machinery, etc. as it has more advanced assets of its own. However, the seller will give a very high value to its material resources, as they are able to continue producing. From the buyer's viewpoint, the basic aim is to determine the maximum value it should be prepared to pay for what the company it wishes to buy is able to contribute. From the seller's viewpoint, the aim is to ascertain what should be the minimum value at which it should accept the operation. These are the two figures that face each other across the table in a negotiation until a price is finally agreed on, which is usually somewhere between the two extremes. A company may also have different values for different buyers due to economies of scale, economies of scope, or different perceptions about the industry and the company" (Fernández, 2007).

A business valuation is not just for business owners who want to sell their company. "The various purposes of valuations can be placed into essentially three categories: Tax, Legal, and Sale situations. Although this may not address every situation in which a valuation is required, it does include the majority of reasons why a business owner would require a business valuation" (Advisors, 2013). The Indiana Business Advisors (2013) states that valuations for tax purposes are the most frequent need of business owners. Tax related appraisals can be segregated into: Estate tax, Gift tax, Buy-Sell agreements, allocation of purchase price, asset allocation, ESOPS, Reorganizations and tax deductible contributions. Legal-related valuations can be segregated into: Divorce, Bankruptcy, Shareholder Dispute, and Economic damages. And last, but not least, there are of course valuations executed for sale purposes. It is clear that business valuations are often used for different purposes and therefore business valuations capture an important role in the financial market. In the figure below the volume of worldwide mergers and acquisitions from 1995-2012 are shown.



Volume of worldwide mergers and acquisitions from 1995 to 2012 (in billion U.S. dollars)

Business valuation is a key concept in mergers and acquisitions and because it is useful for more than only M&A, we can conclude it is a very important topic in finance. Valuation can even be 'considered the heart of finance' (Damodaran A., Valuation: Approaches and metrics: A survey of the theory and evidence, 2006).

According to Damodaran (2012) all valuations are biased and there is no such thing as one correct value of a company. You could also state that there are more correct values for one company. It depends on multiple factors and choices why people come up with a certain value. Tack (2011) states that it is generally best to consider all types of valuation approaches and apply as many as are relevant to the particular case. This is because each approach has biases, and the best way to determine overall value is to use a number of relevant approaches and find the central tendency. Because business valuations are biased and there is no such thing as one correct value, it is interesting to study the use of business valuation methods around the world and to see which methods are used most frequent, why, and how these methods differ, between Africa, Europe and Australia. When people are in possession of this knowledge it will be easier to understand or perform a valuation and its outcome in a certain area or market.

In the next chapter the problem statement will be outlined to define what this literature study is about.

2. Problem statement

The purpose of this literature study is to do a descriptive analysis about the use of different business valuation methods in practice by financial analysts and business valuators. The focus will be on Africa, Europe and Australia and a distinction between these continents will be made.

According to the American society of appraisers (2009) all business valuation methods can be categorized within one of the three following categories:

- Market approach: For example: Valuation using multiples.
- Income approach: For example: DCF method and the Discounted future earnings method.
- Asset approach: For example: Adjusted book value method.

Luehrman (1997) states that most companies use a mix of approaches to estimate value. He also states that in the 1970s discounted cash flow analysis (DCF) emerged as best practice for valuing corporations. With today's improved computers and data the DCF would work better than ever, but other valuation methodologies improve through this way too. "Valuation practices are changing already. The question is not whether companies will adapt, but when. Consulting and professional firms are actively studying and modifying their approaches to valuation" (Luehrman, 1997). He also states that:

- Companies will routinely use more than one formal valuation methodology.
- DCF will remain the foundation of most formal valuation analyses. But WACC will be displaced as the DCF methodology of choice by adjusted-present value or something very much like it.

Valuation theorists have studied the theoretical properties of several valuation frameworks, and few authors use these theoretical properties to produce normative arguments in favor of particular frameworks. Penman (2001) advocates residual income valuation (RIV), in preference to DCF. Copeland et al. (2000) recommended using either the DCF model or the RIV model. These authors assert that DCF is most widely used in practice, but that RIV is gaining popularity (Efthimios G. Demirakos, Norman C. Strong, Martin walker , 2004).

Which business valuation method is used frequently by valuers in practice where and why? Do business valuers in Africa choose especially for DCF valuation as the valuation method? And why would business valuers in Europe use multiples to value companies? Or, are there no differences in the use of valuation methods, but are there small changes between these 'similar' methods in Africa, Australia and Europe with respect to approaches to certain 'ingredients' of these methods? Is the DCF approach still the most used approach, or are their other approaches gaining more and more popularity? These are all very interesting questions and the answers can help to get a better understanding of a valuation and its outcome performed in these regions.

Regarding to this problem statement the following research question is formulated:

"Which business valuation methods are used in Africa, Europe and Australia and what are the differences between these business valuation methods and the regions their used in?"

To be clear, the definition of the terms used in this problem statement are listed below:

- *Business:* A commercial, industrial, service or investment entity (or a combination thereof) pursuing an economic activity (BVResources, 2010).
- *Valuation methods:* Within approaches, a specific way to determine value (BVResources, 2010).

- *Market approach:* A general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold (Appraisers, 2009).
- *Income approach:* A general way of determining a value indication of business, business ownership interest, security, or intangible asset using one or more methods that convert anticipated economic benefits into a present single amount (Appraisers, 2009).
- Asset approach: A general way of determining a value indication of a business, business ownership interest, security or intangible asset using one or more methods based on the value of the assets net of liabilities (Appraisers, 2009).
- *Valuation:* The act or process of determining the value of a business, business ownership interest, security, or intangible assets (BVResources, 2010).

In order to give a sufficient answer on the research question four sub question have been formulated:

- What are the different business valuation methods and what are the advantages and disadvantages of each method?
- Which business valuation methods are used in Africa and what are their characteristics?
- Which business valuation methods are used in Australia and what are their characteristics?
- Which business valuation methods are used in Europe and what are their characteristics?

3. Method

'Geen problem; Een aanpak voor alle bedrijfskundige vragen en mysteries' by Hans Heerkens and Arnold van Winden (2012) has been used as a roadmap for this literature study. In short, they say a literature study should exist out of the following steps:

- Development of a research goal
- Development of a problem statement
- Development of research questions and sub questions
- Development of a research design
- Operationalization
- Measurements
- Processing data
- Draw conclusions (answer problem statement)

Because this is a literature study, there won't be contact with the research group. For the search of literature the 'opzet systematisch informatie zoeken' of Boxem (2010) has been used. Boxem states that suitable sources to find information should be selected first. Sources like the website of the library of the University of Twente have been used, but also Google Scholar, books and Scopus offered a lot of information. Last but not least journals like for example the 'journal of finance' have been used to search for reliable information.

Second, Boxem (2010) states that you should select terms out of your research question and use them by finding appropriate literature. Per term as many as possible similar terms should be created. This way you will expand your search results and come up with more useful literature.

In this study the selected terms out of the research question are: 'business valuation methods', 'business valuation', 'business valuation differences', 'business valuation Africa', 'business valuation Europe' and 'business valuation Australia'.

It has been expanded with the terms: 'Company valuation', 'company appraisal', 'business appraisal', 'valuation approaches', 'company valuation approaches', 'company valuation perspectives'. Also other terms like 'valuations in Africa, Australia and Europe' has been used. There are too many to write down, but almost every combination between the terms described above have been made for searching good, reliable and valid information.

After screening the selected literature, a definitive selection has been made. The selection criteria were:

- Study should be about the use of business valuation in Africa, Europe or Australia.
- Study should be about the *use* of business valuations in emerging or developed markets.
- Should cover any kind of information about the use of a valuation method.
- Should describe or explain a valuation method and its characteristics.

Structure of the report

As described in the beginning of this chapter, the roadmap for this study is 'Een aanpak voor alle bedrijfskundige vragen en mysteries' by 'Hans Heerkens and Arnold van Winden'. First of all it is important to find good, useful, reliable and valuable literature. Using the technique of Boxem (2010) a selection of literature has been made. A summary of articles used for this report will therefore be created in chapter 4. Because it is important to have an understanding of the different business valuation methods a short summary of the most important methods for this report based on the income, asset and market approach will be shown in chapter 5. In this chapter sub question one will be answered. In chapter 6 the use of business valuations in Africa will be outlined and sub question two will be answered. In chapter 7 and 8 the use of business valuation methods in respectively

Australia and Europe will be analyzed and sub questions three and four will be answered. Finally in chapter 9 a conclusion will be drawn and the research question will be answered.

4. Literature

The literature used for this research is shortly presented in this chapter. The articles will be named by title and authors and a short summary will describe what each article is about. Using the theory of Boxem (2010) the articles below were found:

Valuing companies in emerging markets – the case of Nigeria. Juanty Edobor AIDAMENBOR & Chikanayo MGBEMENA 2008.

Provides an insight into the research area, which is valuation of companies in emerging markets. This research is focused on the valuation of companies in Nigeria as an emerging market. It investigates the current valuation techniques in Nigeria by examining the methods that are used by corporations, financial advisors, banks and individual investors for valuing companies operating within the Nigerian emerging economy. It also draws the specific issues and challenges encountered when applying traditional valuation techniques and how valuation professionals at the Nigerian domestic level cater for this issues. Which valuation approaches are popular in Nigeria? What are the major deviations from the theoretical approaches and what is the 'best practice' that can be applied to this market are the basic hypotheses of this research (Juanty Ebodor Aidamenbor, Chikanayo Mgbemena, 2008).

Valuation standards – A comparison of four European countries. C. McParland, A. Adair, S. McGreal 2002.

This paper analyses the potential for harmonized standards in Europe by comparing prevailing national practices across selected European countries. In this respect, the paper contributes to the existing debate on this subject in a number of ways. The knowledge base is enhanced through a consolidation of the pertinent arguments relating to the development of valuation standards and methodology in four case study countries, namely Sweden, The Netherlands, Germany and France, concentrating upon the importance of definitions implanted in the valuation process. (Clare McParland, Alastair Adair, Stanley McGreal, 2002).

Valuation practices survey 2013 corporate finance. KPMG 2013.

This valuation practices survey gives detailed insight into the methodologies adopted by Australian financial analysts and corporate financiers and how they are applied. This valuation practices survey is a unique reference point for corporate financiers, infrastructure funds and consulting performing valuations in the Australian market. With 23 market leading participants across a range of industries, the feedback which is received captures significant views, reflecting the current status quo around valuation methodology in the Australian market. This survey results create a meaningful benchmark for current practice and, hopefully, a platform that can build on to shape applications of the methodologies into the future (Denie van Aswegen, Ian Jedlin, 2013).

Valuation in emerging markets. M. James, and T.M. Koller 2000

As the economies of the world globalize and capital becomes more mobile, valuation is gaining importance in emerging markets – for privatization, joint ventures, mergers and acquisitions, restructuring, and just for the basic task of running businesses to create value. Yet valuation is much more difficult in these environments, because buyers and sellers face greater risk and obstacles than they do in developed markets. Few specifics about valuing in emerging markets will be shown (M. James, 2002).

Valuation of Chinese companies; The perspective of the private equity industry. Volker Potthof and Alexander von Preysing 2012.

This study contributes to more transparency and better understanding of the Chinese private equity and venture capital industry. China remains one of the most important and promising markets for investors around the globe. In this study, at first, interviews are conducted. On the base of this interviews the key aspects of the valuation of target companies are discussed. The second part provides a detailed analysis of private equity and venture capital investments in China. The valuation approaches will be analyzed separately and the pros and cons will be shown (V. Potthof, 2012).

