



Sudan University of Science and Technology

College of Postgraduate



**The most appropriate business Valuation Methods
that Optimize and Rationalize Decision Making**

Process in Business Corporation

(Case Study of Sudan Corporations)

الطريق الأكثر ملائمة لتقييم الأعمال التي تؤدي لأمنلة وترشيد
عملية إتخاذ القرار في مؤسسات الأعمال بالسودان

**A Thesis Submitted to Fulfillment of the
Requirements for the Degree of Doctorate of
Philosophy in Accounting & Finance**

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الطرح ادراكه من القيمة المناسبة التي تفيد لأجله
وتمشي عليه، هذا القرار كما هو الحال

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الاستهلال

قال تعالى:

قَالَ تَعَالَى: ﴿أَقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ۝١ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ ۝٢ اقْرَأْ وَرَبُّكَ الْأَكْرَمُ
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DEDICATION

I would like to dedicate my thesis work to my family. With a special feeling of gratitude to my loving parents, Adam and Khameesa whose wise words of encouragement still are ringing in my ears that taught me the value of hard work. Thank you so much, I will never forget you.

Next, my wife, Sara she was my inspiration to pursue my doctoral degree; she was the candle that burned to light my way to finish this thesis.

My lovely kids in different school grades, my brothers, sisters, colleagues, friends and everybody who supported and encouraged me to fulfill this thesis, with special gratitude to my supervisor Dr Mustafa Najm ElBushari .

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This is the moment I was racing my words to articulate and put them in a framework that entailing and indicating the completion of this thesis. This stage was labeled and signed with the support and firm stands of many people in my life, the

The completion of this thesis would not have become a reality without the invaluable support, sacrifices, encouragement, and inspiration of several individuals and organizations. Hence, I would like to express my deep gratitude and appreciation to those who stand firmly during my journey. Firstly, I would like to extend my cordial thanks to my supervisor Professor Mustafa Najm Albushari for his unforgettable believe on my ability, skills and experience that I can make it without any doubt. He also provided me with valuable guidance and support during this journey. I am deeply indebted, as his constructive criticism helped clear the cobwebs and kept me constantly focused. I was very fortunate to be under his supervision, as he embraced every responsibility of a principal supervisor to guide my research. I also acknowledge with gratitude the intellectual support of my life friend standing Dr. Mohamed Hassan Adam Azrag, who provided me with valuable assistance and advice. He provided me with very interesting and valuable references and books that based and assisted me to finalize the thesis at the time where no resources of references and books were found due to the sanctions imposed on Sudan. With his great input into my questionnaire design and final version that had been used to collect the raw data for the field study .I owe particular thanks to my colleagues in DAL group who supported and encouraged me to finish the thesis as they think it will add and change the way businesses had been valued in the country and the thesis could be a cornerstone to establish and constitute the private database in future to support and provide statistical information for all investors and researchers. A special thanks also will be extended to Dr. Bushara Musa, Dr. Altahir Ahmed who showed a real careness during the

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Abstract

The slowdown of the economy for many years had affected many businesses due to lack of financial resources or financing impacted by higher foreign exchange rates. There are many objectives of this study, determining the sale or purchase of a business as owners of business can use these methods as common languages for the purpose of valuation. Objectives also include using these methods to determine the value of goodwill of a business. There are four hypothesis of this study that include: - Testing the traditional business valuation methods, - Discounted Cash flow method can provide reliable information, - Pricing multiples including earning per share (EPS) provide reliable information for investment decisions, - Databases from stock markets and other private sources.

The findings of the study include:- Discounted cash flow method has significant highlight used by companies as it include the time value of money, - Earnings per share has a positive effect on investors decisions , - Appraising of individual asset will provide basic information which will not assist investors to take decisions,

Study recommendations include: - Net income is key financial indicator to measure and improve earnings per share, companies should focus to foster their bottom lines in order to improve their business values. - All publicly held companies must be floated in the stock market to enable establishing database forum for all public companies

المستخلص

توجد عدة طرق لتقييم الشركات و تقدير القيمة المناسبة للشركة او المؤسسة. اجريت دراسة ميدانية في الشركات الصناعية و التجارية بالخرطوم و قد تم معرفة اكثر او افضل الطرق مواعمة لتقييم الشركات و التي تساعد في ترشيد اتخاذ القرارات. ان الانكماش الذي ضرب السودان في السنوات الاخيرة كان له اثر بليغ علي المؤسسات و الشركات خاصة الزيادة في اسعار الصرف و نقص الموارد المالية للشركات.

هنالك عدة اهداف لهذه الدراسة منها تحديد سعر البيع او الشراء للشركة و ان طرق التقييم هذه لغة يفهما كل من المشتري و البائع. اضافة الي حساب قيمة الاصول الغير المتداولة مثل (السمعة). توجد عدة فرضيات لهذه الدراسة وهي: - اختبار طرق تقييم الشركات التقليدية - التدفقات النقدية المخصومة يمكن ان توفر معلومات موثوقة للمستثمر. - طرق مضاعفة الاسعار خاصة العائد علي السهم يوفر معلومات مهمة تساعد علي اتخاذ القرار. - قاعدة البيانات في سوق الاوراق المالية او قاعدة البيانات الخاصة تساعد في اتخاذ القرارات المناسبة.

خلصت الدراسة الي عدة نتائج منها: - طرق تقييم الشركات باستخدام التدفقات النقدية المخصومة له اثر ايجابي كثير في معظم الشركات لانها تاخذ في الاعتبار القيمة الزمنية الاموال. ايضا العائد علي السهم له اثر ايجابي في اتخاذ القرارات الخاصة بالاستثمار. اضافة الي ان تقييم الاصول الفردية للشركات يوفر معلومات اولية بسيطة غير كافية لاتخاذ القرارات الاستثمارية.

قدمت الدراسة عدة مقترحات للشركات و مستخدمي طرق التقييم منها: - ان صافي ربح الشركة يعتبر مؤشر مالي مهم جدا لقياس ربحية الشركة وله اثر بالغ علي العائد علي السهم و علي الشركات التركيز عليه بصورة اساسية. يجب علي الشركات الحكومية و العامة ان تسجل جميعها في سوق الاوراق المالية حتي يتم رصد نشاطها و تكون ضمن منظومة قاعدة البيانات لتلك الاسواق المالية.

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Chapter one
Introduction,
Research Methodology &
Previous Studies

Introduction

The impact of the economic deterioration and the devaluation of the Sudanese Genh have greatly affecting the existence and continuity of most of operating companies and businesses.

This has resulted in many businesses collapsed, discontinued, and in successful cases merged with other strong businesses.

This will give wider opportunity to surviving and strong businesses to buy the weak and left behind businesses, specifically if the sanctions imposed on Sudan lifted or at least partially released, the economy will move towards better situation and may be some businesses will catch up to turn the wheel into succession again,

The surviving and those businesses with strong financial capabilities will need to use the most recent and common business valuation methods, to buy and assess the worthiness of those businesses that either weak in their financial capabilities, or left the operation due to lack of resources or due to high operational costs, or due to the impact of the sanctions and the foreign exchanges issues.

There are common business valuation methods that current operating businesses in the local market or foreign investors, can use to takeover or partially buy the discontinuing businesses.

The buyers and investors will need to base their buying decisions on accurate and most updated information, as the market is full of businesses that left the economy and are easily be sold. The wrong decisions by using the rule of thumb to buy a business will lead to financial crisis if those decisions not rationalized in a way to protect the investors and stakeholders of the coming buyers.

The traditional methods of businesses valuations can be used in such situations, but may also lead to insufficient information to enable the investors to take the right decisions.

Those traditional methods combined with the most modern business valuation methods will provide the ultimate information that will enable the investors to have the sound business decision making.

This study will provide an attempt to use and evaluate the efficiency and capability of the traditional business valuation methods, combined with the modern business valuation methods, and how strong and sufficient information will each of these

methods will provide to satisfy the investor to take the right and optimal decision. Which methods that relevant to Sudanese investment environment, and how easily applied and most understandable information provided to users to support them taking investment decisions.

Sudan market, for most of the discontinued businesses may not enable the study to have full practical application, of all of the modern business valuation methods. As most of those business are not listed in Khartoum stock exchange or abroad, but the comparability with other businesses recently sold or valued will give reasonable reflection on the application of those business valuation methods, discounted cash-flow approach, beside the profitability analysis and the assets valuation approach will be of valuable use in this study

Background and the context:

There are many opportunities in the market for those businesses with strong financial capabilities and infrastructure to acquire and dominate the market share of these struggling businesses.

There a number of good expertise and valuation houses in the market in different industries that can value, determine and assess the worthiness of a business using different methods currently used in the market.

Using the traditional and modern methods of business valuation to the Sudanese market will, provide the owners and the investors with high satisfaction and reliabilities. Mixing those two methods and highlighting the pros and cons of each method will lead to identify and compare the eligibility and compatibility where to apply each one and at what stage the relevancy will be more acceptable, at which industry these methods are commonly applicable and accepted by both the owners of the businesses and the expected investors.

The traditional business valuation methods will be used in this study is the discounted cash-flow method, mixed with multiple methods from the modern business valuation methods.

The study will focus on using those two methods to reach to a conclusion that these two methods are the most useful valuation methods that can be applied in Sudan industries. That they provide the most sufficient, reliable and relevant information needed to take an accurate investment decision.

Most of the owners of the businesses are not aware of those valuation methods, by introducing these methods investors and owners will, ultimately benefit from the comparisons of these two techniques to value the business.

Statement of the Problem:

- The economy slowed down many years back which let most of the businesses to escape and deprive the operations, some of these businesses had collapsed due to the reasons that the short or non-existence of the financial resources and the forex impact as a direct result of the sole American sanctions on the country that affected these businesses.
- When companies and businesses stayed for long time without operations, owners tend to sell or dismantle or dissolve the businesses, for the sake of liquidity or moving to other sectors that does not requires high operation costs, or even some of the owners had left the country and started their new businesses in other countries.
- With a situation where a considerable amount of factories and companies stopped in different sectors, some companies with strong financial capabilities may try to takeover those defiant businesses.
- The lack of reliable information in the market and in the business centers, and the difficulty in retrieval of information that assist decision makers in the market.
- The business valuation methods can be used to provide the best estimate value of the businesses that can satisfy the owners of the businesses.
- There is lack of information regarding Sudan industrial market on the way businesses value their own assets and their businesses that been acquired.

The Importance of the study

This is not limited to specific sector or dominated by the size of the business. Start – up, small business and big size businesses are all interested to know and understand how business valuation works.

This study will provide the guidance and the know how to our Sudanese market, emphasizing the relevance and importance of these methods and how easy they are to apply if minimum information available of the business that need to be valued.

There are many methods of business valuation that businesses could use to reach and determine how much that specific business is worth in the market, all these well known methods are subject to a lot of essential external and internal factors (e.g revenues are among many other factors) that determine the value of the business.

The value that the business is worth can be calculated using objective measures that look at all aspects of a business, the detail and verified analysis of capital structure, earning prospects, market value of assets and in some cases the analysis of the company managements, will all provide the basics and solid information that assist in calculating the value of the business/company.

Such valuation is of great importance to people in the finance sector, current and potential investors, as it helps in determining the economic value of the business and derive and support investment decisions.

The Objectives of the study:

This study will provide solid grounds to investors, businesses owners and others who seeks to find methods to value a business. The main objectives of this study are:

- To determine the sale or purchase of a business. Owners of the business can use these methods so that they can “speak” the language of the finance-type
- To assess the worth of the intangible assets. Many businesses operate for long time, achieved several strategic business goals, and utilized all available resources and know-how. The image and goodwill of the business is an essential factor that play important role when selling of buying that business, even in cases of mergers and acquisitions goodwill will be main intangible asset that increase the worth of the business.
- Determining the price or fair value of shares that are not publicly traded. The importance of this is entailed by looking to business similar to the business that need valuation, that are currently for sale or that have recently being sold.
- To determine the value of business of family member or outsider
- One business line is separated from another, the best way to assess and work out the value of this separated division is through business valuation

- Owners interest is purchased or sold, the value at which the sales or purchases will be completed should be calculated by using the most appropriate business valuation method

Other objectives may include:-

- Mergers and Acquisitions, shareholders oppressions, Employment Stock ownership Planning (ESOPs), Financial Reporting, Goodwill impairment, family limited partnership, Reorganization and bankruptcies, recapitalization...

There are many valuation methods to be used to assess and determine the value of a business.

Traditional methods:

- The asset approach

This is where the business is estimated as being worth the value of its net assets, there are three ways to value the assets of the business

- o The book value approach
- o Net realizable value of the assets less liabilities,
- o Replacement value

- The discounted cash-flow

This is the most common and easy way to calculate the value of the business,

This method has two general approaches:

Weighted Average cost of Capital (WACC)

Here is the formula to calculate the discount rate (r) of the weighted average cost of capital. It uses the target equity ratio

Cost of Capital (WACC). It uses the target equity ratio $\frac{E}{(D+E)}$ and the target debt ratio $\frac{D}{(D+E)}$.

The formula for the discount rate (r) of the Weighted Average Cost of Capital (WACC) is:

$$r_{dWACC} = \frac{E}{(D+E)}(r_e^L) + \frac{D}{(D+E)}(1 - t)(r_D)$$

Where:

D = Market value of debt

E = Market value of equity

r_D = Discount rate for debt = Average interest rate on long-term debt

r_e^L = Discount rate for leveraged equity (calculated using CAPM)

The formula for the Capital Asset Pricing Model (CAPM):

$$r_e^L = r_f + \beta^L(r_m - r_f)$$

Where:

r_f = Risk-free rate of return for a theoretical investment without risk

r_m = Expected market return

$(r_m - r_f)$ = Excess market return

β^L = Leveraged Beta (Beta is a measure of Volatility/Risk)

Note: The risk-free rate comes from the Treasury bond rate at the time where the projections are being considered

Adjusted Present Value (APV)

- The adjusted present value uses the Net Present Value (NPV), which calculates on the basis of being financed only by equity. After the NPV is determined, APV then factors in the benefits of financing by taking into account the present value (PV) of any financing benefits like tax shields such as those provided by deductible interests.

The NPV formula is:

$$\frac{FCF_1}{(1+r_d)^1} + \frac{FCF_2}{(1+r_d)^2} + \frac{FCF_3}{(1+r_d)^3} + \dots + \frac{FCF_n}{(1+r_d)^n} = NPV$$

Where:

FCF = Free Cash Flows

r_D = Discount rate for debt = Average interest rate on long-term debt

Once you know the FCF apply the CAPM calculated with the unleveraged beta.

$$r_e^U = r_f + \beta^U (r_m - r_f)$$

Where:

r_f = Risk-free rate of return for a theoretical investment without risk

r_m = Expected market return

$(r_m - r_f)$ = Excess market return

β^U = Unleveraged beta

Then adjust for debt and compare the differences with and without the debt shield.

As a Rule of Thumb for business valuation:

Debt Tax Shield = (Corporate Tax Rate)(Weighted Average Interest Rate) x (Total Debt)

Debt Tax Shield = APV without DTS x (Tax rate x Long-term Debt Rate)

- **The comparable transactions Method:**
- Here the value of the business need to determine the key factor that determine the valuation, where comparing the financials of similar companies and try to find a multiple that closely predicts the valuation, once this is established then can be used to value the business that need valuation.

These methods are not reflecting the true value of a business as lacking the accuracy and they use historical information.

Modern Methods:

- **Income based**
- The P/E ration method is widely used in practice. This method relies on finding listed companies in similar businesses to the company being valued (target company), and then looking at the relationship they show between share price and earnings. If this relationship is used then the share price of the target company can be estimated.

P/E ratio:

- This is where price per share is divided by earnings of that share to reveal the numbers of year's worth of earnings are paid for in the share price.
- **Market based**
- This is one of the simplest way to value a publically traded company (firms that issue shares) to determine the value of such companies, first calculate their market capitalization (aka "market cap") by multiplying the company's stock price by the number of shares outstanding for equity market.
- Once this has been established then to be adjusted for the amount that it would be sell for if the company were being sold. The company would either be sold for a discount or premium.

The table shows the summary of the valuation methods:

Traditional Methods	Modern Methods
Asset Approach	Income based
Discounted Cash flow	P/E Ratio
Comparable Transactions	Market Based

COMPANY VALUATION IN DECISION-MAKING

BY STEFANI BOZADZHIEVA,4 MARCH 2016•0 COMMENTS• VALUATION

It's not uncommon for business owners to be aware of the valuation of their company. What is surprising is that many don't realise the different ways a company valuation can be used in your every-day business decision-making process.

If you don't know what we mean by valuation or you want to find out the different methods used to calculate valuation take a look at our articles on Company Valuation and Startup Valuation Methods!¹

When do you need a valuation?

There are certain occasions that call for calculating the valuation of a company. Some of these occasions are, for example, looking for investment, issuing stock, forming employee ownership stock plans, etc.

For a more detailed explanation of the have-to valuations, take a look at [When do you need a business valuation!](#)

The examples we mentioned before, cover some of the trigger events when you are required to determine your valuation. Genuinely, valuations are useful in the beginning phase of a company. Founders can find out a lot about their own company, customers and market by having a general understanding of their company value. On the other side of the spectrum, business owners who are planning an exit strategy or a succession plan can also benefit from knowing the exact value of their company.

However, did you know that valuation can be used as a factor in your strategic business decision-making?

Valuation in decision-making

Generally, business owners who are aware of their valuation are in a much better place to make decisions regarding their business, simply because they have an understanding of the true situation of their company.

Business owners can use valuations for estate planning, determining life insurance needs, setting a buy/sell agreement, setting up incentive plans for the management team.

To us, somewhat more important than the rest is looking for a way to increase your value. Only after you understand what the business is worth you can start setting goals for where you want your value to be in the future.

Some key areas to focus on to grow your value are:

Increase cash flow – investors are interested in future cash flows. Increasing the cash flows will increase the valuation. You can do that by increasing revenues or improve gross margins.

Decrease business risk – Business risks are issues such as reliance on the owner or management, customer concentration and others. The bigger the risk, the higher the rate of return required by an investor.

Business Growth – generally, the higher the growth rate, the higher the value of a business.

Conclusion

To recap, the first step to growing your business worth is understanding what valuation means and when it is used. Valuations are often needed for specific trigger events- such as a funding round for example, but knowing your business value enables you to make much more informed and fact-based decisions for your company future and build a strategy to ensure business success.

Research Methodology:

The study will depend on the external data in the various aspects which may include a range of information sources, this study will be conducted based on the prime facts and information to test the hypothesis of the research which, also extracted from the previous studies. To this extend and depending on the main purposes of the research that to validate and verify the theoretical parts of the hypnosis, the deductive and descriptive approaches will be used to magnify and establish the main variables of the studies, including a questionnaire base format to collect and analyse the data (Guda and Lincoln 2005).

Depending on the purposes of the study, that whenever the purpose is to test the hypothesis using statistical methods and generalization based on numerical data, qualitative methods are most appropriate to deliver the purpose that aimed to in the proposal, (Creswell 2009).

In this regard the main resources to reach and satisfy the research objectives are to use books, magazines, financial and business journals and periodic, references , academic and commercial abstracts and internet, a questionnaire will be developed to analyze the data of the different companies, to establish the model that will answer the questions in the hypotheses.

In addition to summary of sample cases for businesses that had been sold, merged with another businesses in Sudan to reflect the actual methods that had been applied to value them.

Research Scope:

As this study was not carried out in Sudan before (according to my research in Universities, websites in Sudan) I will limit the study to the theoretical facts from the books, references and other journals and websites, in addition sample cases of the businesses that had been sold out or merged (if any applied such methods). In addition, will also test the hypotheses in different companies and audit firm to test the practical side of the application of these methods in real business transactions.

The Structure of the study :

This study research will be organized in such way to reflect and show the importance of each chapter and the valuable information contains.

- ☐ **Chapter one:** will cover the introduction of the research and the methodology followed to complete the research.
- ☐ **Chapter Two:** the theoretical framework of business valuation and the main reasons why business valuation is performed.
- ☐ **Chapter Three:** literature review of the valuation methods, the traditional and modern valuation methods,
- ☐ **Chapter Four:** this will cover the field study ,data analysis interpretation, comments in addition to findings and recommendations

The Hypothesis's of the Study:

- Testing the traditional business valuation methods, will not provide sufficient enough information to determine the value that a business is worth
- Discounted Cash flow method can provide reliable information to take rational decisions in the business valuation process
- Pricing multiples including earning per share (EPS) provide reliable information for investment decisions.
- Databases from stock markets and other private sources will assist to find a reasonable bases to value a business

Previous Studies:

BRIEF CONSIDERATIONS ON BUSINESS VALUATION METHODS¹

BREVES CONSIDERACIONES ACERCA DE LOS MÉTODOS DE
VALORACIÓN DE EMPRESAS

BREVES CONSIDERAÇÕES SOBRE OS MÉTODOS DE VALORIZAÇÃO DE
EMPRESAS

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Resumen

Actualmente, estimar el valor de una firma ha cobrado una importancia significativa en los campos académico y empresarial debido a que conocer el valor de una organización se convierte en una herramienta clave para la administración y comercialización de la misma. De acuerdo con lo anterior, se han desarrollado numerosos métodos para llevar a cabo este tipo de ejercicios. En el presente artículo se revisan los métodos más utilizados en los procesos de valoración de empresas y se resaltan sus fortalezas y debilidades con el fin de compararlos y concluir que los métodos más robustos para llevar a cabo este tipo de análisis son los de flujos de caja descontados.

Palabras Claves: métodos de valoración, valoración de empresas, flujos de caja descontados.

Clasificación JEL: G12.

Abstract

Nowadays, determining the value of a business has gained significant importance in academic and business fields, as the understanding of the value of an organization has become a key tool for the management and marketing of a business. Accordingly, numerous methods have been developed in order to perform these kinds of practices. In this article, the most used and current methods in processes of business evaluation are revised, observing their strengths and weaknesses, with the aim of comparing them and determining that the discounted cash flow methods are the most adequate procedures to perform this type of analysis.

Keywords: valuation methods, business valuation, discounted cash flows.

JEL classification: G12.

Resumo

Atualmente, estimar el valor de una firma ha cobrado una importancia significativa en los campos académico y empresarial debido a que conocer el valor de una organización se convierte en una herramienta clave para la administración y comercialización de la misma. De acuerdo con lo anterior, se han desarrollado numerosos métodos para llevar a cabo este tipo de ejercicios. En el presente artículo se revisan los métodos más utilizados en los procesos de valoración de empresas y se resaltan sus fortalezas y debilidades con el fin de compararlos y concluir que los métodos más robustos para llevar a cabo este tipo de análisis son los de flujos de caja descontados.

Palavras chaves: métodos de valoración, valoración de empresas, flujos de caja descontados.

Classificação JEL: G12.

I. INTRODUCTION

Business valuation plays an important role in the development of the financial theory and its application in the market. It estimates the value of an organization, becomes a fundamental exercise that will help business managers to determine which financial strategy to follow, provides stakeholders with an overview about the financial situation and the expectations of the organization moving forward. However, over the years, many business valuation methods have been developed. These methods do not necessarily produce a unique result. Consistent with the above, it is relevant to review the most popular and currently-used valuation methods.

This article, divided into five sections, revises these valuation methods in order to determine which are the most ideal. In the first section, the accounting methods are revised, by going into detail on the valuation methods through the balance sheet and those methods based on the construction for multiples. In the second section, mixed methods are researched. The third part delves into the methods that incorporate future business profitability in the business valuation practices. Fourth section, the discounted cash flow methods will be reviewed. Finally, at fifth part, reasons whereby the discounted cash flow methods are discussed as the most coherent and consistent methods.

II. ACCOUNTING METHODS

As its name suggests, in order to estimate the business value, these types of methods are based exclusively on the accounting information available excluding other significant elements in the development of these practices.

The advantages associated to this type of methods consist in the facility and speed to estimate the business value estimation. Nevertheless, these methods present shortcomings as they do not incorporate information associated with the possible performance of the firm in the future, concepts related to the time-value of money. Besides, they exclude asset classes beyond the accounting information of the organization, for instance, the goodwill or the experience of the business in its field of action. In this method, groups protrude the balance sheet and multiple methods.

a. **Balance sheet methods:**

Balance sheet methods are valuation methods which use the balance sheet information of the organization as the unique source to estimate the business value. The most prominent methods of this group are mentioned below.

a.1. Book value method:

This method emphasizes on the fundamental accounting equation, equating the firm value with the owner's equity of the organization. This value can also be obtained by subtracting the total liabilities from the total assets of the business.

a.2. Adjusted book value method:

This method corresponds to the book value method reviewed above. In this case, however, the business value estimation is calculated by adjusting the assets and liabilities value to their market value.

a.3. Liquidation value method:

This method incorporates the assumption that the firm will stop developing its operations at the moment of being sold. The business value estimation will focus on, and determine how much would be obtained if the Company was sold.

a.4. Replacement value method:

This method, also known as "substantial value method", equates the business value to the cost incurred by the purchaser, if they decided to constitute a business with the same characteristics of the firm that is being valued.

a.5. Net real asset:

This method is similar to the book value method, but aims to adjust the owner's equity to the most realistic value. It means that through this method, the business value corresponds to the assets which are susceptible to exploitation without the current liabilities of the firm at market prices.

b. Valuation multiples:

This method estimates the value of a determined firm (B) based on the calculation of a ratio or multiple in a group of similar organizations. Hence, a multiple regarding the organization A is calculated according to the expression below:

$$\text{Multiple A} = \frac{\text{transaction amount organization A}}{\text{indicator organization A}}$$

(Equation 1)

The transaction amount for business A corresponds to the price that was agreed on, based on the selling of a similar company. For instance, if a similar Company was sold for 2 million dollars two months ago, the transaction amount for the organization A will be exactly the same. On the other hand, the indicator for firm A will correspond to one of the entries in the earnings report, for example: sales, profits, etc.

The aim of the previous calculation is to build a ratio between the Price of a similar firm to the one that is being analyzed, and one of the key components of its financial statements. Therefore, this will become a tool for the examiner to apply in valuation of the firm B according to the following expression:

$$\text{Multiple A} = \frac{\text{transaction amount organization A}}{\text{indicator organization A}}$$

(Equation 1)

Furthermore, the construction of multiples can be developed either based on the information of similar organizations in the stock exchange, or analyzing the information of recent transactions of similar corporations to the firm that is being valued.

The advantages of multiple valuation lie in the ease and speed of this type of method and in the sector information that is used to perform the valuation of the firm that is being analyzed. However, it is relevant to consider that this analysis does not take into account the information related to future performance of a business. It does not include concepts related to the time value of money and the value of others, such as goodwill or the experience of the firm in the sector, which are elements that are not reflected in the financial statements of corporations.

This group of methods protrude from those which use multiples as PER (Price Earnings Ratio), value of the firm in regard to EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization), EBIT, Net profit, free cash flow, etc. In each one of these proposals, the methodology applied is similar to the one exposed in equation 1 and 2, but takes into account that the indicator, used to calculate the value of the firm, will change according to each one of the methods mentioned above.

Mixed methods valuation:

As the title suggest, these methods aim to incorporate two elements in the valuation of an organization. Firstly, it includes an accounting component,

implying that it is common to use the book value or the adjusted book value. The second valuation component is related to the goodwill that is determined by other criteria which differ from those revealed in the financial statements of the firm. Some of these elements attempt to incorporate representative elements to the business value, such as the experience of the organization in its sector and its advantages over competitors. Thus, the value of a firm calculated through a mixed method will correspond to the expression below:

$$\text{Business value} = \text{book value} + \text{Goodwill}$$

(Equation 3)

On the other hand, the goodwill is calculated through the following expression:

$$\text{Goodwill} = \text{net benefit} * \text{sector multiplier}$$

(Equation 4)

Despite the fact that these methods include an accounting component which can be calculated efficiently, it is important to point out that their main weakness is that the sector multiplier does not present clear parameters for its calculation, resulting in an unreliable construction of the numerical approach made regarding goodwill. It is therefore not possible to generate, in most cases, a consistent output in the practices in which these methods are used.

Although many methods have been developed based on the mixed methods of valuation, some of the most relevant models are listed below: Classic, Experts Union, short rent, etc. These methods present some variations from the model exposed previously, without exhibiting any substantial difference in its intrinsic calculation.

c. Discounted flow methods:

The methods encompassed within this group are currently the most commonly used methods and, are also the most accepted methods in both the academic and business community. Generally, these methods "try to determine the firm value through the estimation of the cash flows that will be generated in the future, and then discounting them at an appropriate rate according to the risk of such flows" (Fernández, 2008: 14).

The methods that are included in this group constitute an exercise in which incorporates different tools to allow an adequate, complete and dynamic analysis of the value of the organization. Therefore, this type of analysis represents multiple advantages related to the following factors. Firstly, the value estimation of the organization is originated in its capability to generate funding in the future, and it does not imply a static analysis based exclusively on the performance of the firm in the past, as in the case of other methods explained earlier, such as accounting methods and valuation multiples.

Secondly, the purpose of this analysis is to incorporate a risk element through the discount of the flows at an appropriate rate, which includes a spread pertaining to the risk assumed by the firm actors in the development of the business operations. This marks a relevant difference regarding accounting valuation methods which do not include this element in an explicit or implicit way and it is also different from valuation multiples which do not include this element explicitly. Thirdly, although it is evident, it should be pointed out that these methods include the time value concept. This is relevant given that it allows a dynamic valuation in which an intertemporal analysis of investments can be made.

Finally, the business valuation through these methods includes a previous analysis of the firm context. Hence, it is important to point out that the starting line to estimate the value of an organization through discounted cash flow methods is to conduct a detailed review of the environment in which the organization operates. This is due to the fact that the knowledge and the understanding of the industry and economy that surrounds the firm are determinants to establish the conditions of the valuation exercise in terms of forecasts and value drivers. In accounting methods, these elements are not covered, whereas in valuation multiples and mixed valuation methods, this analysis should be done in an exhaustive form in order to ensure a reliable valuation practice.

The lack of speed and complexity of these methods are two factors that can be considered disadvantageous. The process of estimating the value of the organization should be as reliable as possible. Even though, in general terms the methodology of these methods follow general parameters in which flows are discounted through a certain rate, different proposals have been developed throughout time. Hence, some of the most used methods of this group are reviewed below in order to show a clearer idea of them.

i. Discounted Cash flows through traditional WACC:

In this method, the estimation of the firm value will correspond to the flow to be discounted, and the discount rate used to perform this practice. The flow to be discounted is the Free Cash Flow (FCF) and the rate used to discount it is the

WACC, calculated through the traditional form. Therefore, the value of the firm will correspond to the expression below:

$$FV_t = \frac{FCF(t+1)}{(1+WACC(t+1))} + \frac{FCF(t+2)}{(1+WACC(t+2))^2} + \dots + \frac{FCF_n}{(1+WACC)^n}$$

(Equation 5)

Where:

FV_t = Value of the firm period t.
 FCF_(T+1) = Free cash flow period t+1.
 FCF_n = Free cash flow period n.
 WACC_{t+1} = Weighted average Cost of capital period t+1.
 In this case, the WACC calculation will be obtained from the following expression:

$$WACC = K_e * \left(\frac{D}{FV}\right) + K_d * \left(\frac{E}{FV}\right)$$

(Equation 6)

Where:

K_e: Equity cost.
 E/FV: Percentage share of equity in the firm value.
 D/FV: Percentage share of debt in the firm value.
 K_d: Debt cost.

The Weighted average cost of capital (WACC) offers a clear outlook about the funding cost of the firm either from internal or external sources, for instance, banks. Concisely, the cost of capital of an organization corresponds to the average cost of total resources used by the firm taking into account the charged or required interest of all the parties that fund the operation of the organization weighted by the share of each one of the types of debt in its total financing. In other words, the aim of the WACC is to estimate "the required return over the operative assets of the firm" (Cooper, Davydenko, 2001, 2). Therefore, the WACC of any business would be the calculation of the average cost of the firm taking into account its capital structure.

Likewise, Vélez Pareja (2006) proposed another way for calculating WACC according to the expression below:

$$WACC = Ke(t) * \frac{E(t-1)}{FV(t-1)} + Kd(t) * (1 - T) * \frac{D(t-1)}{FV(t-1)}$$

(Equation 7)

Where:

Ke (t): Equity cost in period t.

(E/FV) (t-1): Percentage share of equity in the firm value period t-1.

(D/FV) (t-1): Percentage share of debt in the firm value period t-1.

Kd (t): Debt cost in period t.

T: Tax rate.

In addition, for an appropriate calculation of the firm WACC, it is relevant to check the way in which Ke and Kd are calculated. This should be a complex task, but it requires special attention and understanding of the concepts used for this purpose, as these calculations could greatly influence the output of the valuation exercise.

Regarding the construction of debt cost, it is relevant to include the liabilities of the firm with all the external sources of financing, particularly those corresponding to financial debt. To achieve this objective, the analyst should follow the instructions below. First of all, it is important to dispose of the financial liabilities for each one of the forecasted years in the valuation. If the firm has multiple financial liabilities, this calculation will be related to the total sum of all of them. Secondly, it is necessary to calculate the total amount of interest that the company pays for financial liabilities for each period. The debt cost will be obtained by dividing the total interest on the total financial liabilities for each year provided in the valuation according to the following expression:

$$Kd(t) = \frac{Interests(t)}{Debt Residue (t-1)}$$

(Equation 8)

As it can be seen in the last equation, the debt cost is calculated for each period, thus, it could be different for each year depending on the agreed conditions for the financial liabilities. Frequently, analysts make mistakes using a weighted average cost of the different financial liabilities rates of the firm which could lead to

miscalculations as a consequence of working with a single debt cost for all the analyzed period.

On the other hand, the construction of the equity cost corresponds to the expected return by the firm owners as a result of the investment in the business. It is relevant to note that K_e is an expected rate, hence, it does not constitute an inexorable obligation for the business management, at least for the period of time that the board of directors consider suitable. This rate should be high enough to overcome other alternatives in which investors could participate, and offer a compensation for the risk assumed in the development of the firm operations. The following expression illustrates the calculation of the equity cost:

$$K_e(t) = K_u(t) + (K_u(t) - K_d(t)) * \frac{D(t-1)}{E(t-1)}$$

(Equation 9)

Where:

$K_e(t)$ = Equity cost in period t.

$K_u(t)$ = Equity cost without debt period t.

$K_d(t)$ = Debt cost period t.

$D(t-1)$ = Debt value period t-1.

$E(t-1)$ = Equity value period t-1.

In the last equation it is possible to observe that the calculation of K_e includes the Equity Cost without debt in the period t, plus a Premium risk between the Equity Cost without debt and the debt cost. The third part of the equation corresponds to debt division on equity that performs as a risk indicator which depends on the capital structure of the firm. This ratio illustrates that the higher the debt in respect to the equity, the higher the expected equity cost. This conclusion is reasonable considering that normally, a high amount of debt in the capital structure of a firm could be perceived as a risky investment. The higher debt level causes investors to interpret it as a higher risk level, consequently, they demand to increase their profitability requirements to the firm (Sarmiento & Cayón; 2005).

Another expression corresponding to K_u is required for the construction of K_e . It is possible to calculate this rate according to the following:

$$K_u = R_f + (R_m - R_f) \cdot \beta(d)$$

(Equation 10)

The calculation of K_u is conducted through the model CAPM, which is coherent given that K_u corresponds to "what owners expect to receive from equity if business would not have financial debt" (Velez Pareja, 2006: 15). The firm owners, in this case, will not accept a rate inferior to the free risk rate, because they would obtain the same profitability investing their resources at this rate. Moreover, they will demand a risk Premium, which can be assumed as the difference between the market rate and the risk free rate. This result is multiplied by a coefficient beta, which pretends to incorporate a risk measure related to the firm activity. In this case, an unlevered beta coefficient is used with the purpose of capturing the risk related to the organization funding through proper resources. "Debt level affects the risk conditions, hence betas calculated for each Company depends on its indebtedness" (Sarmiento, Cayón; 2005: 3). Is possible to calculate the unlevered beta through the following expression:

$$\beta_u = \frac{\beta_c}{1 + (1 - t) \cdot D/E}$$

(Equation 11)

Where:

β_u : Unleveraged beta.

β_c : Leveraged beta.

T: Tax rate.

D/E: Capital structure of the firm.

On the other hand, free cash flow is defined as the cash flow generated by an organization available for the payment of the firm creditors (either shareholders or debtors). Similarly, free cash flow will correspond to a measure of the capacity of the firm to generate resources in a specific period. For the calculation of FCF, it is possible to use different methods obtaining the same result. In this article, the expression used to calculate FCF is below:

$$FCF = ICF + OCF$$

(Equation 12)

Where:

FCF: Free Cash Flow.

ICF: Investment Cash Flow.

OCF: Operational Cash Flow.

In the expression above, it is possible to observe that FCF constitutes the funds generated by the firm from its operations. Therefore, it is possible to infer that FCF of the organization is composed by adding the ICF to the OCF, as these measurements represent the generation of wealth by the firm generated by its operation given its investments needs.

The Operational cash flow summarizes all the incomes and expenses of the firm operations. In contrast, the ICF constitutes whether the initial and periodical investments required by the firm to perform its operations in the analyzed period.

ii. Capital cash flow discounted through K_u :

In the estimation of the value of the firm through this method, the Capital Cash Flow (CCF) is discounted through the equity cost without debt (K_u). In this case, the calculation of the firm value will be given by the following expression:

$$FTt = \frac{FCC(t+1)}{(1 + K_u(t+1))} + \frac{FCC(t+2)}{(1 + K_u(t+2))^2} + \dots + \frac{FCCn}{(1 + K_u)^n}$$

(Equation 13)

Where:

FT_t : Firm value in period t .

$FCC(T+1)$: Capital cash flow period $t+1$.

$Ku(t)$: Equity cost without debt period t .

Starting from the expression above, CCF is defined as all the available resources to comply with the financial liabilities that the firm has with external creditors and the distribution of dividends to shareholders. Hence, the CCF is equal to Debt Cash Flow (DCF) plus the shareholder cash flow according to the expression below:

$$CCF = DCF + SCF$$

(Equation 14)

Where:

CCF: Capital cash flow.

DCF: Debt cash flow.

SCF: Shareholder cash flow.

The shareholder cash flow corresponds to the cash flow generated by the firm before distributing dividends, but after Company debt has been paid. This means that the cash flow is generated by the organization and its management can use to distribute dividends to shareholders after the liabilities fulfillment.

The shareholder cash flow is determined by the dividends distributed by the firm and the possible sale that the shareholder could conduct as part of its participation to the organization. SCF is formed by the invested capital in a business in the present, for instance, capital goods or financial assets (expenditures) in order to generate capital inflows in the future from derived from the project (incomes). The algebraic sum of these items is the SCF" (Velez Pareja, 2006).

Therefore, cash flow debt is determined by all flows that should leave the company to comply with the payment of the debt that the organization has with external creditors. In general, the construction of this flow is similar to an amortization table, but considers all the loans that the firm has with external creditors and uses the

appropriate interest rate for each of the obligations of the Company. DCF is constituted by the capital loaned by third parties (financial institutions) at a determined interest rate, this implies a payment or an expenditure for the entrepreneur, who makes it with the purpose of obtaining further incomes. The algebraic sum of these items is the DCF (Vélez Pareja, 2006).

iii. Equity value:

In these methods, the firm value calculation is obtained by discounting the SCF through K_e and adding the debt residue to the result. The estimation of the firm value through this method is presented in the following expression:

$$FVt = \left(\left(\frac{SCF(t+1)}{(1+K_e(t+1))} \right) + SD(t) \right) + \left(\left(\frac{SCF(t+2)}{(1+K_u(t+2))^2} \right) + SD(t+1) \right) + \dots + \left(\left(\frac{SCFn}{(1+K_u)^n} \right) + DR(n-1) \right)$$

(Equation 15)

Where:

FVt: Firm value period t.

$K_e(t+1)$: Equity cost period t+1.

$K_u(t+1)$: Equity cost without debt period t+1.

SD (t): Debt residue period t+1.

The majority of terms in equation 15 are already known. The debt residue is the sum of all the financial liabilities of the firm for each one of the analyzed periods. According to Ehrhardt (1999) the SCF, can be understood as the amount available for the shareholder after covering the costs of capital investments and other expenses such as the payment of debt and taxes. In theory, the shareholder has the right to take that money from the Company in form of dividends, but in practice the reinvestment needs of the Company, tax factors (dividend), perceptions of dividend payments, and different needs in capital structure can all influence the shareholder's behaviour.

Adjusted present value:

According to this method, the firm value corresponds to the following expression:

$$V_L = V_U + tD$$

(Equation 16)

Where:

V_L = Firm value with debt

V_U = Firm value without debt

tD = Present value of the tax savings by interests.

Starting from the last equation, the firm value is obtained through APV method, which corresponds to the sum of the value of the firm; here, the assumption is made that the business does not have debt, and that there is tax savings cash flow. The firm value is calculated without the effect of debt. This estimation is discounted by the FCF through the equity cost without debt (K_u) according to the following expression:

$$PFV_u = \frac{FCF_0}{(1 + K_u)} + \frac{FCF_1}{(1 + K_u)^1} + \dots + \frac{FCF_n}{(1 + K_u)^n}$$

(Equation 17)

Where:

PFV_U : Present value of the firm without debt.

FCF_0 : Free cash flow period 0.

K_u : Cost of equity without debt.

At this point, it is relevant to state, firstly, that the calculation of FCF and K_u can be realized through the method presented in this article, as well as the estimation of the FCF. Secondly, it is indispensable to proceed to the calculation of the tax saving flow. The discount of this flow should be made through K_u , since it is pretended to calculate the effect of the indebtedness of the company over its flows. This effect is a function of the interest and the tax rates that have been paid. This calculation could be made according to the expression below:

$$PVTSF = \frac{TSCF_0}{(1 + Ku)} + \frac{TSCF_1}{(1 + Ku)^1} + \dots + \frac{TSCF_n}{(1 + Ku)^n}$$

(Equation 18)

Where:

PVTSF: Present value of tax saving flow.
TSCF₀: Tax saving cash flow period 0.
Ku: Equity cost without debt.
Adjusted WACC:

The firm value estimation in this method requires the calculation of a WACC, different from what is generally used and which has been denominated as adjusted WACC. The calculation of this variable is described below:

$$WACC (adj) (t) = Kut - \frac{AIt}{FV(t - 1)}$$

(Equation 19)

Where:

WACC (adj) (t): Adjusted WACC period t.

Kut: Equity cost without debt period t.

AIt: Tax saving period t.

FV (t-1): Firm value period t+1.

This method is more reliable than the traditional method to calculate WACC, since in this case the tax saving value is included as an absolute value and not as a lower value of Kd (Vélez Pareja, Tham 2012). The calculation of the firm value, in this method, corresponds to the following expression:

$$FVt = \frac{FCF(t + 1)}{(1 + WACC adj(t + 1))} + \frac{FCF(t + 2)}{(1 + WACC adj (t + 2))^2} + \dots + \frac{FCFn}{(1 + WACC adj (n))^n}$$

(Equation 20)

Where:

FV_t: Firm value period t.

FCF (T+1): Free cash flow period t+1.

WACC_{adj (t+1)} Adjusted WACC period t+1.

III. CONCLUSIONS

According to the advantages and disadvantages of the valuation methods reviewed, it can be seen that even though there are multiple methods that can be used to value a firm, the results obtained from their use present a wide range of differences which are not only reflected in the final value obtained through the valuation exercise, but also in the conceptual development throughout the stages of the valuation process. However, it is not possible to discount any of these methods as incorrect, considering that the use of them depends, in the majority of the cases, on the purpose for which the practice is conducted. For instance, the objective of a valuation exercise is not the same when the organization management is considering a merger, or an acquisition, compared to the practice performed to simply dispose of a reference value regarding the sector in which the firm develops its operations.

Likewise, there are methods conceptually more pertinent than others, and therefore, give more reliable results in a valuation exercise considering the way in which the method is performed. They allow for the incorporation of sophisticated tools, which provide the analyst with a reliable estimation of the firm value. In general, financial literature emphasizes that most methods are the discounted cash flow methods. "In these methods, the firm is considered as an entity capable to generate cash flows, and to obtain an outcome, the present value of those flows is calculated through an adequate discount rate. The value of the shares of a firm -supposing continuity - originated from the cash flow generation to the owners of the shares. Therefore, the most appropriate method to value a Company is to discount the expected future cash flows" (Fernandez, 2008).

In addition, these methods present many advantages. They are considered dynamic methods because the firm value depends on its capability to generate funds in the future, and it is not limited to performing a static analysis considering only the historic information of the organization. In the same line, these type of methods contemplate the economic context in which the business develops its activities and its potential performance in the future. These elements can be incorporated in the projections made to construct valuation models, as well as discount rates and the sector who the company belongs to. As a result, such methods are complete and conceptually correct to develop a valuation exercise. Accordingly, these firm

valuation methods are considered suitable for its objectivity, which implies knowing the real firm value and its market offers based on the settlement of its value or its ability of generating, directly or indirectly, funds after its acquisition. These methods are not based on subjective perceptions by their owners or market potential buyers (Pereyra, 2008).

Finally, it is pertinent to reiterate that the reliability of the results obtained through a valuation exercise will largely depend on the analysis and the proper use of the chosen method. Simply performing a business valuation through a discounted cash flow method does not necessarily imply that the exercise is well developed. Quality depends on conceptual clarity and the assertiveness of the analyst to develop the exercise.

Notas al pie de página

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Company valuation methods. The most common errors in valuations

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In this paper, we describe the four main groups comprising the most widely used company valuation methods: balance sheet-based methods, income statement-based methods, mixed methods, and cash flow discounting-based methods. The methods that are conceptually “correct” are those based on cash flow discounting. We will briefly comment on other methods since -even though they are conceptually “incorrect”- they continue to be used frequently.

We 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. We finish the paper showing the most common errors in valuations: a list that contains the most common errors that the author has detected in the more than one thousand valuations he has had access to in his capacity as business consultant or teacher.

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For anyone involved in the field of corporate finance, understanding the mechanisms of company valuation is an indispensable requisite. This is not only because of the importance of valuation in acquisitions and mergers but also because the process of valuing the company and its business units helps identify sources of economic value creation and destruction within the company.

The methods for valuing companies can be classified in six groups:

MAIN VALUATION METHODS					
BALANCE SHEET	INCOME STATEMENT	MIXED (GOODWILL)	CASH FLOW DISCOUNTING	VALUE CREATION	OPTIONS
Book value Adjusted book value Liquidation value Substantial value	Multiples PER Sales P/EBITDA Other multiples	Classic Union of European Accounting Experts Abbreviated income Others	Equity cash flow Dividends Free cash flow Capital cash flow APV	EVA Economic profit Cash value added CFROI	Black and Scholes Investment option Expand the project Delay the investment Alternative uses

In this paper, we will briefly describe the four main groups comprising the most widely used company valuation methods. Each of these groups is discussed in a separate section: balance sheet-based methods (Section 2), income statement-based methods (Section 3), mixed methods (Section 4), and cash flow discounting-based methods (Section 5).¹ Section 7 uses 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. Section 8 shows the methods most widely used by analysts for different types of industry.

The methods that are becoming increasingly popular (and are conceptually “correct”) are those based on cash flow discounting. These methods view the company as a cash flow generator and, therefore, assessable as a financial asset. We will briefly comment on other methods since -even though they are conceptually “incorrect”- they continue to be used frequently.

Section 12 contains the most common errors in valuations: a list that contains the most common errors that the author has detected in the more than one thousand valuations he has had access to in his capacity as business consultant or teacher.

1. Value and price. What purpose does a valuation serve?

Generally speaking, a company's value is different for different buyers and it may also be different for the buyer and the seller.

Value should not be confused with price, which 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

1 The reader interested in methods based on value creation measures can see Fernandez (2002, chapters 1, 13 and 14). The reader interested in valuation using options theory can see Fernandez (2001c).

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 extremes². 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.

A valuation may be used for a wide range of purposes:

1- In company buying and selling operations:

- For the buyer, the valuation will tell him the highest price he should pay.
- For the seller, the valuation will tell him the lowest price at which he should be prepared to sell.

2- Valuations of listed companies:

- The valuation is used to compare the value obtained with the share's price on the stock market and to decide whether to sell, buy or hold the shares.
- The valuation of several companies is used to decide the securities that the portfolio should concentrate on: those that seem to it to be undervalued by the market.
- The valuation of several companies is also used to make comparisons between companies. For example, if an investor thinks that the future course of GE's share price will be better than that of Amazon, he may buy GE shares and short-sell Amazon shares. With this position, he will gain provided that GE's share price does better (rises more or falls less) than that of Amazon.

3. Public offerings:

- The valuation is used to justify the price at which the shares are offered to the public.

4. Inheritances and wills:

- The valuation is used to compare the shares' value with that of the other assets.

5. Compensation schemes based on value creation:

- The valuation of a company or business unit is fundamental for quantifying the value creation attributable to the executives being assessed.

6. Identification of value drivers:

- The valuation of a company or business unit is fundamental for identifying and stratifying the main value drivers

7. Strategic decisions on the company's continued existence:

- The valuation of a company or business unit is a prior step in the decision to continue in the business, sell, merge, milk, grow or buy other companies.

8. Strategic planning:

- The valuation of the company and the different business units is fundamental for deciding what products/business lines/countries/customers ... to maintain grow or abandon.
- The valuation provides a means for measuring the impact of the company's possible policies and strategies on value creation and destruction.

2 There is also the middle position that considers both the buyer's and seller's viewpoints and is represented by

the figure of the neutral arbitrator. Arbitration is often necessary in litigation, for example, when dividing estates between heirs or deciding divorce settlements.

2. Balance sheet-based methods (shareholders' equity)

These methods seek to determine the company's value by estimating the value of its assets. These are traditionally used methods that consider that a company's value lies basically in its balance sheet. They determine the value from a static viewpoint, which, therefore, does not take into account the company's possible future evolution, money's temporary value. These methods do not take into account other factors that also affect the value such as: the industry's current situation, human resources or organizational problems, contracts, etc. that do not appear in the accounting statements.

Some of these methods are the following: book value, adjusted book value, liquidation value, and substantial value.

2.1. Book value

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.

Let us take the case of a hypothetical company whose balance sheet is that shown in Table 1. The shares' book value (capital plus reserves) is 80 million dollars. It can also be calculated as the difference between total assets (160) and liabilities (40 + 10 + 30), that is, 80 million dollars.

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	<u>100</u>	Shareholders' equity	<u>80</u>
Total assets	160	Total liabilities	160

This value suffers from the shortcoming of its own definition criterion: accounting criteria are subject to a certain degree of subjectivity and differ from "market" criteria, with the result that the book value almost never matches the "market" value.

2.2. Adjusted book value

This method seeks to overcome the shortcomings that appear when purely accounting criteria are applied in the valuation.

When the values of assets and liabilities match their market value, the adjusted net worth is obtained.

Continuing with the example of Table 1, we will analyze a number of balance sheet items individually in order to adjust them to their approximate market value. For example, if we consider that:

- Accounts receivable includes 2 million dollars of bad debt, this item should have a value of 8 million dollars
- Stock, after discounting obsolete, worthless items and revaluing the remaining items at their market value, has a value of 52 million dollars
- Fixed assets (land, buildings, and machinery) have a value of 150 million dollars, according to an expert, and
- The book value of accounts payable, bank debt and long-term debt is equal to their market value,

The adjusted balance sheet would be that shown in Table 2.

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	<u>150</u>	Capital and reserves	<u>135</u>
Total assets	215	Total liabilities	215

The adjusted book value is 135 million dollars: total assets (215) less liabilities (80). In this case, the adjusted book value exceeds the book value by 55 million dollars.

2.3. Liquidation value

This is the company's value if it is liquidated, that is, its assets are sold and its debts are paid off. This value is calculated by deducting the business's liquidation expenses (redundancy payments to employees, tax expenses and other typical liquidation expenses) from the adjusted net worth.

Taking the example given in Table 2, if the redundancy payments and other expenses associated with the liquidation of the company Alfa Inc. were to amount to 60 million dollars, the shares' liquidation value would be 75 million dollars (135-60).

Obviously, this method's usefulness is limited to a highly specific situation, namely, when the company is bought with the purpose of liquidating it at a later date. However, it always represents the company's minimum value, as a company's value, assuming it continues to operate, is greater than its liquidation value.

2.4. Substantial value

The substantial value represents the investment that must be made to form a company having identical conditions as those of the company being valued.

It can also be defined as the assets' replacement value, assuming the company continues to operate, as opposed to their liquidation value. Normally, the substantial value does not include those assets that are not used for the company's operations (unused land, holdings in other companies, etc.)

Three types of substantial value are usually defined:

- Gross substantial value: this is the asset's value at market price (in the example of Table 2: 215).
- Net substantial value or corrected net assets: this is the gross substantial value less liabilities. It is also known as adjusted net worth, which we have already seen in the previous section (in the example of Table 2: 135).
- Reduced gross substantial value: this is the gross substantial value reduced only by the value of the cost-free debt (in the example of Table 2: $175 = 215 - 40$). The remaining 40 million dollars correspond to accounts payable.

2.5. Book value and market value

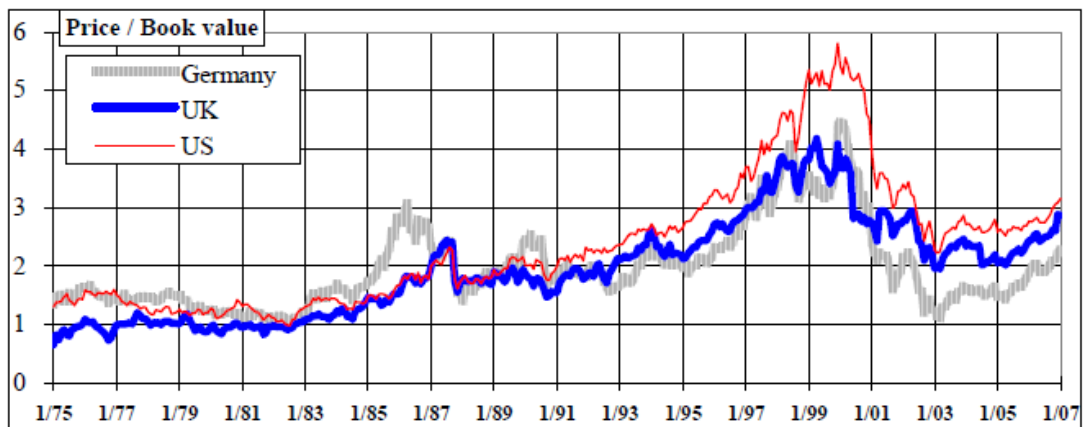
In general, the equity's book value has little bearing with its market value. This can be seen in Table 3, which shows the price/book value (P/BV) ratio of several international stock markets in September 1992, August 2000 and February 2007.

Table 3. Market value/book value (P/BV), PER and dividend yield (Div/P) of different national stock markets. Source: Morgan Stanley Capital International Perspective and Datastream

	September 1992			August 2000			February 2007		
	P/BV	PER	Div/P (%)	P/BV	PER	Div/P (%)	P/BV	PER	Div/P (%)
Spain	0,89	7,5	6,3	3,38	22,7	1,5	3,8	20,0	2,9
Canada	1,35	57,1	3,2	3,29	31,7	0,9	3,2	15,8	2,2
France	1,40	14,0	3,7	4,60	37,9	1,7	2,6	16,4	2,5
Germany	1,57	13,9	4,1	3,57	28,0	2,0	2,4	14,0	1,9
Hong Kong	1,69	14,1	3,9	1,96	8,4	2,3	2,5	15,2	2,4
Ireland	1,13	10,0	3,2	2,55	15,2	2,1	2,2	17,4	1,6
Italy	0,78	16,2	4,1	3,84	23,8	2,0	2,4	17,9	3,2
Japan	1,82	36,2	1,0	2,22	87,6	0,6	2,3	28,2	1,1
Switzerland	1,52	15,0	2,2	4,40	22,1	1,4	3,3	17,5	1,5
UK	1,88	16,3	5,2	2,90	24,4	2,1	3,0	14,4	2,9
US	2,26	23,3	3,1	5,29	29,4	1,1	3,2	18,0	1,7

P/BV is the share's price (P) divided by its book value (BV). PER is the share's price divided by the earnings per share. Div/P is the dividend per share divided by the price.

Figure 1. Evolution of the price/book value ratio on the British, German and United States stock markets. Source: Morgan Stanley and Datastream



3. Income statement-based methods

Unlike the balance sheet-based methods, these methods are based on the company's income statement. They seek to determine the company's value through the size of its earnings, sales or other indicators. Thus, for example, it is a common practice to perform quick valuations of cement companies by multiplying their annual production capacity (or sales) in metric tons by a ratio (multiple). It is also common to value car parking lots by multiplying the number of parking spaces by a multiple and to value insurance companies by multiplying annual premiums by a multiple.

This category includes the methods based on the PER: according to this method, the share's price is a multiple of the earnings.

The income statement for the company Alfa Inc. is shown in Table 4:

Table 4. Alfa Inc. Income statement. (Million dollars)

Sales	300
Cost of sales	136
General expenses	120
Interest expense	<u>4</u>
Earnings before tax	40
Tax (35%)	<u>14</u>
Net income	26

3.1. Value of earnings. PER

3

According to this method, the equity's value is obtained by multiplying the annual net income by a

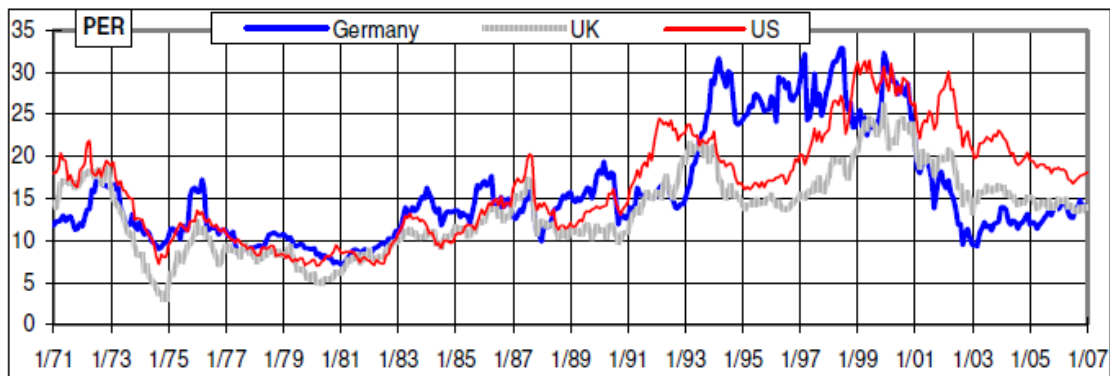
ratio called PER (price earnings ratio), that is:

Equity value = PER x earnings

Table 3 shows the mean PER of a number of different national stock markets in September 1992 and August 2000. Figure 2 shows the evolution of the PER for the German, English and United States stock markets.

Figure 2. Evolution of the PER of the German, English and United States stock markets.

Source: Morgan Stanley and Datastream



3 The PER (price earnings ratio) of a share indicates the multiple of the earnings per share that is paid on the stock market. Thus, if the earnings per share in the last year has been \$3 and the share's price is \$26, its PER will be 8.66 (26/3). On other occasions, the PER takes as its reference the forecast earnings per share for the next

year, or the mean earnings per share for the last few years. The PER is the benchmark used predominantly by the stock markets. Note that the PER is a parameter that relates a market item (share price) with a purely accounting item (earnings).

Sometimes, the **relative PER** is also used, which is simply the company's PER divided by the country's PER.

3.2. Value of the dividends

Dividends are the part of the earnings effectively paid out to the shareholder and, in most cases, are the only regular flow received by shareholders⁴. According to this method, a share's value is the net present value of the dividends that we expect to obtain from it. In the perpetuity case, that is, a company from which we expect constant dividends every year, this value can be expressed as follows:

$$\text{Equity value} = \text{DPS} / K_e$$

Where: DPS = dividend per share distributed by the company in the last year; K_e = required return to equity If, on the other hand, the dividend is expected to grow indefinitely at a constant annual rate g , the above formula becomes the following:

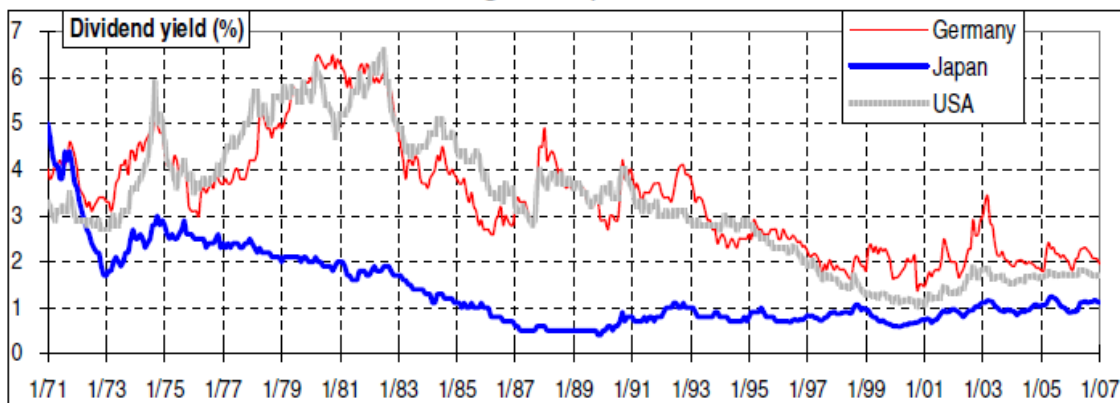
$$\text{Equity value} = \text{DPS}_1 / (K_e - g)$$

Where DPS_1 is the dividends per share for the next year.

Empirical evidence⁵ shows that the companies that pay more dividends (as a percentage of their earnings) do not obtain a growth in their share price as a result. This is because when a company distributes more dividends, normally it reduces its growth because it distributes the money to its shareholders instead of plowing it back into new investments.

Figure 3 shows the evolution of the dividend yield of the German, Japanese and United States stock markets.

Figure 3. Evolution of the dividend yield of the German, Japanese and United States stock markets.
Source: Morgan Stanley and Datastream



⁴ Other flows are share buy-backs and subscription rights. However, when capital increases take place that give rise to subscription rights, the shares' price falls by an

amount approximately equal to the right's value. 5 There is an enormous and highly varied literature about the impact of dividend policies on equity value. Some recommendable texts are to be found in Sorensen and Williamson (1985) and Miller (1986).

Table 3 shows the dividend yield of several international stock markets in September 1992, August 2000 and February 2007. In 2000, Japan was the country with the lowest dividend yield (0.6%) and Spain had a dividend yield of 1.5%.

3.3. Sales multiples

This valuation method, which is used in some industries with a certain frequency, consists of

calculating a company's value by multiplying its sales by a number. For example, a pharmacy is often valued by multiplying its annual sales (in dollars) by 2 or another number, depending on the market situation. It is also a common practice to value a soft drink bottling plant by multiplying its annual sales in liters by 500 or another number, depending on the market situation.

In order to analyze this method's consistency, Smith Barney analyzed the relationship between the price/sales ratio and the return on equity. The study was carried out in large corporations (capitalization in excess of 150 million dollars) in 22 countries. He divided the companies into five groups depending on their price/sales ratio: group 1 consisted of the companies with the lowest ratio, and group 5 contained the companies with the highest price/sales ratio. The mean return of each group of companies is shown in the following table:

Table 5. Relationship between return and the price/sales ratio. Source: Smith Barney

	<u>group 1</u>	<u>group 2</u>	<u>group 3</u>	<u>group 4</u>	<u>group 5</u>
December 84-December 89	38.2%	36.3%	33.8%	23.8%	12.3%
December 89-September 97	10.3%	12.4%	14.3%	12.2%	9.5%

It can be seen from this table that, during the period December 84-December 89, the equity of the

companies with the lowest price/sales ratio in December 1984 on average provided a higher return than that of the companies with a higher ratio. However, this ceased to apply during the period December 89-September 97: there was no relationship between the price/sales ratio in December 1989 and the return on equity during those years.

The price/sales ratio can be broken down into a further two ratios:

$$\text{Price/sales} = (\text{price/earnings}) \times (\text{earnings/sales})$$

The first ratio (price/earnings) is the PER and the second (earnings/sales) is normally known as return on sales.

3.4. Other multiples

In addition to the PER and the price/sales ratio, some of the frequently used multiples are:

- Value of the company / earnings before interest and taxes (EBIT)
- Value of the company / earnings before interest, taxes, depreciation and amortization (EBITDA)
- Value of the company / operating cash flow
- Value of the equity / book value⁶

⁶ We could also list a number of other ratios which we could call “sui-generis”. One example of such ratios is the value/owner. In the initial stages of a valuation I was commissioned to perform by a family business that was on sale, one of the brothers told me that he reckoned that the shares were worth about 30 million euros.

Obviously, in order to value a company using multiples, multiples of comparable companies must be used⁷.

3.5. Multiples used to value Internet companies

The multiples most commonly used to value Internet companies are Price/sales, Price/subscriber,

Price/pages visited and Price/inhabitant⁸.

An example. In March 2000, a French bank published its valuation of Terra based on the price/sales ratio of comparable companies:

	Freeserve	Tiscali	Freenet.de	Infosources	Average
Price/Sales	110.4	55.6	109.1	21.0	74.0

Applying the mean ratio (74) to Terra’s expected sales for 2001 (310 million dollars), they estimated the value of Terra’s entire equity to be 19.105 billion dollars (68.2 dollars per share).

4. Goodwill-based methods⁹

Generally speaking, goodwill is the value that a company has above its book value or above the adjusted book value. Goodwill seeks to represent the value of the company’s intangible assets, which often do not appear on the balance sheet but which, however, contribute an advantage with respect to other companies operating in the industry (quality of the customer portfolio, industry leadership, brands, strategic alliances, etc.). The problem arises when one tries to determine its value, as there is no consensus regarding the methodology used to calculate it. Some of the

methods used to value the goodwill give rise to the various valuation procedures described in this section.

These methods apply a mixed approach: on the one hand, they perform a static valuation of the company's assets

and, on the other hand, they try to quantify the value that the company will generate in the future. Basically, these methods seek to determine the company's value by estimating the combined value of its assets plus a capital gain resulting from the value of its future earnings: they start by valuing the company's assets and then add a quantity related with future earnings.

4.1. The “classic” valuation method

This method states that a company's value is equal to the value of its net assets (net substantial value) plus the

value of its goodwill. In turn, the goodwill is valued as n times the company's net income, or as a certain percentage of the turnover. According to this method, the formula that expresses a company's value is:

$$V = A + (n \times B), \text{ or } V = A + (z \times F)$$

where: A = net asset value; n = coefficient between 1.5 and 3; B = net income; z = percentage of sales revenue; F = turnover

The first formula is mainly used for industrial companies, while the second is commonly used for the retail trade.

When the first method is applied to the hypothetical company Alfa Inc., assuming that the goodwill is estimated at

three times the annual earnings, it would give a value for the company's equity amounting to 213 million dollars ($135 + 3 \times 26$).

A variant of this method consists of using the cash flow instead of the net income.

When I asked him how he had arrived at that figure, he answered, “We are three shareholder siblings and I want each one of us to get 10 million”.

7 For a more detailed discussion of the multiples method, see Fernandez (2001b).

8 See Fernandez (2001a)

9 The author feels duty bound to tell the reader that he does not like these methods at all but as they have been used a lot in the past, and they are still used from time to time, a brief description of some of them is included.

However, we will not mention them again in the rest of the book. The reader can skip directly to Section 5.

However, if he continues to read this section, he should not look for much “science” in the methods that follow because they are very arbitrary.

4.2. The simplified "abbreviated goodwill income" method or the simplified UEC10 method. According to this method, a company's value is expressed by the following formula: $V = A + an(B - iA)$, where:

A = corrected net assets or net substantial value

an = present value, at a rate t, of n annuities, with n between 5 and 8 years

B = net income for the previous year or that forecast for the coming year

i = interest rate obtained by an alternative placement, which could be debentures, the return on equities, or the return on real estate investments (after tax)

an(B - iA) = goodwill

This formula could be explained in the following manner: the company's value is the value of its adjusted net worth

plus the value of the goodwill. The value of the goodwill is obtained by capitalizing, by application of a coefficient an, a

"superprofit" that is equal to the difference between the net income and the investment of the net assets "A" at an interest rate "i" corresponding to the risk-free rate.

In the case of the company Alfa Inc., B = 26; A = 135. Let us assume that 5 years and 15% are used in the

calculation of an, which would give an = 3.352. Let us also assume that i = 10%.

With this hypothesis, the equity's value would be: $135 + 3.352(26 - 0.1 \times 135) = 135 + 41.9 = 176.9$ million dollars

4.3. Union of European Accounting Experts (UEC) method. The company's value according to this method is obtained from the following equation: $V = A + an(B - iV)$ giving: $V = [A + (an \times B)] / (1 + ian)$

For the UEC, a company's total value is equal to the substantial value (or revalued net assets) plus the goodwill.

This calculated by capitalizing at compound interest (using the factor an) a superprofit which is the profit less the flow

obtained by investing at a risk-free rate i a capital equal to the company's value V.

The difference between this method and the previous method lies in the value of the goodwill, which, in this case,

is calculated from the value V we are looking for, while in the simplified method, it was calculated from the net assets A.