The gap between theory and practice firm valuation: Survey of European valuation experts. F. Bancel, 2014.

In this survey 356 valuation experts across 10 European countries with CFA or equivalent designation have been questioned to gain insights into their valuation practices. How to value a firm (or its assets and equity) is at the heart of financing and investment decisions. This study focuses on a comprehensive survey where all valuations aspects are kept in mind. The researcher in this study are more interested in finding out how they estimate key parameters in valuation models, instead of following the financial theory only. They also focusses on question like: 'What should be the risk-free rate in countries with zero or negative real T-bill rate?' There is also a strong focus on market risk premiums (F. Bancel, U. Mittoo, 2014).

An African perspective – Valuation methodology survey 2012. J. Groenewald, M. Human, F. Gumel, V. Agarwal 2012.

Africa continues to receive more and more interest as an investment destination from investors looking to emerging markets to access their growth potential or from investors looking to secure the natural resources that the continent offers. In this survey several aspects are explained. For example, the reasons for increased investor interested, the industries in Africa that are attracting interest from potential investors, the level of cross-border and intra-African interest in the country, general deals activity in African markets, risk perceptions of participants to African markets and the challenges faced in performing valuations in African markets. Areas covered in this article include: Frequently used valuation methodologies, the calculation of cost of capital, preferred market multiples and discount and premiums (Groenewald et al, 2012). A distinction will be made between Southern-Africa, West-Africa and East-Africa.

Valuation using multiples. How do analysts reach their conclusion? P. Fernandez 2001

This paper focuses on equity valuation using multiples. Our basic conclusion is that multiples nearly always have broad dispersion, which is why valuations performed using multiples may be highly debatable. In this article the 14 most popular multiples will be revised and they will deal with the problem of using multiples for valuation. 1200 multiples from 175 companies illustrate the dispersion of multiples of European utilities, English utilities, European constructors, hotel companies, telecommunications, banks and internet companies (Fernandez, Valuation using multiples. How do analysts reach their conclusion?, 2001).

Damodaran on Valuation: Security Analysis for Investment and Corporate Finance chapter 9. A. Damodaran, 2011.

"While equity multiples focus on the value of equity, enterprise and firm value multiples are built around valuing the firm or its operating assets. Just as we gain more flexibility in dealing with changing and divergent financial leverage when we go from equity to firm valuation in discounted cash flow valuation, firm value multiples are easier to work with than equity multiples, when comparing companies with different debt ratios. In this chapter, we will begin by defining firm and enterprise value multiples and then examine how they are distributed across companies. We will follow up by evaluating the variables that determine each multiple and how changes in these variables affect the multiple. We will close the chapter by looking at applications of enterprise value multiples in a variety of contexts" (Damodaran A., Value multiples, 2011).

Multiples and their valuation accuracy in European equity markets. A. Schreiner, K. Spremann, 2007. Accounting-based market multiples are commonly applied to corporate valuation. These multiples are ubiquitous in analysts' reports and investment bankers' fairness opinions. This paper investigates the empirical accuracy of the Multiples valuation method using a broad European dataset. They explore the properties of various types of multiples (A. Schreiner, K. Spremann, 2007).

A South African perspective on the multiples of choice in the valuation of ordinary shareholders' equity: From theory to practice. W.S. Nel, 2010.

"The contribution of this study is to facilitate the convergence of, firstly, academic thinking regarding the use of multiples, and, secondly, valuation practices between academia and investment practitioners. To this end, the research results will present academic consensus regarding the use of multiples and highlight differences between academia and investment practitioners in this regard. Should the results reveal that a gap indeed exists; this would highlight the need for academia to perhaps reconsider their syllabus. Similarly, it could mean that there are multiples that are advocated by academia that are not applied in practice. In this case it may be necessary for investment practitioners to reconsider the multiples that they are using in practice. Either way, should such a gap exist, this may indicate that there is a need for academia and investment practitioners to converge their thinking regarding the use of multiples. The research also contributes to the preparation of students for the marketplace. If there is a gap between theory and practice, the nature of the gap should be investigated and resolved in order to better align academia with the real world" (Nel, 2010).

The little book of valuation. Aswath Damodaran 2010.

In this book written by Damodaran different business valuation methods are described in a, according to Damodaran, simple way so everyone is able to understand the different approaches. Valuations models in their full form are filled with details. In fact Damodaran has written other book for practitioners who do valuation for a living. So this book explains the different valuation methods for dummies. According to Damodaran not all details in valuation are very important. In fact, valuations in practice often rest on one or two key drivers (Damodaran A. , The little book of valuation, 2010).

Valuation multiples: a Primer. P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001.

This document is intended to be a reference manual for the calculation of commonly used valuation multiples. They explain how multiples are calculated and discuss the different variations that can be employed. They also discuss the differences between equity and enterprise multiples, show how target of 'fair' multiples can be derived from underlying value drivers, and discuss the ways multiples can be used in valuation. For each multiple, they show its calculation and derivation from underlying DCF fundamentals, discuss its strengths and weaknesses, and suggest appropriate use.

Dividend valuation models. P. Peterson Drake.

When an investor buys a share or common stock, it is reasonable to expect that what an investor is willing to pay for the share reflects what he expects to receive from it. What he expects to receive are future cash flows in the form of dividends and the value of stock when it is sold. The value of a share of stock should be equal to the present value of all the future cash flows you expect to receive from that share. Since common stock never matures, today's value is the present value of an infinite stream of cash flows. And also, common stock dividends are not fixed, as in the case of preferred

stock. Not knowing the amount of dividends – or even if there will be future dividends – makes it difficult to determine the value of common stock (Drake).

Another look at equity and enterprise valuation based on multiples. M. Deng, P. Easton, J. Yeo, 2009. In this article the authors examine errors in enterprise and equity valuation based on multiples of firm fundamentals. When compared with other studies of the usefulness of multiples, this sample is more representative of the population of firms (firms with losses, smaller start-up firms, etc.). The focus is on multiples of current financial variables. They demonstrate how harmonic means can be calculated when different multiples are combined. This enables the authors to examine the change in valuation errors when a combination of multiples is used instead of just a single multiple (M. Deng, P. Easton, J. Yeo, 2009).

Residual income valuation: A new approach based on the Value-to-book multiple. K. Kim, C. Lee, S. Tiras, 2009.

This paper presents a new way to implement the RIM that improves the estimates of fundamental equity value of the firm over those of existing valuation models. According to the authors, RIM can be expressed as a form of the Value-to-book ratio (K. Kim, C. Lee, S. Tiras, 2009).

Extended Dividend, Cash flow and residual income valuation models – Accounting for deviations from ideal conditions. D. Hess, C. Homburg, M. Lorenz, S. Sievers, 2008.

Standard equity valuation approaches (i.e. DDM, DCF and RIM) are based on restrictive assumptions regarding the availability and quality of payoff data. Therefore, the authors demonstrate how to extend the standard approaches to be applicable under less than the ideal conditions. Empirically, the extended models yield considerably smaller valuation errors, suggesting that markets are aware of the standard models' deficiencies. Moreover, obtaining identical value estimates across the extended models, the authors' approach provides a benchmark implementation. This allows the authors to quantify the magnitude of errors resulting from individual valuations of ideal conditions (Dieter Hess, Carsten Homburg, Michael Lorenz, Soenke Sievers, 2008).

Valuation approaches and metrics: A survey of theory and evidence. A. Damodaran, 2006. Valuation lies at the heart of much of what we do in finance. In this paper, Damodaran considers the theory and evidence on valuation approaches. It starts with surveying the literature on DCF valuation models, ranging from the first mentions of the DDM to value stocks to the use of excess return models in more recent years. In the second part Damodaran examines relative valuation approaches, in particular the use of multiples (Damodaran 2006).

Waardering van ondernemingen. T. Groessens, 2010.

A report which explains the different valuation methods and approaches.

Company valuation methods. P. Fernandez, 2013.

In this article Fernandez describes the four main groups comprising the most widely used company valuation methods: balance-sheet methods, income statement-based methods, mixed methods, and cash flow discounting-based methods. Fernandez will also present a real-life example to illustrate the valuation of a company as the sum of the value of different businesses, which is usually called the break-up value (Fernandez, 2013).

BVR's glossary of business valuation terms, 2010. Used to explain terms used in this paper.

Estimating capitalization rates for the excess earnings method using publicly traded comparables. H. Howe, E. Lewis, J. Lippitt, 1999.

'This paper presents a convenient method for identifying appropriate capitalization rates to use with the excess earnings method. The approach of Howe et al. allows the valuator to support his or her analysis with the use of objective market information' (H. Howe, E. Lewis, J. Lippitt, 1999). This article has only been used for explaining the excess earnings method, despite of all the information further available in this paper.

Cash Flow is King? Comparing Valuations Based on Cash Flow versus Earnings Multiples. J. Liu, D. Nissim, J. Thomas, 2006.

'Contrary to the common perception that operating cash flows are better than accounting earnings at explaining equity valuations, recent studies suggest that valuations derived from industry multiples based on reported earnings are closer to traded prices than those based on reported operating cash flows. Liu et al. extend those analyses to determine if the balance tilts in favor of cash flows when Liu et al. consider a) forecasts rather than reported numbers, b) dividends rather than operating cash flows, c) individual industries rather than all industries combined, and d) firms in other markets beyond the U.S. The main finding of Liu et al. is that in all venues cash flows (both operating and dividends) are dominated by earnings. The results imply that those seeking quick valuations should use multiples based on forecasted earnings, since they are remarkably close to traded prices' (J. Liu, J. Thomas, D. Nissim, 2006).

Cost-of-capital estimation and capital-budgeting practice in Australia. G. Truong, G. Partington, M. Peat, 2008.

A number of surveys have been summarized in this paper. It focusses on the use of the CAPM model in practice in Australia.

Using the theory of Boxem (2012) the articles summarized above are the articles that will be used as main source of information for this literature study.

5. Different business valuation methods; advantages and disadvantages

As summarized in the introduction, the Appraisers (2009) stated that the three valuation approaches are:

- Asset approach
- Market approach
- Income approach

Each approach has several valuation methods which can help to determine the value of a business. In this section the most used and known methods according to the literature screened in the section before will shortly be described, because it is necessary to understand at least the basics of these methods.

5.1 Asset approach

5.1.1 Net asset method (book value method)

A company's book value, or net worth, is the value of the shareholders' equity stated in the balance sheet (capital and reserves). This quantity is also the difference between total assets and liabilities, that is, the surplus of the company's total goods and rights over its total debts with third parties (Fernández, 2007). According to Tack (2011) the net asset approach is generally the easiest to apply. Table 1 (Fernández, 2007) presents an easy example to illustrate how the net asset method basically works.

Table 1. Alfa Inc. Official balance sheet (million dollars)

ASSETS		LIABILITIES		
Cash	5	Accounts payable	40	
Accounts receivable	10	Bank debt	10	
Inventories	45	Long-term debt	30	
Fixed assets	100	Shareholders' equity	80	
Total assets	160	Total liabilities	160	(Fernández, 2007)

'Let's assume this is the balance sheet of a random company. The shares book value (capital plus reserves) is 80 million dollars. It can also be calculated as the difference between total assets and liabilities. Both will come up with 80 million dollars' (Fernández, 2007). This method comes up with failings when it comes to really valuing the company in today's market terms. For example, buildings purchased 50 years ago doesn't carry the same value now as the value on your balance sheet. Probably, they are worth more now than they were at that time. That brings us to the next method.