In the case of the company Alfa Inc., B = 26; A = 135, an = 3.352, i = 10%. With these assumptions, the equity's

value would be: $(135 + 3.352 \times 26) / (1 + 0.1 \times 3.352) = 222.1 / 1.3352 = 166.8$ million dollars

4.4. Indirect method. The formula for finding a company's value according to this method is the following:

$V = (A + B/i) / 2$, which can also be expressed as $V = A + (B - iA) / 2i$

The rate i used is normally the interest rate paid on long-term Treasury bonds. As can be seen in the first expression, this method gives equal weight to the value of the net assets (substantial value) and the value of the return. This method has a large number of variants that are obtained by giving different weights to the substantial value and the earnings' capitalization value.

In the case of the company Alfa Inc., $B = 26$; $A = 135$, $i = 10\%$. With these assumptions, the equity's value would be 197.5 million dollars.

4.5. Anglo-Saxon or direct method. This method's formula is the following: $V = A + (B - iA) / tm$

In this case, the value of the goodwill is obtained by restating for an indefinite duration the value of the superprofit obtained by the company. This superprofit is the difference between the net income and what would be obtained from placing at the interest rate i , a capital equal to the value of the company's assets. The rate tm is the interest rate earned on fixed-income securities multiplied by a coefficient between 1.25 and 1.5 to adjust for the risk. In the case of the company Alfa Inc., $B = 26$; $A = 135$, $i = 10\%$. Let us assume that $tm = 15\%$. With these assumptions, the equity's value would be 218.3 million dollars.

4.6. Annual profit purchase method. With this method, the following valuation formula is used: $V = A + m (B - iA)$

Here, the value of the goodwill is equal to a certain number of years of superprofits. The buyer is prepared to pay the seller the value of the net assets plus m years of superprofits. The number of years (m) normally used ranges between 3 and 5, and the interest rate (i) is the interest rate for long-term loans.

In the case of the company Alfa Inc., $B = 26$; $A = 135$, $i = 10\%$. With these assumptions, and if m is 5 years, the equity's value would be 197.5 million dollars.

4.7. Risk-bearing and risk-free rate method

10 UEC: This is the acronym of "Union of European Accounting Experts".

This method determines a company's value using the following expression:

$$V = A + (B - iV) / t \text{ giving } V = (A + B/t) / (1 + i/t)$$

The rate i is the rate of an alternative, risk-free placement; the rate t is the risk-bearing rate used to restate the superprofit and is equal to the rate i increased by a risk ratio. According to this method, a company's value is equal to the net assets increased by the restated

superprofit. As can be seen, the formula is a variant of the UEC's method when the number of years tends towards infinity.

In the case of the company Alfa Inc., $B = 26$; $A = 135$, $i = 10\%$. With these assumptions, if $t = 15\%$, the equity's value would be 185 million dollars.

5. Cash flow discounting-based methods

These methods seek to determine the company's value by estimating the cash flows it will generate in the future and then discounting them at a discount rate matched to the flows' risk.

The mixed methods described previously have been used extensively in the past. However, they are currently used increasingly less and it can be said that, nowadays, the cash flow discounting method is generally used because it is the only conceptually correct valuation method. In these methods, the company is viewed as a cash flow generator and the company's value is obtained by calculating these flows' present value using a suitable discount rate.

Cash flow discounting methods are based on the detailed, careful forecast, for each period, of each of the financial items related with the generation of the cash flows corresponding to the company's operations, such as, for example, collection of sales, personnel, raw materials, administrative, sales, etc. expenses, loan repayments. Consequently, the conceptual approach is similar to that of the cash budget.

In cash flow discounting-based valuations, a suitable discount rate is determined for each type of cash flow. Determining the discount rate is one of the most important tasks and takes into account the risk, historic volatilities; in practice, the minimum discount rate is often set by the interested parties (the buyers or sellers are not prepared to invest or sell for less than a certain return, etc.).

5.1. General method for cash flow discounting

The different cash flow discounting-based methods start with the following expression:

$$V = \frac{CF_1}{1+k} + \frac{CF_2}{(1+k)^2} + \frac{CF_3}{(1+k)^3} + \dots + \frac{CF_n + VR_n}{(1+k)^n}$$

where: CF_i = cash flow generated by the company in the period i

V_n = residual value of the company in the year n

k = appropriate discount rate for the cash flows' risk .

Although at first sight it may appear that the above formula is considering a temporary duration of the flows, this is not necessarily so as the company's residual value in the year n (V_n) can be calculated by discounting the future flows after that

period. A simplified procedure for considering an indefinite duration of future flows after the year n is to assume a constant growth rate (g) of flows after that period. Then the residual value in year n is $VR_n = CF_n (1+g) / (k-g)$.

Although the flows may have an indefinite duration, it may be acceptable to ignore their value after a certain period, as their present value decreases progressively with longer time horizons. Furthermore, the competitive advantage of many businesses tends to disappear after a few years.

Before looking in more detail at the different cash flow discounting-based valuation methods, we must first define the different types of cash flow that can be used in a valuation.

5.2. Deciding the appropriate cash flow for discounting and the company's economic balance sheet

In order to understand what are the basic cash flows that can be considered in a valuation, the

following chart shows the different cash streams generated by a company and the appropriate discount rates for each flow.

CASH FLOWS	APPROPRIATE DISCOUNT RATE
FCF. Free cash flow	WACC. Weighted average cost of capital
ECF. Equity cash flow	K_e . Required return to equity
CFd. Debt cash flow	K_d . Required return to debt

There are three basic cash flows: the free cash flow, the equity cash flow, and the debt cash flow.

The easiest one to understand is the debt cash flow, which is the sum of the interest to be paid on the debt plus principal repayments. In order to determine the present market value of the existing debt, this flow must be discounted at the required rate of return to debt (cost of the debt). In many cases, the debt's market value shall be equivalent to its book value, which is why its book value is often taken as a sufficient approximation to the market value¹¹.

The free cash flow (**FCF**) enables the company's total value¹² (debt and equity: $D + E$) to be obtained.

The equity cash flow (**ECF**) enables to obtain the value of the equity which, combined with the value of the debt, will also enable the company's total value to be determined. The discount rates that must be used for the FCF and the ECF are explained in the following sections.

Figure 4 shows in simplified form the difference between the company's full balance sheet and its

economic balance sheet. When we refer to the company's (financial) assets, we are not talking about its entire assets but about total assets less spontaneous financing

(suppliers, creditors...). To put it another way, the company's (financial) assets consist of the net fixed assets plus the working capital requirements¹³. The company's (financial) liabilities consist of the shareholders' equity (the shares) and its debt (short and long-term

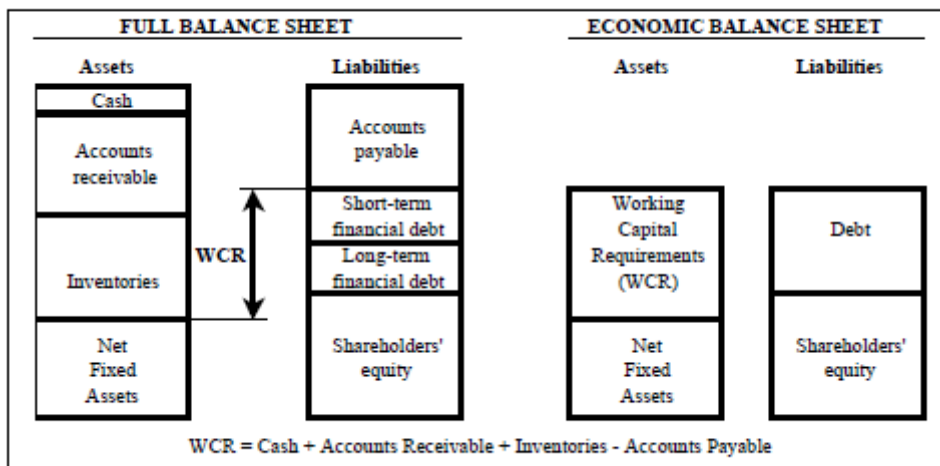
11 This is only valid if the required return to debt is equal to the debt's cost.

12 The "company's value" is usually considered to be the sum of the value of the equity plus the value of the financial debt.

13 For an excellent discussion of working capital requirements (WCR), see Faus (1996).

financial debt)¹⁴. In the rest of the paper, when we talk about the company's value, we will be referring to the value of the debt plus the value of the shareholders' equity (shares).

Figure 4. Full and economic balance sheet of a company.



5.2.1. The free cash flow

The free cash flow (FCF) is the operating cash flow, that is, the cash flow generated by operations, without taking into account borrowing (financial debt), after tax. It is the money that would be available in the company after covering fixed asset investment and working capital requirements, assuming that there is no debt and, therefore, there are no financial expenses.

In order to calculate future free cash flows, we must forecast the cash we will receive and must pay in each period. This is basically the approach used to draw up a cash budget. However, in company valuation, this task requires forecasting cash flows further ahead in time than is normally done in any cash budget.

Accounting cannot give us this information directly as, on the one hand, it uses the accrual approach and, on the other hand, it allocates its revenues, costs and expenses using basically arbitrary mechanisms. These two features of accounting distort our

perception of the appropriate approach when calculating cash flows, which must be the “cash” approach, that is, cash actually received or paid (collections and payments). However, when the accounting is adjusted to this approach, we can calculate whatever cash flow we are interested in.

We will now try to identify the basic components of a free cash flow in the hypothetical example of the company XYZ. The information given in the accounting statements shown in Table 6 must be adjusted to give the cash flows for each period, that is, the sums of money actually received and paid in each period.

14The shareholders’ equity or capital can include, among others, common stock, preferred stock and convertible preferred stock; and the different types of debt can include, among others, senior debt, subordinated debt, convertible debt, fixed or variable interest debt, zero or regular coupon debt, short or long-term debt, etc.

Table 6 gives the income statement for the company XYZ, SA. Using this data, we shall determine the company’s free cash flow, which we know by definition must not include any payments to fund providers.

Therefore, dividends and interest expenses must not be included in the free cash flow.

Table 7 shows how the free cash flow is obtained from earnings before interest and tax (EBIT). The tax payable on the EBIT must be calculated directly; this gives us the net income without subtracting interest payments, to which we must add the depreciation for the period because it is not a payment but merely an accounting entry. We must also consider the sums of money to be allocated to new investments in fixed assets and new working capital requirements (WCR), as these sums must be deducted in order to calculate the free cash flow.

Table 6. Income statement for XYZ.

	<u>1999</u>	<u>2000</u>	<u>2001</u>
Sales	1,000	1,100	1,210
-Cost of goods sold	- 650	- 715	- 786.5
-General expenses	- 189	- 207.9	-228.7
-Depreciation	- 20	- 20	- 20
Earnings before interest and tax (EBIT)	141	157.1	174.8
-Interest expenses	- 10	- 10	- 10
Earnings before tax (EBT)	131	147.1	164.8
-Tax	- 45.85	- 51.49	- 57.68
Net income (EAT)	85.15	95.62	107.1
-Dividends	- 34.06	- 38.25	- 42.85
Retained earnings	51.09	57.37	64.28

Table 7. Free cash flow of XYZ, SA.

	<u>1999</u>	<u>2000</u>	<u>2001</u>
Earnings before interest and tax (EBIT)	141	157.1	174.8
-Tax paid on EBIT	-49.4	-55	-61.2
Net income without debt	91.65	102.1	113.6
+Depreciation	20	20	20
- Increase in fixed assets	-61	-67.1	-73.8
- Increase in WCR	-11	-12.1	-13.3
Free cash flow	39.65	42.92	46.51

In order to calculate the free cash flow, we must ignore financing for the company's operations and concentrate on the financial return on the company's assets after tax, viewed from the perspective of a going concern, taking into account in each period the investments required for the business's continued existence. Finally, if the company had no debt, the free cash flow would be identical to the equity cash flow, which is another cash flow variant used in valuations and which will be analyzed below.

5.2.2. The equity cash flow

The equity cash flow (ECF) is calculated by subtracting from the free cash flow the interest and

principal payments (after tax) made in each period to the debt holders and adding the new debt provided. In short, it is the cash flow remaining available in the company after covering fixed asset investments and working capital requirements and after paying the financial charges and repaying the corresponding part of the debt's principal (in the event that there exists debt). This can be represented in the following expression:

$$\text{ECF} = \text{FCF} - [\text{interest payments} \times (1 - T)] - \text{principal repayments} + \text{new debt}$$

When making projections, the dividends and other expected payments to shareholders must match the equity cash flows.

This cash flow assumes the existence of a certain financing structure in each period, by which the interest corresponding to the existing debts is paid, the installments of the principal are paid at the corresponding maturity dates and funds from new debt are received. After that there remains a certain sum which is the cash available to the shareholders, which will be allocated to paying dividends or buying back shares. When we restate the equity cash flow, we are valuing the company's equity (E), and, therefore, the appropriate discount rate will be the required return to equity (Ke). To find the company's total value (D + E), we must add the value of the existing debt (D) to the value of the equity (E).

5.2.3. Capital cash flow

Capital cash flow (CCF) is the term given to the sum of the debt cash flow plus the equity cash flow. The debt cash flow is composed of the sum of interest payments plus principal repayments. Therefore:

$$\text{CCF} = \text{ECF} + \text{DCF} = \text{ECF} + \text{I} - \Delta \text{D} \quad \text{I} = \text{D Kd}$$

It is important to not confuse the capital cash flow with the free cash flow.

5.3. Calculating the value of the company using the free cash flow

In order to calculate the value of the company using this method, the free cash flows are discounted (restated) using the weighted average cost of debt and equity or weighted average cost of capital (WACC):

$$E + D = \text{present value [FCF; WACC]} \quad \text{where} \quad \text{WACC} = \frac{E \text{ Ke} + D \text{ Kd} (1 - T)}{E + D}$$

D = market value of the debt. E = market value of the equity

Kd = cost of the debt before tax = required return to debt. T = tax rate

Ke = required return to equity, which reflects the equity's risk

The WACC is calculated by weighting the cost of the debt (Kd) and the cost of the equity (Ke) with respect to the company's financial structure. This is the appropriate rate for this case as, since we are valuing the company as a whole (debt plus equity), we must consider the required return to debt and the required return to equity in the proportion to which they finance the company.

5.4. Calculating the value of the company as the unlevered value plus the discounted value of the tax shield

In this method,¹⁵ the company's value is calculated by adding two values: on the one hand, the value of the company assuming that the company has no debt and, on

the other hand, the value of the tax shield obtained by the fact that the company is financed with debt.

The value of the company without debt is obtained by discounting the free cash flow, using the rate of required return to equity that would be applicable to the company if it were to be considered as having no debt.

This rate (K_u) is known as the unlevered rate or required return to assets. The required return to assets is smaller than the required return to equity if the company has debt in its capital structure as, in this case, the shareholders would bear the financial risk implied by the existence of debt and would demand a higher equity risk premium.

In those cases where there is no debt, the required return to equity ($K_e = K_u$) is equivalent to the weighted average cost of capital (WACC), as the only source of financing being used is capital.

The present value of the tax shield arises from the fact that the company is being financed with debt, and it is the specific consequence of the lower tax paid by the company as a consequence of the interest paid on the debt in each period. In order to find the present value of the tax shield, we would first have to calculate the saving obtained by this means for each of the years, multiplying the interest payable on the debt by the tax rate.

Once we have obtained these flows, we will have to discount them at the rate considered appropriate. Although the discount rate to be used in this case is somewhat controversial, many authors suggest using the debt's market cost, which need not necessarily be the interest rate at which the company has contracted its debt.

Consequently, the APV condenses into the following formula:

$$D + E = NPV(FCF; K_u) + \text{value of the debt's tax shield}$$

5.5. Calculating the value of the company's equity by discounting the equity cash flow

The market value of the company's equity is obtained by discounting the equity cash flow at the rate of required return to equity for the company (K_e). When this value is added to the market value of the debt, it is possible to determine the company's total value.

1. Gordon and Shapiro's constant growth valuation model:

$$K_e = [\text{Div}_1 / P_0] + g. \quad \text{Div}_1 = \text{dividends to be received in the following period} = \text{Div}_0(1+g)$$

$$P_0 = \text{share's current price.} \quad g = \text{constant, sustainable dividend growth rate}$$

For example, if a share's price is 200 dollars, it is expected to pay a dividend of 10 dollars and the dividend's expected annual growth rate is 11%: $K_e = (10/200) + 0.11 = 0.16 = 16\%$

2. The capital asset pricing model (CAPM), which defines the required return to equity in the following terms:

$$K_e = R_f + \beta (R_M - R_f)$$

R_f = rate of return for risk-free investments (Treasury bonds)

β = share's beta¹⁶. R_M = expected market return. $R_M - R_f$ = market risk premium or equity premium

15 This method is called APV (adjusted present value). For a more detailed discussion, the reader can see

And thus, given certain values for the equity's beta, the risk-free rate and the market risk premium; it is possible to calculate the required return to equity¹⁷.

5.6. Calculating the company's value by discounting the capital cash flow

According to this model, the value of a company (market value of its equity plus market value of its debt) is equal to the present value of the capital cash flows (CCF) discounted at the weighted average cost of capital before tax (WACC_{BT}):

$$E + D = \text{present value [CCF; WACC}_{BT}]$$

$$\text{WACC}_{BT} = \frac{E K_e + D K_d}{E + D} \quad \text{CCF} = (\text{ECF} + \text{DCF})$$

There are more methods to value companies discounting the expected cash flows. Fernandez (2004b) explains ten different methods for Valuing Companies by Cash Flow Discounting and shows that all ten methods always give the same value. This result is logical, as all the methods analyze the same reality under the same hypotheses; they differ only in the cash flows taken as the starting point for the valuation.

5.7. Basic stages in the performance of a valuation by cash flow discounting

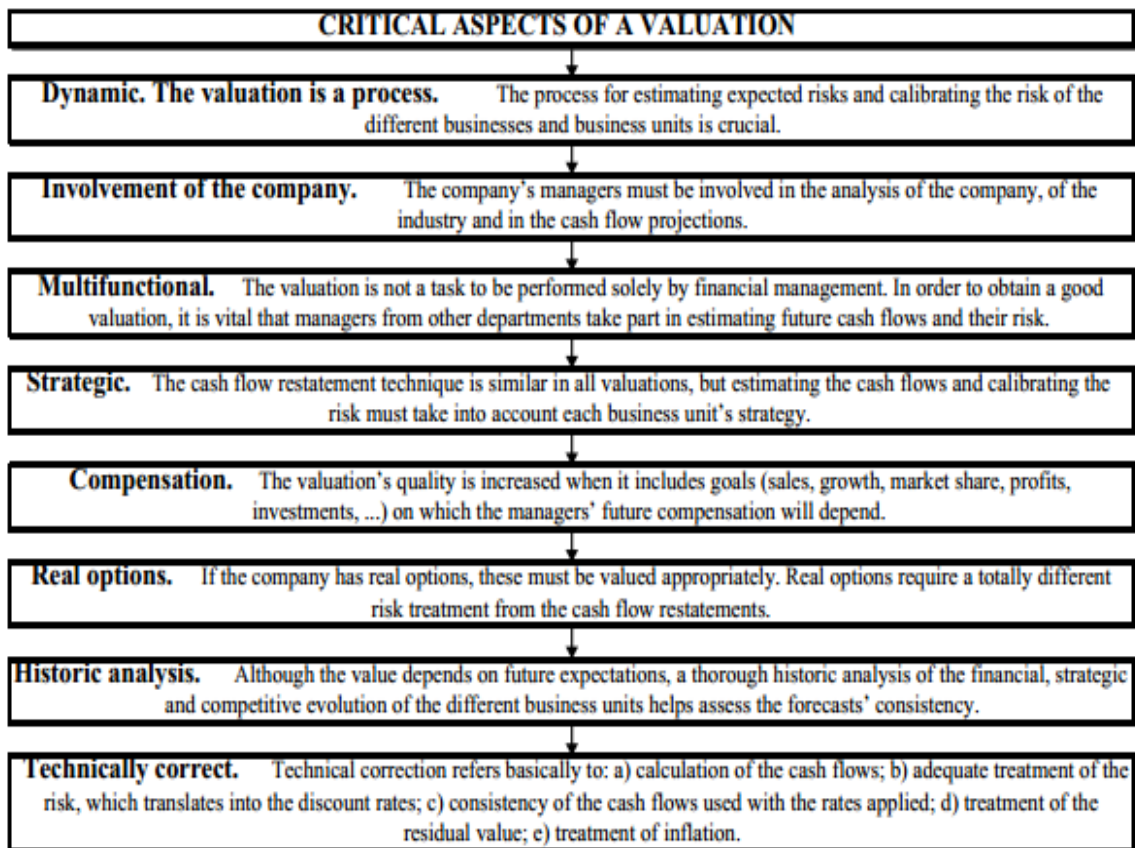
The basic stages in performing an accurate valuation by cash flow discounting are:

Fernandez (2002, chapters 19 and 21) and Fernandez (2004).

16 The beta measures the systematic or market risk of a share. It indicates the sensitivity of the return on a share held in the company to market movements. If the company has debt, the incremental risk arising from the leverage must be added to the intrinsic systematic risk of the company's business, thus obtaining the levered beta. 17 The classic finance textbooks provide a full discussion of the concepts analyzed here. For example, Brealey and Myers (1996), and Copeland and Weston (1988).

1. Historic and strategic analysis of the company and the industry	
A. Financial analysis Evolution of income statements and balance sheets Evolution of cash flows generated by the company Evolution of the company's investments Evolution of the company's financing Analysis of the financial health Analysis of the business's risk	B. Strategic and competitive analysis Evolution of the industry Evolution of the company's competitive position Identification of the value chain Competitive position of the main competitors Identification of the value drivers
2. Projections of future flows	
A. Financial forecasts Income statements and balance sheets Cash flows generated by the company Investments Financing Terminal value Forecast of various scenarios	B. Strategic and competitive forecasts Forecast of the industry's evolution Forecast of the company's competitive position Competitive position of the main competitors C. Consistency of the cash flow forecasts Financial consistency between forecasts Comparison of forecasts with historic figures Consistency of cash flows with the strategic analysis
3. Determination of the cost (required return) of capital	
For each business unit and for the company as a whole Cost of the debt, required return to equity and weighted cost of capital	
4. Net present value of future flows	
Net present value of the flows at their corresponding rate. Present value of the terminal value. Value of the equity.	
5. Interpretation of the results	
Benchmarking of the value obtained: comparison with similar companies Identification of the value creation. Sustainability of the value creation (time horizon) Analysis of the value's sensitivity to changes in the fundamental parameters Strategic and competitive justification of the value creation	

The critical aspects in performing a company valuation are:



6. Which is the best method to use?

Table 8 shows the value of the equity of the company Alfa Inc. obtained by different methods based on shareholders' equity, earnings and goodwill. The fundamental problem with these methods is that some are based solely on the balance sheet, others are based on the income statement, but none of them consider anything but historic data. We could imagine two companies with identical balance sheets and income statements but

different prospects: one with high sales, earnings and margin potential, and the other in a stabilized situation with fierce competition. We would all concur in giving a higher value to the former company than to the latter, in spite of their historic balance sheets and income statements being equal.

The most suitable method for valuing a company is to discount the expected future cash flows, as the value of a company's equity -assuming it continues to operate- arises from the company's capacity to generate cash (flows) for the equity's owners.

Table 8. Alfa Inc.
Value of the equity according to different methods. (Million dollars)

Book value	80
Adjusted book value	135
Liquidation value	75
PER	173
Classic valuation method	213
Simplified UEC method	177
UEC method	167
Indirect method	197
Direct or Anglo-Saxon method	218
Annual profit purchase method	197
Risk-bearing and risk-free rate method	185

7. The company as the sum of the values of different divisions. Break-up value

On many occasions, the company's value is calculated as the sum of the values of its different divisions or business units 18.

The best way to explain this method is with an example. Table 9 shows the valuation of a North American company performed in early 1980. The company in question had 3 separate divisions: household products, shipbuilding, and car accessories.

A financial group launched a takeover bid on this company at 38 dollars per share and a well-known investment bank was commissioned to value the company. This valuation, which is included in Table 9, would serve as a basis for assessing the offer.

Table 9 shows that the investment bank valued the company's equity between 430 and 479 million dollars (or, to put it another way, between 35 and 39 dollars per share). But let us see how it arrived at that value. First of all, it projected each division's net income and then allocated a (maximum and minimum) PER to each one. Using a simple multiplication (earnings x PER), it calculated the value of each division. The

company's value is simply the sum of the three divisions' values.

18 For a more detailed discussion of this type of valuation, we recommend Chapter 14 of the book "Valuation: measuring and managing the value of companies", by Copeland et al., edited by Wiley, 2000.

We can call this value (between 387 and 436 million dollars) the value of the earnings generated by the company. We must now add to this figure the company's cash surplus, which the investment bank estimated at 77.5 million dollars. However, the company's pension plan was not fully funded (it was short by 34.5 million dollars), and consequently, this quantity had to be subtracted from the company's value.

After performing these operations, the conclusion reached is that each share is worth between 35 and 39 dollars, which is very close to the offer made of 38 dollars per share.

Table 9. Valuation of a company as the sum of the value of its divisions.

Individual valuation of each business using the PER criterion

(million dollars)	Household products		Shipbuilding		Car accessories		TOTAL COMPANY	
	minimum	maximum	minimum	maximum	minimum	maximum	minimum	maximum
Expected net income	28.6		14.4		5.8		48.8	
PER for each business (minimum and maximum)	9	10	5	6	10	11		
Value (million dollars)	257.4	286.0	72.0	86.4	58.0	63.8	387.4	436.2
Plus: estimated net cash surplus at year-end*							77.5	77.5
Less: non-funded retirement pensions at year-end							34.5	34.5
Value of equity (million dollars)							430.4	479.2
Value per share (based on 12,201,000 shares)							35.3	39.3

*Cash surplus: 103.1 million dollars in cash, less 10 million dollars for operations and less 15.6 million dollars of financial debt.

8. Valuation methods used depending on the nature of the company

Holding companies are basically valued by their liquidation value, which is corrected to take into account taxes payable and managerial quality.

The growth of utility companies is usually fairly stable. In developed countries, the rates charged for their services are usually indexed to the CPI, or they are calculated in accordance with a legal framework.

Therefore, it is simpler to extrapolate their operating statement and then discount the cash flows. In these cases, particular attention must be paid to regulatory changes, which may introduce uncertainties.

In the case of banks, the focus of attention is the operating profit (financial margin less commissions less operating expenses), adjusting basically for bad debts. Their industry portfolio is also analyzed. Valuations such as the PER are used, or the net worth method (shareholders' equity adjusted for provision surpluses/deficits, and capital gains or losses on assets such as the industry portfolio). Industrial and commercial companies. In these cases, the most commonly used valuations -apart from restated cash flows- are those based on financial ratios (PER, price/sales, price/cash flow).

These issues are discussed in greater detail in Fernandez (2002, chapters 3 and 4).

9. Key factors affecting value: growth, return, risk and interest rates.

The equity's value depends on expected future flows and the required return to equity. In turn, the growth of future flows depends on the return on investments and the company's growth. However, the required return to equity depends on a variable over which the company has no control, the risk-free interest rate, and on the equity's risk which, in turn, we can divide into operating risk and financial risk.

Table 10. Factors influencing the equity's value (value drivers)

Table 10. Factors influencing the equity's value (value drivers)

VALUE OF EQUITY																			
Expectations of future cash flows							Required return to equity						Market communication						
Expected return on investment			Expected company growth				Risk-free interest rate	Market risk premium	Operating risk			Financial risk							
Competitive advantage period	Assets in place	Profit margin	Regulatory environment	Taxes	Managers, People, Corporate culture	Actual business, Barriers to	Acquisitions / disposals	Industry, Competitive structure	New businesses / products	Technology	Real options	Industry, countries, laws		Control of operations	Buyer / target	Risk perceived by the market	Financing	Liquidity	Size

Table 10 shows that the equity's value depends on three primary factors (value drivers): Expectations of future flows; Required return to equity; and Communication with the market¹⁹.

These factors can be subdivided in turn into return on the investment, company growth, risk-free interest rate, market risk premium, operating risk and financial risk. However, these factors are still very general. It is very important that a company identify the fundamental parameters that have most influence on the value of its shares and on value creation. Obviously, each factor's importance will vary for the different business units.

11. Speculative bubbles on the stock market

The advocates of fundamental analysis argue that share prices reflect future expectations updated by rational investors. Thus, a share's price is equal to the net present value of all the expected future dividends. This is the so-called fundamental value. In other words, the share price reflects current earnings generation plus growth expectations. The adjective fundamental refers to the parameters that influence the share price: interest rates, growth expectations, investment's risk...

Another group of theories is based on psychological or sociological behaviors, such as Keynes' "animal spirits". According to these theories, share price formation does not follow any rational valuation rule but rather depends on the states of euphoria, pessimism... predominating at any given time in the financial community and in society in general. It is these psychological phenomena that give hope to the chartists: if

moods do not change too often and investors value equity taking into account the share prices' past evolution, one can expect that successive share prices will be correlated or will repeat in similar cycles.

19 The communication with the market factor not only refers to communication and transparency with the markets in the strict sense but also to communication with: analysts, rating companies, regulatory agencies, board of directors, employees, customers, distribution channels, partner companies, suppliers, financial institutions, and shareholders.

The speculative bubble theory can be derived from fundamental analysis and occupies a middle ground between the above two theories, which seek to account for the behavior and evolution of share prices. The MIT professor Olivier Blanchard developed the algebraic expression of the speculative bubble, and it can be obtained from the same equation that gives the formula normally used by the fundamentalists. It simply makes

use of the fact that the equation has several solutions, one of which is the fundamental solution and another is the fundamental solution with a speculative bubble tacked onto it. By virtue of the latter solution, a share's price can be greater than its fundamental value (Net Present Value of all future dividends) if a bubble develops simultaneously, which at any given time may: a) continue to grow, or b) burst and vanish. To avoid tiring ourselves with equations, we can imagine the bubble as an equity overvaluation: an investor will pay today for a share a quantity that is greater than its fundamental value if he hopes to sell it tomorrow for a higher price, that is, if he hopes that the bubble will continue growing. This process can continue so long as there are investors who trust that the speculative bubble will continue to grow, that is, investors who expect to find in the future other trusting investors to whom they can sell the bubble (share) for a price that is greater than the price they

have paid. Bubbles tend to grow during periods of euphoria, when it seems that the market's only possible trend is upwards. However, there comes a day when there are no more trusting investors left and the bubble bursts and vanishes: shares return to their fundamental value.

This theory is attractive because it enables fundamental theory to be synthesized with the existence of anomalous behaviors (for the fundamentalists) in the evolution of share prices. Many analysts have used this theory to account for the tremendous drop in share prices on the New York stock market and on the other world markets on 19 October 1987. According to this explanation, a bubble bursting that had been growing over the previous months caused the stock market crash. A recent study performed by the Yale professor Shiller provides further evidence in support of this theory. Shiller interviewed 1000 institutional and private investors. The investors who sold before the Black Monday said that they sold because they thought that the stocks were

already overvalued. However, the most surprising finding is that more than 90% of the institutional investors who did not sell said that they too believed that the market

was overvalued, but hoped that they would be able to sell before the inevitable downturn. In other words, it seems that more than 90% of the institutional investors were aware that a speculative bubble was being formed -the stock was being sold for more than its fundamental value-, but trusted that they would be able to sell before the bubble burst. Among the private investors who did not sell before 19 October, more than 60% stated that they also believed that the stocks were overvalued.

Figure 5. The 1929 American stock market crisis

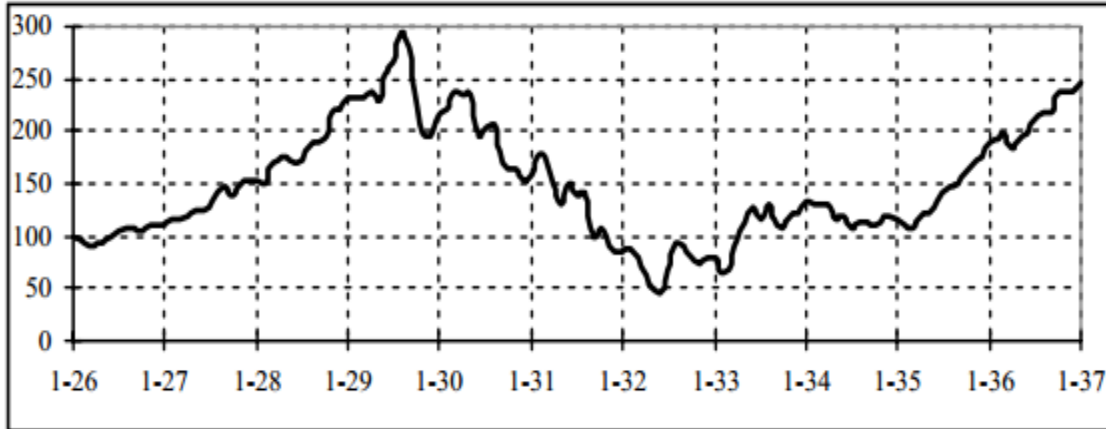
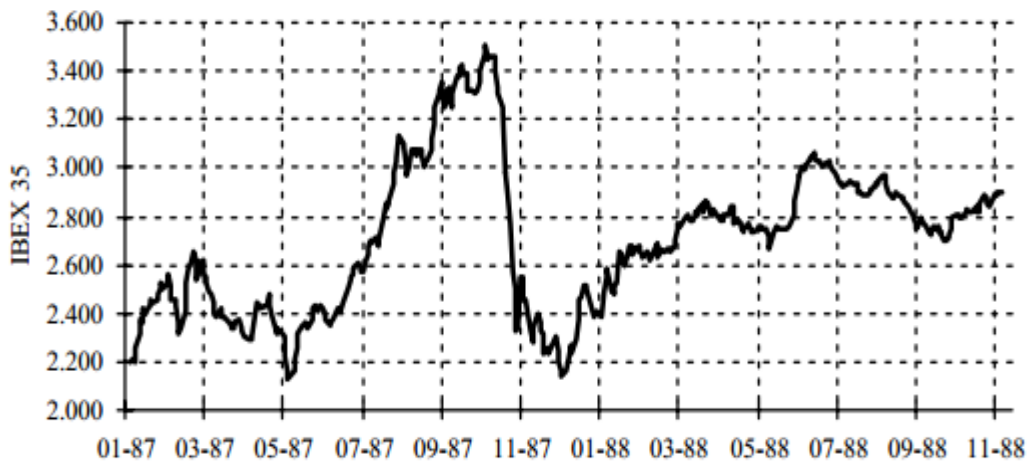


Figure 6. The Spanish stock market crisis of October 1987



This bursting of a speculative bubble is not a new phenomenon in history. We can find recent examples in Spain in 1974 and in the USA: electronic and high-tech companies in 1962, "good concept" companies in 1970, and household name companies throughout the 70's. In the electronic companies' bubble, many companies' shares in 1962 were worth less than 20% what they were worth in 1961. IBM's share price fell from \$600+ in 1961 to \$300 in 1962; and Texas Instruments' share price fell from \$200+ to \$50. Even larger was the bubble that grew in 1970 around the "good concept" companies: several of them lost 99% of their value in the space of just one-year. Household name companies also suffered severe drops in

their share prices during the 70's: McDonald's PER fell from 83 to 9, Sony's from 92 to 17 and Polaroid's from 90 to 16, to give just a few examples.

Speculative bubbles can also develop outside of the stock market. One often-quoted example is that of the Dutch tulips in the 17th Century. An unusual strain of tulips began to become increasingly sought after and its price rose continuously... In the end, the tulips' price returned to normal levels and many people were ruined.

There have also been many speculative bubbles in the real estate business. The story is always the same: prices temporarily rocket upwards and then return to "normal" levels. In the process, many investors who trust that the price will continue to rise lose a lot of money. The problem with this theory, as with many of the economic interpretations, is that it provides an ingenious explanation to account for events a posteriori but it is not very useful for providing forecasts about the course that share prices will follow in the future. For this, we would need to know how to detect the bubble and predict its future course. This means to be able to separate the share price into two components (the fundamental value and the bubble) and know the number of investors who trust that the bubble will continue to grow (here many chartists can be included). What the theory does remind us is that the bubble can burst at any time. History shows that, so far, all the bubbles have eventually burst.

The only sure recipe to avoid being trapped in a speculative bubble is to not enter it: to never buy what seems to be expensive, even if advised to do so by certain "experts", who appeal to esoteric tendencies and the foolishness or rashness of other investors.

12. Most common errors in valuations

The following list contains the most common errors that the author has detected in the more than one thousand valuations he has had access to in his capacity as business consultant or professor (see Fernandez and Carabias, 2006):

The most common errors are in italic

1. Errors in the discount rate calculation and concerning the riskiness of the company

A. Wrong risk-free rate used for the valuation

1. Using the historical average of the risk-free rate.
2. Using the short-term Government rate.
3. Wrong calculation of the real risk-free rate.

B. Wrong beta used for the valuation

1. *Using the historical industry beta, or the average of the betas of similar companies, when the result goes against common sense.*
2. Using the historical beta of the company when the result goes against common sense
3. Assuming that the beta calculated from historical data captures the country risk.
4. *Using the wrong formulae for levering and unlevering the beta.*
5. Arguing that the best estimation of the beta of a company from an emerging market is the beta of the company with respect to the S&P 500.
6. *When valuing an acquisition, using the beta of the acquiring company.*

C. Wrong market risk premium used for the valuation

1. *The required market risk premium is equal to the historical equity premium.*
2. The required market risk premium is equal to zero.
3. Assume that the required market risk premium is the expected risk premium.

D. Wrong calculation of WACC

1. Wrong definition of WACC.
2. *Debt to equity ratio used to calculate the WACC is different than the debt to equity ratio resulting from the valuation.*
3. Using discount rates lower than the risk free rate.
4. Using the statutory tax rate, instead of the effective tax rate of the levered company.
5. *Valuing all the different businesses of a diversified company using the same WACC (same leverage and same K_e).*
6. Considering that $WACC / (1-T)$ is a reasonable return for the stakeholders of the company.
7. *Using the wrong formula for the WACC when the value of debt is not equal to its book value.*
8. Calculating the WACC assuming a certain capital structure and deducting the outstanding debt from the enterprise value.
9. Calculating the WACC using book values of debt and equity.
10. Calculating the WACC using strange formulae.

- E. Wrong calculation of the value of tax shields
 1. *Discounting the tax shield using the cost of debt or the required return to unlevered equity.*
 2. *Odd or ad-hoc formulae.*
 - F. Wrong treatment of country risk
 1. *Not considering the country risk, arguing that it is diversifiable.*
 2. *Assuming that a disaster in an emerging market will increase the beta of the country's companies calculated with respect to the S&P 500.*
 3. *Assuming that an agreement with a government agency eliminates country risk.*
 4. *Assuming that the beta provided by Market Guide with the Bloomberg adjustment incorporates the illiquidity risk and the small cap premium.*
 5. *Odd calculations of the country risk premium.*
 - G. Including an illiquidity, small-cap, or specific premium when it is not appropriate
 1. *Including an odd small-cap premium.*
 2. *Including an odd illiquidity premium.*
 3. *Including a small-cap premium equal for all companies.*
- 2. Errors when calculating or forecasting the expected cash flows**
- A. Wrong definition of the cash flows
 1. *Forgetting the increase in Working Capital Requirements when calculating Cash Flows.*
 2. *Considering the increase in the company's cash position or financial investments as an equity cash flow.*
 3. *Errors in the calculation of the taxes that affect the FCF.*
 4. *Expected Equity Cash Flows are not equal to expected dividends plus other payments to shareholders (share repurchases, ...)*
 5. *Considering net income as a cash flow.*
 6. *Considering net income plus depreciation as a cash flow.*
 - B. Errors when valuing seasonal companies
 1. *Wrong treatment of seasonal working capital requirements.*
 2. *Wrong treatment of stocks that are cash equivalent.*
 3. *Wrong treatment of seasonal debt.*
 - C. Errors due to not projecting the balance sheets
 1. *Forgetting balance sheet accounts that affect the cash flows.*
 2. *Considering an asset revaluation as a cash flow.*
 3. *Interest expenses not equal to $D \cdot K_d$.*
 - D. *Exaggerated optimism when forecasting cash flows.*
- 3. Errors in the calculation of the residual value**
- A. *Inconsistent Cash Flow used to calculate perpetuity.*
 - B. *Debt to equity ratio used to calculate the WACC to discount the perpetuity is different to the Debt to equity ratio resulting from the valuation.*
 - C. *Using ad hoc formulas that have no economic meaning.*
 - D. *Using arithmetic averages instead of geometric averages to assess growth.*
 - E. *Calculating the residual value using the wrong formula.*
 - F. *Assume that a perpetuity starts a year before it really starts*

4. Inconsistencies and conceptual errors

A. Conceptual errors about the free cash flow and the equity cash flow

1. *Considering the cash in the company as an equity cash flow when the company has no plans to distribute it.*
2. *Using real cash flows and nominal discount rates or viceversa.*
3. *The free cash flow and the equity cash flow do not satisfy $ECF = FCF + \Delta D - Int(1-T)$.*

B. Errors when using multiples

1. *Using the average of multiples extracted from transactions executed over a very long period of time.*
2. *Using the average of transactions multiples that have a wide dispersion.*
3. *Using multiples in a way that is different to their definition.*
4. *Using a multiple from an extraordinary transaction.*
5. *Using ad hoc valuation multiples that conflict with common sense.*
6. *Using multiples without using the common sense.*

C. Time inconsistencies

1. *Assuming that the equity value will be constant for the next five years.*
2. *The Equity value or the Enterprise value do not satisfy the time consistency formulae.*

D. Other conceptual errors

1. *Not considering cash flows resulting from future investments.*
 2. *Considering that a change in economic conditions invalidates signed contracts.*
 3. *Considering that the value of debt is equal to its book value when they are different.*
 4. *Not using the correct formulae when the value of debt is not equal to its book value.*
 5. *Including the value of real options that have no economic meaning.*
 6. *Forgetting to include the value of non-operating assets.*
7. *Inconsistencies between discount rates and expected inflation.*
 8. *Valuing a holding company assuming permanent losses (without tax savings) in some companies and permanent profits in others.*
 9. *Wrong concept of the optimal capital structure.*
 10. *In mature companies, assuming projected cash flows that are much higher than historical cash flows without any good reason.*
 11. *Assumptions about future sales, margins, etc. that are inconsistent with the economic environment, the industry outlook, or competitive analysis.*
 12. *Considering that the ROE is the return to the shareholders.*
 13. *Considering that the ROA is the return of the debt and equityholders.*
 14. *Using different and inconsistent discount rates for cash flows of different years or for different components of the Free cash flow.*
 15. *Using past market returns as a proxy for required return to equity.*
 16. *Adding the liquidation value and the present value of cash flows.*
 17. *Using ad hoc formulas to value intangibles.*
 18. *Arguing that different discounted cash flow methods provide different valuations.*
 19. *Wrong notion of the meaning of the efficient markets.*
 20. *Apply a discount when valuing diversified companies.*
 21. *Wrong arbitrage arguments.*
 22. *Add a control premium when it is not appropriate.*

5. Errors when interpreting the valuation

- A. *Confusing Value with Price.*
- B. Asserting that "the valuation is a scientific fact, not an opinion."
- C. A valuation is valid for everybody.
- D. *A company has the same value for all buyers.*
- E. Confusing strategic value for a buyer with fair market value.
- F. *Considering that the goodwill includes the brand value and the intellectual capital.*
- G. Forgetting that a valuation is contingent on a set of expectations about cash flows that will be generated and about their riskiness.
- H. Afirm that "a valuation is the starting point of a negotiation"
- I. Afirm that "a valuation is 50% art and 50% science".

6. Organizational errors

- A. Making a valuation without checking the forecasts made by the client.
- B. *Commissioning a valuation from an investment bank without having any involvement in it.*
- C. Involving only the finance department in valuing a target company.

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CAPM and Business Valuation by James H. Schilt, ASA, CBA, CFA

The Capital Asset Pricing Module (CAPM) stems from modern portfolio theory (MPT) that was developed as the result of a 1952 article published by professor Harry Markowitz and updated in 1956, and sought to explain the relationship between risk and return in securities portfolios for investors. Markowitz introduced the outlines of a systematic framework for investment management and showed that an investor's portfolio choice can be reduced to balancing the expected return on the portfolio and its variance. Variance of return is a "measure of dispersion about the expected," according to Markowitz. MPT is a risk-premium model that assigns increasingly higher return to increasing risk. Risk is defined as the covariability of an asset or portfolio return with the market returns. Portfolio risk is now tied to the interaction of the components.

Before MPT, according to many observers, financial analysts, portfolio managers, and investors looked at each investment opportunity as being unique. .. well not quite. As far back as the Code of Hammurabi, around 1800 B.C (Hammurabi being a king in the first dynasty of Babylonia), established the maximum rate of interest that a money lender or investor might charge a borrower on loans of grain, which was repayable in kind, at 33 1/3 % per annum. On loans of silver, the maximum rate was set at 20%. Not much in the way of diversification, but investors were being compensated for the increased risk.

Based on Markowitz's work professor William Sharpe, in the mid-1960s, developed, along with others independently of one another, what has become known as the Capital Asset Pricing Module. Markowitz and Sharpe, along with Professor Morton Miller, shared the Nobel Prize in Economic Sciences in 1960. Sharpe's paper entitled "Capital Asset Prices : A theory of Market Equilibrium under Conditions of Risks," was finished in 1962 and published in 1964. The model defines "risk" as the volatility of securities returns to that of the market.

I believe that herein lays one of the problems in using the CAPM – at least in business appraisals, "risk" is exposure to possible loss or injury. It is a danger, a hazard, a gamble. If stock price goes up more or less than the market index in the short term, where is the risk? If the momentum carries the stock down more than the index, where is the risk? Is it the investor has a short time horizon and may wish to sell at the very time the market declines? Investors have always known that money in the market is at risk and stocks fluctuate. Even an excellent long-term investment maybe a disaster if the holding period is too short. As most privately – owned companies are held for the long pull, should not appraisers have a better definition of risk? Expected returns and risks are the mainstays of a portfolio according to Markowitz. Expected return relates to the expected return of the index, but risk is

more complicated. It relates to the risks of individual component of the portfolio and the correlation.

The CAPM defines risk as the covariability of the security's returns with the market return. The risk that can be eliminated is called "nonsystematic" or "nonmarket – related," because its caused by changes that are specific to the company issuing the security. Risks associated with the individual firm can be diversified a way. The systematic risk is the risk associated with market and can not be diversified a way. The CAPM designates systematic risk as Beta, which stands for the volatility of an asset or portfolio relative to that of the market. Already we have additional problems. The Beta is based on historical results of asset behavior and may not be predictable of the future. Forecasts of future volatility are hard to make and to validate. Moreover, it is possible that the systematic risk or beta is too limited to define a security's risk. It certainly is when it comes to valuing the privately-owned company as it ignores the specific business risks of the business interest under appraisal.

The CAPM assumes that:

- The investor is risk adverse with an objective to maximize his terminal wealth.
- Investors have diversified portfolios.
- There are no taxes or transaction costs
- All investors have identical time horizons
- All investors have identical perceptions regarding the expected return, volatilities and correlations of available risky investments.

In the real world this is not the case , but appraisers have made many leaps of faith when it comes to the CAPM and its use in business valuation. Another difficulty is that different betas are reported by different beta services, and they can vary widely. The length of the time over which one calculates a beta is important as they change significantly as the period changes. To use a beta to measure "risk" in an individual private company, one should use a beta that arises from the result of a group of publicly traded stocks that represent firms that are similar to the company under appraisal. Them, for simplicity you might select the median average beta of the guideline companies. But how many companies are you going to find with similar productlines, size, operating and financial ratios, depth of management, and diversification? Dr. Rolf Barry in 1981, then with alliance capital in London found that during the 1936-75 period, the average return to stocks of a small firms (those with low values of market equity) was substantially higher than the average return to stocks of large firms after adjusting for risk using the CAPM. In 1982, professors Eugene Fama and Kenneth French found the same things as regards to size in addition to the ratio of book value of a firm's common equity to its market value as

an explanatory variable. In fact, book-to-market equity appears to be more powerful than size. Fama and French used stock returns for 1963-90. However, it should be pointed out, when they ran their regressions for 1941-65, they found a positive relationship between average return and beta. As Sharpe said in an interview taken from the *Dow Jones Asset manager*, May/June 1998, "in the data it's hard to find a strong, statistical significant relationship between measured betas and average returns of individual stocks in a given market. "We know that amplitude of future stock market movements cannot be forecast by basic regression technique.

In a January 2004 draft of a working paper entitled "The Capital Asset Principal Model: Theory and Evidence." Fama and French state that "In the late 1970s, research begins uncover variables like size, varies price ratios, and momentum that add to the explanation of average returns provided by beta. The problems are serious enough to invalidate most applications of the CAPM."

Many authors in the field of business valuation provide excellent explanations of the working of the CAPM. Jay does a particularly good job in bringing together the build-up method and the CAPM along with the use of guideline companies for business appraisals in Section 503 in the 2003 Edition of *Guide to Business Valuation*. Other authors/ appraisals in the cautious regarding use of the CAPM would include Ian Campell and George Hawkins.

It is my believe, however, that there still remains a large leap of faith between the use of beta in the management of security portfolios and the appraisal of closely-held business interests in spite of several authoritative authors who warn about its use. Could it be the problem with the Emperor's that such a large group of appraisers do not see it? In a recently published informative article in *The Valuation Examiner*, Michael Elmaleh states that "If the risk/return model cannot accurately predict the price movement of publicly traded, where the ability to measure risk and future income is relatively good, why would you expect the model to yield accurate prediction about the price of closely held equities, where the ability to measure risk and future income is generally much worth?"

My own research on the subject has been published in *Business Valuation Review* (Sept 1991, Dec 1994, Mar 2000 and Dec 2003) the data was taken from the value line investment survey going back to 1986 and showed changes in Beta and safety in rating at 3 to 5 years intervals. For the original article, I randomly selected ten industries and took the first seven stocks that you are reviewed by value line. From the original 70, there remain 31 in the final survey due primarily to companies having been acquired or lowered investment interest. Value line uses the terms "safety" rather than "risk". Safety incorporate the finances of each company in addition to volatility which mean a better look at "risk" of a business enterprise than just the volatility of a security return in the CAPM model. The data disclosed that

most of the stock under examination failed to show any change in risk as defined by value line, while the Beta change in almost every case. This should not be a surprise since the Beta coefficient is a measure of the “variance of return” and not a quality rating. As suggested by Diana Harrington in her book on MPT and CAPM, “the definition of risk as relative volatility of return has some disadvantages, however. First, forecast of future volatility are difficult to make and verify. Second, it is possible that systematic risk or beta is too limited a definition of a security risk”. In addition to the use of a Beta, many appraisers will apply an additional discount rate to cover company/ specific business risks as they realize that ownership of a privately – held business has much greater risks that a portfolio investment. The question remains as to why use a beta at all in the valuation of a single, privately-owned long term equity investment? Beta does not say anything about the business entity. It is simply a mere computation using historical data of market and stock prices! A apparently, too many businesses appraisers live in a world where fantasy has more status than reality.

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Chapter two
The Need for Business valuation

2 Business valuations

Business valuation is a key factor for success to many businesses and businessmen, owner wants to know the answer of the question “what is it worth” their businesses to them may worth a lot but do not know how much exactly and really worth in the real market, as the owners requesting/ asking the value to appraise then value anything in the business that will increase and add value to the worthiness of the company. Oftentimes, their conclusion echoes the adages that one person’s trash is another person’s treasure (Richard M. Teichner,2009)

Most cases parties with interest in the business may have completely different perceptions of the value of their interests.

The way business interest is managed and valued is different from one another.

There is a need for business valuation which summarized in a question of what the value of your company is a strategic subject in a firm’s ongoing activities. Although amany senior managers and owners of companies know accurately the value of capital assets, vehicles, machines and intangible assets. (Sinem Derindere Köseoğlu,2020)

This article provides an introduction to the standard approaches used to value businesses from the perspective of the investor. Each approach is illustrated with a specific practical application. The note provides an in-depth example of discounted cash flow valuation of a firm including cash flow forecasting, terminal value estimation, and cost of capital determination. To focus the analysis, the note does not treat the specific complexities associated with the analysis.

Determining the value of a business is critical to many important managerial decisions. Because the future of any enterprise is uncertain, business valuations are rarely identical across analysts. Moreover, because of the complicated nature of assessing a business value, methods vary. In this article we review standard approaches to valuing businesses from the perspective of the investor and practical applications of each. Although we do not treat the specific complexities associated with combining businesses, such as in the analysis, we provide tools that are foundational to such analysis (Schill, Michael J., 1684) (2).

2-1 The Importance of Valuation:

The owner of the business is the only person who better understand that business.

2.1.1 The lack of an efficient market

There is no efficient market for private companies as either most of them are not registered in the stock exchange or the information provided for listed private companies is not efficient.

Stock exchange like NASDAQ and New York stock exchange are the only place to buy and sell private businesses in whole or part. Where the business brokerage community do not involve in the buy and sell as the scope is very small for them, they need larger scope to maximize their shares.

Erik J. Bolinder, *Givens Pursley LLP*, What's it Worth? Important Issues in Business Valuations

As a result it is very difficult to determine the value of a private company in the market, and because of the lack of the efficient market, there is a critical need for business valuation services (Gary E Jones and Drik -1998).

2.1.1.1 Real Estate- an intermediate stage between efficient and inefficient market

There is a market that lies between the efficient market for stock, bonds and commodities and the inefficient market for private businesses equity interest, that market with different profile – the real estate market. This was an observation from experience in developing, purchasing and selling real estate in addition to consulting on various real estate transactions.

Professional in the real estate markets have artfully blended marketing strategy, emotion and analytical skills to create a quasi-efficient marketplace. These real estate brokerage communities deserve most of the credit for having created and provided the fuel, and the concrete base for the real estate market.

It is this community which provides the liquidity for most of the transactions, and for companies to complete the buy or sell process. For example, the real estate community made home ownership such as emotional experience that is linked to a socio-logical phenomenon.

Why, then has this talented group of professional failed to create a similar market for closely held businesses or partial equity interests in real estate?. The reasons are that, the markets for these interests is unstable and riddled with risk, that the market cannot be controlled by external influence, and that the market has little

liquidity unless there is a primary motivation specific to the situation at hand. Overall the real estate professionals have failed to create a similar market for private businesses and fractional equity interests.

2.2.1.2 **The role of Entrepreneurs and inefficient market** (Gary E Jones and Drik -1998)

Where the market has not materialized, there is an influence so powerful and vibrant that it has a greater power than the effort of any group trying to master it. That influence is the entrepreneur,

whose unpredictability and variation in style make it a challenge to place an efficient market value on privately held businesses.

The entrepreneurial concept is most likely the part of American dream that is so difficult for other nations to emulate. In fact, entrepreneur is a natural resource that United States with its unparalleled freedom and education system, nurture so well.

The influence and effect of the entrepreneur drives the inefficient marketplace. It is most probably to remain for main reasons. It is independent strengths are greater than any whole. It needs to be recognized and respected for what it is: the forum for invention, economic growth, improved international competitiveness for American businesses, and improved living standards for American citizens.

The lack of an efficient marketplace for partial real estate interests is similar to the lack of an efficient marketplace for private businesses that American entrepreneurs confront. Because of the amazing diversity of objectives and styles of entrepreneur, it is difficult to place efficient market value easily on privately held businesses.

Some entrepreneurs who make a conscious decision to keep their own businesses private are often trying to avoid the influences and second guessing from external parties.

The entrepreneur, who owns the majority of the company, most of the time, retains controls and limits the influence of a minority owner or owners.

The sale of small business is not like listing a house whose value is influenced by what the market will bear, instead, the entrepreneurs have a large impact on value by leaving their imprint on the company, and entrepreneur negotiates for the most part over how to buy and sell these types of businesses. There are no referees and the contestants control the outcome.

Who, then, are the largest winners in these negotiations? Those entrepreneurial businesses with organizational capital consisting of a quality workforce, proprietary interests in their products or services, a source of equity, organized systems protected distribution (Bradford Cornell,1993) (3).

Good prospects for earnings and returns on investment, and solid business ethics are the ones that will command the highest premium. On the other hand, those businesses which are mediocre and unethical will be worth far less, if marketable at all. The liquidity of the inefficient marketplace is driven by the elements of this complex formula for success. Thus, because of the lack of an efficient market, there is a critical need for business valuation services.

Businesses may need to be valued for a number of reasons to get to the right value that the business is worth:

2.1.2 The exiting strategy

Sometime there is a lack of efficient market for private businesses, there is another reasons for ensuring that valuations are performed. The need for an exit strategy for the owners of private businesses. If a potential buyer is able to invest fewer amounts of dollars in his /her own and reasonably duplicate the seller's business, then the buyer of the business would generally be better off to start a new business than buy an existing business.

An exist plan in a business may be for a number of reasons:(Lisa Holton, -2009)

- Retirement
- Sales of a company
- Reduced role for a founder or a partner

Exits are a common fact of a life, whether business owners want to admit it or not and certainly regardless of whether they want those exit to happen. Owners die in the prime of their lives.

Business partners get sick of working together. Kids do not want the business. Economic or industrial realities change, and owners are suddenly forced to survive in ways they have not planned.

So, the business owner needs a strategy to be able to obtain value from the company when he or she desires to sell.

This scenario can frustrate for the seller, because he or she has a lot of pride in the business. Unless the seller has established a proprietary interest in the overall business system, it's not likely that an informed purchaser will pay a substantial premium; however, for the seller who has positioned the business properly, the rewards can be substantially.

Taking into account that where a key employee of a company approaches management with the question: "what is my future and how can I get a piece if the equity?". The two owners, a father and his son, wanted to keep the employee, if this one has to leave his/her departure would have a substantial cost to the company in term of money and in morale.

It is a familiar scenario. For the company not to suffer from the departure of this employee, what should the owner can do?

They will need to know the value of the business if they intend to share -ownership with the employee or to sell the company.

In fact, just about any reasonable option the owner face will involve the need to know the value.

In general, this pair of owners more than likely ignored a vital issue- how to exit the company successfully and profitably. The employee's request reminded the two of the need to develop an exit strategy.

An initial part of exit strategy planning knows the value of the business. With a well-crafted buy/sell agreement and a method to determine a reasonable estimate of value, the ownership transactions should become easier for all parties concerned. Perhaps the solution the father and son team's dilemma is to consider an employee stock ownership plan (ESOP). Again, this requires current and ongoing valuation of the business.

The common theme here is obvious. In contrast to shareholders in publicly traded companies who can find valuations of their shares on a daily basis, owners of interest in privately held companies have many fewer opportunities to learn or determine market valuation of their interest. No matter which direction business owners pursue, they should know the value of their current business interest and get periodic updates. If the owners choose not to develop a strategy then they are leaving their future to chance.

By creating a solid exit plan, business owners can maximize their return on investment. Looking at this simple hypothetical example, through creative Tax planning in the past, a company's owners have been able to adjust income legally to reduce the annual taxable income of the corporation.

If the owner took a different approach and reported an extra \$ 50,000 per year of earnings, they would have to pay more corporate income taxes, but they would increase their company's earnings and liquidity and increase the equity in the company. Given a price or value multiple of five times pretax earnings, they would increase the value of the company by \$250,000, there are the bonuses of potentially lower tax on capital gains, rather than the tax on the personal income that would have be paid on the owners compensation, lower taxes, and added working capital.

It must be said, as well, that with almost any exit strategy comes the need to do some housecleaning- cleaning up the balance sheet and income statement. A little planning can mean a big payoff in the future. Conversely, those business owners who maximize their compensation each year to avoid paying corporate income taxes are in general increasing their current standard of living while jeopardizing their retirement and the value of perhaps their largest personal assets (Gary E. Jones and Drik Van Dyke, 1998) .

Some people believe that valuation is important only for larger companies. Not true. Small businesses, even lucrative ones, may not be totally clear in their financial reporting or other factors in operating their business. That is why expert helps comes in handy.

However, valuation is not a process reserved only for pending deals. Valuation is also a strategic activity. This valuation process should be constant at all companies because it enables management and potential buyers to spot potential opportunities in the market that their competitors' cannot (Lisa Holton, -2009).

An exit plan in a business may be retirement. It may be the sale of a company. It may be a reduced role for a founder or a partner until she or he feels the next generation is in the best shape to take over full time.

An exit plan is actually the precursor to any of the situations above. As before deciding to retire should decide how retire will be. And before sale of a business need to decide how sales should be.

Exits are common fact of life, whether business owners want to admit it or not and certainly regardless of whether they want to those exits to happen.

Owners die on the prime of their lives. Business partners get sick of working together. Kids don't want the business.

Economic or industrial realities change, and owners are suddenly forced to survive in ways they hadn't planned.

A business valuation has many triggers, but the best reason to do is to plan for best outcomes and unexpected events. Taking this into consideration, exit can be planned well in advance. Valuation is key in the process, which should be done at least three to five years before an owner is thinking about making a move. Exit plan should be an activity mutually undertaken by other .

2.2 Establishing a price

Whenever buy/sell agreements, ownerships issues and insurance claims are at hand, an up-to-date valuation can reduce doubt about the value of the business and may provide protection for partners, shareholders and spouses who want to ensure their interest are fairly represented. In most cases the need for valuation in this regard arises out of unpleasant circumstance of death, divorce or business dissolution.

2.2.1 Ownership Issues

When deciding to sell a business, it is important to have an independent valuation performed to satisfy everyone's interest before closing the buy/sell deals. (Lisa Holton, -2009)

If considering the following hypothetical's situations, where the owners of a manufacturing facility, with minority shareholders is considering a merger with another company. The owner set a value for the stock and a compensation/retirement package to be attained.

In many states in USA minority shareholders have the right to file a dissenting shareholder action to protest a value that they suspect is unfair.

In addition, astute shareholders in minority position should demand an independent valuation from a disinterested consultant or specialist prior to consenting to a merger.

2.2.2 Buy/selling Agreements

Normally for every-thing to buy or sale, it has to have a price, and often squabbling over that price can make or break a potential deal. A buy/sell agreement set the price for a particular equity interest under specific circumstances.

A disinterested option should help buyers better understand what their dollars purchasing. In addition the valuation should be regularly updated to reflect the estimated value of a business as it changes.

Everybody involved directly or indirectly in partnership, shareholders, spouses and other heirs may have interest in knowing the value of a business. A potential problem may arise when the valuation is not updated after business dissolution and everybody took his shares been completed (Lisa Holton, -2009).

A real life example could be that where two partners set a business 20 years ago. One partner has died; his widow wants to get her husband's shares in the partnership. The other partner simply returned back to the documents that were set 20 years ago and gave the widow the shares that had been paid by her husband at that time. But if the widow hired a professional advisor who knows the principles of valuation, could receive very high amounts from the business as her husband's shares.

Another example to consider the man who, in 1970s retired and sold his \$1 million manufacturing business to his two children, when one of his son's died 15 years later, the daughter was required to pay her brother's widow and his children for their shares in the business. Unfortunately, buy/sell agreement did not provide for an updated valuation.

Thus, the brother's wife and family received millions of dollars less than anticipated, a very painful lesson for the widow and her children resulted from the business owners' failure to keep the value of his business current.

As requested by all regulations, IRS, estate tax, court..etc. that all businesses under partnerships, shareholders , spouses and children, should be kept updated and the buy/sell agreement should clearly state that the businesses must be revalued from now and then or at regular basis, to avoid underestimation of the rights of those who leave or their shares go to their beneficiaries.

Drafting or assessing with implementing buy- sell provision in agreement between and among shareholders partners and limited liability company member

Sometime members of the same company may try to sell or buy their shares to other members who either trying to leave the business for good reasons or finding another investment opportunities to be used to maximize their worth.

This is happening in most of the business that members and shareholders of the same company may come into agreement to sell or buy shares of others.

When companies joint together they can benefit from economy of scale, which will in turn generates cost efficiency, the two joint companies form bigger body that production, distribution will be done on much larger scale, which will ultimately affect the cost of production per unit, as output will be increased and variable cost of production will be reduced in most cases.

2.2.3 Insurance Claim

The valuation process is very important in insurance coverage, as will facilitate maximum insurance claim coverage. For example, a fire can devastate a software firm and cause not only an interruption of business, but ultimately bankruptcy from the loss of competitive momentum. An insurance company may refuse to pay what the software firm claims its business is worth. Without an independent valuation and well-kept records backed by an audit trail, an insurance company and after the fact, valuation analyst mill have little information to rely on? Both an insurance company and valuator need records representing the true financial position and result of operations for business in order to deliver a claim that is merited. Not knowing the value of a business is an internal control weakness that could lead to a loss of assets through undervaluation.

Furthermore, a reasonably current business valuation a long with reviewed or audited financial statements can help ensure adequate insurance claim coverage. It's a waste of resource to carry \$2.5 million of insurance for a business that worth \$750,000, or in reverse, it's unwise to insure \$2.5 million business for \$750,000. Sometime purchase of insurance takes "a leap of faith" by relies on an inappropriate rule of thumb, such as a gross multiple of earnings for the targeted industry. By knowing the proper amount of coverage for business interruption

insurance and total loss from catastrophic events. A company can buy the insurance coverage that it needs(Lisa Holton, -2009) .

As some of businessmen think that the probability of the risk of losing the company is very unlikely, as a result they underestimate the value of the businesses to insurance companies to reduce the premium that they pay. This will lead in most circumstances to the loss of the business, the reputation and could lead to bankruptcy of the owners. In such cases open-minded businessmen who know the risks of the operation of their businesses pay a premium that will cover 90 to 100 % of their business and can resume their operations if such incidents happened.

2.3 Increasing Value and Raising Necessary Capital

A valuation can paint a picture of the worth of the business and can provide critical analysis for a business seeking financing or a new partner through a joint venture, a strategic partnership, a merger or an acquisition, or the sale of the business. In addition to the benefits of value planning and management or an emerging growth value analysis, a valuation can position a business strategically.

2.3.1 Value planning and management

When premature companies or businesses are positioned for sale, merger or partnership, owners have no other way only to seek as appropriate strategy, as a full valuation of the business will be very useful to owners to assess the value of the businesses.

A valuation consultant and advisor to the business can assist in positioning the business strategically to enhance and increase its value. This ongoing process to value and determine the value of the business is known as managing the value of the business entities.

2.3.2 Emerging Growth Value Analysis

In some circumstances where an owner wants to build up the growing office supply business and then have it acquired. If periodic valuation can demonstrate the ongoing growth of the business to potential investors, buyers, strategic partners and lenders. A systematic pattern of documented valuation indicates that owner is very savvy businessperson who stays on top of material business issues.

2.3.3 Strategic Partnerships

If one business consists of many offices/ brokerage/ branches that survived the real estate crash, but realizes that in order to grow, it must expand its resources. The owner wants to skip crash and seek and explore the possibility of forming an alliance with other strong national firm, to take advantage of its substantial geographical range across the country and leverage its resources.

Both businesses have to seek ways to assess and determine the values of the offices/ brokerage and branches that can contribute to this alliance. A detailed analysis of the offices brokerage business, industry and competition is to be prepared by an independent valuator, will add a fresh prospective for the small firm and perhaps even for large business.

A full detailed valuation report with footnotes, exhibits and bibliography can serve as an eye-opener in the present and an excellent reference source in the future.

2.3.4 Joint Venture (Lisa Holton, -2009)

Where partners decided to expand their business by opening new Store/shops/outlets to increase the marketability and profitability of their business, they can jointly open these new store or shops in nearby communities or markets.

These expansions of these partners or friends or business owners need to have an agreed value in writing of the assets and equity that they will jointly open this store or outlet.

2.3.5 Sale of A business

In most cases business owners at the late time of their ages, instead of closing down a second generation family business, want to pass it along to the third generation. After all, it has been in the family for over 50 years and has much in the way of organization capital. The owners would like to keep it in the family, but the child who would logically assume control of the business has no interest in it.

A valuation should place a realistic measure of worth on the company, and help all concerned determine a reasonable asking price. Investors, shareholders, and family members will have a vested interest in the establishment of a reasonably estimated price for the business. A professionally estimated price should minimize the negotiation over value and make the process easier for everyone (Lisa Holton, -2009) .

2.3.6 Acquisitions and mergers purposes

Companies that face difficulties in operations for many reasons may decide to be acquired by another business to save the operations, customers and market share.

Acquisition will have many advantages to the business with difficulties:(Finance map of the world website) (4)

- 3 Strengthen and save its operation
- 4 Survive to maintain its market share
- 5 Improve its financial cash flow to meet future commitments and operations requirements.
- 6 Can generate cost efficiency through economic of scale
- 7 Enhance the revenue and increase its market share
- 8 Create value generation

It's expected that the value of the shareholders would increase after the acquisition in parent's company records. The gain that the parent will have due to the acquisition process will be reflected in the books which in turn will be seen as shareholders wealth improvement.

2.3.6.1 Tax Gain:

Merger and acquisition may lead to tax gain and could also lead to revenue improvement that will, in most cases, enhance the market share of the company.

Most companies prefer to go for acquisition process as joint companies will be able to generate more value than the separate firm.

Merger and acquisition will be more beneficial when companies weathering through tough times, it's very obvious that if a company suffers from problems in the market and operation, the company could seek an acquisition deal to overcome these problems and achieve its underlined objectives in the market, provide that the mergers and acquisitions deal succeeded.

2.3.6.2 Synergies:

Mergers and acquisition will create an atmosphere of harmonies between the joint companies which will lead to better utilization of resources.