5.1.2 Adjusted net asset method (adjusted book value method, asset accumulation method)

'This method seeks to overcome the shortcomings that appear when purely accounting criteria are applied in the valuation' (Fernández, 2007). The value of assets and liabilities will match the fair market value and the adjusted net value/worth is obtained. Gianfranco (2009) states that items that may be adjusted include the following:

- Machinery and equipment, which are reflected on the balance sheet at their original cost and not at a fair market value.
- Inventory, which are reflected on the balance sheet at their original cost and not fair market value.

- Assets not on the balance sheet, such as: Goodwill, going concern, work in progress, knowhow, trade name or brand name and patents.
- Insurance proceeds.

The agreement between the buyer and the seller must explain the items they will adjust when using the adjusted net asset method. Table 2 (Fernandez, 2007) shows an adjusted book value of 135. So adjusting can make a huge difference.

Table 2. Alfa Inc. Adjusted balance sheet. (Million dollars)

ASSETS		LIABILITIES		
Cash	5	Accounts payable	40	
Accounts receivable	8	Bank debt	10	
Inventories	52	Long-term debt	30	
Fixed assets	150	Capital and reserves	135	
Total assets	215	Total liabilities	215	(Fernández, 2007)

There are two different ways with different purposes for using the adjusted net asset valuation method. You could value each of the assets separately, without respect to their value in an enterprise as a whole. This method is often used by liquidation. If the concern is still 'going' the assets are valued as a whole and part of an enterprise. This could result in different values.

5.1.3 Replacement value

This represents the value of the investment that should be made to create an identical company.

5.1.4 Summary

Table 3 below summarizes the advantages and disadvantages of the different business valuation methods in the asset approach described in this chapter.

Asset approach					
	Advantage(s)	Disadvantage(s)			
Net asset approach (book	Easy to collect data and to	Many assets (such as			
value method)	calculate a value.	equipment) are depreciated on			
		the accounting books and may			
		have minimal book value, even			
		though they have significant			
		market value and contribute			
		significantly to earnings			
		(Palmiter, Law & Valuation ;			
		Financial valuation in legal			
		context, 2007).			
Adjusted net asset method	Closer towards fair market	This method fails to account			
(adjusted book value method,	value than net asset approach	for intangible assets			
asset accumulation method)	because value is adjusted.	(reputation, quality, service) or			
		contingent liabilities. In			
		addition, it does not reflect			
		discounts that may be			
		appropriate if the valuation is			
		of a minority interest			
		(Palmiter, Law & Valuation ;			
		Financial valuation in legal			
		context, 2007).			
Replacement value method	Buyer will pay no more for the	Comes up with a higher value			
	target company than it would	than the book value method,			
	cost to obtain a comparable	because depreciation is not			
	set of substitute assets	taking into account. Most of			
	(Resource centre, 2011).	the cases difficult to exactly			
		replace a company.			

Table 3: 'Summary Advantages and disadvantages methods in Asset approach'.

5.2 Market approach

The market approach is a general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold (Appraisers, 2009). People often think this is a very easy approach to use. 'Generally, this approach is difficult to use for small, closely held businesses, because guideline companies are scarce and reliable information is difficult, if not impossible, to obtain. Great care must be applied in the use of this approach, because the probability of identifying other businesses with the same products, same size, same financial condition, and the same capital structure, is somewhat like trying to find a needle in a haystack' (Dukes, 2006). It is about how people have valued other comparable companies. There are many different ways about how to calculate the value of a business using the market approach. Palmiter (2004) states that different aspects of a company's financial performance serve as a surrogate for the business's overall value or price. For many investors, who view earnings as a good indicator of future returns, price is set on the basis of earnings. For investors, the assets of

the company, revenues or even book value provide a better measure of future returns. A valuation multiple is intended to be a reference manual for the calculation of commonly used valuation multiples (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001). We will discuss the different multiples below. A distinction will be made between equity valuation multiples and enterprise valuation multiples. Table 3 shows the advantages of both valuation multiples according to Suozzo et al. (2001).

Enterprise value multiples		Equity multiples	
•	Allow the user to focus on statistics where accounting policy differences can be minimised	1	More relevant to equity valuation More reliable (estimating enterprise value
•	Avoid the influence of capital structure on equity value multiples		involves more subjectivity, especially in the valuation of non-core assets)
•	More comprehensive (apply to the entire enterprise)		
•	Wider range of multiples possible		
•	Easier to apply to cash flow		
•	Enables the user to evolude non-core assets		

Table 4: Enterprise Value versus Equity Multiples

(P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001)

5.2.1 Equity valuation multiples

Price/earnings ratio (market value per share/earnings per share):

'The price-earnings ratio is a multiplier that expresses the amount investors will pay for a dollar of current earnings. It can be used to value a company (often privately held) by identifying public companies in the same or similar lines of business and deriving a multiple that relates the public company's market price to its earnings' (Palmiter, Law & Valuation; Financial valuation in legal contexts, 2004). It is the price per share/attributable earnings per share (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001). This multiple is quite popular, because information about earnings, both historical and forecast, are easy available. It is not possible to use this multiple if the earnings of a company are negative. Another serious weakness is that it does not explicitly take into account balance sheet risk (Suozzo et al. 2001).

Price/Cash Earnings (market value per share/cash flow per share):

A low ratio may indicate that a stock is undervalued, while a high ratio may indicate overvaluation. Cash earnings are usually defined as simply net profit plus depreciation & amortization. This is a rough and frequently misleading measure of cash flow, as it ignores the many other factors that affect cash flow, including changes in net debt, changes in working capital and so forth (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001).

Price/book value (price per share/book value per share):

The price/book value ratio is the ratio of the market value of equity to the book value of equity. It is the market value of equity/book value of equity (Damodaran 2010). It is a very useful measure if tangible assets are the source of value creation. This ratio is widely used in valuing financials,

especially banks, which squeeze a small spread from a large base of assets (loans) and multiply that spread by utilizing high levels of leverage (deposits). Return on equity is therefore a major criteria in valuing bank stocks (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001).

Price/Earnings Growth (PE ratio/short-term earnings growth rate):

'Has become a popular means of combining prices and forecasts of earnings and earnings growth into a ratio that is used as a basis for stock recommendations (implicitly for comparing expected rates of return). Proponents of the PEG ratio argue that this ratio takes account of differences in short-run earnings growth and, thus, it provides a ranking that is superior to the ranking based on PE ratios' (Easton, 2004). This method could best be used by companies with growth rates close to market.

Dividend yield (annual dividend per share/Stock price per share):

Dividends are the cashflows shareholders. The dividend yield is the rate of capitalization of cash paid out to investors, and can be compared to the market's required yield to determine how a stock should be priced (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001).

5.2.2 Enterprise valuation multiples

Enterprise value = Market value of Equity + Market value of Debt – Cash Holdings (Damodaran A., 2012).



⁽P. Suozzo, S. Cooper, G.

Sutherland, Z. Deng, 2001)

EV/Sales (Enterprise value/Sales): Compares enterprise value of the business with its sales. The meaning of this multiple is that it tries to explain how many euros of business value are generated by one euro of yearly sales. The higher the ratio, the more expensive the company probably will be. 'EV/Sales is useful when accounting differences among comparables are extreme, or where profit or cash flow figures are unrepresentative or negative. It is frequently used for unprofitable or cyclical firms where there are problems in measuring profit or cash flow further down the P&L. As a proxy for cash flow, sales has the virtue of being stable and relatively unaffected by accounting policies (Suozzo et al. 2001).

EV/EBITDA (Enterprise value/Earnings before interest, tax, depreciation and amortization) According to Suozzo et al. (2001) EBITDA is a proxy for operating cash flow, and EV/EBITDA – probably the most popular EV multiple – is a price to cash flow multiple. Its popularity stems from the fact that it is unaffected by differences in depreciation policy and appears unaffected by differences in capital structure. This multiple can't be used with negative cashflows.

EV/EBIT (Enterprise value/core earnings before goodwill amortization (but after amortization of other intangibles), associates, interest and taxes (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001). It is almost similar to P/E ratio, but the EV/EBIT does not ignore debt and therefore it gives a measure of enterprise value. This method could be used ideally for company with small depreciation and amortization expenses. EBIT does calculate depreciation and amortization as real expenses.

EV/NOPLAT (Enterprise value/Normal operating profit less adjusted tax)

'NOPLAT is post-tax EBIT. However, as commonly used, NOPLAT (or NOPAT) refers to EBI after adjustments to accounting profit to better reflect economic profit. NOPAT is more sophisticated and complete form of EBIT that allows for differences in tax efficiency and effective tax rates. If the company were all equity-financed, NOPLAT would equal earnings' (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001).

5.2.3 Disadvantages using multiples

The first and main disadvantage of valuation using multiples is that it is very difficult to compare companies. Multiples are used to make comparisons. These comparisons are based upon 'identical' companies, but no company is exactly identical. Determining the right multiple to use for a given company can be highly subjective, because truly comparable companies rarely exist (Havnaer, 2012). Choosing the right company to compare with is a very difficult process, because it is difficult to get access to all the essential information needed. Suozzo et al. (2001) states that comparing multiples is an exacting art form, because there are so many reasons that multiples can differ, not all of which relate to true differences in value.

Another disadvantage is that valuation using multiples is very static. It represents to a point in time, but fails to capture the dynamic and ever-evolving nature of business and competition (P. Suozzo, S. Cooper, G. Sutherland, Z. Deng, 2001).

The last disadvantage we will discuss is the fact that it assumes the market is correctly valuing the peer group. This assumption can lead to valuation errors if the entire peer group is overvalued or undervalued (Havnaer, 2012).

5.2.4 Advantages using multiples

The greatest advantage of valuation using multiples is its simplicity. Multiples are very easy to apply and it does not require an enormous amount of math skills. Furthermore, Suozzo et al. (2001) states that valuation is about judgment. Multiples provide a framework for making value judgments. When used properly, multiples are robust tools that can provide useful information about relative value.

5.2.5 Summary

Table 5 below summarizes the advantages and disadvantages of the different multiples. The main disadvantage of valuation using multiples is that it is difficult to find 'identical' or comparable companies, that applies for all multiples, but in the table below some specific advantages and disadvantages per multiple will be presented.

 Table 5: 'Summary findings Suozzo et al (2001):

Market Approach						
	Advantage(s)	Disadvantage(s)				
Price/earnings ratio (market value per share/earnings per share)	Information about earnings, both historical and forecast, are easy available.	It is not possible to use this multiple if the earnings of a company are negative. Another serious weakness is that it does not explicitly take into account balance sheet risk.				
Price/Cash Earnings (market value per share/cash flow per share)	Information is easy available.	Price to cash earnings should be used as a supplement to other measures, particularly in conjunction with multiples that are unadjusted for accounting differences between comparables, where those differences are material.				
Price/book value (price per share/ book value per share)	Price to book value is a useful measure where tangible assets are the source of value generation.	Book values are not directly comparable where accounting policies cause them to deviate markedly from economic substance, nor are they directly comparable among companies with differing accounting policies.				
Price/Earnings Growth (PE ratio/short-term earnings growth rate)	Notably, at higher rates of growth PEG ratios are stable and less sensitive to changes in growth than PE ratios (see chart below), which makes PEG ratios more suitable for valuing high-growth companies – for which they are typically used.	As growth rates decline, variation in PEG ratios increases, making them less useful.				
Dividend yield (annual dividend per share/Stock price per share)	Dividends are the ultimate 'in pocket' cash flow to investors. They are useful for estimating a floor value for a stock, since both dividends and market yields can be observed.	Nominal dividend yields are not comparable across different tax jurisdictions. When valuing a stock, the sustainability of the dividend cash flow must also be considered.				
value/Sales	accounting differences among	directly compared across				

	comparables are extreme, or	businesses where operating
	where profit or cash flow	margins differ.
	figures are unrepresentative or	
	negative.	
EV/EBITDA (Enterprise	It is unaffected by differences	EBITDA is a pretax measure,
value/Earnings before	in depreciation policy and	whereas management can
interest, tax, depreciation and	appears unaffected by	potentially add value through
amortization)	differences in capital structure.	skilled tax management.
EV/EBIT (Enterprise	EBIT is a better measure of	EBIT is, however, affected by
value/core earnings before	'free' (post-maintenance	accounting policy differences
goodwill amortization (but	capital spending) cash flow	for depreciation.
after amortization of other	than EBITDA, and is more	
intangibles), associates,	comparable where capital	
interest and taxes	intensities differ.	
EV/NOPLAT (Enterprise	NOPLAT is a more	The calculation of NOPLAT
value/Normal operating profit	sophisticated and complete	introduces a measure of
less adjusted tax)	form of EBIT that allows for	subjectivity. This makes it
	differences in tax efficiency	harder to compare to other
	and effective tax rates.	parties' calculations of
		NOPLAT.

5.3 Income approach

The income approach focusses on the value of a company's income streams. Whether derived from historic results or future forecasts, the value of a business is based on the present worth today of an anticipated series of future income streams (Pratt, 2001). The two best-known methods in this category are the DCF method and the capitalization of earnings method. These will be shortly summarized now.

5.3.1 Discounted cash flow method (DCF method)

Steiger (2008) states that the DCF method values the company on basis of the NPV (net present value) of its future free cash flows which are discounted by an appropriate discount rate. Brealey, Myers & Allen (2006) refer to free cash flows as 'cash not required for operations or reinvestment'. Calculation using DCF could be for equity valuation and for firm valuation. These two approaches are free cash flow to the firm (FCFF) and free cash flow to equity (FCFE). The difference between FCFE and FCFF is that FCFE uses figures from which interest payments have already been deducted and FCFF uses figures that are calculated before any interest payments are paid out to debt holders. The FCFF is calculated using EBIT resulting in NOPAT (Steiger, 2008). For calculating a discount rate the WACC is used in the case of firm valuation:

 $WACC = \frac{Equity}{Debt + Equity} * Cost of Equity + \frac{Debt}{Debt + Equity} * Cost of Debt$

And the cost of equity is used in case of equity firm valuation.

$$COE = r_f + \beta (r_m - r_f)$$

The CAPM model calculates the return that investors require for bearing the risk of holding a share of a particular company. For calculating the cost of equity, you need a beta and a risk-free rate. The last

step in doing DCF valuation is calculating a terminal value. This terminal value is the NPV of all future cash flows that accrue after the time period that is covered by the scenario analysis.

$$TV = \sum_{n=1}^{\infty} \frac{FCF_{TV} * (1+g)^n}{(1+r)^n} = \frac{FCF_{TV}(1+g)}{r-g}$$

Due to the effect that it is very difficult to estimate precise figures showing how a company will develop over a long period of time, the terminal value is based on average growth expectations, which are easier to predict (Steiger, 2008).

5.3.2 Capitalization of earnings method

'The capitalization of income method looks to the actual historic results of the company as an indicator of its result in the future. This technique typically involves dividing a company's annual historic earnings by a 'capitalization rate' which incorporates risk (discount rate) and a factor for future annual growth' (Pratt, 2001).

5.3.3 Summary

Table 6 below shows a short summary of the advantages and disadvantages of the income approach. Table 6: 'Summary findings income approach by Havnaer (2012), Steiger (2008) and Damodaran (2012)'.

Income Approach					
	Advantage(s)	Disadvantage(s)			
DCF method	Since DCF valuation, done	More complex than valuation			
	right, is based upon an asset's	using multiples. Another			
	fundamentals, it should be less	criticism of DCF is that the			
	exposed to market moods and	terminal value comprises far			
	perceptions (Damodaran A.,	too much of a company's value			
	2012).	(Havnaer, 2012).			
Capitalization of earnings	Since the capitalization of	Difficult to find a reliable			
method	earnings method bases its	capitalization rate.			
	earnings value calculations on				
	changing market conditions,				
	any estimates on a company's				
	stock value correspond with				
	the economic factors that				
	influence the company's				
	particular industry.				

5.4 Equity based valuation approaches

5.4.1 Residual income method/EVA (Economic value added)

'In the past decade, the residual income approach and the DCF approach have received considerable attention. The residual income valuation (RIV) which is also known as residual income method or residual income model (RIM) is an approach to or method of equity valuation which properly accounts for the cost of equity capital. The word 'residual' refers to any opportunity costs in excess which is measured as compared to the book value of the shareholders' equity and the income that a firm generates after accounting for the true cost of capital is then the residual income. This approach is largely similar to the MVA/EVA based approach having similar advantages and logic' (ReadyRatios, 2011). This method is very useful when the company does not pay dividends. Dodd and Chen (1996)

found that residual income, which is similar to EVA, expect for the adjustments required to deal with the so-called accrual accounting distortions, gave results almost identical to those achieved using EVA.

(RIM)
$$V_{t} = bv_{t} + \sum_{\tau=1}^{\infty} \frac{x_{t+\tau}^{a}}{\left(1+r_{E}\right)^{\tau}}.$$

Major advantages of the Residual income method:

- Terminal value is a relatively smaller portion of present value

- Focuses on economic value

(St. Bonaventure university, 2009).

EVA = (NOPAT) – (Capital * CoC), where:

- EVA	=	Economic value added
- NOPAT	=	Net operating profit after taxes

- CoC = Cost of capital

Major advantages of EVA are (A.P. Dumitru, C.E. Dumitru, 2005):

- It is very easy to compute.

- EVA is an estimate of a true economic profit.

Major disadvantages of this method are:

- EVA is distorted by inflation; It cannot be used during inflationary times to estimate actual profitability.

- EVA, on its own, is inadequate for assessing a company's progress in achieving its strategic goals.

5.4.2 Dividend discount model

This model is based on the idea that the value of a share is given by its discounted expected future payoffs (Hess et al. 2008). The market value of equity at time t is obtained by discounting expected future net dividends d to shareholders at the cost of equity.

(DDM)
$$V_{t} = \sum_{\tau=1}^{\infty} \frac{d_{t+\tau}}{\left(1+r_{E}\right)^{\tau}}.$$

'Net dividends include all positive cash transfers to shareholders, such as cash dividends or share repurchases, as well as negative cash transfers, e.g. due to capital increases. Assuming compliance with clean surplus accounting the DDM can be transferred to a second approach, the residual income method (RIM). Both DDM and RIM yield identical value estimates, if the clean surplus relation holds (CSR). The CSR postulates that changes in book value of equity between two periods result exclusively from differences between earnings x and net dividends d' (Dieter Hess, Carsten Homburg, Michael Lorenz, Soenke Sievers, 2008). This could also be used for calculating terminal value.

5.4.3 Abnormal earnings growth model (AEG method)

This model can be derived from the DDM. It slightly differs from the Residual income model. The AEG model does not need the book value or the clean surplus relation assumptions, meaning that trading of the shares in circulation do not cause problems or adverse implications for the model. 'The focus on earnings will never be worse than the focus on book value, but the contrary will not be true. The advantage of the formula based on earnings over that based on book value comes from the idea that the errors between the predicted figures would be smaller in the AEG than in the RIV model, since in the RIV model the errors between the book value and real market value of the company (P – BV)

refer to the goodwill, while the errors between the capitalized earnings and the company's value (P – E/r) refer to the changes in goodwill (i.e., while in the RIV model residual, or abnormal, earnings justify all the goodwill, in the AEG the abnormal growth of earnings only justifies a part of or a change in goodwill). This implies that when a finite number of periods is used, the AEG model presents a smaller error than the RIV (and the shorter this period the greater will be the difference between the errors of the two models). This is an important characteristic in financial practice' (E. Ferreira, V. Nossa, B. Ledo, A. Teixera, A. Lopes, 2008). These are the main advantages of this model.

5.4.4 Summary

Table 7 below shows a short summary of the advantages and disadvantages of the equity based valuation approaches.

Equity based valuation approaches					
	Advantage(s)	Disadvantage(s)			
Residual income method	Terminal value is a relatively smaller portion of present value and it focusses on economic value (St. Bonaventure university, 2009).	Relies on accounting data, which can be manipulated (St. Bonaventure university, 2009).			
Dividend discount model	Provides you with a way to value stocks based on the dividends that are paid (Financial web 2009).	Can't provide a value for a company unless it pays dividends (financial web 2009).			
Abnormal earnings growth model	Does not need the clean surplus relationship to hold (Slewe, 2008)	Firms can increase their earnings by borrowing more money, even though this does not increase value, according to the AEGM, though, this does increase value (Slewe, 2008).			
EVA	It is very easy to compute.	EVA is distorted by inflation; It cannot be used during inflationary times to estimate actual profitability (A.P. Dumitru, C.E. Dumitru, 2005).			

Table 7: 'Summary findings equity based valuation approaches'.

6. The use and characteristics of business valuation methods in Africa

In this section the use of different business valuation methods in practice in Africa will be analyzed. A distinction will be made between Southern, West and East Africa in sections 6.1, 6.2, and 6.3.

Africa continues to receive more and more interest from investors who are aware of the growth potential and/or the natural resources this emerging market offers. We will define emerging markets as low-income to middle-income countries with social or business activity in the process of rapid growth and industrialization. According to Groenewald et al. (2012) there are different reasons for this increased interest in Africa as an investment destination:

- Compared to other developed markets, the economic growth in Africa has been higher.
- Africa has a lot to offer in the supply of scarce resources into commodity hungry world.
- Improvements in infrastructure and technology.
- Political stability has improved, reducing country risk.

Business valuation is still a difficult topic in emerging markets. 'Volatile arenas, their transitional nature adds a thick layer of complexity to the task of valuation, and raises such elementary questions as: Where do we get reliable financial data for an emerging economy? What is the risk-free rate there? How should country-related risk be introduced into the valuation model? What is the size of the market risk premium? How do we compute average betas in stock markets that are tiny and provide very few value references?' (Pereiro L., 2002) How do valuators cope with these things? These are all difficult questions to answer, but necessary for doing a proper valuation. 'Traditional valuation techniques do not provide much guidance on how they should be applied in emerging markets (Pereiro, 2001). There is currently no clear single "best practice" for the valuation of assets and securities in emerging markets which is widely accepted by both academicians and practitioners (Bruner et al, 2002). Most valuation techniques apply in efficient markets as seen in developed economies, the fact that the existence of financial efficiency in emerging stock exchange markets is questionable cannot be ignored. This is because emerging stock markets are small, concentrated and susceptible to manipulation. The problem is more complicated as stock market information tends to be scarce and unreliable. These problems are relevant since traditional valuation techniques including the DCF method, value multiples, real options and EVA - work best when applied to the valuation of stock in large public companies that are quoting within highly efficient markets in developed economies' (Pereiro, 2002), (Juanty Ebodor Aidamenbor, Chikanayo Mgbemena, 2008).

Groenewald et al. (2012), all valuation specialist by Price Waterhouse Coopers, researched the use of different valuation methods in Africa. They questioned 49 financial analysts and corporate financiers. Because this is a very recent, valuable and reliable source of information it will be used as main source for this chapter. According to this research conducted by Groenewald et al. (2012) there are more difficulties in performing valuations in Africa:

- Uncertainty over future growth, market demand, distribution channels to be used and future actions of competitors.
- Few comparable companies that can form a base for valuation analysis.
- Significant competition for assets in emerging markets with sellers that have several alternatives available to them.