The distribution network could be an example to be used to distribute the two company's products using one distribution channel.

2.3.6.3 Entering new market

Successful businessmen think a head of the business, when the entrance of new market creating a problem due to many market reasons or other obstacles, businessmen seek to merge with businesses already exist in that market to find ways to penetrate that market, benefiting from the resources of the existing company.

2.3.6.4 New product through research and development

This is also one way of introducing new product to the market, merger and acquisition process will assist to develop and introduce the new products utilizing the existing capabilities and resources of the merged company.

9 Lower costs of operation and production

10 Gain higher competitiveness

11 Financial leverage

12 Improve profitability and earnings per share

2.3.6.5 Changes in the business ownership or control among shareholders

In business environment when the structure of the shareholders or control of business changes, parties tend to value their businesses before the new structure come into existence, as this will help to accurately estimate the weight of the existing shares. Some businesses may do it after the structure takes place to stand on the new business value and the shares value of each party.

2.3.7 Borrowing to buy a business

What lenders want to see, to get financing to buy or acquire ongoing operation has certain appeals, to both buyers and lenders, as in most cases the process of preparing to apply for a loan is just as important as the first meeting with the lenders specially in today's circumstances of uncertainty, that preparation process to get loan is more critical than it has been in the last years(Lisa Holton, -2009).

In today's business environment information available for all investors about how successfully the company is, and how many times the company went for court to settle its problems. This information can be obtained through the websites or the media. Other information which is also very important can be provided by customers, suppliers or other key constituencies of that business.

Lenders want to know that they want to understand your value equation for your business before they lend you money.

Banks lend to reputable borrowers who have the following elements:-

- A well- thought out business plan
- A solid credit history on a personal and business basis
- A willingness to do business with them regarding other services, including checking, depository services, and so on.

Both individuals and companies buy businesses smaller, privately held business and many individual face considerable challenges in proving their value and qualifications to lenders who will enable the deal. Private companies do not have to disclose everything to the general public, although the IRS and industry regulators will want to know more than their fair shares, but they have to put these deals on display to prospecting buyers. The same is true to individuals and small businesses making a purchase.

Also small companies generally do not mean as much to lenders as large ones, and that goes for public and private companies alike (Lisa Holton, -2009).

In the difficult lending environments the spoil do not go only to companies with valuable assets and spotless credit records, but size definitely matter. Normally bigger companies have the capability to provide lenders with more business. So not only smaller companies need to have equity of valuation process, but they also need to prepare for that degree of investigation by anyone helping them to finance a transaction.

2.3.8 Seeking new or continued funding for an existing business

Business owners should never expect their relationship with existing lenders to stay the same, nor should they expect their reputation to mean all that much to new lenders they are approaching. So even though their businesses may be a known quality in the community, they definitely need to view themselves through an outsider's eye in evaluating their attractiveness as borrowers.

Although this could be of much important in the well-established market and community, as the market reflects the business images and show its results and difficulties immediately.

Business quality and reputation play a bigger role in the third world businesses environment where it help a lot of businesses to penetrate new as well as attract good lenders.

Depending on the amount of funding and the purposes for the valuation (funding a business may spring from many reasons) it may make sense to a company to prepare to borrow by bringing in a valuation professional to create a bigger portfolio of information for a lender to consider.

2.4 Estate Planning

When issue of gift giving and estate planning arise, the short-term cost of a valuation can provide long-term benefits by carrying intricate situations and by furnishing peace of mind. An appropriate wealth planning to deal with matters intelligently before an owner's death will save an owner's loved ones time, worry, and money. In addition, if an owner chooses to take a tax deduction for a charitable gift of a business interest, a valuation is mandatory and a valuator must attest to it (Internal Revenue Service. Chicago CCH Inc. 1995)⁽⁵⁾.

2.4.1 Gifting for estate planning purposes

In the circumstances where the owner of a business decides to give a generous gift of ownership to his grandchildren, the tax authority requirement is to determine the value of the business at the time of the gift to assess the value of the assets given. Also if someone dies a posthumous valuation of the closely held businesses to determine the estate tax is almost inevitable. To know a value of a business can reduce and dilute controversy at the time of death and will act as a very powerful planning tool when the business is a substantial part of the estate.

In the USA the Internal Revenue Service (IRS) is interested to do audit for any estates tax return includes a value of a fairly modest private, closely held business, especially if valuation has not been performed or if Income Tax Regulation 1995 (definition of qualified Appraiser).

appropriate references to the valuation report in the tax return have been omitted. What is considered modest is up for the grabs that check the report. It is a confirmed fact by many professionals that they believe in the field of valuation (Jones and Drik - 1998).

That any estimate with a value between \$1 million and \$5 million has a probability of 50% to have an audit, where a value of above \$5 million has a chance of more than 90% audit.

If a businessman decides to transfer business ownership to family member, the transaction should at the estimated fair market value.

The main purpose of the IRS audit is to make sure that a fair market value has been used, as the family members may intend to transfer equity interest below fair market values, diluting the estate tax that should have been realized from the transfer process.

2.4.2 Charitable Giving

In most of the countries the governments pay directly to some social and cultural activities. Where in the USA, the government relies heavily on the generosity of financially successful individuals, to help fund these social and cultural activities. As the nature of human, people tend to contemplate the end of their lives, the theme of returning something to the community, especially for those people who had previously benefited from the generosity and giving out of others, can become important. Thus, issues of charitable giving often accompany gift and estate planning.

Any immediate and up-to-date valuation will provide a business owner with a current estimate of his/her business or wealth, even if charitable giving is not associated directly with estate planning, by incorporating and estimate of business value into an assessment of total wealth, an individual can develop a better understanding of how a charitable giving may affect his or her total assets and taxable estate (Jones and Drik - 1998).

By providing such a reliable valuation report from well trusted and independent valuator, businessmen/women can recognize their business values. In addition this valuation report will provide more information and may increase the assets value of the owners, even if charitable giving is just a plan that can be executed in the future, besides there will be estate, planning and tax benefit to the government.

Valuation Mandated by Government

2.5.1 Eminent Domain

This is normally happened in the circumstances where the government wants to expand a highway or needs to build strategic projects, where a piece of land is needed, that land is occupied and owned by an individual, or business, for example the government wants to expand a highway where there are cafes shops, restaurants and cafes that must be destroyed to avail spaces for the highway.

In this regard the government has to compensate the owners of these shops and restaurants.

This situation presents a complex of circumstances:-

- 1- The issue of the value of the real estate, which most probably be determined by real estate appraiser
- 2- The issue of going-concern value of the businesses that is to be closed, as whether the real estate is merely a functional element of the going-concern or the foundation of value.

To the extent that the real estate does not have a higher or better use or that it is a single purpose or facility. It is merely a functional element of the business. A single purpose facility and the physical assets are certainly material to the generation of revenue.

Physical assets still need to be separately appraised from the intangible assets when they are material to the outcome of an estimate value.

If the real estate is under lease, then the land owner will still entitle to receive part of the compensation from the eminent domain (Jones and Drik - 1998) .

2.4.3 Employee Stock Ownership Plan (ESOP)

This is one way to facilitate and encourage ownership of equity interest in companies by their employees.

To correct a common misperception, employee do not directly own shares in their companies; a trust established for the benefit of employees, owns the shares on behalf of the employees who qualify as owners. Although the ESOPs are set up for a variety of corporate financial purposes, the legislative intent for ESOPs was to provide retirement benefits for a company's employees.

A key provision of the economic Recovery Tax Act of 1981 permitted ESOPs to deduct all interests costs associated with purchase of stock in the company for which the employees work.

Both the U.S Department of Labor and the IRS, under provisions of ERISA (Employee Retirement Income Securities Act of 1974), requires an initial valuation during the formation of the ESOP and periodic valuation updates during the existence of the plan. Also, the Tax Reform Act of 1986 mandates that ESOP stock be appraised annually by a qualified independent valuator; some ESOPs have their

stock appraisals updated as often as every quarter or every month. A valuation is also necessary whenever there is a transaction with a controlling stockholder or the company itself or with the ESOP sells its stock position (ESOP Association, 1989)⁽⁶⁾.

There is a debate as to whether a company's certified public accountant has a conflict of interest by performing the audit, other consulting services for the client, and the valuation of the shares of stock of ESOPS. When an independent business valuation firm values the company's shares for the ESOP, it may reduce the litigation risk for the company, since there is clearly no conflict of interest. As the advisor to the company, a valuator should seek advice in writing about potential conflicts of interest from the loss prevention department of his or her liability insurance carrier and/or from legal counsel as needed.

Marital dissolution proceedings (Jones and Drik - 1998)

This is where the court ask for a very long marriage between spouses, an independent valuation of the business in a written form be in the hand of opposing counsel before quite enough time (normally one month).

This is to protect the interest of out-spouse and any children.

The conflict of interest issue should be considered in this regards, the spouse and the children or any other beneficiaries are not available at the time of the valuation. The valuator has an obligation to all parties who are not involved in the business and to the children and others to remain objectives, un-bias and independent with the estimate of the value of the business.

In such situation advocacy is recommended the parties are made aware of the advocacy position and acknowledge the conflict, however, this type of situation requires a valuator who is committed to his/her job and remains objective and with high integrity. If the valuator is in doubt in his/her job, supposed to withdraw and recommend someone else who can do the job without bias and personal interest.

In some case the judge may set the value of the business equal to the other assets of the marital estate, but this could have very big impact on the value of the business as in most cases the two values differ substantially (e.g. family home, stock holding, cash). This will have a negative impact in the

long run and may cost the estate a significant amount of money, even as in-spouse or out-spouse earnestly tried to establish the right value.

2.4.4 Election of S Corporation Status

The value of assets at the date of election to convert from a C corporation to an S corporation is a serious concern because of the build-in gains rule. A C corporation in the conventional type of corporation with unlimited number of shareholders and with taxes assessed at the corporate level and on shareholders' dividends. An S Corporation is a "small business corporation with a statutory limited number of shareholders, which has elected to have its taxable income taxed to its shareholders at regular income tax rates. S Corporations are limited to 35 shareholders (Henry Campbell Black, 1990)⁽⁷⁾.

When an S election is made, the corporate taxpayer is committed to paying a tax on that portion of gain recognized on the disposition of any asset, where appreciation existed prior to the S election date, in accordance with the C rules for taxation of those assets for 10 years after the election.

The valuator and the tax counsel should make sure that this potentially substantial exposure to tax liability is taken into consideration at the time of valuation.

The way to ensure some peace of mind is to have a valuation performed as of the election date. This valuation should establish the value of the goodwill and other intangible assets that should be disclosed and documented with the election. Failure to arrive at an independent valuation as of this date places the taxpayer at risk to tax exposure. If there are other shareholders, management may not have fulfilled its fiduciary responsibility if it chooses to forgo on independent valuation.

2.4.5

2.4.6 Business Dissolution

Likewise the shareholders structure changes the business dissolution requires the process of business valuation.

This will provide the value of the dissolved business and how that value could be distributed among the shareholders

In some circumstances shareholder decides to file for a corporate dissolution and sell his or her shares, but the other shareholders want to continue running the company, certain state governments require a valuation of the business. Many state statutes

outline specific requirements for determining how the business is valued. (Gary E. Jones and Drik Van Dyke, 1998).

2.4.7 Litigation matters where a measurement of economic damage is the diminution in the value of a business

In the cases where court requested a value of the business, in the circumstances of litigations and remunerations to someone else, the value process is the best to get the ultimate value of the business (Richard M. Teichner,2009) (⁸).

2.4.8 Bankruptcy matters

This is whether the business should determine to keep operating a business or/and to sell it or liquidate it.

The business owners to reach to an adequate and right decision in cases of bankruptcy and to assess the state of the business, whether will continue operation and solve the bankruptcy issues or to be sold to avail fund to meet suppliers and other key stakeholders liabilities, or to be liquidated to provide cash in order to meet the liabilities. These are all requirements and factors force the business owners to take decision of undertaking business valuation process to meet these requirements.

2.5 Other Reasons of business valuation

2.5.1 Weaknesses of the business

To identify the weaknesses in the business through valuation process to enable owners focus more on the operations to improve, rectify and fix these weaknesses to improve the profitability and bottom line of the business.

2.5.2 Financial Reporting Purpose:

To allocate the purchase price to appropriate equity classes and determines if there is goodwill impairments.

2.5.3 to value stock option (Restricted)

A corporation may issue shares to its employees at little or no costs in exchange for their service to the company with access restricted pending the fulfilment or realization of certain conditions that the employer would specify.

For instance, an employee achieving a certain number of years of services (akin to vesting in a qualified plan without the stricture of ERISA) or the company meeting specified earnings targets. Should the conditions set by the employer fail to

materialized, then any right to the shares would be forfeited. The corporation would hold the shares certificates issued in the participant name, releasing to the employees once the employer mandated contingencies (time or performance base) are met. At this point, the employee would own the shares outright. Holders of the restricted stock are entitled to the receipt of dividends as well as the right to vote the shares. Shares become taxable to the employee to the extent that fair market value exceeds basis once they are no longer forfeitable.

Phantom Stock

This type of arrangement is a right to a bonus of faux shares of a company's common stock over a period of time based upon the performance of that company's actual shares. The bonus or gain is a function of the difference between the values of the stock at later date minus its value at the time that it's granted to an employee. As with both restricted stock and stock appreciation right, (time or performance-based) vesting often govern the employee eventually receipt these phantom units. Advantages and disadvantages are mixed, with participant not having to choose an exercise date, holders not having the right to receive the equivalent of a share dividend, yet having the right to vote. Once the stock is no longer at substantial risk of forfeiture, its value to exercise is includible in ordinary income.

2.5.4 Intellectual Property

The valuation process is essential to determine the value of the intellectual property value in a business.

This is important to value the portfolio of intellectual property like patents, trademarks, copyrights proprietary processes.

2.5.5

2.5.6 Estate Tax

In case someone dies and need to assess the estate tax for his/ her properties, it is crucial to do a valuation for all properties and then assess the tax.

2.5.7 Value of IP

To value a portfolio of investment property, patents, trademarks, copyright proprietary processes....etc.

2.6 Complexities of Valuation

A good valuation builds on the raw data available to analyze a business and supplements the numbers with an appreciation of the less tangible issues that make business tick. The phrase organization capital embodies many of these less quantitative measures. In addition different standards of value are used depending on the purposes of a valuation.

2.6.1 Organizational Capital

Organizational capital, which includes intangible assets and goodwill creates added value above and beyond the value of the tangible assets. Organizational capital creates a situation in which the value of the assets as part of an ongoing organization exceeds the value of the assets in isolation. The added value accrues to the customers, suppliers, employees, and community neighbors that interact with the business. Key components of organizational capital include:

- 3 Long-term relationship among managers and employees that enable them to work together effectively and efficiently , for example, over the years, people develop the ability to communicate intuitively and learn how to take on tasks without lengthy instructions
- 4 The reputation of a company with its customers and suppliers. Reputation, including brand names, makes it easier to sell products and negotiate terms. For instance, people pay a premium for Campbell's Soup because the brand name has come to signify quality.
- 5 The opportunities for a company to realize profitable investments that grows out of the specialized skills of its managers and employees and their relationships with customers and suppliers. These opportunities sometimes referred to as investment options or growth options, can come to account for a significant portion of a company's revenue over time (Bradford Cornell, - 1993).

Valuation Terminology

Valuation experts use several pieces of terminology to express different types of value: intrinsic value, investment value, fair market value, and fair value. Valuers and users of valuation should be aware that courts in different states, building on Specific cases in each state, may use definitions and terminology that vary from state to state.

Court in California, Texas, Florida, New York, and Illinois, in conjunction with the federal tax court and the IRS, have been at the forefront of developing new concepts and opinions in business valuation. In general, the terminology described below is widely accepted in the United States. In any valuation, it is important to state the purpose of the valuation and the definition of value being used. This type of clarity can reduce confusion when the valuation is reviewed at a later date, or if the valuation is read or challenged by an outside party.

2.6.2 Valuation Terminologies:

2.6.2.1 The investment value

Of a business is relevant to specific investor. It can and will differ among individual investors, because each person or business entity has different expectations regarding the expected earnings and riskiness of the business.

Investment value is predicated on the future return to the business owner or to an outside investor, and is measured by cash flow. Cash flow, in turn, may be cash flowing from the business to investor – as in dividends, bonuses, profit sharing, or interest income- or may be cash received in excess of the original investment when selling the business or business interest.

Expectation of the amounts of those future cash returns will vary with each investor, depending on the following:(Jones & Dirk - 1998)

- A business future earnings power
- Investor tax status
- The degree of risk in the investment or in an anticipated action that might affect the business
- Potential interaction with other businesses owned or controlled by the investor
- Future government regulations affecting the preservation of earning power
- Marketability of the investment at a future date

Typically, but certainly not always, discounted cash flow methods are used to estimate future earnings power. Since investment value measures an investor's personal requirements, it is unlikely that investment value coincide with market

value, which presumably reflects the consensus of unknown market participants. There is a relationship between the two variables.

Supply and demand forces, which in the end determine the price of the business, invariably invalidate hard and fast calculations of business value (Lawrence W. Tuller 2008).

2.6.2.2 Fair Market Value

refers to the price to which a willing seller and a willing buyer will hypothetically agree, if both parties have access to full information about the business, and neither party is compelled to act. Valuers and Internal Revenue Service's Revenue Ruling 59-60 place substantial weight on actual market transactions between willing sellers and buyers (often referred to as compelling evidence). This negotiated result assumes, of course, that all parties were aware of all the relevant facts underlying the transaction and that neither participant was forced to accept the terms. Fair market value is the term used for gift and estate tax valuations (Internal Revenue Service Revenue Ruling 59-60) ⁽⁹⁾.

Fair Value refers, like fair market value, to the price that would be agreed to between well informed buyers and sellers. An important difference is that there is typically no discount for lack of control under a fair value valuation. This term is typically used in valuations involving minority shareholder disputes and corporate divorce and dissolution (James Schilt 2000) ⁽¹⁰⁾.

2.6.2.3 Marital Value

Is a term used with increasing frequency in valuations associated with marital divorce. Although not yet a well-developed concept, it concerns the value in a business that involves an in-spouse and out-spouse (Donald A. Glenn, 1995) ⁽¹¹⁾.

Definitions can vary from state to state, so it is imperative to review court decisions, case law, and state statutes in the specific state in which the valuation is to occur. Two other frequently used terms, going-concern value and liquidation value. Focus on the assumptions that underline the definitions of value above. Going-concern value means that the business is being valued under the assumption that it will continue to operate on a regular basis in the future. Liquidation value means the value of a business if it were broken apart and the business assets were sold individually (Jones & Dirk - 1998).

2.6.2.4 Intrinsic value

is the amount an investor considers, on the basis of an evaluation of available facts, to be the true or real worth of an item, usually an equity security. Intrinsic value is the value that would become the market value when other investors reach the same conclusions (*Pratt, Shannon - 2000*).

In contrast to investment value, the concept of intrinsic value focuses on determining worth based on perceived characteristics of the business, not the requirements of a particular investor. Theoretically, any number of analysts could come to a similar conclusion through weighing the company's financial characteristics and then extrapolating similar projections of anticipated future events, such as future growth rate, future earnings and dividends policies, and the sale price of business assets.

Intrinsic value is most commonly used by securities analysts. When applied to publically traded equity shares, the calculation of intrinsic value permit the analyst to assess the investment worth of a business before a similar determination under similar conditions is made by the marketplace at large.

The analytic techniques used to arrive at intrinsic value include:

- Extrapolations and interpretations of a company's balance sheet and income statement ratios
- Discounted cash flow calculations based on earnings projections
- Assessment of the liquidation value of business assets.

With these results in hand, securities analyst applies their own interpretation based on personal background and assessment of general market and industry trends. The result is an appropriate price for the shares regardless of the current market price. Obviously, if the intrinsic value is higher than the market price, buy orders should be issued. In the reverse case, the share should be sold (Lawrence W. Tuller 2008).

2.6.2.5 Going- Concern Value

This concept is not a measure of a valuation at all. It is an expression of the current status of a business. Public accountants express their opinion on a company's financial statements based on their going-concern standard; that is, on the assumptions that the business will continue in operations for an indefinite period of time. In contrast, the longevity of a company may be in question if it has a negative

net worth, burdensome debt service payments, faltering market, lawsuits threatening to force foreclosure, or an extended labor strike. Such a company would not be considered a going concern.

Although the going concern concept is not a method of valuation, it does materially bear on the worth of a business. If future earnings and hence cash flow are jeopardized by negative conditions, statistical complications such as discounted cash flows or financial statements ratios analyses based on current or historical data become meaningless. Also, liquidation value should be substantially enhanced when the business is viewed as being sold as a going concern rather than as handful of assets at auction.

In most cases the going concern concept relates to the total value of the business, assuming it will continue to operate in its present form. It includes intangible assets that have no liquidation value, as well as goodwill, customer listings, technically skilled personnel, and in some cases management expertise. The exceptions- and is not there always an exception- relates to courts interpretations of a going concern. Generally, unless intangible assets can be identified as yielding a definable future stream of income, such as patents royalties, a court will not consider them as part of its valuation.

2.6.2.6 Liquidation Value

This refers to the value of individual business assets or group of assets, not the business as a whole. When the focus is on the likely sale price of specific assets, future cash flow as a measure of investor or market worth has no meaning. The business is not viewed as an income generator, but merely as a group of assets, each of which has a value to someone. The fundamental assumptions when arriving at liquidation value is that the company will cease to do business and therefore cannot be considered a going concern.

Typically, liquidation value has little meaning for investors or business sellers, both of whom view future cash returns as the justifications for making the investment or continuing to operate the business. This method also has no relevance to statutory valuation that focus on market value. Conversely, financial institutions rely on liquidation value almost exclusively to determine the adequacy of loan collateral.

When estimating the liquidation value of assets, it's important to include all the costs associated with the liquidation as reduction from projected liquidation proceeds. In a forced liquidation all assets or major groups of assets are sold at one time, generally through the auction process. Associated costs might include:

- Auctioneer's fees
- State taxes
- Costs of moving equipments and machinery to the auction location
- Crane rentals
- Expenses of fixing up the assets prior to sale
- Out-of-pocket expenses of the auction house, such as travel expenses, advertising, and telephones and so on (Lawrence W. Tuller 2008) .

Legal fees and milling expenses might also be required to comply with state bulk sale laws.

In an orderly liquidation, assets are sold off in an orderly manner, one at a time, over a period as long as twelve month or more.

Expenses of auction house may not be involved, but additional advertising costs, fixing up costs, taxes, sales commissions, and legal fees are usually incurred.

2.6.2.7 Book Value

Book value is frequently confused with the worth of a business. This is an accounting term, used to designate either:

- For the business as a whole: the difference between total assets and total liabilities, including preferred stock with redemption features
- For individual assets or group of assets: the net balance between the original asset cost and the current amount shown on the balance sheet i.e. the original costs less the accumulated depreciation, as a net book value of depreciated machinery and equipment.

Book value reflects only those assets and liabilities recorded on the books, not contingent assets, contingent liabilities, or intangible assets such as customer lists or client files, that, according to generally ccepted accounting principles cannot be recorded. Accounting standards require assets to be recorded at historical costs less accumulated depreciation or at actual amounts payable by contractual documentation. When referring to the business as a whole,

book value is used synonymously with net book value, owner's equity, shareholder's equity and net worth.

In owner –managed small business, it is quite common for the book value to be zero or negative, reflecting the withdrawal of cash and other property for the owner's use.

2.6.2.8 Other Relevant Values

In addition to definitions of value, a few other terms should be clarified. Although pronouncements issued by the Financial Accounting Standard Board, the American Institute of Certified Public Accountants, the Securities and Exchange Commission, and the Internal Revenue Code set the standard definitions of terms for financial statement presentation and tax returns, these terms are at times confusing, and misused.

Various professional appraisal organizations may focus exclusively on real estate appraisals. Use these terms in a slightly different manner. Also, certain terms are unique to the appraisal profession and are seldom used in the accounting or tax fraternities. The following are main relevant terms:-

- **Goodwill:** an intangible asset that arises as a result of the name or reputation of the company, the owner/manager, company products or services; the company's location, the customer loyalty or similar conditions unique to a given business. Goodwill does not have a monetary value under the Generally Accepted Accounting Principles (GAAP) therefore is not recorded on a company's balance sheet unless it is paid for as a premium over book value in the acquisition of a going concern. However, goodwill does add economic benefit to a company and therefore, in most cases, must be reckoned with as part of the valuation process.
- **Capitalization:** a term describing three different things :
 - The capital structure of a business enterprise, comprising the sum of long term debt and equity
 - The accounting recognition of an expenditure as a balance sheet asset rather than as expense
 - The conversion of income into value as part of the valuation process by the application of a capitalization factor, which is any multiplier or divisor used to convert income into value.

- **Marketability Discount:** an amount or percentage deducted from an equity interest to reflect the marketability of that interest. It is used primarily to discount market value to intrinsic or investment values.
- **Control Premium:** an additional amount or percentage added to a valuation to reflect the benefits associated with owning the controlling interest in a business. This is in contrast to minority discount, which reduces the pro rata of the value of an entire business to reflect the absence of control.
- **Discounted Cash Flow:** a stream of monetary sums to be paid or generated in the future reduced to its present value by the application of a discount rate. The discount rate frequently, but not always, incorporates the current market rate of interest. A discount rate may also be tied to a common, easily verifiable interest rate such as that paid on U.S government securities. In theory, the riskiness of the cash flow determines the discount rate – the more risk, the higher the discount rate(Lawrence W. Tuller 2008).

Chapter Three
Business Valuation methods

1. Definitions

1.1 Business valuation

Is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive to affect a sale of a business. In addition to estimating the selling price of a business, the same valuation tools are often used by business appraisers to resolve disputes related to estate and gift taxation, divorce litigation, allocate business purchase price among business assets, establish a formula for estimating the value of partners' ownership interest for buy-sell agreements, and many other business and legal purposes such as in shareholders deadlock, divorce litigation and estate contest. In some cases, the court would appoint a forensic accountant as the joint expert doing the business valuation.(Kwok, Benny K. B. (2008))⁽¹²⁾

Business valuation determines the estimated market value of a business. A thorough, robust valuation consists of an in depth analysis by qualified, independent professional who combines:

- Proven techniques
- Analysis and understanding of a specific company and its associated industries
- Research and analysis of industry, association, and other publications, academic studies, the national and local economy and on-line database
- Judgments honed by education, training and experiences
- Intuition.

A valuation estimates the complex economic benefits that arise from combining a group of physical assets with the intangible assets of the business enterprise as a going concern. (McGraw-Hill 1998)⁽¹³⁾

The resulting valuation, part science and part art, it's a well-founded estimates

That represents the price that hypothetically informed buyers and sellers would negotiate at arm's length for an entire business or for a partially equity interest.

The valuation estimates depends on the data and information available at the time of performing the valuation. The analysis and the efforts exerted by the valuator are huge to enable him/her get the most appropriate value of the business.

There are several techniques and methods used by the valuator to reach to the fair value of the business. There are tremendous researches and academic studies in this field, the knowledge and understandability of the valuator will definitely qualify the result that will be reported that reflect the reasonable fair value of the business. Also the educational institutes have contributed a lot to this filed through in-depth information and analysis that support and assist the valuator to reach the most suitable accepted value of the business.

The physical assets of the business, including buildings, plants, machines, computer and software , wagons , locomotives and other tangible assets that constitute the basic to value a business. In addition to the intangible assets that arise from the businesses reputation and creditability in the markets, such as goodwill, brands name, patterns and rights that will be incorporated in the process to get the real worthiness of the business.

1.2 Standard and Premise of Value

Before the value of a business can be measured, the valuation assignment must specify the reason for and circumstances surrounding the business valuation. These are formally known as the business value standard and premise of value (Pratt, Shannon 2000) (14). The standard of value is the hypothetical conditions under which the business will be valued. The premise of value relates to the assumptions, such as assuming that the business will continue forever in its current form (going concern), or that the value of the business lies in the proceeds from the sale of all of its assets minus the related debt (sum of the parts or assemblage of business assets).

1.3 Standard of Value

- Fair market value - a value of a business enterprise determined between a willing buyer and a willing seller both in full knowledge of all the relevant facts and neither compelled to conclude a transaction.
- Investment value - a value the company has to a particular investor. Note that the effect of synergy is included in valuation under the investment standard of value.
- Intrinsic value - the measure of business value that reflects the investor's in-depth understanding of the company's economic potential.

1.4 Premise of Value

- Going Concern - Value in continued use as an ongoing operating business enterprise.
- Assemblage of assets - value of assets in place but not used to conduct business operations.
- Orderly disposition - value of business assets in exchange, where the assets are to be disposed of individually and not used for business operations.
- Liquidation – value in exchange when business assets are to be disposed of in a forced liquidation.(Kwok, Benny K. B. (2008)

1.5 Premise of value for fair value Calculation

- In use – If the asset would provide maximum value to the market participants principally through its use in combination with other assets as a group.
- In Exchange – If the asset would provide maximum value to the market participants principally on a stand-alone basis.

Business valuation results can vary considerably depending upon the choice of both the standard and premise of value. In an actual business sale, it would be expected that the buyer and seller, each with an incentive to achieve an optimal outcome, would determine the fair market value of a business asset that would compete in the market for such an acquisition. If the synergies are specific to the company being Valued, they may not be considered. Fair value also does not incorporate discounts for lack of control or marketability.

Note, however, that it is possible to achieve the fair market value for a business asset that is being liquidated in its secondary market. This underscores the difference between the standard and premise of value.

These assumptions might not, and probably do not, reflect the actual conditions of the market in which the subject business might be sold. However, these conditions are assumed because they yield a uniform standard of value, after applying generally accepted valuation techniques, which allows meaningful comparison between businesses which are similarly situated.

1.6 Elements of Business Valuation

1.6.1 Economic Condition

A business valuation report generally begins with a summary of the purpose and scope of business appraisal as well as its date and stated audience. What follows is a description of national, regional and local economic conditions existing as of the valuation date, as well as the conditions of the industry in which the subject business operates. A common source of economic information for the first section of the business valuation report is the Federal Reserve Board's Beige Book, published eight times a year by the Federal Reserve Bank. State governments and industry associations also publish useful statistics describing regional and industry conditions.

1.6.2 Financial analysis

The financial statement analysis generally involves common size analysis, ratio analysis (liquidity, turnover, profitability, etc.), trend analysis and industry comparative analysis. This permits the valuation analyst to compare the subject company to other businesses in the same or similar industry, and to discover trends affecting the company and/or the industry over time. By comparing a company's financial statements in different time periods, the valuation expert can view growth or decline in revenues or expenses, changes in capital structure, or other financial trends. How the subject company compares to the

Industry will help with the risk assessment and ultimately help determine the discount rate and the selection of market multiples.(zapmeta website) ⁽¹⁵⁾

It is to mention that among the financial statements, the important statement to show the liquidity of the company is cash flow. Cash flow shows the company's cash in and out flow.

1.6.3 Normalization of financial statements

The key objective of normalization is to identify the ability of the business to generate income for its owners. A measure of the income is the amount of cash flow that the owners can remove from the business without adversely affecting its

operations. The most common normalization adjustments fall into the following four categories:

- **Comparability Adjustments.** The valuator may adjust the subject company's financial statements to facilitate a comparison between the subject company and other businesses in the same industry or geographic location. These adjustments are intended to eliminate differences between the way that published industry data is presented and the way that the subject company's data is presented in its financial statements.
- **Non-operating Adjustments.** It is reasonable to assume that if a business were sold in a hypothetical sales transaction (which is the underlying premise of the fair market value standard), the seller would retain any assets which were not related to the production of earnings or price those non-operating assets separately. For this reason, non-operating assets (such as excess cash) are usually eliminated from the balance sheet.
- **Non-recurring Adjustments.** The subject company's financial statements may be affected by events that are not expected to recur, such as the purchase or sale of assets, a lawsuit, or an unusually large revenue or expense. These non-recurring items are adjusted so that the financial statements will better reflect the management's expectations of future performance.
- **Discretionary Adjustments.** The owners of private companies may be paid at variance from the market level of compensation that similar executives in the industry might command. In order to determine fair market value, the owner's compensation, benefits, perquisites and distributions must be adjusted to industry standards. Similarly, the rent paid by the subject business for the use of property owned by the company's owners individually may be scrutinized.

1.6.4 Income, asset and market approaches

Three different approaches are commonly used in business valuation: the income approach, the asset-based approach, and the market approach (Stern School of Business) ⁽¹⁶⁾. Within each of these approaches, there are various techniques for determining the value of a business using the definition of value appropriate for the

appraisal assignment. Generally, the income approaches determine value by calculating the net present value of the benefit stream generated by the business (discounted cash flow); the asset-based approaches determine value by adding the sum of the parts of the business (net asset value); and the market approaches determine value by comparing the subject company to other companies in the same industry, of the same size, and/or within the same region. A number of business valuation models can be constructed that utilize various methods under the three business valuation approaches. Venture Capitalists and Private Equity professionals have long used the First Chicago method which essentially combines the income approach with the market approach.

In certain cases equity may also be valued by applying the techniques and frameworks developed for financial options, via a real options framework (Gary E. Jones and Drik - Op-cit P 3) ⁽¹⁷⁾, as discussed below.

In determining which of these approaches to use, the valuation professional must exercise discretion? Each technique has advantages and drawbacks, which must be considered when applying those techniques to a particular subject company.

Most treatises and court decisions encourage the valuator to consider more than one technique,

which must be reconciled with each other to arrive at a value conclusion. A measure of common sense and a good grasp of mathematics are helpful.

1.7 Valuation V. Appraisal. How do they differ

While valuation and appraisals are similar in some ways, they are not interchangeable. Most people are familiar with appraisals as part of their personal lives, even if they do not encounter appraisals in their business or profession. For example, many individuals have had personal assets like houses, cars, jewelry or works of art appraised. The key difference between valuation and an appraisal is that a valuation includes the tangible and intangible assets of a business as a going concern, while an appraisal is solely for tangible or physical assets.

In many cases, physical assets appraisal can supplement a valuation. For instance, a company may have physical assets with an aggregate tangible net worth greater than earning power of the company. Such assets may include inventory, property, plant

and equipment. In these situations, a valuation analyst calls upon appraisers who are specialized in specific types of physical assets, and the estimated value of the business may thus depend on the company's tangible net assets rather than on the company's projected earnings (Gary E. Jones and Drik - Op-cit P 3).

1.8 the Science and Art of Valuation

Everyone looks at the business valuation as may appear to be solely a set of numbers added up in a formulaic way. While business valuation certainly uses the science of quantitative analysis, it combines science with art of quantitative evaluation and the interpretation of human and business behavior. So, while it's based on factual information and sound methodology,

a valuation consists of more than plugging numbers into a formula to arrive at the answer.

The science

of valuation combines both set of complex internal and external factors that affect a business, its industry, and the overall economy. Together these factors influence value at any given point in time.

The art of valuations comes from taking the relevant facts gathered during the scientific part of the valuation and combining them with the valuator's knowledge, training, experience, and professional judgment to arrive at a reasonable estimate of value.

The valuator has to search for real-world experiences and market comparisons and has to challenge his or her preliminary conclusion continually. The art form of valuation depends on the valuator's ability to synthesize facts and perceptions from disparate sources into meaningful, quantified estimate of value (Business Valuation for Dummies, 2009) ⁽¹⁸⁾.

1.9 Value differs from Price

As the celebrated investor, Warren Buffett once said, "price is what you pay, value is what you get" these two objectives can only be materialized "if you do your homework" before the deal is completed.

In business deals, most buyers and sellers have a singular focus on price as price is hard to avoid. Negotiations ideally produce numbers that both sides can be happy

with. But getting to the right price in any deal involve understanding what business assets are truly worth and then structuring a deal around financing and tax realities, which can be quite surprising to those who fails to plan (Lisa Holton -2009).

1.10 Valuation is not a one-time deal

If business is already operating to its fullest potential, valuation is not something owners should put off until ready to sell or close the business. Most, tax, business, and personal finance experts say that even if owners are years away from retirements- years away from having another business, keeping your valuation numbers current is a good idea. This way, owners can make changes and investments in the business so they can leave the business with the highest valuation possible.

A strategy of continual valuation tells owners the following things:

- Whether selling their business or merging with another make sense
- Whether owners can make enough money from the sale of a business to support their retirement.
- When they want to set a timetable for their kids or other family members to take over the business.
- The optimal time to set up an employee stock ownership plan (ESOP) as away to pull money out of the business in a tax-advantaged way.
- How often should owners run valuation numbers? It varies based on need. With computerization, it's easy for many businesses to program their numbers so they can keep a constant eye on their main value indicators that have been developed for any goal they have on their radar (Lisa Holton - 2009).

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1.11 Exposing the Eight Myths of the Business Valuation

Valuing small, privately held business is very much like a picture, it is a creative endeavor; not a science. No single method or procedure for a accomplishing this task. Generally accepted principles such as those found in the accounting profession, do not apply to business valuation.

It is not until the brush has had time to do its work that the two parties to a transaction; the business owner on one hand and a business buyer, partner, lender, the IRS, or the court on the other hand, negotiate the fair market value of a business.

All attempts to value a business especially small private business, just applying the experience and knowledge acquired from practice, as there is no structured methodology to follow that can provide straight away the value of the business.

As with artistic endeavor, creativity plays a major role in business valuation such creativity occurs with the parameters of long-standing customs. Unfortunately, these parameters are not thoroughly understood by business owners. And any subject that is not thoroughly understood carries with it a mystique built on myths(Adam Media Publication Company, 2008) .

Most of business owners do not understand these parameters, and the valuation process depends entirely on those techniques and artistic endeavors.

Valuing small, privately held business requires a mindset significantly different from that the security analyst or real estate appraiser. Security analyst rely on mathematical formulas and statistical derivations to value traded securities, but these are largely minority interest and do not reflect the total value of a company. Real estate appraiser relates the value of land and buildings to construction indexes, a grossly in appropriate method for valuing a growing concern.

Meaningful valuation of small, privately held business based on future cash flow discounted for risk are also at variance with tax code and court.

The IRS requires that specific formula be used to value an estate or business interest for tax purposes. But these calculations determine values at a point in time, ignoring future benefits. Courts of equity attach random values to minority or majority business interest for divorce settlements and other legal remedies, but their randomness breeds inconsistency and pays little heed to the ongoing benefits generated by a business.

None of these methods consider the total values of going concern and the particular characteristics of closely held business (Adam Media Publication Company, 2008).

Companies listed in stock exchange are subject to a variety of methods and techniques to get the value of the business, as the share prices displayed and traded

in the stock exchange will provide the value that business. Where companies that small and privately held facing difficulties to value them, as security analysts use predetermined mathematical formulas and well developed statistical derivation to the value of the business, even these techniques do not reflect the total value of a business, where the real estate appraisers in most cases use indexes from the areas of their profession such as construction indexes and relate the land and building values of the company to those indexes which are not appropriate to value an ongoing concern. Simply it ignores the future benefits of the company.

A meaningful and more acceptable way to value a small, private business is to base it on future cash flow discounted for risks, but even this method is indifference with the tax code and court.

Over the years, authors, accountants, lawyers, the IRS, the court and management consultants have tried to turn business valuation into a science with definitive, universally accepted methodologies, but all they have succeeded in doing is to cloak them in unfounded myths these are eight of most insidious:

- I. The only time the business owner needs to value his business is when he is ready to sell it or when his banker wants a valuation in support of a loan application.
- II. A company earnings determine how much the business is worth
- III. XYZ corporation sold for \$5 million, so my company must be worth the same amount,
- IV. The most logical way to value a business is to multiply its earnings by five,
- V. Only companies that turn a profit are worth anything,
- VI. Business owners know the value of their companies better than any outsider, including professional appraisers,
- VII. The best way to value a company is to multiply its annual revenue by two,
- VIII. The market value of a company is in the eye of beholder and not determined by fancy mathematical formula.
- IX.

1.11.1 When selling a business or applying for a loan

“Banks view valuing your business as a crucial step in a loan application. Valuation is also required when you decide to sell the business. The necessity for reliable

valuation in both situations seems obvious. Without an appraisal of company's underlying assets banks cannot know how much collateral support the loan. And without a reasonably calculated market value, business buyers would not have any logical base from which to negotiate a purchase price(Adam Media Publication Company, 2008)

However, if those are the only times you take a hard look at how much your business is worth, you are missing a key ingredient for managing the business.

Knowing the market value of your business helps in deciding when the time has come to retire and sell the entire company. Knowing the value of your business will guide you in restructuring the company to protect its assets from nefarious or various lawsuits. Knowing how much each product line of your business is worth in the marketplace can invaluable information for deciding whether to intensify marketing efforts for a product line or abandon it altogether.”

The normal practice in any banking industries that provide financial services and loans facilities is to have guarantees or collaterals to secure the amounts of loan given out, an independent valuator can provide satisfactory information for banks based on the company's assets assessment and valuation that secure these type of loan from the banks.

Business owners should know how much their businesses are worth, even if this can be taken as a rough calculation, as without this value owners will not be able to assess the risks and rewards that they can encounter in future, in addition knowing the value will definitely helps and provide the guidelines for restructuring the business and will provide the minimum tools and guidance to whether further investment is needed or not, or even further improvements to the existing product lines is needed or not, by having and knowing the value of the business the owner will be in strong position to take investment decisions by whether to have new capital investments or to discontinue part of the business or even to abandon the business totally.

“A recent business valuation will prove the worth of the company for estate tax purposes. Whether a business survive or fades away with the demise of its owner, at the time of death it has some value. It may have hard assets (for example equipment, machinery, or real estate) it may have a valuable patents or trademarks. Or it may

have substantial customers goodwill built up over years of profitable operations. All of these assets must be included in the taxable estate of the business owner.

Perhaps you may have one or two business partners, your partners' could be a spouse or children, or partners might not be related to you at all. When the time comes to dissolve the partnership or to buy out one or more partners or to restructure your business, some type of buy/sell agreement must be in place. As an agreement includes a method for determining the value of the business at the time of dissolution or buyout(Adam Media Publication Company, 2008) .

To be certain the valuation meets with the IRS approval, it should be updated periodically to reflect

changes in the profitability and the acquisition or disposal of company's assets.

At the time of death or dissolution of business partnerships there some business and tax requirements that have to be considered, as the death will leave out tangible and intangible assets that have t be disclosed to the IRS and partners, tangible assets may include land, buildings, machinery, equipments, ICT technology and software, furniture and other assets, where the intangible assets may include the trademarks, goodwill that comes from the reputation and brand images of the company, all these assets should be included in the estate tax submission of the business owner.

1.11.2 **Basing value on earnings**

“I cannot recall how many times I have argued with business buyers over the myth of a company's earnings determining how much the business is worth. Virtually all private owned businesses try to show as little profit as possible. Why? To minimize income taxes. So when potential buyers look at the financial statements or the books of accounts they see that earnings are low or nonexistent and the business appears to be a poor acquisition choice. But this is wrong. The value of a business is measured not by its earnings but by *how much cash it throws off*. A private company may show a book loses but still generate substantial cash. Take for instance those cases where an owner pays himself a large bonus at the end of the year or pays personal expenses out of company's funds or buys a new car with company's fund. That expenditure represents a return of capital to the owner. Although they are recorded

as expenses and hence reduction in profit, in reality the owner has benefited by positive cash flow from the business”. (Adam Media Publication Company, 2008)

It’s important to document these discretionary expenses; some are deductible by the company for income tax purposes. Some are not. In any event, when the time comes to offer the business for sale, the fact that you have documented them as adjustments to recorded expenses will increase a buyer’s confidence in your financial statements. It is true, however, that when a court assigns a value to a business, as in a divorce settlement, earnings are important.

It is much easier for lawyers and judges without accounting backgrounds or business backgrounds for that matter, to understand the meaning of earnings as opposed to cash flow.

Basing value on earnings on most cases will not provide the true value of the business, as owners do not show the true income of a business , because tax income is a nightmare to those owners, they tend to reduce their income by increasing the personal expenses . In which the book of accounts do not show the real income.

Documenting and filing of the expenses may increase the chance of buying the business as the owner may show and disclose these documents, this will question the integrity of the owner as he/she did not show the true income of his business and my reduce the tax that imposed on his/her business, which is a general social and legal requirements but the cash out flow is reduced. The new buyer will consider these adjustments which are not a real deduction of income.

In all cases there should be a thorough review of all businesses that show negative income at their financial statements. A thorough check and verification of expenses documents to determine which business has actual loses other than the ones that have manipulated the income statements.

Earnings are more understandable by lawyers and judges although they may not have business and accounting backgrounds, because taking expenses from revenue or income is easier than calculating the cash flow.

1.11.3 When compared to another company

“One of the client, call him Mr. Brown had a retail business that sold ice cream, party favor, and light sandwiches. He did about \$4.5 million in annual sales. Mr.

Brown wanted to increase his line of credit; the local banks insisted that he determines the value of his business as a prerequisite to lending. I had consulted to this business many for several years, so Mr. Brown asked me to do the valuation. Applying the normal capitalization calculation to my forecasted cash flow resulted in a value of about \$3 million. My client was incensed. It seems that one of his friends had sold his auto repairs business two years ago for \$4.75 million. Mr. Brown insisted that his company was worth at least as much as that dingy auto repair shop and in fact he agreed that \$5. Million was a reasonable number for the bank to base its lending on. I tried to keep him from presenting this to the bank but failed. The result? The bank turned down Mr. Brown's request for an increased credit line.

The prominent myth that two privately held businesses can have the same value has led more than one entrepreneur in the wrong direction. No two businesses are alike(Adam Media Publication Company, 2008)

- Location,
- facilities,
- equipment,
- ownership,
- philosophy,
- management ability,
- product lines ,
- customer base ,
- supply chain

And so on are unique to a given business. To assume that ABC Company is worth the same as XYZ company denies these differences.

Comparing the worth of two businesses is like comparing the market value of two houses. Even if the houses have the same square footage and are located side-by-side, one may have a pool while the other does not. One may have landscape garden while the other does not.

To determine the market value of these two houses, one must examine the interior as well as the exterior of both and then compensate with premiums or discounts for the differences. Exactly the same exercise must be done to appraise two seemingly

comparable businesses. To assume that one company should be valued the same way as another is a gross error. This does not mean that comparative analyses are worthless. Just the opposite is true, these analyses are crucial to the competition of a valuation”

There are no two or more companies are alike, there are many factors that play major role to bring this different between the two businesses. Business owners assume that their businesses are same with other successful businesses, which is a gross error that the owners commit.

As listed above many factors contribute to create the differences and though the value.

Other factors that distinguish a company form the other is how strong the brand is, as the brands and quality of the products will distance the company from each other.

1.11.4 **Five Times earnings**

“The five times earnings (FTE) myth seems to be the harder to disprove. Here is an example showing the rationale commonly used. A practicing management consultant for more than twenty years had performed many business valuations for lenders, business buyers, and business owners. Almost without exception he used the FTE method. On many oceans he pointed out the fallacy of of such an arbitrary method. However, he consistently argued that the FTE method correctly assumed:

- 1- Lenders usually grant term loans to a small business for a maximum of five years,
- 2- Buyout partners frequently expect to receive full payment over no more than five years
- 3- Business buyers reasonably expect a return of their investment in not more than five years.

The adjusted earnings of his clients did, in fact, reflect actual cash flow.

If FTE is a myth, does it mean that this consultant’s valuation were wrong, and should not have been used?. No. each of these arguments has merit. However, it’s important to understand that they ignore those basic tenets of business valuations:

- ☐ First, a business is worth only as much as the cash it generates.

- ② Second, cash generated today is worth more than cash generated next year or the following year.
- ② Third, the risk of achieving forecasted cash flow must be recognized.
- ② Fourth, business value should bear some similarity to actual prices paid for like businesses, adjusted for premiums and discounts as necessary.”

This argument assumes that small businesses enjoy the well fair of their investments and get the benefits only within five years, as most lenders will only provide five years for loans to be paid back, and investment reward is expected to be within five years. The adjusted cash flow of the clients he did over that long experience was, true reflecting on the merits of their businesses, but these days the small businesses have changed dramatically where there are being able to work and get loans and banking facilities for more than this five years, by which the net investment reward will be materialized after this five years.

1.11.5 **Loss Businesses are worthless**

“if it were true only businesses turning a profit are worth anything, no-dot.com would ever go public, no start up business would ever be sold, and never small business would have an awful time getting bank loans. Business value is based on future cash flow, not earnings, small businesses owners are notorious for paying personal expenses out of company’s funds, and causing book loses when actually the business generates substantial cash. Some of the most profitable companies began as loss generating start-ups. The original Control Data Corporation comes to mind; innovative companies such as Amazon.com operated in the red for many years, but then had S very successful public stock issue. Many other well-known companies survived substantial losses in the beginning to eventually become profitable, high-growth businesses. Small business that can credibly demonstrate the likelihood of substantial future growth, leading to significant cash flow, may have value far in excess of one that turns a steady profit but whose future signals unspectacular growth.

I once had a client whose manufacturing business had been losing money for five years. The business owner was an inveterate investors continually coming up with better mousetraps. Very few of these inventions panned out in the marketplace.

One year he designed a new type of lens for use on airport runways that allowed light to penetrate for much better than lenses then in use. He requested a five-year \$2 million term loan from his bank to allow him to test the market and to get a production line up and running. His banker refused to grant him the loan unless the entrepreneur could prove that his innovation would cause the company profitability to soar in the future. I performed a business valuation for my client, leaning heavily on airport industry growth statistics to validate our cash flow forecast. The bank bought the valuation and granted the loan, even though the business had been losing money for the previous five years.

Incidentally, the new lens was a market sensation,. Several of the largest airports in the country ordered thousands of them. This entrepreneur's days of losses were over. Every loss business does not have market value. But if the owner can show that future cash flow will be significantly greater than in the past, most lenders and business buyers would agree that the company is worth something.” (Adam Media Publication Company, 2008)

It all rounded and moved around the business owner who can reverse the wheel back and the company can generate much better cash in the future.

By better planning and solid ground proposals submitted the banks, lenders, business buyers, and with the commitment of the owner to work hard to generate cash that will continue running in the future, these financial institutions will grant the owners the money that can change the entire operations of the business.

But also the role of the business valuation is extremely important in such a process, as these experts they got the know-how and the techniques to convince lenders.

1.11.6 **Business owners Know best**

“If only it were true that business owners are in the best position to value their businesses. Buying and selling private businesses, divorce settlement, and lenders verifications would be a lot easier. Unfortunately, such is not the case. Owners who value their own businesses are very similar to home-owners who set selling prices for their own homes. If you have ever sold your home you understand the maxim that owners always believe that their properties are worth more than the market does. Any real estate agent will agree that homeowners are the worst judges of the

market value of their own homes'. It is the same if someone lived in his house for many years and later decided to put it in the market for sale, the value that will get, will not, always be the value that the owner expects to get.

This is also applied for own private businesses “where they have lived with their businesses for many years, tweaking them here and there to meet their personal comfort levels. They recruited and trained personnel to do these things they wanted them to do in the way they wanted done. Marketing programs, long-term strategies, facility layout, and product designs, were uniquely configured to fit those particular businesses. Owners would argue that if decisions affecting these items had been different, their businesses would not have prospered as they had. Certainly, potential buyers must see this. But they do not. Buyers look at the businesses with the same jaundiced eye that home buyers have when they look at houses. And in both cases what they see is entirely different from the owners see.” (Adam Media Publication Company, 2008)

The business owners are in the right position to value their business if certain factors and elements available on the business owner, the right follow up of the business activities and operations. If business owner is not involved on the day-to-day operations and that got the heed of the subordinates in the fields to acquaint and strengthen the knowledge on the business, will not be able to fully understand what the business is worth, follow up on the loans requests and the details requirements that the operation needs. If business owners grab the knowledge of their businesses, then the tasks of divorce settlement, lenders verification would not be difficult. The reality is that business buyers do the same as home buyers do as they concentrate on specific factors ignoring the elements behind the success the business had in the past.

1.11.7 Two Times revenue

The multiple of revenue method is an attempt to standardize valuation procedures within an industry or profession. Characteristically, businesses that use this method are service companies that employ very few hard assets. For example, the hard assets of real estate agencies, accounting firm, business brokers, and law offices might be limited to office furniture and reference libraries.

The problem with basing valuation on a multiple of revenue is that multiplying factors range all over the lot, from less than one to double digits, average or medians for a given industry could be used, but that limit the multiple to companies that possess average and mean industry characteristics. Realistically it is very difficult to justify which multiple should be applied to a specific business.

In addition to lacking industry commonality, the multiple of revenue method ignores the fundamental parameters of business valuation. It does not recognize the value of future cash flow.

Nor does it acknowledge the attendant risk in achieving future cash flow. Pragmatically, this method may be a convenient, simplistic approach to valuing a business, but it lacks the ingredients to make the resultant value credible.

There is one exception to this. Small professional practices (e.g. law firms, CPA firms, medical partners, architectural firms, and so on). And small personal services companies can reasonably be valued using the multiple of revenue method. Expenses recorded by these businesses reflect the owners' need, not necessarily those of the business. This makes using proforma financial statements to forecast cash flow virtually meaningless, leaving revenue as the most logical choice to represent business activity.

When the multiple of revenue method is used, you need to determine which multiplying factor makes sense. A multiple of two may not always be the right choice. In some cases a higher multiple will be warranted. In other cases a lower multiple makes more sense.

1.11.8 In the Eye of the Beholder

Of the eight myths, this one has the most merit. Professional business appraisers can calculate value with the discounted cash flow method, the capitalization of earnings method, or any other commonly used procedure. The IRS and the court may accept such a calculation as a reasonable estimate of a business worth. However, from the perspective of the business buyer or a buyout partner, the value of the intangibles frequently constitutes a far more meaningful appraisal of the business. This applies to start-up businesses as well as to going concerns.

Although a calculation of future cash flow discounted for risk is certainly a preferable way to go, in some case it may be impractical. The eye -of -the -beholder method-if, in fact, this can be called a method – changes myth to reality and ends up being the only way to seal the deal.

However, despite the arbitrary assignment of value to intangible assets such as goodwill by the beholder, some calculation of future cash flow is the only logical base upon which to apply premiums or discounts. Yes, the worth of the business is nearly always in the eye of the beholder. But an acceptable calculation of value based on known facts and reasonable assumptions should also be used to determine the market worth of the company. Premiums and discounts can then be applied as necessary.

These eight myths distort the intent of business valuation to reflect fair market value and must be dispelled. Misconceptions caused by myths are bad enough. But misunderstandings that emanate from a lack of business valuation standards cause even more confusion (Adam Media Publication Company, 2008)

3. Business Valuation methods

The owner of the business is the only person who better understand his/her business. Business valuation is subjective science. the science part is when valuing a business standard valuation methods will be applied, the subjective part is that every buyer circumstances and consideration are different, so for the same business two buyers may propose two different offers.

In general, there is no fix rules or formulas to apply to value how much a business is worth.

Its value will always be what the owner willing to sell for and what the potential buyer will to pay. There are many approaches that can be used to value a business, within these approaches there are different methods for each approach.

The author described the four main groups comprising the most widely used company valuation methods: balance sheet-based methods, income statement-based methods, mixed methods, and cash flow discounting-based methods. The methods that are conceptually “correct” are those based on cash flow discounting. Then will briefly comment on other methods since -even though they are conceptually “incorrect” (Pablo Fernandez- they continue to be used frequently. 2020).(19)

Nowadays, determining the value of a business has gained significant importance in academic and business fields, as the understanding of the value of an organization has become a key tool for the management and marketing of a business. Accordingly, numerous methods have been developed in order to perform these kinds of practices. In this article, the most used and current methods in processes of business evaluation are revised, observing their strengths and weaknesses, with the aim of comparing them and determining that the discounted cash flow methods are the most adequate procedures to perform this type of analysis (Por: RIASCOS HERMOZA _ 2017)(20).

Business valuation plays an important role in the development of the financial theory and its application in the market. It estimates the value of an organization, becomes a fundamental exercise that will help business managers to determine which financial strategy to follow, provides stakeholders with an overview about the financial situation and the expectations of the organization moving forward.

However, over the years, many business valuation methods have been developed. These methods do not necessarily produce a unique result. Consistent with the above, it is relevant to review the most popular and currently-used valuation methods.

3-1 Traditional Approach:

3-1-1 Asset Approach

The asset value method assume that all or a significant portion of a company 's assets could be liquidated readily if so desired. This liquidation assumption makes this method a favorite of secured lenders for assessing the value of collateralized assets. (Lawrence W. Tuller 2008)

Small businesses also frequently looked to this method as a starting point from which to make plus and minus adjustments. In this case book value, not liquidation value, is normally used as an expression of not assessed value. The IRS also applies the asset value method to valuation for employee's stock option plan (ESOP), special recapitalization, and other situations involving tax impacts. It is a suitable method for small businesses and other area that involve tax implications.

This method insist that the non-operating assets such as investments in securities or real estate be segregated and separately valued as an adjustments to tangible assets of the valued company. Such non-operating assets will command a lower rate of return than the operating assets in a subject company. Although in exceptional cases the reverse may be true. "the ruling goes on to state in computing the book value per share of stock, assets of investment type should be revalued on the basis of their market price and book value adjusted accordingly".

The fundamental problem with using the asset value approach is that it looks at business assets as valuable in and of themselves, without regard to their impact on a going –concern. In fact, however, all businesses primarily keep assts to generate future income/ cash flows .except in some circumstances where investment is made for the express purposes of liquidating the company. The only real value in business assets lies in their ability to enhance and improve the company's earnings power.

In general, valuation with a view to mergers, acquisitions or sales of companies, or equity interest, and other purely business purposes should employ other methods that more properly reflect future benefits to investors.

The asset approach is also defined in the international glossary of business valuation terms as “a general way of determining a value indication of a business, business ownership interest or security using one or more methods based on the value of the assets net of liabilities.” In the valuation of a business or business enterprise, the asset approach presents the value of all the tangible and intangible assets and liabilities of a company. As typically used, this approach starts with book basis balance sheet as close as possible to the valuation date and restate the assets and liabilities, including those that are unrecorded, to fair value(financial reporting) or fair market value ((tax and other purposes).

3-1-1-1 Fundamental Theory:

Even as evolve to fair value accounting, accounting is still generally historical cost-based. At any point in time, a company balance sheet represents a number of accounts stated on the basis of costs. Presenting financial statements on a cost basis bring about conceptual conflicts.

Traditionally, costs, (or more precisely historical cost) is assumed to be the proper basis of accounting for assets acquired, services received and for the interest of creditors and owners of the businesses entity. Completed transactions are the events to be recognized and made part of the accounting records under the cost principle. At the time of the transactions, the exchange price usually represents the fair market value of the goods or services exchanged as evidenced by the agreement of an informed buyer or seller.

With the passage of time, however, the economic value of an asset such as land or building, may change greatly, particularly in time of inflation. However, the cost principle requires that historical cost, rather than a later “fair market value” continue to serve as a basis for values in the accounts and in the financial statements.(Meigs, Mosich,1974)⁽²¹⁾

With the possible exception of certain financial institutions, a historical based accounting balance sheet will almost always bear little relationship to value. The

balance sheet is useful only as a starting point and requires a series of adjustments to reach fair market value.

Depending on the interest being valued, the value indication thus derived may require further adjustments to properly reflect fair market value to the specific subject interest.

The value of certain asset, (on a GAAP) such as cash, accounts receivable, and to a lesser extent inventory, may closely approximate book value. Likewise, the value of other assets such as property plant and equipment (PPE) seldom equal to book value. Further -more, internally developed intangible assets as distinguished from those that are purchased individually or as part of a transaction, are usually not recorded on the books.

The asset approach is more commonly used in valuation for financial and tax reporting and for asset-intensive businesses.

Earnings may be the most important criterion of value in some cases whereas asset value will receive primary consideration in others. In general, the appraiser will accord primary consideration to earnings when valuing stocks of companies which sell products or services to the public, conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.

The same rule also states that “ the value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the asset underlying the stock. For companies of this type the appraiser should determine the fair market value of the assets of the company. Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative value of the stock and the underlying assets- the market value of the underlying assets give due weight to potential earnings and dividend of the particular item of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. A current appraisal by the investing public should be superior to the retrospective opinion of an individual. For these reasons, adjusted net worth should be afforded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not

family owned, than any of the other customary, yardstick of appraisal , such as earnings and dividends – paying capacity.(James R. Hitchner,2011)⁽²²⁾

The reviewer rule state that operating companies (i.e. those that sell products or services to the public) typically should be valued based on earnings, as that is how the investing community generally values such companies. S. At least, in theory, operating companies that earn a rate of return in excess of a fair return on current and tangible assets will demonstrate market value in excess of book value. The implication being that, the company also has an element of intangible value that is likely not recorded or, if recorded, is undervalued in the account. Thus, if the asset approach method is use to value an operating company as a going concern, the result may be undervaluation, because the value of goodwill and other intangible assets likely are not reflected on the company's balance sheet; if such values are recorded, it is likely the result of a prior acquisition and is probably not reflective of current value 1. Therefore, the asset approach is typically used to value investment or holding companies and is often used method for valuing small practices, family limited partnerships, and certain pass-through entities. However, the tax court has ruled that a weighting of the income approach may be appropriate in the valuation of a holding- type company in certain circumstances .(James R. Hitchner,2011).

3-1-1-2 General Steps in the Asset Approach

There are many layers and documents need to be available for the appraiser or analyst to assist in valuing a business.

3-1-1-2-1 Balance Sheet

The first step in using the cost approach is to obtain a balance sheet as close as possible to the valuation date. Also book value is not considered to be fair market value but analysts use them as a starting point to create a fair market value balance sheet. Any company's balance sheet should include items , including but not limited to, cash, accounts receivable, marketable securities, inventory, prepaid expenses, lands & buildings, furniture , fixing and equipments on the asset sides, and accounts payable, accrued expenses, and interest-bearing debts plus equity accounts on the liability and equity side.

3-1-1-2-2 Restate recorded Assets and Liabilities:

Each recorded asset must be verified and examined and then adjusted to fair market value. In a proper application of this approach, individual intangible assets, it should be identified and valued as well. Once the asset side of the balance sheet have been examined and restated to fair market value, it will be simple process ti subtract all liabilities, at their market fair value, to derive and reach the fair market value of the equity of the company under the asset approach. As a practical matters, normally analysts typically used book value amounts for liabilities. To the extent that current financing terms differ from actual rates, an adjustment may be appropriate to the liabilities and other long term loans.

3-1-1-2-3 Unrecorded Assets & Liabilities

Most off balance sheet assets are intangible in nature. However, there can be other types of assets including, but not limited to, litigations claims to be paid and assets that have been written off but are still used in the business. Off balance sheet liabilities include contingent liabilities such as potential environmental problems, pending tax disputes and unfunded pensions.

3-1-1-2-4 Current and Tangible Assets

Assets such as cash and accounts receivable and other types of marketable securities are generally not difficult to value. Cash is cash, either in the company or in the banks, accounts receivable should be adjusted for uncollectable amounts. The book value of other items, such as prepaid expenses, often is used proxy for fair market vlue. The only one asset that may entail some adjustment is inventory.

Illustration (Table No 1.) Brothers Holding Company (illustrative Company)

Asset based Approach as at Dec 20xx

Assets	Reported Dec 20xx- \$	Debit \$	Credit \$	Adjusted Dec 20xx
Cash & Equivalents	5,200,000			5,200,000
Investment in Marketable Securities	4,200,000	3,368,000 (1)		7,568,000
Accounts Receivable – trade	8,400,000	(2)	95,000	8,305,000
Accounts Receivable- Other	75,000	(3)	75000	0
Inventories	5,900,000	600,000 (4)		6,500,000
Prepaid Expenses	<u>2,800,000</u>	(5)	100,000	<u>2,700,000</u>
Total Current assets	26,575,000			30,273,000
Land And Buildings	7,200,000	12,000,000(6)		19,200,000
Accumulated Depreciation	(4,800,000)	4,800,000(6)		0
Machinery and Equipment	23,200,000	1,200,000(7)		24,400,000
Accumulated Depreciation	<u>(12,700,000)</u>	12,700,000(7)		<u>0</u>
Net Fixed Assets	12,900,000			43,600,000
Intangible Assets- Organization cost	<u>295,000</u>	(8)	295,000	0
Total Assets	39,770,000			43,600,000
Liabilities				
Notes Payable	500,000			500,000
Accounts Payable	6,550,000			6,550,000
Current portion of long term debt	1,250,000	(9)	11,800	1,261,800
Accrued Expenses	2,400,000			2,400,000
Total Current Liabilities	<u>10,700,000</u>			<u>10,711,800</u>
Long term debt	5,000,000	(9)	152,300	5,152,300
Other Long term Liability	800,00			
Deferred Income Tax	250,000	(10)	292,000	542,000
Build-in Gain Liability	0	(11)	18,884,360	18,884,360
Total Liability	16,750,000			36,090,460
Shareholders' Equity				
Common stock	100,000			100,000
Paid-in Capital	2,000,000			2,000,000
Retained Earnings	20,920,000	19,905,460(12)	34,668,000	35,682,540
Treasury Stock	0			0
Total Shareholders' equity	23,020,000			37,782,540
Total Liability and Equity	39,770,000			73,873,000

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 316

3-1-1-2-5 Adjustments to balance sheet:

- 1- Adjust marketable securities to current value (Exhibit 1.1)
- 2- To write off two uncollectable accounts and adjust allowance
- 3- To write off advance of officer, which will not repaid
- 4- To adjust inventory to fair value
- 5- To write off (a) the portion of prepaid insurance which has expired, and (b) a forfeited deposit
- 6- To adjust real estate to fair value as per appraisal
- 7- To adjust personal property to fair value
- 8- To write off capitalized costs
- 9- To adjust fair value of debt (Exhibit 1.2)
- 10- Record estimated liability for pending litigation
- 11- To record liability for build-in gain (Exhibit 1.3)
- 12- Net Adjustment to equity

3-1-1-3 Valuation of Individual Assets and Liabilities:

Brothers Holding company, Inc. I is a C corporation, is being valued on a minority interest basis for estate tax purposes as of December 20xx. The company has a significant cash position and owns a portfolio of marketable securities, has receivables, inventory, prepaid expenses, land and building, and significant amount of machinery and equipment. Organization cost appeared in the balance sheet. Liabilities include short-term notes payable, accounts payable, accrued expenses, and long -term debt (which is due in one year as classified as a current liability). Although in reality an income approach and market approach may be applicable in valuing the company.

Below is the brief discussion of the company's accounts as follows:

3-1-1-3-1 Cash:

Cash is typically not adjusted in the asset approach. If the company is audited, the analyst may rely on the auditors for adjustments to the accounts (this holds true for many accounts, not just cash). If the company is not audited, the analyst may want to obtain copies of the bank statements as documentation.

3-1-1-3-2 Marketable Securities:

The company has a portfolio of marketable securities with a book value of \$4.2 million. The portfolio consists of investments in 20 equities that must be marked to market as of the valuation date. Calculations are presented in Exhibit 1.2. Each investment is recorded at its current fair market value, the result being that the fair market value of portfolio as of the valuation date is \$7,568,000. An adjustment of \$3,368,000 is made to bring the account to fair market value (adjustment No 1)

3-1-1-3-3 Accounts Receivable:

Trade receivable should be examined for collectability. The allowance for doubtful accounts should be reasonable and be reviewed for adequacy. In this illustration assumed that the a review for doubtful accounts had not been done for eight months and that there were two accounts totaling \$32,000 that were uncollectable. Additionally, after that write off, the reverse for doubtful accounts required an additional provision of \$ 63,000. The total adjustment is \$95,000 (Adjustment No2).

3-1-1-3-4 Accounts Receivable Other:

Early in the year the company loaned its chief executive officer and majority shareholder \$75,000. Although carried on the books as a loan, the officer had no intention to repay the debt and the company had no plan to collect. This receivable was written off in its entirety (adjustment No43). This transaction may have tax consequences, as it may be properly classified as compensation expense to the company and income to the officer.

3-1-1-3-5 Inventory:

Inventories consist of goods held for sale, partially completed goods that have entered the production process, and raw materials to be used in production. The accounting convention for inventory is that, it be recorded at the lower of cost or market. This means that inventory price increases during the period inventory is held for sale are ignored, but price declines are recognized.

The three most common inventory valuation methods are the cost of reproduction method, the comparative sale method, and the income method.

In reality, depending on materiality, an appraiser might accept inventory at book value based on client representations that the book value reasonably approximates fair market value. If this were the case, the appraisal report may disclose the fact that valuation procedures were not performed.

3-1-1-3-6 Prepaid Expenses:

These, such as deposits and insurance must be examined to determine whether their amount on the books represent economic benefit. This may be, a company may recorded an amount for a deposit that since been forfeited. Such an amount would have to be written off to reflect its net realizable value of zero.