The lack of market and industry data together with the difficulty of finding comparable companies are the most common difficulties encountered. When there are no comparable companies in the same industry and country, 90% of the respondents would still pursue a market approach, but would

expand their sample to include other countries and/or other industries. When expanding to other industry and countries, the subjectivity of the valuation grows. Country risk adjustments are often required for valuations using multiples derived from, for example, developed markets abroad (J. Groenewald, 2012). In this research Groenewald et al. (2012) also found that from this 90% of respondents they will all expand their sample to include companies in different countries in the same industry. The different African regions apply different methodologies when adjusting companies' multiples. West African participants make no adjustments to multiples, while Southern Africa participants prefer to apply a discount to the developed country company's multiple. Also the application of the CAPM in emerging markets offers unique challenges according to Groenewald et al. (2012):

- The number of emerging markets in which sufficient government bond data are available to use as a risk-free rate in the application of the CAPM is limited.
- Limited research is available on equity market risk premiums in individual countries, especially in smaller emerging markets.
- When valuing private companies, betas used in the CAPM are calculated by reference to similar listed companies. As a result, beta analysis in emerging markets is subject to the same constraints around lack of active markets and comparable companies.

The results of the questionnaire executed by Groenewald et al. (2012) showed that almost all participants would determine an appropriate risk-free rate with reference to default yield spreads on US\$-denominated sovereign Eurodollar bonds and implied premiums using country credit ratings.

6.1 Valuations in Southern Africa

Frequently used valuation approaches in Southern Africa according to Groenewald et al. (2012) are the income approach (DCF method) and market approach (multiples). None of the respondents indicated that the multiples method is never used.

6.1.1 Income approach

Cost of capital

An essential part of the income approach is the calculation of the weighted average cost of capital (WACC). The WACC is the rate at which the Free Cash Flows need to be discounted for obtaining the identical result as in the valuation using Equity Cash Flows (Mitra, 2011). The WACC consists of the cost of debt and the cost of equity. The cost of equity is difficult to calculate. According to Groenewald et al. (2012) there are two broad approaches to estimate the cost of equity:

- Deductive models: Such as Dividend Growth Models. An example here is the dividend growth model. This model requires current share prices, dividends that are expected, and dividend growth rates for the long-term.
- Risk-return models: For example the CAPM. This method measures risk and determines an appropriate required rate of return.

The survey executed by Groenewald et al. (2012) shows that the financial analysts in Southern Africa always or frequently use the CAPM model to estimate the cost of equity. The survey also shows that risk-return models are more used than deductive models.

Risk-free rate

'In corporate finance and valuation, we start off with the presumption that the risk-free rate is given and easy to obtain and focus the bulk of our attention on estimating the risk parameters of individuals firms and risk premiums. But is the risk-free rate that simple to obtain? Both academics and practitioners have long used government security rates as risk-free rates, though there have been differences on whether to use short term or long-term rates' (Damodaran A., What is the riskfree rate? A search for the basic building block, 2008). In Southern Africa many government bonds are available. The survey by Groenewald et al. (2012) shows that the most used measure for the risk-free rate is the R186 government bond. The yields of Southern African government bonds continue to be used by market practitioners as a proxy for the risk-free rate.

Beta

Beta is a way to measure the volatility of a stock in relation to the whole market. Beta can be provided by using different sources of information. There are a lot of service providers which offers measures of beta. For example: Bloomberg, Cadiz Financial Risk Service, McGregor BFA, MSCI Barra, Reuters, but also in-house calculation/research can be used. The choice of market index is another important characteristic of calculating beta. 'The most popular index remains the ALSI, with most respondents using the ALSI either frequently or always' (J. Groenewald, 2012). The survey also indicates that the historic equity bond spreads are used for determining the market risk premium.

Groenewald et al (2012) also measured the range of market risk premiums used when making use of the CAPM. The result showed that the market risk premium ranges from an average low range of 4.7% to an average high range of 6.6%. Compared to previous year results, the range of market risk premiums has become wider. This will possibly be a result of market volatility and reducing confidence in the market risk premium.

Small stock premiums

A number of studies such as the 'Ibbotson SBBI 2012 valuation yearbook' have shown that investments in small companies have experienced higher returns than those predicted by the standard CAPM approach. 'However, the higher betas do not seem to fully explain the higher returns historically achieved by smaller companies. Some have interpreted this as an indication that there are other risks associated with small companies that the CAPM does not address. To adjust for this finding, many practitioners add an additional premium to the cost of equity of companies with smaller market capitalizations' (J. Groenewald, 2012). According to the survey conducted by Groenewald et al. (2012) 70% of practitioners do adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company. The majority prefers to adjust the overall expected rate of return on equity by adding a factor to the CAPM.

Specific risk premiums

Aidamenbor and Mgbemena (2008) showed that risk in Nigeria is seen as the 'probability of losses' by valuation experts there. In the CAPM model investors are only rewarded for systematic risk. Specific risks are not included in the capital asset pricing model. Given the application of a specific risk premium is not consistent with the CAPM, Groenewald et al. (2012) surveyed market practitioners about whether they apply specific risk premium, and if so, in what instances. They found that 30% of respondents does make an adjustment by applying a specific risk premium. 58% of the financial analysts questioned indicated that they make this adjustment regularly or occasionally. According to Groenewald et al. (2012) this demonstrates that 'although the use of a specific risk premium is not supported by the CAPM and financial theory, specific risk premiums are widely used in practice'. Next, they researched what the typical conditions for applying this specific risk premium are. Main reasons for this SRP are dependence on key management, start-ups, one key customer or supplier, significant growth expectations and lack of track record. Groenewald et al. (2012) also found the way in which they add this specific risk premium. The majority of the financial analysts adjust the overall expected return on equity capital by adding a premium. This premium ranges on average from 3% to 8% (J. Groenewald, 2012).

Country risk

According to Groenewald et al. (2012) another considerable question is whether we should add a country risk premium to the equity risk premium and thereby use a higher equity risk premium in some markets than others. 'The survey results indicate that country risk differentials are recognized mainly through adjusting local discount rates with a country risk premium' (J. Groenewald, 2012).

Terminal value

Because terminal value contributes a big part of the final value it is a very important step in valuation. There are different methods for determining the terminal value, for example exit pricing multiples (EBIT and EBITDA), net asset value assessments and the Gordon growth model. 'The Gordon growth model remains the most popular methodology used in calculating terminal values, but exit multiples are becoming more and more popular among financial analysts, including many who preference for the Gordon Growth model' (J. Groenewald, 2012).

6.1.2 Market approach

The market approach is based on valuation using multiples. As discussed in chapter 5, there are a lot of different multiples that can be used. In the survey, conducted by Groenewald et al. (2012), the price/earnings multiple is the most frequent used valuation multiple in the application of the market approach. Also the market value of invested capital (MVIC)/EBITDA is very popular when valuing using multiples. There were also few adjustments made by financial analysts to observed comparable company multiples. 'All respondents indicated that they consider making adjustments in determining appropriate multiples in terms of the market approach. Although the adjustments are frequently or always considered, whether an adjustment will be applied will depend on the facts and circumstances of the specific valuation' (J. Groenewald, 2012).

6.1.3 Discounts and premiums

In valuation it could be meaningful to apply a minority discount for minority shareholders. This minority discount relates to the lack of control over the operation and corporate policy for a given investment by its minority shareholders (J. Groenewald, 2012). According to Groenewald et al. (2012) the majority of the analysts use this minority discount in the income approach, and also a small fraction uses this minority discount while valuing using the market approach.

Control premium

'The control premium is the inverse of the minority discount and similar issues will have to be considered in calculating a control premium. To summarize, a control premium relates to the additional value associated with the ability to control the distribution of cash generated by the company, which includes the ability to influence the timing and size of the dividend distribution' (J. Groenewald, 2012). The majority of analysts think that the control premium is already implied in the income approach and will only apply this premium when doing valuation on basis of the market approach.

6.2 Valuations in West Africa

In West Africa the most used valuation approaches according to Groenewald et al. (2012) are the income approach (DCF) and the market approach (multiples). This is supported by a research about the use of valuation methods in Nigeria (country in West-Africa) conducted by Aidemenbor and Mgbemena (2008). They also found that the DCF method is the most used and popular method in the Nigerian market, with almost 100% using the DCF method as primary or secondary valuation tool. The use of multiples is a lot lower in their study than in the study done by Groenewald et al. (2012), but because the research of Aidamenbor and Mgbemena was conducted in 2008 it could be that the

use of multiples has improved and therefore became a lot more popular. For example because of more information available about the market in the last couple of years.

6.2.1 Income approach

Cost of capital

The survey executed by Groenewald et al. (2012) shows that the financial analysts in West Africa always or frequently use the CAPM model to estimate the cost of equity. The survey also shows that risk-return models are more used than deductive models. This correspondents to the research done by Aidemenbor and Mgbemena (2008). They found that in 100% of the cases the CAPM or a modified version of the CAPM has been used.

Risk-free rate

In West-Africa, the benchmark for the risk-free rate is the local currency bond yield. According to the financial analysts survey by Groenewald et al. (2012) they never 'apply a US risk-free rate without considering a country risk premium and that country risk premiums are generally applied when no local currency bond yield is available'.

Beta

The survey of Groenewald et al. (2012) highlighted a wide variety of sources that are used for information of beta. In-house calculation for beta is the most used method for estimating beta, closely follow by Bloomberg. They also found that the combination between historical equity bond spreads and analysts' forecasts is a popular approach for estimating the market risk premium. Groenewald et al (2012) also measured the range of market risk premiums used when making use of the CAPM. The result showed that the market risk premium ranges from an average low range of 5% to an average high range of 10%. Compared to previous year results, the range of market risk premiums has become wider. This will possibly be a result of market volatility and reducing confidence in the market risk premium.

Small stock premiums

According to the survey conducted by Groenewald et al. (2012) 80% of practitioners do adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company. The survey shows a high variety of methods used for adjusting the CAPM. The majority prefers to adjust the overall expected rate of return on equity by adding a factor to the CAPM which is closely followed by the beta and equity risk premium (J. Groenewald, 2012).

Specific risk premiums

Given the application of a specific risk premium is not consistent with the CAPM, Groenewald et al. (2012) surveyed market practitioners about whether they apply specific risk premiums, and if so, in what instances. They found that 20% of respondents does always make an adjustment by applying a specific risk premium (SRP). 70% of the financial analysts questioned indicated that they make this adjustment regularly or occasionally. Main reasons for this SRP are dependence on key management, start-ups, one key customer or supplier, significant growth expectations and lack of track record. Groenewald et al. (2012) also found the way in which they add this specific risk premium. The majority of financial analysts adjust the overall expected return on equity capital by adding a premium. This premium ranges on average from 3% to 8% (J. Groenewald, 2012).

Country risk

If there is no reliable long-bond yield observed in a country, you should adjust in another way for the country risk. 'The survey results indicate that country risk differentials are recognized mainly through adjusting local discount rates with a country risk premium' (J. Groenewald, 2012).

Terminal value

There are different methods for determining the terminal value, for example exit pricing multiples (EBIT and EBITDA), net asset value assessments and the Gordon growth model. 'The Gordon growth model is the most popular methodology used in calculating terminal values. Exit multiples are also popular among financial analysts' (J. Groenewald, 2012). According to Aidamenbor and Mgbemena (2008) the majority of valuators use a terminal value when calculating a DCF valuation. Only in the sector of banks and insurances they don't generally calculate a terminal value.