(Table 2.): Brothers Holding Company Inc. **Marketable Securities** (as of December 31.20xx) (1)

Stock	No of Shares	Avg.Cost/share	Basis	Current Price	Fair Market Value
A	15.000	24.000	\$360,000	\$72.500	\$1,087,500
B	20.000	35.000	700,000	28.000	560,000
C	25.000	40.000	1,000,000	43.000	1,075,000
D	30.000	12.500	375,000	42.000	1,260,000
E	12.000	28.500	342,000	21.500	258,000
F	25.000	11.500	287,500	15.000	375,000
G	5.000	4.000	20,000	29.500	147,500
H	9.000	.7500	6,750	65.000	585,000
I	10.000	8.000	80,000	14.000	140,000
J	8.000	9.500	76,000	12.500	100,000
K	6.000	24.000	144,000	15.500	93,000
L	12.000	5.000	60,000	14.500	174,000
M	1.000	2.250	2,250	7.000	7,000
N	5.000	7.500	37,500	38.000	190,000
O	16,000	12.000	192,000	17.500	280,000
P	5,000	10.000	5,000	16.000	80,000
Q	20,000	12.000	240,000	46.000	920,000
R	10,000	6.500	65,000	2.000	20,000
S	4,000	18.000	72,000	33.000	132,000
T	4,000	22.500	<u>90,000</u>	21.000	<u>84,000</u>
Total			<u>4,200,000</u>		<u>7,568,000</u>

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 319.

We are assuming that the company had paid deposits (classified in prepaid expenses) totaling \$40,000 in correction with the proposed move of its sales department to another facility. The move was cancelled in July and the deposits forfeited. An adjustment is required to write off these deposits. It was also determined that \$60,000 of prepaid insurance had expired. The total adjustment (Adjustment No 5) is \$100,000.

3-1-1-4 Fixed Assets

3-1-1-4-1 Real Estate and Real Property

Recorded tangible assets representing, land, buildings, improvements, and the like are technically termed real estate. Real estate defined as “the physical land and appurtenance including structures affixed to the land”. The term “real property

“(American Institute of Real Estate Appraiser, 1996)(23) is an intangible concept and includes all interests, benefits, and right inherent in the ownership of physical real estate”. The real property rights inherent in an entity’s real estate ownership interest are taken into account and affect the appraised value of real estate.

All three approaches to value are used in the valuation of real estate. The cost approach estimates the cost to reproduce or replace existing improvements. The market approach involves comparing recent sales of property similar to the subject. The income approach determines value by capitalizing cash flows a property is expected to produce over a defined holding period.

The appraisal of real estate is a complex and often expensive process and is best left to specialists. If an entity’s real estate has recently been acquired or is a small percentage of its net asset value, using book values as a proxies for fair market values may be acceptable.

In the illustration, the real estate is material to value, and we obtained real estate appraisal of all the land and buildings from the client’s appraiser.

The total fair market value is \$ 19.2 million. Adjustments are recorded to the asset and accumulated depreciation accounts to reflect the appraised amounts (adjustment No. 6).

3-1-1-4-2 Machinery and Equipment

As with the appraisal of real estate, the appraisal of machinery and equipment (M&E) is usually best left to appraisers, who are specialist in this discipline.

The appraisal must reflect the premise of value for the enterprise valuation. (i.e. if the business is valued as a going concern, then the premise of value for the M&E should be continued used). Unless the amounts are immaterial, it is usually not advisable to use book value as proxies for fair market value. Contradictions between book depreciation and functional and economic obsolescence may lead to a misleading result.

In the example, we obtained appraisal from client’s appraiser of all of the machinery and equipment. The total fair market value is \$24.4 million. Adjustments are recorded to machinery and equipment and accumulated depreciation accounts to reflect the appraised amounts (Adjustment No 7).

This is to reflect the gross amount of the machinery and equipment excluding the accumulated depreciation.

3-1-1-4-3 Recognized Intangible Assets

The financial statements of an enterprise often contain such organization costs or intangible assets related to acquisitions. Recorded intangible assets generally are one of two types:

- Those that arise from capitalized historic expenditure for services
- Those that represent historic payments for intangible assets, which may or may not have value at the valuation date.

The first item of intangible asset in most cases has no value and should be written off, but the second one may need to be revalued to get its note worth.

The company's balance sheet reflects intangible assets (organization costs) of \$295,000. These are historic costs that provide no future benefit and are written off (Adjustment No 8.)

3-1-1-5 Liabilities:

All liabilities must be stated at fair market value, like assets in the balance sheet.

3-1-1-5-1 Accounts Payable:

Those accounts represent short-term obligations incurred in the ordinary course of business. Accounts payable represents amounts due to creditors (suppliers and service provider) who have provided goods and services to the company. The payables should be examined by the appraiser to determine whether any amount of these payable do not represent bona fide obligations. This account is not often adjusted (no adjustment took place in the example).

3-1-1-5-2 Accrued Liabilities:

The term "accrued liabilities" is used to designate obligations that come into existence as a result of past contractual commodities or as a result of tax legislation, such as income, property, and sales tax laws. (James R. Hitchner,2011)

The analysis should be diligent that such liabilities not be understated (by the failure to properly accrue such amounts) or overstated (by the failure to write off amounts that have been satisfied). No adjustments are required in the example.

3-1-1-5-3 Interest –bearing Debt

Interest bearing-debt may be short-term or long-term. Such liabilities represent financing arrangements. The distinction between short-term or long-term classification rests on whether the debts are to be extinguished within one year or one operation cycle. Examples of long-term liabilities are:-

- Bonds,
- Notes,
- Mortgage , and
- Capitalized lease obligations.

The principal reason why fair market value may differ from book value rests with differences in interest rates. The appraiser may examine market interest rates as of the date of value and compare those rates with the coupon rate of the obligations.

In the example, the company had interest-bearing debt of \$6.25 million at the valuation date. Of this amount, the current portion was \$1.25 million and the long-term portion \$5.0 million. The coupon rate of the obligation is 7 percent. At the valuation date, the market yield to maturity was 6 percent. If the coupon rate of a security exceeds its yield, the fair market value of the security is greater than its face value, and vice versa. The valuation of the loan is presented in Exhibit 1.3. In that schedule we value the current portion and long-term portion separately. The general approach is to discount to present value, at the market rate of return, the actual or coupon-based cash flows, principal, and interest. It should be noted that in year one, total interest is \$437,500, of which \$87,500 relates to the short-term portion (7 percent coupon rate x the short-term principal of \$1.25 million) and \$325,000 to the long-term portion (7 percent coupon rate x the long-term principal of \$5, million). The cash flows are discounted at the market rate of 6 percent. The year-end conversion is observed for cash flows and discount period. The fair market value of the current portion is \$1,261,800 and the fair market value of the long-term portion is \$5,152,300 (Adjustment No 9). (James R. Hitchner,2011)

3-1-1-6 Unrecorded Assets and Liabilities

The appraiser performs dome reasonable due diligence to determine whether any assets or liabilities may exist that are not recorded in the accounts. Unrecorded assets may take the form of intangible assets or claims, unrecorded liabilities may take the form of contingencies, such as pending or threatened litigation.

Quantifying such assets and liabilities can be difficult.

In the example, management disclosed two potential contingent liabilities relating to “slip and fall” lawsuits. Upon further examination, these were judged to be immaterial and no adjustment was made.

Management also reported that they have been named as defendants in a breach-of-contract dispute. The plaintiff is claiming damages of \$1 million. Discussing this pending litigations with management and counsel, we learned that settlement discussions have been under way with a likely outcome of \$300,000 to \$400,000. Counsel further opined that if the case went to trail, they believed there was a 25 percent chance of losing at the claimed amount, a probability adjustment loss of \$250,000 based on the range of possible outcomes, we judged the fair market value of the pending litigation contingent liability to be \$300,000 (Adjustment No 10).

3-1-1-6-1 Build-In Gain(James R. Hitchner,2011)

The application of taxes in asset approach remains somewhat controversial, although such application has become more acceptable. For presentation purposes, the calculation of the build-in gain liability is presented in Exhibit 1.4. The fair market value of the equity of the company after the above adjustments but before an adjustment for built-in gain of \$47,190,900. Assuming an average estimated tax rate of 40 percent, the tax liability related to the gain is \$18,876,360 (adjustment No 11). Based on the above adjustments (cumulatively shown in adjustment No 12), the fair market value of the company using the assets approach is \$ 37,782,540.

Current Portion:

Principal	\$1,250,000
Coupon rate- Actual	7%
Market yield to maturity	6%

Year	1
Interest payment – actual (1)	87,500
Principal payments – Actual	<u>1,250,000</u>
Debt Service – Actual	1,337,500
Present value factor @6%	<u>.9434</u>
Fair value/fair market value	<u>1,261,800</u>
Long-term portion:	
Principal	\$5,000,000
Coupon rate – actual	7%
Market yield to maturity	6%

Table 3 Brothers Holding Company. Valuation of Debt (as of December 31,20xx)

Years	1	2	3	4	5
Principal outstanding (assume payments are made at year-end)	\$5,000,000	\$5,000,000	\$3,750,000	\$2,500,000	\$1,250,000
Interest payment-actual (2)	\$350,000	\$350,000	\$262,500	\$175,00	87,500
principal payment-actual (3)	<u>Na</u>	<u>1,250,000</u>	<u>1,250,000</u>	<u>1,250,000</u>	<u>1,250,000</u>
Debt Service – actual	350,000	1,600,000	1,521,500	1,425,000	1,337,500
Present value factor 6.0%	.9434	0.8900	0.8396	0.7921	0.7473
Sum of present values	<u>330,190</u>	<u>1,424,000</u>	<u>1,269,900</u>	<u>1,128,740</u>	<u>999,510</u>
Fair value/fair market value	<u>5,152,300</u>				

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 319.

- 1- Related to short-term portion
- 2- Related to long-term portion
- 3- Principal payment in year 1 relates to short-term portion

Calculation of Built-in Gain Liability (as of December 31, 20xx)

Total Assets	\$73,873,000
Less Liabilities:	
Total Current Liabilities	(10,711,800)
Long-term debt	(5,152,300)
Deferred Income Tax	(800,000)
Other Liabilities	<u>(550,000)</u>
Net assets value before built-in Gain	56,658,900
Less: Basis	<u>(9,448,000)</u>
Built-in gain	47,210,900
Effective tax rate	<u>40%</u>
Tax Liability	<u>18,884,360</u>

3-2 Calculation of different valuation Methods

To get complete and comprehensive picture with regard to these valuation methods, and how these methods being used and interpreted, will use the data from **company X limited** with its full financial statements and will continue to illustrate all the methods , either modern or traditional to get the final output of each methods and compare them to each other.

3-2-1 financial statement reconstruction and Forecast:

The estimation of the business value depends upon the subject business financial performance that had achieved during the past periods and future income that it will generate, which will reflect the actual profitability of such business. Looking to the past periods will indicate and give trends on how well the business was performing and considered as important elements to determine the value of the business.

The value of the business relies on the ability of the business to continue generate and produce the required returns for its owners either through internal rate of return or cost of capital. Owners will seek to maximize their returns by investing heavily in the business to keep the competitive advantages and the market share, investing in

the company will foster the income generated to shareholders by which will improve the ability of the company to have a reasonable value among its competitors.

Many closely held companies are managed to minimize taxable income, which in turn will keep the company surviving and managing the taxable income. To determine the business value accurately, the company historical financial statements, such as income statements and balance sheet, generally requires certain adjustments. These adjustments are crucial for the business to restate some of the financial elements to cope with the valuation process.

The most benefits the investors will get from these adjustments is to reconstruct the financial statements in order to reveal and discover the true economic potential and earnings power of the subject company.

3-2-2 Earning basis used for Business Valuation:

Small business valuation relies upon some measures of business cash flow as the earning basis, the cash flow is mostly important as it looks to the future while based on the current and historical performance. The future cash flow is enormously significant as will to highlight the ability of the business to generate cash in future, this could a distinct advantage for most companies as they have the power to generate cash, investors are mostly interested in businesses that can provide cash and pioneer strategic components that can be considered as outstanding elements to increase the value of the business, having great outlets, best distribution channels, smart marketing staff and good locations that accessible from anywhere will add value to the success of the business.

The most commonly used earnings basis measures include:

- Seller's discretionary cash flow "SDCF)
- Net cash flow

3-2-2-1 Seller's Discretionary Cash flow:

This is defined as:

- i- Pretax business net profit
- ii- Plus total compensation of a single owner / operator

- iii- Plus adjustment of all other owners compensation to market rate (manager replacement)
- iv-Plus annual depreciation and amortization expense
- v- Plus Interest expense
- vi-Plus non-recurring expenses
- vii- Plus expenses not related the business operation

This is also known as Seller's Discretionary earnings (SDE)

Understanding seller's discretionary cash flow is important because the vast majority of appraisals performed by brokers and buyers alike are based on a seller discretionary income.

For buyers: understanding seller discretionary income can help more accurately to predict and understand the potential return on investment. The goal of presenting the SDI number is to provide the buyer with an understanding of the realistic earnings of any particular business.

For Sellers: understanding seller's discretionary income enables the seller to potentially minimize the value of the business before selling. In addition, as the sellers prepares the business for sale will be presented with various that may or may not impact overall valuation. A proper understanding of SDI will enable making the right decision in the preparation.

3-2-2-2 Net Cash Flow

This is defined as:

- After tax business net profit
- Plus depreciation and amortization
- Plus decreasing in working capital
- Plus tax affecting interest expense
- Plus preferred dividends payable
- Less annual capital expenditure

3-2-2-3 Reconstructed Income Statement

The summary of the most recent annual historic income statement and appropriate adjustments (assumptions below) are summarized in the table

Values in USD currency

Table No 4: Reconstructed Income Statement

Historic Income/Expense Items	2014	2015	2016	2017
Gross Revenue	425,000	446,250	468,563	491,991
Less Returns and Discounts	600	725	855	748
Net Sales	424,400	445,525	467,708	491,243
Cost of Goods Sold (COGS)	254,657	267,315	280,625	294,746
Gross Profit	169,743	178,210	187,083	196,497
Operating Expense	165,516	173,755	182,406	191,585
Operation Income	4,227	4,455	4,677	4,912
Other Income (Expenses)	-	-	-	-
Net profit before Tax	4,227	4,455	4,677	4,912
Taxes	846	891	935	982
Net Income	3,382	3,564	3,742	3,930
Adjustments	-	-	-	-
Single Owners Total Compensation (1)	84,880	89,105	93,542	98,249
Other Working Owners Compensation (2)	62,500	64,000	67,500	68,500
Manager Replacement of other working Owner (3)	(37,500)	(38,000)	(40,000)	(41,500)
Depreciation and Amortization Expenses (4)	21,220	22,281	23,395	24,565
Interest Expense	6,000	7,250	7,750	6,600
Non-Recurring Expenses (5)	-	9,000	-	-
Non-operating Expenses / (Income)	-	-	-	-
Seller's Discretionary Cash Flow (6)	141,327	149,091	156,864	161,326
EBITDA	31,447	33,986	35,822	36,077
Changes in Working Capital (7)	(2,750)	(6,000)	(2,250)	(2,450)
Capital Investment (8)	4,146	11,906	6,746	6,175
Dividend Payout (9)	87,100	100,750	95,025	102,595
Net Cash Flow	111,652	116,831	121,852	130,047

Source: Prepared by Researcher 2021

The followings adjustments to be noted:

- 1- Tax is 20%
 - 2- Single owner total compensation is 20% of net sale
 - 3- Other working owners compensation are given, 125,000 , 128,000 , 135,000 and 137,000
 - 4- Managers replacement are given 75,000 , 76,000 , 80,000 , and 83,000
 - 5- Non-recurring expense is 18,000 in 2015
 - 6- Sellers discretionary cash flow is calculated as
- | | <u>2014</u> | <u>2015</u> |
|--------------------------------------|-------------|-------------|
| Pre tax net profit | 4,227 | 4,455 |
| + Total compensation of single owner | 84,880 | 89,105 |

+ Adjustment of other working owners	62,500	64,000
Less		
- Managers replacement –other working owners	-37,500	
	-38,000	
+ annual depreciation and amortization	21,220	22,281
+interest expense	6,000	7,250
+ Non-recurring expense	-	9,000
	<u>141,327</u>	<u>158,091</u>

7- Changes in working capital provided by management

8- Capital investment provided by management

9- Dividend payout is provided by management

-2-2-4 Financial Forecast:

In addition, the management has provided the following forecast of income and expenses. This is relied on as to be true and accurate for the purpose of this study.

Table No 5: Financial Forecast

Forecast Income/Expense Items	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Gross Revenue	<u>2,055,143</u>	<u>2,146,186</u>	<u>2,241,262</u>	<u>2,340,549</u>	<u>2,444,236</u>
Less Returns and Discounts	<u>5,500</u>	<u>3,730</u>	<u>3,958</u>	<u>4,188</u>	<u>4,416</u>
Net Sales	<u>2,049,643</u>	<u>2,142,456</u>	<u>2,237,304</u>	<u>2,336,361</u>	<u>2,439,820</u>
Cost of Goods Sold (COGS)	<u>1,237,933</u>	<u>1,293,640</u>	<u>1,351,854</u>	<u>1,412,687</u>	<u>1,476,258</u>
Gross Profit	<u>811,710</u>	<u>848,815</u>	<u>885,450</u>	<u>923,674</u>	<u>963,561</u>
Operating Expense	<u>800,825</u>	<u>836,862</u>	<u>874,521</u>	<u>913,875</u>	<u>954,999</u>
Operation Income	<u>10,884</u>	<u>11,953</u>	<u>10,928</u>	<u>9,799</u>	<u>8,562</u>
Other Income (Expenses)	=	=	=	=	=
Net profit before Tax	<u>10,884</u>	<u>11,953</u>	<u>10,928</u>	<u>9,799</u>	<u>8,562</u>
Taxes	<u>2,177</u>	<u>2,391</u>	<u>2,186</u>	<u>1,960</u>	<u>1,712</u>
Net Income	<u>8,707</u>	<u>9,562</u>	<u>8,743</u>	<u>7,839</u>	<u>6,850</u>
Adjustments					
Depreciation and Amortization Expenses	<u>102,578</u>	<u>107,032</u>	<u>111,486</u>	<u>115,940</u>	<u>120,394</u>
Interest Expense	<u>29,900</u>	<u>30,820</u>	<u>31,740</u>	<u>32,660</u>	<u>33,580</u>
EBITDA	<u>141,185</u>	<u>147,414</u>	<u>151,969</u>	<u>156,439</u>	<u>160,824</u>
Changes in Working Capital	<u>(8,800)</u>	<u>(6,940)</u>	<u>(5,080)</u>	<u>(3,220)</u>	<u>(1,360)</u>
Capital Investment	<u>27,000</u>	<u>23,766</u>	<u>20,532</u>	<u>17,298</u>	<u>14,064</u>
Dividend Payout	<u>415,850</u>	<u>429,040</u>	<u>442,230</u>	<u>455,420</u>	<u>468,610</u>
Net Cash Flow (1)	<u>521,235</u>	<u>545,748</u>	<u>568,587</u>	<u>591,341</u>	<u>614,010</u>

Source: Prepared by Researcher 2021

3-2-2-5 Reconstruction of the balance sheet

The management of Company X Limited has provided the current balance sheet from the accounting records, based on the management agreement there are many adjustments have been taken with the comments.

Table no 6 : Reconstruction of Balance Sheet

Balance sheet items	Recorded	Adjustment	balance Adjusted
Assets:-			
Current Assets:			
Cash	201,990	(150,000)	51,990
Accounts Receivable	65,194	(15,000)	50,194
Investments	-		-
Deposits	12,000	(12,000)	-
Inventory	29,520	(5,500)	24,020
Total current Asset	308,704		126,204
Fixed Assets:			-
Furniture & Fixtures	103,592	45,000	148,592
Equipments	89,500	25,000	114,500
Real Estate	-		-
Total Fixed Asset	193,092		263,092
Less Accumulated depreciation	90,500	(90,500)	-
Net Fixed Assets	102,592		263,092
Total Asset	411,296		389,296
Liabilities:			-
Current Liabilities:			-
Accounts Payable	77,350		77,350
Taxes Payable	-		-
Short-term portion of long term debt	-		-
Total Current Liabilities	77,350		77,350
Long Term Liabilities:			-
Bank Loan	-		-
Shareholders Loan	150,000	(150,000)	-
Total long term liabilities	150,000		-
Total Liabilities	227,350		77,350
Net Worth	<u>183,946</u>		<u>311,946</u>

Source: Prepared by Researcher 2021

3-2-2-6 Assumptions:

There are many decisions have been taken to adjust the above reconstructed balance sheet, to arrive to above figures the following had been taken into accounts:

- 1- Cash on hand had been adjusted down to the amount required by business to support normal activities and business operation (cash could be taken out of the balance sheet as not required to be revalued and could be taken by owners).

- 2- The receivable amounts had been reduced by the amounts that deem uncollectable and had been removed from debtors balances.
- 3- Depreciated replacement cost basis was used to determine the value of the fixed asset.
- 4- Long term liabilities had been adjusted by shareholders loans.

3-2-3 Capitalized Excess Earnings:

This method determines the business value by summing the net tangible assets value of the business assets with the capitalized value of the “excess” earnings.

To establish the business value with this method:

- 1- To start with the business net tangible assets, obtained from its reconstructed financial statements, by subtracting adjusted liabilities from the tangible assets.
- 2- Estimate the business earnings attributable to the net tangible assets. This is done by multiplying the net tangible assets by a reasonable rate of return, expressed as a percentage
- 3- Determine the excess earnings as the difference between the total business earnings and those attributable to the net tangible assets. These excess earnings reflect the business goodwill.
- 4- Capitalize the excess earnings by dividing their value by an appropriate capitalization rate
- 5- Add the capitalized excess earnings value to the value of the business net tangible assets, to establish the overall business value

This method is also called the treasury method as it was first introduced by the US Treasury Department in the 1920^s to get the value of the business goodwill.

The below are assumptions relate the Brothers Holding Company

Table No (7) Discount Rate Calculations:

Discount Rate Element	Risk Value	Note
Risk Free Rate of Return	3.00%	current US Treasury bond Yield
Premium for Equity Investment public co	6.10%	current US Treasury bond Yield
Premium for small Co size Co	9.85%	Risk Premium for investing in a small
Industry Specific risk premium	1.02%	industry risk
Company specific risk premium	2.5%	Company specific risk
Equity Discount rate	22.47%	Sum of the above
Net Cash flow Growth rate	3.52%	long-term growth
Capitalization rate	18.95%	difference (22.47-3.52)

. Source: Net 2021

1- Net tangible assets: from (Reconstructed Balance sheet)

Total Asset =311,949

Total liability =-0

Net Asset 311,949

2- Estimate the business Earnings attribute to net tangible assets:

Net Asset = 311,949

Reasonable rate of return is (Assumed) 20.5 % as there was long-term debt which will be included in the equity discount rate, if there is no long-term debt then the rate on discounting equity will be 22.47%.

= 311,949 x20.5% = 63,949

3- Determine the excess earnings as the difference between the total business earnings and those attributable to the net tangible assets.

With the values of assets and liabilities from the adjusted balance sheet above and the business earnings basis equal to the average of historic net cash flows of (111,652+116,831+121,852+130,047) = 480,382/4 = 120,095.5

Then 120,096-63,949 = 56,147

4- Capitalize the excess earnings by dividing their value by an appropriate capitalization rate which is 18.95%

=56,147/.1895 = 296,290

- 5- Add the capitalized excess earnings value to the value of the business net tangible assets, to establish the overall business value

Value of net tangible Asset = \$ 311,946

Value of Business Goodwill = \$ 296,290

Business Value: = 608,236

3-3 Income Approach

This is most commonly used valuation method specifically for privately held companies. There is a fundamental theory behind this approach and various necessary applications and formulas to be applied to provide highly accurate estimate of business value.

There three methods of this approach:

- The capitalized cash flow (CCF)
- Discount Cash Flow (DCF)
- The Excess Cash Flow (ECF) , this hybrid of asset approach as well

Professionals in the valuation business may use different names for these methods, for example the capitalized cash flow is also known as “single period earnings method” , the excess cash flow is traditionally referred to as “the excess earnings method” and many other different names but they have the same results.

This method is different from asset approach as it relies on the economic principle of expectations. The value of the business is basically based on the expected economic benefits and level of risk associated with the investment. Income based valuation method determine fair market value by dividing the benefit stream generated by the stated business multiply by a discount or capitalization rate.

3-3-1 Fundamental Theory:

Entity interest Investment

An equity interest in a privately held company or enterprise is an investment that can be evaluated in the same basic manner as any other investment that the investor might choose to make.

An Investment is:(Frank K. Reilly and Keith C.1996) ⁽²⁴⁾

The current commitment of dollars for a period of time to derive future payments that will compensate the investor for:

- The time the funds are committed

- The expected rate of inflation, and
- The uncertainty of the future payment

Therefore, investment is the commitment money that will benefit the investor in the future that cater for and compensate him/her for the time invested, and the expected rate of inflation that might hit the investment, and the uncertainty of the future payments, as the investor need to have some sort of confidence to meet the future payments without difficulties.

Investment and Business Valuation Involve

3-3-2 The “forward-looking” premise

The basic of investments requires a commitment of dollars (in term of value) the investor currently have in the business for the return of future expectation that the investor will receive / get some greater amount of value (dollars). The main idea is looking to receive future benefits from the investment; value is forward looking. This concept of forward looking is basic and fundamental to all investment decisions and business valuations. (James R. Hitchner,2011)

“Value today always equals future cash flow discounted at the opportunity cost of capital” (James R. Hitchner,2011).

The income approach to business valuation uses this forward-looking premise /assumption by calculating values based on the assumption that the values of an ownership interest is equal to the sum of the present values of the expected future benefits of owning that interest.

This is normally expressed in a discounting of future to the cost of capital or borrowing rate prevailing during that period. As income of future business is subject to enormous risks that to be considered when valuing that business by providing an appropriate discount rate.

There is no valuation approach so directly incorporate and embedded this fundamental and important premise in the calculation of business value other than income approach.

3-3-3 Fundamental basics of Income Approach

This approach is a mathematical fraction consisting of two main elements; a numerator and denominator. For which, the numerator represents the future commitment payments in an investment and on the other hand, the denominator represents a quantifications of the associated risks and uncertainty of those future commitment payments.

3-3-3-1 The Numerator

The numerator represents the “future commitment payments in other words, it represents the future economic benefits stream if subject company or investment.

When considering valuing privately held business, the future benefits streams are generally considered to be the expected future cash flows.

Sometimes its normal to find valuator/ analysts use net income instead of cash flow as a numerator. +moreover, the net income may be on a pretax or after tax basis, or even some time the numerator may be the operating income.

On the other hand, the future commitment payments have to be clearly identified and defined, a clear understanding must be made as to whether the future payment is going to all stakeholders, including both equity holders and debt holders or only will be made to equity holders.

If future payment will be made to equity holders a clear definition has to be made on whether referring to controlling and non-controlling beneficiaries or only meant the controlling shareholders or only minority shareholders.

“Therefore, whichever, future economic benefits stream is used as the proxy for the future payments, it must:

- 1- Be an appropriate future benefit for the subject company being valued
- 2- Match the characteristics of the denominator. For example if the numerator is “after –tax cash flows to equity” then the denominator must be an “after-tax cash flow risk or discount rate to equity”
- 3- Be appropriate for the stakeholders defined.

3-3-3-2 The Denominator

This is basically represents the rate of return required for the specific interest represented by the cash flow in the numerator. The denominator always reflects the opportunity costs, or the cost of capital. This is the rate of return that all investors require in their search to attract them to specific investment rather than an alternative investment.

Any rate of rate will definitely incorporate certain investor's expectations that be relating to the future economic benefit stream:

- 1- The "real" rate of return. This is basically the amount that all investors expect to obtain for the exchange for leaving someone else uses their money on a riskless basis.
- 2- Expected inflation, this is the future expected depreciation/ fall down in purchasing power during the time when the money is tied up in an investment

Risk, the uncertainty as to when and how much cash flow or other economic income will be received.(Pratt, Shanon, - 2002)

The above rate of return in number (1) is essentially rent. This is the concept of investment that investors allowing someone to use their money or fund in any kind of investment that definitely requires a rental payment to compensate the lenders for the usage of the money.

In number (2) above, the rate of inflation that required due to the time value of money as a dollar today will worth more than a dollar in the future, and the decrease purchasing power associated with investment. The third (3) items is the investor expectation about the risk inherent in the specific equity investment.

3-3-4 Economic principle of expectation:-

This approach takes a deep look at the core reasons of running a business, i.e. making money.

By considering the conditional question, that implies below concept "if I invest time, money and effort into business ownership, what economic benefits and when will it provide me?"

By noticing the future expectation of economic benefits in the stated question, the money is not yet in the bank, there is some measure of risk- this can be expressed in not receiving all or part of the money when you expected it. So in addition to figuring out what kind of money the business is likely to bring. The income valuation approach factor in the risk that is embedded in the future economic benefits of an investment. Since the business value must be established in the present, the expected income and risk must be translated to today term.

The most crucial part in this approach is that the information should be audited by a known auditor to give the reasonable assurance and accountability for this information, but the approach is also applied to unaudited information for small or even big companies.

3-3-5 Income Approach Methodology

As stated earlier that there are three commonly used methods within this approach:

- Discounted cash flow (DCF) method,
- Capitalized cash Flow (CCF) method
- Excess Cash Flow (ECF) method (this is hybrid with asset approach)

Each of these methods depend entirely on determining “future benefits stream” as a numerator and a rate of return as a denominator (risk).

The capitalized cash flow method (CCF) uses single numerator and denominator, whereas discounted cash flow (DCF) utilizes a series and numerous fractions. The excess cash flow method (ECF) is a hybrid method, combining elements of both assets and income approach.

All these methods depend on the present value of an enterprise’s future cash flow, these values often based on historical financial data. The financial data should be in compliance with both Generally Acceptable Accounting Principles (GAAP) and International Financial Reporting Standard (IFRS). The analysts and valuers are not required test and verify this information; they would rather use it as a starting point to start the valuation process in order to obtain the income and cash flows. The analysts should carry out certain adjustments in the income and balance sheet statements, as reconstruction process, so that these statements produce newly

reconstructed figures that could be used in the valuation process. This process is referred to in the business of valuation as normalization process.

3-3-5-1 Normalization Process:

Sometime a thorough process need to be done to adjust and eliminate part of the data in the balance sheet and profit and loss account statements, in order to get the appropriate value of the business. The most important point is that, if the value of any investment business is equal to the present value of it is future benefits; this will determine the appropriate future benefit stream (cash flow). “The development of the appropriate normalizing adjustments may result in a significant overstatement or understatement of value”. (James R. Hitchner,2011).

3-3-5-2 Normalization process categories:

This may include the restatement or reconstruction of the historical financial statements to value financial statements, in other words, the statement that will be used in the valuation process.

The following are the main categories adjustments: (James R. Hitchner,2011)

- 1- Ownership characteristics (control V. minority)
- 2- GAAP departures and extraordinary, non-recurring, and/or unusual items
- 3- Non-operating assets and liabilities and related income expense
- 4- Taxes
- 5- Senergies for mergers and acquisitions (if applicable)

In most cases the second, third and fourth categories of normalization adjustments are carried out in all valuation. The first category is not always important to carry it if the ownership interest being valued is a minority interest. But the last category is very important to derive the investment value in the valuation process.

The key objective of normalization is to identify the ability of the business to generate income for its owners. The only measure of income is actually the amount of cash flows the owners can remove from the business without adversely affecting its operations.

3-3-5-2-1 The adjustments for Ownership Characteristics

This adjustment is necessary for the analyst to identify the true value, especially if the controlling interest holders in any business are able to extract personal financial benefits beyond fair market amounts in a different ways. For example, in a privately held company, its normal for the controlling shareholders to get their compensations in excess of going market rates that might be paid for the same services. As long as the willing buyer of a control ownership interest could reduce compensation to market level, it is even most appropriate to add back this excess compensation to cash flow to reflect the additional economic benefits that would be available to the willing buyer of the business.

“other examples of common control adjustments:-

- Excess rental payments to shareholders
- Pay-roll related tax
- Reimbursed expenses
- Non business travel and entertainment of shareholders
- Related party transactions (i.e. lease between shareholders & entity)
- Salary/ purchases to/ from related entities
- Capital structure

This normalization process, no doubt, will affect the pretax income, or cash flow of the business being valued. Consequently, the control adjustment will result in the changes required in the income tax of the entity.

3-3-5-2-2 Contents of Numerator:

This is very important for the analyst to observe how the contents of the numerator produce the type of value of the entity:-

- If the numerator includes adjustments related to control, then the value conclusion will be a control value
- If the numerator excludes adjustments related to control, then the value conclusion is a minority value.
- If control adjustments are included in the normalization and the resulting value is value, of a minority interest, a discount may be used to adjust from control to minority value.

Sometime there will be no adjustments to non of the control or minority value, in this cases the owners run the business for the benefit of the stakeholders, in which the value will be the same will no changes to both minority and control. But sometimes the valuer or the analyst may need to do and apply minority discount to reflect the risk of the potential change in the control owner of management philosophy.

Illustration:-

With the assumption of a shareholder's reimburse expenses of market value of \$450,000 per year and capitalization cash flow method is used to value the net cash flow of the company.

NCF = \$800,000 [on a non control basis]

Reimburse expenses = \$450,000 [assume already taxed]

Ke-g = 20% [discount – growth= capitalization rate]

Under these assumptions, the value is:-

FMV = NCF/(Ke –g) =800,00/20% = \$4,000,000

This implies that the value of the company is \$4,000,000 on a non control basis [for both minority and control].

If we assume that a normalization adjustment would add back the \$450,000 of expense to cash flow then the new company value would be:-

FMV = NCF/(Ke-g) = [800,000+450,000]/20% =1,250,000/20% = 6,250,000.

This shows the value of the company on control basis of 6,250,000. The difference in the two calculations is attributable to those portions of a control benefit stream taken out of the company reimbursed expense.

If the valuer or the analyst chooses to make the control normalization adjustment, a minority interest value still could be generated by utilizing a discount for lack of control.

Table No 8: DFC Calculation 2020

	<u>Non-control</u>	<u>Control</u>
NCF	800,000	1,250,000
Ke-g	20%	20%
FMV	\$4,000,000	\$6,250,000
Minority discount at 36%	-	(2,250,000)
Net	4,000,000	4,000,000

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED,

New jersey Wiley Finance, 2011 P 126.

The above minority discount rate of 36% is so complicated to arrive at, as in most cases this become controversial with the minority group.

It is, therefore recommended to provide a minority value directly by not making adjustments.

These discussions on whether to make the control adjustments in a minority valuation are still ongoing. Some of the valuers/ analysts prefer to make these adjustments in the valuation process and then apply a minority discount.

Their main argues if not making these adjustments one could:-

- Understate value
- Overstate the minority discount
- Possibly “ double count” the minority discount

In addition to leaving the cash flow on a minority basis, this will result in the following: (James R. Hitchner,2011)

- Minority interest has no say in compensation and prerequisite to controlling shareholders, and cash flow must reflect this fact.
- The amount of these adjustments may be difficult to justify or verify
- Almost all the difference in control versus minority value in the income approach is found in the numerator (expected income) rather than in the denominator (this discount or capitalization rate).