6.2.2 Market approach

The market approach is based on valuation using multiples. As discussed in chapter 5, there are a lot of different multiples that can be used. In the survey, conducted by Groenewald et al. (2012), the price/earnings multiple together with the MVIC/EBITDA multiple are the most used valuation multiples. There were also few adjustments made by financial analysts to observe comparable company multiples. 'All respondents indicated that they consider making adjustments in determining appropriate multiples in terms of the market approach. Although the adjustments are frequently or always considered, whether an adjustment will be applied will depend on the facts and circumstances of the specific valuation' (J. Groenewald, 2012). However, according to Aidamenbor and Mgbemena (2008) only in 14% of the cases in Nigeria a business is valuated using multiples.

6.2.3 Discount and premiums

Control premium

'Almost two-thirds (60%) of the financial analysts questioned apply the control premiums to either enterprise value or equity value. Differences are therefore expected to exist between the sizes of the premiums applied by the two sets of practitioners. We then sought to quantify the benchmark control premiums that are typically applied. The average control premium applied to the market value of equity is between 34% and 44% to the enterprise value' (J. Groenewald, 2012).

6.3 Valuations in East Africa

In East Africa the most used valuation methods are the income approach (DCF) and the market approach using multiples (J. Groenewald, 2012).

6.3.1 Income approach

Cost of capital

The survey executed by Groenewald et al. (2012) shows that the financial analysts in East Africa always or frequently use the CAPM model to estimate the cost of equity. The survey also shows that risk-return models are more used than deductive models. This correspondents to the research done by Aidemenbor and Mgbemena (2008). They found that in 100% of the cases the CAPM or a modified version of the CAPM has been used.

Risk-free rate

In West-Africa, a popular benchmark for the risk-free rate is the local currency bond yield. According to the financial analysts survey by Groenewald et al. (2012) they never 'apply a US risk-free rate without considering a country risk premium and that country risk premiums are generally applied when no local currency bond yield is available'. A US risk-free rate plus a country risk premium is used occasionally.

Beta

The survey of Groenewald et al. (2012) highlighted a wide variety of sources that are used for information of beta. Bloomberg is the main source for beta estimates, followed by in-house beta calculations (J. Groenewald, 2012). They also found that the most popular approach for estimating

the market risk premium are the analysts' forecasts. Closely followed by a combination of historic equity bond spreads and analysts' forecasts. Groenewald et al (2012) also measured the range of market risk premiums used when making use of the CAPM. The result showed that the market risk premium ranges from an average low range of 5.2% to an average high range of 8.2%.

Small stock premiums

According to the survey conducted by Groenewald et al. (2012) 67% of practitioners do adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company. The majority of financial analysts prefer to adjust the overall expected rate of return on equity by adding a factor to the CAPM.

Specific risk premiums

Given the application of a specific risk premium is not consistent with the CAPM, Groenewald et al. (2012) surveyed market practitioners about whether they apply specific risk premiums, and if so, in what instances. They found that 0% of respondents always make an adjustment by applying a specific risk premium (SRP). 67% of the financial analysts questioned indicated that they make this adjustment regularly or occasionally. Main reasons for this SRP are dependence on key management, start-ups, one key customer or supplier, significant growth expectations and lack of track record. Groenewald et al. (2012) also found the way in which they add this specific risk premium. Most financial analysts adjust the overall expected return on equity capital by adding a premium. This premium ranges on average from 1% to 10% (J. Groenewald, 2012).

Country risk

If there is no reliable long-bond yield observed in a country, you should adjust in another way for the country risk. 'The survey results indicate that country risk differentials are recognized mainly through adjusting local discount rates with a country risk premium' (J. Groenewald, 2012).

Terminal value

There are different methods for determining the terminal value, for example exit pricing multiples (EBIT and EBITDA), net asset value assessments and the Gordon growth model. 'The Gordon growth model is the most popular methodology used in calculating terminal values. Exit multiples are also increasing popularity among financial analysts' (J. Groenewald, 2012). According to Aidamenbor and Mgbemena (2008) the majority of valuators use a terminal value when calculating a DCF valuation. Only in the sector of banks and insurances they don't calculate a terminal value.

6.3.2 Market approach

When doing a market approach valuation in East Africa the most popular multiples are the price/earnings multiple and the price/book value of equity multiple (J. Groenewald, 2012). 'All respondents indicated that they consider making adjustments in determining appropriate multiples in terms of the market approach. Although the adjustments are frequently or always considered, whether an adjustment will be applied will depend on the facts and circumstances of the specific valuation' (J. Groenewald, 2012).

6.3.3 Discounts and premiums

Control premium

'Almost two-thirds (60%) of the financial analysts questioned apply the control premiums to either enterprise value or equity value. Differences are therefore expected to exist between the sizes of the premiums applied by the two sets of practitioners. We then sought to quantify the benchmark control premiums that are typically applied. The average control premium applied to the market value of equity is between 16% and 30% to the enterprise value' (J. Groenewald, 2012).

6.4 Summary

Table 8 is created to summarize the findings of chapter 6 about valuations in Africa. Table 8 'Summary findings chapter 6 by Groenewald et al. (2012) and Aidamenbor and Mgbemena (2008):

	Southern Africa	West Africa	East Africa
Valuation method(s)	Income approach	Income approach	Income approach
often used for valuing	(DCF) and market	(DCF) and market	(DCF) and market
ongoing concern	approach (multiples)	approach (multiples)	approach (multiples)
Methods used to	Almost or frequent	Almost or frequent	Almost or frequent
calculate the cost of	the CAPM (79%-21%).	the CAPM (70%-30%).	the CAPM (83%-17%).
equity	Only 6% uses	Only 20% uses always	Only 17% uses
	frequently deductive	or frequently	frequently deductive
	models (dividend	deductive models	models (dividend
	growth model).	(dividend growth	growth model)
		model)	
Used for benchmark	Local currency bond	Local currency bond	Local currency bond
as risk-free rate	yield	yield	yield and sometimes
			US risk-free rate +
			country risk premium
Service providers	High variety.	Mostly in-house	High variety.
used as source of info	Bloomberg gains	calculations followed	Bloomberg gains
for beta	popularity and is most	by Bloomberg	popularity and is most
	popular, but shift		popular, but shift
	towards in-house		towards in-house
	calculations		calculations
Approaches used to	Historic equity bond	Combination of	Analysts' forecasts
estimate the market	spreads	analysts' forecasts and	most used and second
risk premium		historic equity bond	a combination
-		spreads	between analysts'
			forecasts and historic
			equity bonds
Range of market risk	4.7% - 6.6%	5% - 10%	5.2% - 8.2%
premiums used in the			
САРМ			
Use of a specific risk	30% always adjust the	20% always adjust the	No one always adjust
premium	CAPM by applying a	CAPM by applying a	the CAPM by applying
	specific risk premium.	specific risk premium.	a specific risk
	58% frequently or	70% frequently or	premium. 67%
	sometimes	sometimes	frequently or
			sometimes
Reasons for SRP	High variety between:	High variety between:	High variety between:
	dependence on key	dependence on key	dependence on key
	management, start-	management, start-	management, start-
	ups, significant growth	ups, significant growth	ups, significant growth
	expectations, lack of	expectations, lack of	expectations, lack of
	track record and one	track record and one	track record and one
	key customer or	key customer or	key customer or
	supplier	supplier	supplier
Specific risk premium	The majority adjusts	The majority adjusts	The majority adjusts
inclusion method	the overall expected	the overall expected	the overall expected

	return on equity	return on equity	return on equity
	capital by adding a	capital by adding a	capital by adding a
	premium.	premium.	premium.
Range of this specific	Average low of 3% to	Average low of 3% to	Average low of 1% to
risk premium	average high of 8%	average high of 8%	average high of 10%
Method used to	Gordon Growth	Gordon growth model,	Gordon growth model
calculate terminal	model, but multiples	but also multiples	
value	(EBIT/EBITDA)		
	increasing popularity		
Multiples most used	Price/earnings ratio	Price/earnings ratio	Price/earnings ratio
for market approach	followed by	together with	and price/book value
	MVIC/EBITDA	MVIC/EBITDA	
Application of control	Market value of equity	Enterprise valuation	Market value of equity
premiums	(64%)	(34%) and discount	(50%) and enterprise
		rates (44%)	value (33%)

7. The use and characteristics of business valuation methods in Australia

'Free market is the main characteristic of the economic system of Australia' (Australia on net, 2007). The Australian economy grows fast and is among the top developed countries of the world. According to Australia on net (2007) the main components of the Australian economic system are trade, manufacturing, services and finance. According to the Australian taxation office, the valuation of a business is usually based on a number of established valuation methods built around the marketbased, income-based and asset-based approaches:

- Comparable transactions
- Comparable trading
- Capitalization of earnings
- DCF
- Calculation of net assets on a going-concern basis (Australian government, 2007)

For this section, the 'Valuation practices survey 2013' by KPMG will be the main source for this chapter. This research was conducted by D. van Aswegen and I. Jedlin, working for KPMG in 2013. The survey was conducted under 23 participants including investment banks, professional services firms, infrastructure funds and other participants and is therefore a very recent, reliable and valuable source of information. According to Aswegen and Jedlin (2013) the discounted cash flow approach is 'clearly the dominant methodology used by Australian financial analysts and corporate financiers, with all participants always or sometimes adopting this approach. The market approach was also very popular - with 96% of participants always or sometimes using this methodology. Asset-based approaches are only always used 10% of the time - 14% of participants never use this approach'. A good reason for the popularity of the DCF could be its flexible character. According to Aswegen and Jedlin (2013) the DCF approach allows multiple scenarios regarding growth expectations to be considered, providing a far more insightful valuation result. A difference can be noticed between different kinds of companies. 'We do note variation in uses of the approaches – infrastructure funds exclusively use the DCF approach given their investments are often regulated, longer-dated assets are easier to analyze using this approach. Investment banks and professional services firms are much more likely to only use the DCF methodology occasionally' (Denie van Aswegen, Ian Jedlin, 2013).

7.1 Market approach

The figure below shows the use of different multiples when valuing according to the market approach:



(Denie van Aswegen, Ian Jedlin, 2013)

It is clear that the EV/EBITDA multiple is the most popular multiple for valuations based on the market approach in Australia. Aswegen and Jedlin state that infrastructure funds are particularly wedded to this multiple, with 83 percent always using it, compared with 67 percent of investment banks and 33 percent of professional services firms. The frequent use of EBITDA indicates that financial analysts and corporate financiers believe that cash is the main driver of value, because the EBITDA multiple is closest to operating cash flow. In the questionnaire conducted by Aswegen and Jedlin (2013) there were analysts which indicate that they use other multiples like enterprise value/capacity and enterprise value/regulated asset base.

7.2 Income approach: the cost of equity

The CAPM is a model frequently used for estimating the cost of equity. As shown in the figure below the CAPM is the most popular model being used for estimating the cost of equity. 'As anticipated, when calculating the appropriate rate of return to apply to future cash flows to equity, the CAPM is the most popular model being used to derive a cost of equity estimate, with all participants always or sometimes using this model. However, investment banks are the least devoted to CAPM, with 67% of participants in this category using the model compared with 100 percent of professional services firms and 83 percent of infrastructure funds. The arbitrage pricing theory has clearly not taken off in Australia; no participants use this method' (Denie van Aswegen, Ian Jedlin, 2013).



(Denie van Aswegen, Ian Jedlin, 2013)

The survey undertaken by Kester et al. (1999) confirmed the popularity of DCF methods in Australia and the popularity of the CAPM, which was used by 73% of the companies surveyed. The rate of CAPM usage is significantly higher than in the other Asia Pacific countries surveyed, which covered Hong Kong, Indonesia, Malaysia, The Philippines and Singapore (G. Truong, G. Partington, M. Peat, 2008). 'The CAPM was the most popular method used in estimating the cost of capital, with 72 percent of respondent companies using the model. The second popular method (47 percent) was the cost of debt plus a premium for equity. It seems that alternative asset pricing models where not be adopted by Australian companies. Australian firms found in this survey are similar to that found in Kester et al (1999) ' (G. Truong, G. Partington, M. Peat, 2008).

Adjusting for country risk

There are different ways in which financial analysts and corporate financiers can adjust for country risk. They could, for example, adjust the cash flows, add a premium to cost of equity and debt, determine an risk free rate using country credit ratings or determine a risk-free rate using default yield spreads on US\$ dominated Eurodollar bonds. The survey by Aswegen and Jedlin (2013) makes clear that 'cash flows are hardly ever adjusted for country risk – just 4.7 percent of participants make this kind of adjustments. Participants tend to adjust the discount rate by adding a premium to the cost of equity – 57 percent make this adjustment – and sometimes by calculating an appropriate risk-free rate using country credit ratings. This result is not surprising, given it is far more difficult to make an adjustment to the cash flows than to the discount rate. Adjusting for country risk does not appear to be as significant an issue in Australia as it is in other parts of the world, simply because valuation practitioners are not valuing businesses in emerging countries, which often do not have an appropriate instrument to use as a starting point'.

Benchmarking the risk free rate

Aswegen and Jedlin found that 85 Percent of the financial analysts and corporate financiers use the yield on the 10 year government bond as a proxy for the risk-free rate in Australia. This is confirmed

by a research conducted by G. Truong et al. (2008). They also found that the treasury bond-rate is used as a proxy for the risk-free rate in Australia. 'However, there's more variation in how the risk-free rate is derived. While just over half of participants use the spot government bond yield as a proxy for the risk-free rate, well over one-quarter use a combination of spot, historic averages and forecasts' (Denie van Aswegen, Ian Jedlin, 2013).

Understanding Beta

According to Aswegen and Jedlin (2013), the different ways for adjusting beta are almost equally distributed. 36 percent uses service providers, 32 percent uses in-house calculations and 32 percent do not consider an adjustment. The most popular service provider used as a source of information is Capital IQ.

'The survey indicates that there is a maximum period of five years and a minimum period of two years used by participants when calculating beta. There is some variation in approach between the three major classes of participants:

- All infrastructure funds use five years.
- Professional services firms use five, four and two years.
- Investment banks use five, three and two years.

A majority of participants (55%) use monthly observations, but weekly observations are also quite popular, with 30 percent of firms using weekly observations. Investment banks are likely to use weekly observations, with 60 percent of these firms doing so, compared with 33 percent of professional services and 25 percent of infrastructure funds' (Denie van Aswegen, Ian Jedlin, 2013).

The equity market risk premium

E. Dimson et al. (2003) stated that the size of the equity market risk premium is a key issue in corporate finance and valuations. The equity market risk premium can be described as the incremental return that shareholders require to hold risky equities rather than risk-free securities (E. Dimson, 2003). Aswegen and Jedlin (2013) made a distinction in their survey for the equity market risk premium between Australia, United States and United Kingdom. In Australia the most used equity risk premium is 6 percent with some biased towards 7 percent. 'A particularly interesting aspect of these results is the concentration of the Australian premium around 6 percent compared to a wider range for the US and UK markets' (Denie van Aswegen, Ian Jedlin, 2013). Their study also showed that 68 percent of the financial analysts and corporate financiers did not revised their equity market risk premium to reflect the volatility in capital markets. The 32 percent who have adjusted for volatility use a combination of historic equity bond spreads and expected premium to determine their equity market risk premium. These findings are supported by the research conducted by G. Truong et al (2008). They found that the majority used traditional standards, for example a widely used range of 6 percent to 8 percent, as the basis for the market risk premium.

Analyzing the small stock premium

Valuers can adjust the CAPM rate of return with a premium that reflects the extra risk of an investment in a small company. According to Aswegen and Jedlin (2013) the Australian market is divided on pricing for small company risk. 52 percent does adjust the CAPM rate of return with a premium, and 48 percent doesn't. 'Once again we note the division among the participants, with none of the participating investment banks considering a small stock premium when determining the discount rate using the CAPM, but all of the professional services firms choosing to do so. Infrastructure firms were split 50:50 on this issue' (Denie van Aswegen, Ian Jedlin, 2013).

7.3 Discounts and premiums



(Denie van Aswegen, Ian Jedlin, 2013)

The table above shows the factors that are adjust for the discount/premia. Overall the majority of adjustments appear to be made to the market value of equity. However, the highest adjustment is made to the multiple in a control premium scenario.

Discount and premium data

'With only seven participants for this section of the survey, it is difficult to make any definitive statements, however even the limited number of responses demonstrate that the minority discount is routinely applied when practitioners use the income approach. It is equally clear that the discount decreases as the size of the minority stake valued increases. Likewise, with unlisted companies the marketability discount decreases as the size of the stake increases. However, discounts are less prevalent on these kinds of valuations across all approaches. As you would expect, the reverse principle prevails with the control premium (see section below): the premium increases as the size of the stake increases. Participants are far clearer about applying a premium when a controlling stake is involved, with 85 percent of those using the market approach opting to do so' (Denie van Aswegen, lan Jedlin, 2013).

7.4 Summary

Table 9 is created to shortly summarize the findings of chapter 7 about valuations in Australia. Table 9 'Summary findings Denie van Aswegen, Ian Jedlin (2013), G. Truong et al. (2008) and Kester et al. (1999) of chapter 7':

	Australia
Valuation method(s)	Income approach (DCF) and the market approach (multiples)
used for valuing	
business	
Multiple most used	EV/EBITDA multiple
for valuation using	
market approach	
(multiples)	
Methods used to	САРМ
calculate the cost of	
equity	
How do analysts	Cash flows are hardly ever adjusted for country risk
adjust for country risk	
Used for benchmark	The yield on the 10 year government bond rate
as risk-free rate	
Ways for adjusting	Are almost equally distributed between use of service providers, in-house
beta	calculations or no adjustment
Pricing for small	52% does adjust the CAPM rate of return with a premium, and 48% doesn't
company risk	
Minority discount	Routinely applied when practitioners use the income approach. The discount
	decreases as the size of the minority stake valued increases.
Range of market risk	Most used equity market risk premium is 6% with some biased towards 7%
premiums	

8. The use and characteristics of business valuation methods in Europe

The use of different valuation approaches and methods will be analyzed in this chapter. For this chapter, 'the gap between theory and practice of firm valuation: Survey of European valuation experts (2014)' by F. Bancel and U. Mittoo will be the main source of information. The survey conducted by F. Bancel and U. Mittoo was conducted under 356 valuation experts across 10 European countries with CFA or equivalent designation to gain insights into their valuation practices. In this survey they found that while experts use both DCF and relative valuation models, their assumptions and estimation methods for almost all inputs vary widely. The majority of the respondents are from France, U.K., Spain and Switzerland. In this survey they focus on the following questions: (1) what valuation models are popular among experts, (2) how do practitioners estimate inputs required in these models, (3) which inputs are easier to estimate (less dispersion) and which ones are more difficult (more dispersion), and (4) which input differences are more (less) critical for valuation.

According to Bancel and Mittoo (2014) their survey differs from other surveys¹ in the following ways:

- Generally, prior surveys focusses only on a few aspects of valuation, such as cost of capital estimation. By contrast, we conduct a comprehensive survey of all aspects of valuation.
- Most prior surveys focus on whether practitioners follow financial theory, whereas we are more interested in finding out how they estimate key parameters in valuation models.
- The recent 2007-2008 financial crisis has raised several additional estimation issues that are not addressed in textbooks or in professional training.
- We try to minimize the biases by surveying valuation experts, who share a common set of knowledge and training in valuation models.

Popular valuation methods

According to the research conducted by F. Bancel and U. Mittoo (2014) the DCF and relative valuation approach are equally popular methods. About 80 percent of experts use both DCF and relative valuation and less than 40 percent uses the free cash flow to equity method. DGM are used by less than 22 percent of experts and EVA models are rarely used. They also found that most experts use more than one valuation method. They use two valuation methods to calculate the value of a company. 'The combination of the DCF and RV approaches is the most popular used by over 67 percent of respondents. The prominence of the DCF and RV approaches reflects their dominance in text books and CFA curriculum' (F. Bancel, U. Mittoo, 2014).

8.1 Market approach

There are several multiples that can be used when using a market approach. In chapter 5 the different multiples have already been discussed. F. Bancel and U. Mittoo found that experts employ two or three multiples and that 33 percent uses even more than three multiples. The figure below shows the most used multiples by experts.

¹ For previous surveys on cost of capital estimation, see Bruner et al. (1998), Graham and Harvey (2002), Bancel and Mittoo (2011a) and Jacobs and Shivadasni (2013). For previous surveys on estimation of beta or MRP see surveys by Fernandez et al. (2013), Welch (2008) and Graham and Harvey (2007), Campello and al. (2010) and Bancel and Mittoo (2011b).



This figure shows that Firm value/EBITDA is the most popular multiple used for relative valuation. 'It is employed by 83% of multiple ratio users and 70% of single ratio users. The PE ratio is the next popular choice, employed by 68% of respondents. The Price- to-Book, Firm Value/EBIT, and Firm Value/Sales multiples are equally popular— each is used by about 45% of respondents. Trading and transaction multiples are employed by 86% and 73% of respondents; about 50% respondents use both multiples. Since RV framework implicitly assumes that financial markets are efficient and the comparable firms are 'fairly' valued, we ask respondents whether they agree that financial markets are efficient. Surprisingly, only about two-thirds of respondents agree with this assumption. This means that about one-third of respondents question the validity of RV approach despite using it' (F. Bancel, U. Mittoo, 2014).

8.2 Income approach

F. Bancel and U. Mittoo stated that the majority of respondents (87 percent) use the WACC for the discount rate. Next they researched how the experts estimate the three ingredients used to estimate the WACC. These ingredients are the leverage, the cost of debt and the cost of equity.

The leverage

F. Bancel and U. Mittoo found that 46 percent uses target market value gearing, 34 percent use book value gearing and about 31 percent sector gearing. The reason for book value gearing to be popular is probably because these data are easy available.

The cost of debt

The computation of the cost of debt should be straight forwarded since it can be estimated from the yield-to-maturity information on the outstanding straight bonds or the default spread information based on the firm's credit ratings. F. Bancel and U. Mittoo's research confirms that the majority (67 percent) of experts use the actual cost of debt taking into account the firm credit rating. 27 percent use the normative cost of debt for target gearing.

The cost of equity

The CAPM model is one of the methods used for calculating the cost of equity. In Europe, nearly 80 percent of experts employ the CAPM model to estimate the cost of equity. This finding is supported by a research done by Kester et al. (1999). They reported a usage of above 70%. However, a European study across four countries by Brounen, De Jong, and Koedijk (2004) found a lower level of usage of the CAPM (34%-56%). The CAPM requires different inputs like a risk-free rate, market risk premium and a beta. Because these inputs determine the outcome it is important to study them and to see how their values are determined by valuation experts. This was supported by a survey conducted by McLaney et al. (2004).

Risk-free rate

The majority of the respondents (91 percent) use T-bill or T-bonds as a proxy for the risk-free rate. There is a strong consensus on bond maturity. 78 percent use bonds with a 10-year maturity, only 8 percent use bonds with maturity greater than 10 years and 9 percent use a one-year T-bond. The popularity of a 10-year bond maturity could be explained by its high liquidity and the proximity of its time-horizon to long-term investment horizons. 'There are differences in the use of a country's sovereign bond to proxy risk-free rate. While about two-thirds of respondents use the country's sovereign bond, the remaining one third employ an AAA country's sovereign bond rate to proxy risk-free rate' (F. Bancel, U. Mittoo, 2014).

Beta

81% of financial experts in Europe use historical data to estimate beta. However their choices about time-period and return intervals differ widely:

- Monthly returns (48 percent)
- Daily returns (20 percent)
- Yearly returns (19 percent)

Furthermore, while 53 percent of the respondents use between one to three years period, 37% use more than three years for estimating beta. Another part is the choice of market index. 48% choose a country index, 24% uses a European index and 24% uses a world index (F. Bancel, U. Mittoo, 2014). 'The most striking finding is that fewer than half of the respondents (46%) adjust their historical beta to estimate future beta – the correct input in CAPM – and recommended in most textbooks. The practices about estimating the firm's economic (asset) beta which depends on the firm's financial and business leverage also vary. Most textbooks suggest to first calculate an unlevered beta of the company with no financial leverage, and then relever it to account for the firm's target capital structure. About 86% of respondents use the average unlevered betas of comparable firms as an estimate of the firm's economic beta. Most respondents also consider taxes when deleveraging betas and about 34% also use a debt beta' (F. Bancel, U. Mittoo, 2014).

The equity market risk premium

Welch (2000): 'There is neither a uniformly accepted precise definition nor agreement on how the equity premium should be computed and applied'. The market equity risk premium can be calculated in different ways, but we will focus on the use of the market risk premium rather than the calculation of it. In Europe, most financial experts use both historical market data and expected risk premiums for estimating the market risk premium. However there is a wide dispersion in their estimates. 'For example, in 2012, about half of the respondents (47%) estimate market risk premium 'less than or equal 5%' about 30% estimate it to be 'greater than 5%, less than or equal to 6%', and about 7% estimate it 'greater than 7%' (F. Bancel, U. Mittoo, 2014).

Additional risk factors

The use of additional risk factors can be implemented by adjusting the CAPM. In Europe valuators do use additional risk factors. For example Bancel and Mittoo found that 66% include firm size and/or liquidity risk as additional risk factors, but most of the valuators make a subjective judgment to estimate risk premium on these factors. They also found that over half of the valuators consider country (political) risk premiums.

Terminal value

'There is wide variation how experts compute terminal value. Over half of respondents (51%) rely on a normative terminal cash flow growing until infinity, 27% use a multiple, and 18% assume a decreasing terminal cash flow. Because terminal value involves estimation of growth rates in distant future and a small error in growth rate could have a large effect on firm value, we also ask respondents whether terminal value should be limited to a maximum percentage of firm value. The majority of respondents (63%) do not support imposing any maximum limits on terminal value percentage' (F. Bancel, U. Mittoo, 2014).

8.3 Summary

Table 10 is created to shortly summarize the findings of chapter 8 about valuations in Europe. Table 10 'Summary findings F. Bancel, U. Mittoo (2014), Kester et al. (1999) and Brounen et al. (2004) in chapter 8':

	Europe
Valuation method(s)	The DCF and relative valuation approaches are equally popular methods and often
often used for valuing	used in combination
business	
Multiple most used	Firm value/EBITDA is the most popular multiple used for relative valuation. The PE
for valuation using	ratio is the next popular choice
market approach	
(multiples)	
Methods used to	The CAPM
calculate the cost of	
equity	
Used for benchmark	T-Bonds as a proxy for the risk-free rate. Valuators use bonds with a 10-year
as risk-free rate	maturity. Two-third of valuators use the country's sovereign bond, the remaining
	one-third employ an AAA country's sovereign bond rate to proxy risk-free rate.
Ways for adjusting	Historical data
beta	
Additional risk factors	Include firm size and/or liquidity risk as additional risk factors. Over half consider
	country (political) risk premiums.
Range of market risk	Wide dispersion in the estimates of the market risk premium. Between 4,5% and
premiums	7.5%
How do analysts	If the country does not have an AAA credit rating they include a country risk
adjust for country risk	premium
Methods used for	Weighted average cost of capital
calculating the	
discount rate	
Computation of the	Use actual cost of debt taking into account the firm credit rating
cost of debt	
Major limitations of	Difficult to estimate the terminal value and the discount rate
current valuation	
models	

9. Conclusion

According to the analysis conducted in the chapters before the research question can be answered and a conclusion can be drawn. The research question for this literature review was:

"Which business valuation methods are used in Africa, Europe and Australia and what are the differences between these business valuation methods and the regions their used in?"

The most used valuation method is the discounted cash flow method with valuation practitioners in Southern Africa, East Africa, West Africa and Australia using this method in the majority of the cases. Only in Europe the use of the DCF is equally popular to the use of the market approach using multiples. However, there are differences between Europe, Australia and Africa with respect to the calculation of specific parts within the income approach and market approach using multiples. The tables at the end of chapters 6, 7 and 8 have been compared to answer the research question. Per aspect the differences and similarities between these regions will be shown.

9.1 Market approach

There can be concluded that valuation using the market approach differs between South Africa, West Africa, East Africa, Australia and Europe. In West, East and South Africa the most used multiple is the price/earnings multiple (PE ratio). In West Africa the MVIC/EBITDA is as popular as the PE ratio and in South Africa this MVIC/EBITDA is also quite popular, but PE ratios dominate. However, in East Africa, the price/book value of equity multiple is as popular as the PE ratio. A popular multiple in Europe and Australia is the Firm value/EBITDA. In Europe, the PE ratio is the second most used ratio followed by the price/book value multiple. The EV/EBIT is the second most used multiple in Australia for valuing business using the market approach.

9.2 Income approach

Cost of capital

As discussed in previous chapters, the calculation of the weighted average cost of capital (WACC), consisting of the cost of equity and the cost of debt, is an essential part of the income approach. The cost of equity part of the WACC is difficult to calculate. In South, East and West Africa the CAPM is the most used approach for calculating the cost of equity. In Australia and Europe the CAPM is the most popular method too. The CAPM requires different inputs like a risk-free rate, market risk premium and a beta.

Risk-free rate

In South Africa the yields of South African government bonds continues to be used by market practitioners as a proxy for the risk-free rate. Also practitioners in West Africa use local currency bond yields for estimating a risk-free rate. In East Africa local currency bonds are used, but occasionally a U.S. risk-free rate + country risk premium is applied. In Europe and Australia financial analysts use T-bill or T-bonds as a proxy for the risk-free rate with a strong consensus on bond maturity (most use bonds with a 10-year maturity).

Beta

In South and East Africa Bloomberg is used as main provider for beta. Only in West Africa in-house calculations are most popular for estimating beta. In Europe historical data is the main source for estimating beta and in Australia the different ways for adjusting beta are almost equally distributed between service providers, in-house calculations and also one-third does not even consider any adjustment. The most popular service provider used as a source of information in Australia is Capital IQ.

Market risk premium

In South Africa the historic equity bond spreads are used for determining the market risk premium. In East Africa analysts' forecasts are used as main source for estimating a market risk premium. In West Africa a combination between historical equity bond spreads and analysts' forecasts is favorite. In Europe, financial experts use both historical market data and expected risk premiums. In Australia, most of the financial analysts and corporate financiers do not revised their equity market risk premium to reflect the volatility in capital markets. The smaller group of practitioners who do adjust for volatility use a combination of historic equity bond spreads and analysts' forecast to determine their equity market risk premium.

Small stock premiums

In South, East and West Africa the majority of practitioners do adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company. They prefer to adjust the overall expected rate of return on equity by adding a factor to the CAPM. In West Africa, as mentioned before, the majority prefers to adjust the overall expected rate of return on equity by adding a factor to the CAPM. In West Africa, as mentioned before, the majority prefers to adjust the overall expected rate of return on equity by adding a factor to the CAPM, but this is closely followed by the use of beta and equity risk premiums. In Australia the market is divided on pricing for small company risk. Practitioners do adjust the CAPM rate of return with a premium, but investment banks never consider a small stock premium, where professional services firms always consider this small stock premium.

Specific risk premiums

In South and West Africa practitioners do make an adjustment by applying a specific risk premium. This use of specific risk premiums is not supported by the CAPM and financial theory, but specific risk premiums are widely used in practice in South Africa. Practitioners adjust the overall expected return on equity capital by adding a premium to deal with specific risk premium. This premium ranges from 3%-8%. In East Africa this specific risk premium is less popular than in South and West Africa, but still frequently used. The range of the specific risk premium ranges from 1%-10% in East Africa. The main reasons for using a specific risk premiums are Dependence on key management, one key customer or supplier, lack of the track record, significant growth expectations and start-ups. In Europe practitioners do use specific risk premiums by adjusting the CAPM. Most of the practitioners include firm size and/or liquidity risk as additional risk factors, but they make a subjective judgment to estimate these premiums.

Country risk

In Europe practitioners consider country or political risk premiums. Australian practitioners hardly ever adjust for country risk – just a small fraction of participants make these kind of adjustments. In South, West, and East Africa risk differentials are recognized mainly through adjusting the local discount rates with a country risk premium.

Terminal value

In Europe there is a wide variation of how experts compute terminal value. Experts rely on a normative terminal cash flows growing until infinity, followed by using an exit pricing multiple. European experts do not support imposing any maximum limits on the terminal value percentage. In South, West and East Africa the Gordon growth model is the most popular methodology used in calculating terminal value, but exit multiples are becoming more and more popular among practitioners. The terminal value is most used when calculating a DCF valuation.

9.3 Discount and premiums

Control premium

Analysts think that the control premium is already implied in the income approach and will only apply this premium when doing valuation on basis of the market approach. In East Africa the majority of financial analysts apply the control premiums to either enterprise value or equity value. The average control premium applied to the market value of equity is between 16% and 30% to the enterprise value. In West Africa financial analysts frequently apply the control premiums to either enterprise value or equity value. The average control premium applied to the market value of equity is between 16% and 30% to the enterprise value or equity value. The average control premium applied to the market value of equity is between 34% and 44% to the enterprise value. In Australia research on discounts and premia is lacking. Most adjustments appear to be made to the market value of equity. Practitioners in Australia use the market approach to apply a premium when a controlling stake is involved.

10. Discussion

This research provides insights to the use of business valuation methods and some of their characteristics in Africa, Australia and Europe and it can be useful for financial analysts or business valuers. This research was conducted for the University of Twente in order to accomplish a Bachelor thesis. The first restriction for this research was the time available. Because this research was conducted in order to accomplish a Bachelor thesis for the University of Twente it needed to be finished within 15 weeks. If there would be more time, more regions would have been included in this research to make it more complete.

The second restriction is the literature used for this literature study. Research in society is conducted by others than myself. It could be possible that some other factors have influenced the answers given by the participants in those studies. This factors could have influenced the results, without the notion of the researchers, and when that would have happened, also influence my results. The way the research is exactly conducted is not known.

The third restriction has been the use of some older sources. In some cases the most recent research conducted about a certain subject is from a long time ago. This could mean that, over time, these results have changed.

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