3-3-5-2-3 Adjustments for non-conformance with GAAP:

These are mainly related to Generally Accepted Accounting Principles departures and extraordinary, non-recurring and/or unusual items. When analyzing historical financial information statements of any company subject to valuation process, its important to “smooth” the financial data of that entity by removing and eliminating all items that would not be pointing to future operating performance. The main idea behind these adjustments is to provide a normal operating picture to project earnings in to the future of the entity to enable the analyst foresee the expected cash flow. The final conclusion of valuation process are based on future return expectations, and most of the analysts and valuers used the historical financial information as starting point for estimating future return, it would be appropriate to have the following adjustments:

- 1- Departure from GAAP (non conformance)
- 2- Extraordinary items
- 3- Non-recurring items
- 4- Unusual items

There are many situations where the above adjustments may occur. Big advertisement expenditure or abnormal high machine repairs in one financial year could not happen every year and could be considered as non-recurring or unusual items examples. Some other examples may include a huge effect of catastrophic events such as factory fire, hurricane damage, labour strike and/ or insurance proceed collection due to such events as the death or loose of key executives.

Balance sheet also could have adjustments that need to be considered, for instant, if a company purchased a level of fixed assets for beyond its historical norms in the past, and funded the purchase from cash flow from the company operation, it may be necessary to “smooth” the depreciation and corresponding cash flow to reflect a more normal pattern. (James R. Hitchner,2011)

The above stated adjustments of extraordinary, non-recurring, or unusual items, all of them affect the profit and loss of accounts of the company under the valuation process on a pretax basis. Therefore, income tax for income related adjustments have to be made to reflect the tax affect on the income.

3-3-5-2-4 Non-operating Assets & liabilities Adjustments:-

These may include fixed and current assets and liabilities and any other items related to income & expenses. The most accepted and commonly used income approach methodologies that used by various valuation bodies result in a valuation of the company’s operating assets, both tangible and intangible. For the purpose of the valuation process it is necessary to remove all non-operating items from the /company’s balance sheets and income statements.

This process is carried out to achieve the most appropriate value of the company. Therefore, after the operating assets value had been assessed, the analyst has to add back the value of the net non operating assets at their respective values as of the valuation date.

The most common examples of non-operating assets might include airplanes, unsold plants facilities that had been replaced, considerable investments in unrelated companies, equity investment, excess cash or working capital and loans to support any of these assets. They shall take place in the balance sheet statement.

Other adjustments in the profit and loss statement may include interest, dividends, rental income as well as any related expense (loan interest, depreciation, and other carrying costs) that associated with these non-operating assets must be removed from the cash flow or income. These adjustments will affect the pretax operating income.

The application and usage of methodologies for valuation of non-operating assets and liabilities will vary depending on the nature of the assets and liabilities.

The variations depend on the purpose and the aim of the valuation, as normally significant fix assets, such as airplane or building, are valued appraisal process. But assets like investment in privately held company or enterprise may require a complete valuation process.

Due to the inflation rates in most cases the non-operating assets , their values appreciated from the date of acquisition. Therefore, may require a consideration of potential tax implication of any gain associated with this appreciation. At the time of valuation, if the non-operating assets are exist and decided to be added to the operating assets, they must be adjusted to their respective fair market value. Due to the fact that most of the minority shareholders have little or no control over the non-operating assets, some analysts do not even add back expenses relating to non-operating assets when valuing minority interest.

3-3-5-2-5 Tax adjustments:-

In any valuation process income tax expenditure represents a very real use of cash flow and must be considered. In the USA both federal and state taxes are to be reflected. They should be based on future income that was calculated in the valuation process, including the appropriate tax rate/s to use.

Tax rate/s to Use:-

This involve a thorough process to determine the tax on future income that incorporate the:

- i- Actual Tax rate

- ii- Highest marginal tax rate
- iii- Average tax rate

3-3-5-2-6 Adjustments for Senergies:

These are adjustments related to mergers and acquisitions engagements, which are not similar in complexity, some of them could simple but others could be very complicated. It could be as simple as Senergies arise due to adjustments in savings in office rental due to consolidation of office facilities. Senergies adjustment also can include the result of in-depth analysis of increased sales, decreased production costs, decreased sale and marketing costs and other improvements as a result of anticipated economies of scale. in conclusion, Senergies value is investment value, which may not be fair market value.

3-3-4 Cash flow Definition

Cash flow is assessed differently for each valuation method, for the capitalized cash flow method, a unique and single measure of the expected annual future economic benefit is used as a proxy for all future benefits. Where under the discounted cash flow methodology, the expected future economic benefits are projected for specific number of years in the future and then a single measure of economic benefit is selected for use into perpetuity after the specified period. Which is called a terminal value.

The primary objective of the capitalization rate and the discount rate are to encompass investor expectations regarding the risk of receiving the future economic benefits in the amounts and at the time assumed in the model.

3-3-4-1 Benefit stream Definition:

Several ways can be used to define single period benefit stream (Cash flow) and multi-period stream (DCF). The most common and appropriate definitions of future economic benefits are net income and net cash flows.

3-3-4-2 Net Income:

This is simply the measure of the entity operating performance, during specific period mainly one financial year, and basically, defines as total revenue from

entity's operation less direct and indirect operating expenses. This is a very useful measure of economic benefits as its derived from the financial statement of income. This can be before tax or after tax.

There is one measure issue using net income as a measure because it is more difficult to develop discount and capitalization rate relative to net income.

In most small companies, income and cash flow can be the same or similar.

3-3-4-3 Net Cash Flow:

This is most commonly used in the recent years as a measure of future economic benefits, because it represents the cash that can be distributed to equity owners of the entity without threatening or interfering with future operations.

Net cash flow is a kind of dividend-paying capacity of any company and as much can be seen as a proxy for return on investment. Finally, it is the measure on which most commonly accepted empirical data on rates of return are based. (James R. Hitchner,2011)

3-3-4-3-1 Definition of Net cash Flow:

This is dependent purely on the income approach selected by the valuer or analyst. There are two main groups of cash flows:

- 1- Cash flow to the equity shareholders
- 2- Cash flow to invested capital, this includes cash flow to equity shareholders and holder of interest-bearing debt.

Analysts and professionals refer to 1 above as direct equity method and 2 as invested capital method.

The cash flow generated for financial statement purposes are generally not recommended to be used in the business valuation process. As the cash flow for financial statements do ignore normalization process, through which some adjustments and eliminations of data required to bring the statements to a position that meet the business valuation process. So statements should be normalized to estimate cash flows into perpetuity. Specific changes in current assets and liabilities, specific purchases, and specific borrowings and repayments adjustments should be carried out.

3-3-4-4 Cash flow Direct to Equity (Direct Equity Method)

This method requires specific adjustments to income statement to arrive at the required cash flow. This involve:-

Net Income after tax
Plus: depreciation, amortization and other non cash charges
Less : incremental working capital needs (can be plus)
Less: incremental capital expenditure needs
Plus: new debt principle in
Less: repayment of debt capital
Equals: net cash flow direct to equity

The cash flows in this regards are “direct to equity” because debt has been serviced by the inclusion of interest expense and debt repayment (as interest included before tax in net income and repayment of debt in cash flow calculation), then the remaining is purely for equity owners as debt already dealt with. This is refer to as (debt-inclusive model) . this method requires an appropriate discount rate to cash flows to be applied.

3-3-4-5 Cash Flows to Invested capital (Invested Capital method):

This method requires certain adjustments to net income to arrive to the required cash flow. These include:-

Net income after tax
Plus: depreciation, amortization, and other non cash charges
Less: incremental (debt-free) working capital needs (can be plus)
Less: incremental capital expenditure needs
Equals: Net Cash Flow to Invested Capital

Here cash flows are available to service invested capital which is equity and interest-bearing debt. This is referred to as free cash flow in most of the references. It is called free cash flow because it exclude interest expenses and debt principal payments. It is a debt free model because it remove interest expense and related debt capital. The value assessed in this regard is basically invested capital which includes interest bearing debt, capital lease and equity.

3-3-4-6 Use of Historical Information

The analyst or valuator has to analyze the historical information of the entity once the benefits stream has been defined and all adjustments have been made. This historical information is the only source of data available to the analyst to estimate future economic benefits of the subject company.

The historical period/s to be used by the analyst encompass an operating cycle of the company's industry, which could go up to five years, as more than five years the data would be irrelevant due to the long period of the data. Historical data can be used to estimate future economic benefits, there are five common methodologies:-

- 1- The current Earnings Method
- 2- The simple Average Method
- 3- The Weighted Average Method
- 4- The Trend line-static Method
- 5- The Formal Projection Method.

In most cases number (1) to (4) are used in the capitalized cash flow method "CCF" of the income approach method or as starting point for discounted cash flow "DCF" method. But number (5) is used as the basis for DCF . (James R. Hitchner,2011)

3-3-4-6-1 Current Earnings Method:

This is where the analyst could use the current year's income to estimate future years. This is come due to the management of the company is thought to considered the best source to determine and decide on the current year income that will be steady generated into the future. This is purely dependent on entity's management decision regarding the progress of the company. If they decide or indicate to analyst tthat next year will be similar or same to last year, then the income of this current year will be the basis to value the entity. But if they indicate that there will be change and difference from last year income, but still grow into perpetuity at an average constant rate, then analyst still will use the income as a base because of the anticipated growth into perpetuity.

3-3-4-6-2 Simple Average Method

This method uses the arithmetic means calculation to arrive at the required data, it simply add up all cash flows/ incomes during the analysis period and divide them by the number of years for the subject required period.

Illustration example:

Table no 9: Ace Corporation (A)

Years	Historical Cash flows \$
20X1	50,000
20X2	40,000
20X3	80,000
20X4	120,000
20X5	130,000
Total	420,000

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 134.

Then expected future economic benefits = $420,000/5 = 84,000$

Looking to the figure \$ 84,000 above, which is the average amount of the incomes of the five years, in other words, this is the pure average figure for the cash flows of five years, without any other consideration to risks or other factors. The method used to develop the numerator for the capitalization of cash flow method, when the historical normalized information could not recognize or identify the future trend. When the historical period includes the industry operating cycle the simple average method will provide a more realistic future economic estimate of performance. But still may not reflect the true picture of the changes of the company's growth or other trend or changes that expected to continue.

There are some limitations in using this simple average method, looking to the illustrated example, the last three years result may indicate the best company performance, as there is constant growth seen in the company's performance, as in year 20X2 could be an starting point for the company's anomaly in its performance which indicate in the following period a positive higher change in the cash flow, after year five the anticipation would even be better than the \$ 130,000.

3-3-4-7 Weighted Average Method:

This is the most suitable method as where the historical financial information did not recognize or identify a trend; weighted average method may yield a better indication of future economic benefits.

The calculation of the weighted average requires adding a number of results together which are the product of assigned weights times' annual historical economic benefits stream.

Ace Corporation (B)

Years	<u>Normalized Historical Cash flow</u>
20X1	50,000
20X2	40,000
20X3	80,000
20X4	120,000
20X5	130,000
Total	420,000

Application of weights

Years	<u>Normalized Historical Cash flow</u>
50,000X1	50,000
40,000X2	80,000
80,000X3	240,000
120,000X4	480,000
130,000X5	650,000
Total 15	1,500,000

The weighted average is = $1,500,000/15 = 100,000$

In this regards the valuator has identified a trend for the most last periods of year 20X3 , 20X4 and 20X5. As seen from the example the 100,000 could start from year three onwards.

In deciding upon a weighted scheme, the analyst or valuator should try to model future expected benefits accurately.

Analyst can use any weight, it is up to him/her in deciding that, in the following example he could ignore years 1 and 2 as follows:

50,000X0	0,000
40,000X0	0,000
80,000X1	80,000
120,000X2	240,000
130,000X3	3900,000
Total 6	710,000

A weighted average is $710,000/ 6 = 118,333$

Although the above example resulted in weighted average of \$ 118,333 which is more than the previous example, weighted average could not anticipate correct future cash flow. Because the result of \$ 118,333 could understate the future value if the next year 20X4 has future performance better than year 20X3 in this example.

3-3-4-8 **Trend line-static Method**

This is mainly a statistical application used to calculate the future economic benefit of a company, this method usually put heavier weights on the last year, however, because the trend line-static method is based on least square method formulas, it produces a trend line that lessen the impact which any particular year has on the calculation. This method assumes a capitalization process of earnings rather than a discounting process.

3-3-5 **Formal Projection Method:**

This is where this method uses projection of cash flows or other economic benefits for certain number of years, generally ‘three to five years’ which referred to as the ‘explicit, discreet, or forecast period’. It is widely accepted in the valuation process as it uses discounting cash flow DCF ‘theoretically, the length of the explicit period is determined by identifying the year when all the following years will change at a constant rate. Practically, however, performance and financial positions after three to five years often are difficult to estimate for many closely held companies. Lesser periods are sometimes used as well.¹ (Main reference)

The standard length of the explicit period is three to five years, but of course, there are some situations where this rule may not apply:

- 1- Start-up business
- 2- Early stage companies

In these cases the companies may not be able to project their profitability until several years to come into the future. The period that follow the explicit period is called the continuing value or terminal, or residual period.

Analysts use the historical financial information after the normalization process to determine the projection of cash flow. The analyst may use normalized balance sheet and income statements.

3-3-6 Summary of Adjustments:

Financial and income statements must be adjusted to remove items that are unique to the current business or which do not accurately represent the continuing business value.

- a- Assets which are not part of operations are typically removed from the balance sheet, for instance, assets like a corporate jet are not intrinsic to the continuing operation of a business, so these assets may be taken out of the deal.
- b- Excess cash is removed from the balance sheet if the cash is not going to part of the deal. In many cases the buyer wants the cash and will ask that to be returned. This is a negotiable point.
- c- Non-recurring income, items, and expenses are removed from income statement, for example, a one-time sale of asset, the closing of a location, cost incurred for a law suit, or a one-time gain on a sale of a building be taken out from the statements.
- d- Wages, salaries, benefits and rental income are adjusted for current levels if they have exceeded the norm.
- e- Owner's salaries are often taken out because these are discretionary and may not be continued by new owner.
- f- Uncollectable accounts receivable are sometime eliminated.
- g- Liabilities that have gone unpaid and have accrued interest may be added in if they are not already accounted for in the financial statements.

Removing discretionary, non-recurring and non-operating items from the balance sheet and income statements make the company's financial statements much more realistic for potential owners to review. They are given a more concise portrayal of a business's actual value for a purpose of insurance claims and loan or mortgage qualifications.

3-3- 6 the capitalized Cash Flow Method:

This method is one of the greatest ways to value and established private company, it is also refer to as capitalized income valuation method or capitalization of earning method. Under this method a single value of economic

benefit is capitalized at a capitalization ratio to arrive at the firm's value. The capitalization rate equals the required rate of return minus the company's accepted growth rate, where both growth (g) and the discount rate (rate of return) (k) are assumed to be constant into perpetuity.

The CCF is also known as the dividend discount model which is known as "Gordon Growth Model". (Professor Myron J. Gordon brought this model to the forefront in his 1962 book, *The Investment, Financing and Valuation of the Corporation*)¹. This method does not suit start-up businesses as they do not have profits or economic stream. It is best to start with a profitable company.

End-of year Convention for CCF

The CCF formula is

$$PV = \frac{NCF}{k-g}$$

Where:

PV = present value

NCF = Expected economic income in the full period following the effective valuation

date realized at the end of the period.

K = present value discount rate (i.e. the cost of capital)

G = expected long-term growth rate in to perpetuity". (James R. Hitchner, 2011)

When using capitalized cash flow method, the valuator is actually looking at the company's earnings and cash flow and saying that what has happened historically in the company is a good indication of what is going to happen in the future". (2).

1- (Eddie Blaugrund, associate director in the business valuation and litigation consulting serving Group)

As already stated that net cash flow can be categorized:

1- Cash flow to equity shareholders

2- Cash flow to invested capital

To calculate the present value of the business using cash flow for equity the formula will be;

$$PV = \frac{NCF_e}{k-g}$$

To determine the value of the equity, we have to subtract the market value of the firm debt, alternatively, we can calculate the value of the equity directly by using the numerator the free cash flow to equity (FCFe).

If the calculation for invested capital where full firm capital is used the formula will be:

$$\text{Firm Value} = \text{NCF}_f / (\text{WACC} - g)$$

Where WACC = weighted Average cost of Capital

For illustration purposes, will use the following example to calculate the value of the equity company.

	\$
Expected cash flow –equity	8,000,000
Expected cash flow –firm	10,000,000
Growth rate	4%
Required rate of return	15%
WAAC	17%
Market value of the debt	4,000,000

Based on firm cash flow:

$$\begin{aligned} \text{Capitalization rate} &= k - g = 17 - 4 &&= 13\% \\ \text{Value of firm} &= 10,000,000 / 13\% &&= 76,923,077 \\ \text{Value equity} &= 76,923,077 - 4,000,000 &&= 72,923,077 \end{aligned}$$

Based on Equity:

$$\begin{aligned} \text{Capitalization rate} &= 15 - 4 &&= 11\% \\ \text{Value of equity} &= 8,000,000 / 11\% &&= 72,727,273 \end{aligned}$$

As seen in the above example the value of equity and using both ways, the result of equity value is almost same.

3-3-6-1 End-of year and Mid-year Convention CCF

For year end, this is where the expected cash flow is expected in the period following the valuation date. For example, if NCF is \$,50,000 and valuation date is December 20X1 and the expected growth is 5%, then CF1 is expected on December 20X2, which will be \$52,500.

But for the mid-year convention, the following formula can be used:

$$PV = \frac{NCF_1}{(1+k)^1} \frac{1}{(k-g)}$$

Where:

PV = present value

NCF₁ = expected economic income in the full period immediately following the effective valuation date

K = present value discount rate (i.e. the cost of capital)

G = expected long-term growth rate into perpetuity

3-3-6-2 Limitations or (Common Mistakes)

This CCF is the mostly used method of business valuation due to its simplicity and easiness in the application. But sometimes the analyst or business valuator finds that:

- Growth of the business, on average, will be X percent forever
- Net cash flow will, on average, grow at X percent forever
- Risk rate will remain the same, forever
- Debt to equity ratio will remain the same, forever

Although it is simple to use and easy to apply, but this does not prevent the CCF from having a number of limitations. When analysts used the CCF they found that there a number of mistakes or misuses in the application to business valuation process, these are:

3-3-7 (11 Common Mistakes): (James R. Hitchner,2011)

- 1- Understating or overstating growth rate. The growth rate used in the CCF method is intended to reflect a long-term average growth. This long-term growth is also intended to be the average growth rate into perpetuity. Over average approximately 2.5 to 3.0 percent and 3.0 to 3.5 percent, respectively. Therefore, a company with a long-term growth rate of lower than 2.5 to 3 percent will not keep up with inflation. Alternatively, the company with growth rate greater than 6 to 6.5 percent will outperform the economy on a long-term basis.
- 2- Failure to convert to the capitalization rate. This common mistake is clearly straightforward. The long-term growth rate must be subtracted from the

discount rate to arrive at the capitalization rate. Failure to reduce the discount rate will substantially understate value.

- 3- Failure to properly normalize earnings. This common mistake applies to all valuation approaches but tend to be more prevalent with the CCF method.
- 4- Identifying control versus non-control cash flows. Failure to properly differentiate control versus non-control cash flows can cause unreliable valuations, depending on the application of relevant adjustments.
- 5- Using beginning rather than ending cash flows. The CCF formula, as shown above, is based on the mathematical fact that the numerator is the first year's future economic benefit after the valuation date and is received by the investor at the last of that year. This is often overlooked. For example, if the analyst bases future earnings on the subject company's current year's earnings, then the analyst must add the next year's estimated future growth in earnings to the current year's earnings.
- 6- Applying a discount rate inconsistent with estimated future cash flows. Mismatching the discount rate with the estimated future cash flows is an error found in the use of other methods in addition to CCF method. For example, an analyst may mistakenly, apply a discount rate for "equity cash flows" to "cash flows to invested capital" or apply after-tax discount rate to pretax earnings.
- 7- Not applying mid-year convention. For a given discount rate, the mid-year convention produces in the year end convention; regardless of what average long-term growth rate is used. If the investor of the interest ownership receiving cash flows evenly throughout the year, the added value as a result of receiving those benefits sooner will not be properly reflected unless the mid-year convention is used. Too often, however, it is not. The one exception may take place with seasonal businesses. Some analysts also prefer simplified presentation.
- 8- Not adding or properly adjusting for non-operating assets. Certain non-operating assets should be considered. For example, excess cash and /or marketable securities are often ignored. The analyst/ valuator may go to great lengths to attest to the company's high, substantial current ratio or quick

ratio but stop short of considering whether it is really due to “non-operating excess cash”. Another example may be found in the case of the company’s underutilization of the company’s plant facilities or its possession of idle plant facilities.

- 9- Working capital deficiency. Economic theory, as well as many businesses owners, espouse that additional, permanent working capital is required to accommodate company growth. Too often, however, analyst reflects the ever-increasing cash flows but fail to reduce those cash flows for the permanent increase in needed working capital.
- 10- Non-reconciliation of capital expenditure and depreciation. Net cash flows in particular require that future estimated noncash items, such as depreciation and amortization, be added, and while future estimated annual capital expenditure are subtracted. Many analysts prefer a simple assumption future estimated annual depreciation and amortization equal future estimated capital expenditure, thus offsetting each other. Other analysts, however, attest that in a growing business, long-term annual estimated capital expenditure exceeds annual depreciation, primarily due to inflation. Careful consideration of that fact and circumstances in each valuation must be exercised to address this issue.
- 11- Using cash flow to equity over cash flows to invested capital (or vice versa). In some valuation engagements where interest-bearing debt exists, using cash flows to equity rather than cash flows to invested capital can produce a value that does not reflect the company’s true FMV.

3-3-8 The Discounted Cash Flow Method: (James R. Hitchner,2011)

Calculating discounted cash flow involves three steps:-

- 1- Determining the period over which cash flow will be forecast
- 2- Forecasting a stream of future cash flow
- 3- Choosing a discount rate

Mathematically a fixed discount rate fields a higher present value as cash flow increase, meanwhile, if cash flow is held constant and the discount rate increase, the

present value drops. The discount rate or capitalization rate (the two terms are used interchangeably) represent the cost of capital and investment .

The calculator of the present value could be done manually, the latest excel sheet function could be used to calculate the net present value.

The illustration in table (10) shows three different results generated as a result of changing the capitalization rate and by changing the stream of cash flow. This calculation is suitable for a company, with no debt, outstanding. But in most cases companies have at least some debt obligations, and in such cases the present value of debt services should be factored in to the calculation of present value for and equity investment. The simplest way to deduct the present value of the cash flow paid to debt holders from the present value of total cash flow.

Table (11) and (12) gives an example of these calculations.

Table (11) of net present value calculation – (Lawrence W. Tuller - 2008)

Case 1: even cash flow for ten years at 8.5% discount rate

Table (10) Example of Net Present Value calculation 8.5%

Year	Cash Flow \$
1	10,000
2	10,000
3	10,000
4	10,000
5	10,000
6	10,000
7	10,000
8	10,000
9	10,000
10	10,000
Total	100,000

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 35

using excel version 2007 the net present value calculated is = \$65,613

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Case11: even cash flows for ten years. @ 10% discount rate

Table (11)

Year	Cash Flow \$
1	10,000
2	10,000
3	10,000
4	10,000
5	10,000
6	10,000
7	10,000
8	10,000
9	10,000
10	10,000
Total	100,000

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 36

using excel version 2007 the net present value calculated is = \$61,446

Case111: erratic cash flow for ten years. @ 8.5% discount rate

Table (12)

Year	Cash Flow \$
1	0
2	1,000
3	7,500
4	2,500
5	7,500
6	0
7	10,000
8	15,000
9	30,000
10	40,000
Total	113,500

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 36

using excel version 2007 the net present value calculated is = \$ 59,060

Figure D3: present value of equity interest after debt service- Lawrence

Step 1: terms and conditions of loan

Loan Principal	\$ 50,000
Annual Interest rate	9%
Term	120 months
Monthly Payment	\$ 633
Annual Payment	\$ 7,596

Step 11: **present value of debt service**

Table(13)

Year	Annual Payments \$
1	7,601
2	7,601
3	7,601
4	7,601
5	7,601
6	7,601
7	7,601
8	7,601
9	7,601
10	7,601
Total	76,010
Present Value	48,781

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 37

Step 3: present value of equity interest after debt service cash flow

Table (14)

Year	Cash Flow \$
1	10,000
2	10,000
3	10,000
4	10,000
5	10,000
6	10,000
7	10,000
8	10,000
9	10,000
10	10,000
Total	100,000

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 37

Using excel version 2007 the net present value calculated is = \$65,613

For equity interest after debt service:

Discount rate	8.5%
Present value of total cash flow	\$65,613
Less present value of debt service	\$ 48,781
Present value of equity interest	\$16,832

3-3-8-1 **Forecast period:** (James R. Hitchner,2011)

The first step to calculate the discounted cash flow is to get the forecast period. It should be noted that the further out one forecasts, the less the present value of cash generated in any one year. for instance, by using a discount rate that equal to 8.5%,

the present value factor for the first year out is 92.1 cents on the dollars. In year 2 it is 87.5 cents, in year 10 is 58.2 cents,

There are no specific rules dictating the right forecast periods for all companies.

There are many factors that jointly could determine the forecast period:

- 1- Industry cycle
- 2- Macroeconomic cycle
- 3- Market trend
- 4- Product/ customer configuration

The industry cycle is very important when trying to set the forecast period, since in most cases annual sales could slow or comes down as the cycle trend downward, and accelerate or increase as it heads up. The most meaningful valuations are those which are based on forecast period that include at least one complete business cycle, peak to peak or valley to valley, and most preferably two or more cycles assuming each cycle is three years or less. Most know business cycles:

Industry	period
Aerospace	7 years
Residential construction	3 to 4 years
Nonresidential	10years

The macroeconomic cycle is also very important. In the USA it is relatively easy way to track gross domestic product (GDP), inventory, sales trend, money supply and interest rates as significant measures of recession cycles or boom periods. Stock market trends also provided a key to national economic swings.

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It is also stated that is impossible to estimate the objectives of a company only counting, since numbers are not the only factors to consider. Valuation of a company is associated with a lot of difficulties and insecurities. To facilitate the business valuation process there are a number of helpful models presented in literature. According to theory the valuation procedure should consist of several phases to provide a reliable value. These phases are business analysis, accounting and financial analysis, forecasting and valuation itself. Forecasting is the most precarious part of the valuation process since it's based on assumptions and

discretions about a company's future economic performance(Marta Hammarrstom, Maria Sjoquist & Tanya Stepanovych,2008) (25)

Three economics indexes leading, and coincident and lagging derived from data submitted by private sector businesses and public sector agencies provide a board measure of the direction the economy is heading. Figure 3 to 3 below illustrate the three indexes published by the conference board in USA.

Leading Index:

- Average weekly initial claim for unemployment compensation
- Stock prices of 500 common stocks (stock market price Index and Dividend yield)
- New private housing building permits issued (Housing Starts)
- Consumer expectation (consumer Confidence Index and Consumer Statement Index)
- Vender Performance (percent of companies receiving slower deliveries)
- Real Money Supply
- Average weekly manufacturing hours (Average Weekly hours)
- Interest rate spread

Coincident Index

- Employees on nonagricultural payrolls (Employment)
- Personal income less transfer payments in constant dollars (personal Income)
- Industrial Production Index
- Manufacturing and trade sales in constant dollars

Lagging Index

- Average duration of unemployment (unemployment)
- Inventory to Sales ratio for manufacturing and trade in constant dollars (inventory – sales ratio)
- Change in labour costs per unit of output in manufacturing (unit labour costs)
- Costumers installment credit outstanding to personal income ratio
- Commercial and industrial loans outstanding
- Average prime rate charged banks (interest rates)

- Consumer price index for services(Consumer price index)

The concept and the assumption underline economic indexes is that recurring businesses cycles are caused by changes in the outlook for future profits, changes in the research and maximization of future profit, which is assumed to be the prime moves of the economy. Such an outlook is reflected in the leading indexes and in the ratio of the coincident indexes to the lagging index, which in itself a leading index. After world war 11 the leading index has constantly declined for nine month and the coincident or lagging ration for thirteen months before the official turn. (Lowrence W. Tuller - 2008)

There are some industries that macroeconomic have no influence on the company's sales, but some industries they do have an influence such as residential and commercial construction, that is why the forecast period should take into consideration macroeconomic cycle. Industries with long cycles create difficult forecast calculations. Five years is about the maximum window for most companies. Which could not be suitable for seasonal businesses or those with erratic market forces, like the toy industry? . Still forecast for less than five years will not provide sufficient data to value a business. Beyond five years, external economic factors may increase the uncertainty dramatically, even for those industries with seven to ten years cycles. One way to resolve this issue and to get a suitable forecast is to calculate a weighted average of minimum, maximum and most likely cash flows. But some people may argue that the most likely scenario is fraught with error, at least the exercise of determining three levels of activities forces a person to think through the possible events that could influence the performance of the company.

To understand and elaborate more on this method, will take the example in figure 3.4 where the present value of the cash flows ranges from a minimum of \$ 66,508 to a maximum of \$99,976.

Where several methods can be used to calculate the two numbers with the most likely amount of \$ 77,976. Assign arbitrary probability of occurrence factors to each of the three outcomes.

	Present value	probability	expected value
Minimum	66,508	X .35	23,277
Most likely	77,976	X .50	38,988

jpMaximum	99,976	X	.15	<u>14,996</u>
Weighted Average		1		77,261

This calculation is sufficient for more small companies, involving in complex calculation would not provide better results. A probability must be assigned to each of the three outcomes. This simplistic approach will quantify results which are necessary for valuation purposes.

Figure table (15); Most likely Minimum, and Maximum forecasts

Most likely Forecast

Assumptions:

- 1- 3% increase in sales through year 5 during upward cycle
- 2- 3% decrease in sales years 6 through 10 during downward cycle
- 3- Discount rate of 8.5%

Table (15) Most Likely Forecast

Year	Sales \$	Earn.% of sales	Net income\$	Cash flow \$	Discount factor	Discounted cash flow \$
1	100,000	10.00	10,000	11,000	0.921	10,131
2	103,000	9.50	9,785	10,763	0.875	9,418
3	106,000	9.25	9,813	10,795	0.837	9,035
4	109,273	10.20	11,146	12,260	0.785	9,747
5	112,551	8.40	9,454	10,400	0.754	7,841
6	109,174	9.30	10,153	11,169	0.716	7,997
7	105,899	8.70	9,214	10,135	0.680	6,891
8	102,722	8.60	8,834	9,718	0.645	6,268
9	99,640	9.40	9,366	10,303	0.613	6,316
10	96,651	7.00	6,766	7,442	0.582	4,331

Source: Lawrence W.Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 40

Minimum Forecast

Assumptions: (Lawrence W. Tuller - 2008)

- 1- 1% increase in sales through year 5 during upward cycle
- 2- 3% decrease in sales years 6 through 10 during downward cycle
- 3- Discount rate of 8.5%

Table (16) Minimum Forecast

Year	Sales \$	Earn.% of sales	Net income\$	Cash flow \$	Discount factor	Discounted cash flow \$
1	90,000	10.00	9,000	9,900	0.921	9,118
2	90,900	9.50	8,635	9,499	0.875	8,312
3	91,809	9.25	8,492	9,342	0.837	7,819
4	92,727	10.20	9,459	10,404	0.785	8,271
5	93,654	8.40	7,867	8,654	0.754	6,525
6	90,845	9.30	8,449	9,293	0.716	6,654
7	88,119	8.70	7,666	8,433	0.680	5,734
8	85,476	8.60	7,351	8,086	0.645	5,215
9	82,912	9.40	7,794	8,573	0.613	5,255
10	80,424	7.00	5,630	6,193	0.582	3,604

Source: Lawrence W. Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 40

3-3-8-2 Maximum Forecasts

Assumptions:

- 1- 5% increase in sales for all ten years
- 2- Discount rate of 8.5%

Table (17) Maximum Forecast

Year	Sales \$	Earn.% of sales	Net income\$	Cash flow \$	Discount factor	Discounted cash flow \$
1	110,000	10.00	11,000	12,100	0.921	11,144
2	115,500	9.50	10,972	12,070	0.875	10,561
3	121,275	9.25	11,218	12,340	0.837	10,328
4	127,339	10.20	12,989	14,287	0.785	11,358
5	133,706	8.40	11,231	12,354	0.754	9,315
6	140,391	9.30	13,056	14,362	0.716	10,283
7	147,411	8.70	12,825	14,107	0.680	9,593
8	154,781	8.60	13,311	14,642	0.645	9,444
9	162,520	9.40	15,277	16,805	0.613	10,301
10	170,646	7.00	11,945	13,140	0.582	7,647

Source: Lawrence W. Tuller, the Small Business Valuation Book, 2nd ED 2008 Avon, Massachusetts p 41

3-3-8-3 forecasting Future Cash flow:

This is the heart of entire valuation process, to get a reasonable and acceptable forecast of cash flow, regardless of the theoretical intricacies (complexity) of arriving or calculating a rate of return, present value, or continuing value, without a detailed cash flow forecast that recognizes all the variables of business enterprise, no mathematical formula will yield acceptable and reasonable results.

The historical financial data represents the base from where cash flow starts. No doubt all companies in their annual reports generate balance sheet, income statement to meet bank loans requirements as part of the information required to get loans. But if there is no statement, then company tax return will require preparation of such statements. The historical information in the financial statements may or may not represent a true reflection of the future, but they are representing a summary data that can be verified.

3-3-8-4 Cash Forecasting Elements:

3-3-8-4-1 Economic assumptions:-

Any cash flow forecast must be based on projected macroeconomic factors such as inflation rates and interest rates. Projected market conditions are also extremely important. The changes that could impact the forecast must be stated, like the introduction of new competitive products, demographic changes, or governmental regulations. Assumptions about source of supply and result of upcoming local contract negotiation should be reflected.

3-3-8-4-2 Sales forecast: (Lowrence W. Tuller - 2008)

It is very important to differentiate between forecasting cash flow and forecasting income or r=earnings. Although when constructed in sufficient details, cash flow and net income can, and in fact, may reconcile. Security analyst and professional valuation appraiser they may use net income forecast by depending on accounting definition. For instance, instead of forecasting actual purchase, payroll and operating expense during the period in which the expenditure occurs, the accounting approach considers only the total net changes / movements in working capital accounts, increase or decrease accounts receivable, inventory, prepaid expense, accounts

payable, accrued expense and so on. In addition, instead of forecasting actual cash collections from sales, operating cash receipt derived by adjusted reported net income for non cash items such as depreciation and amortization.

All public companies should maintain their accounting records according to Generally Accepted Accounting Principle (GAAP), but small businesses such as professional practices, service companies, and retail establishments, tend to either keep their accounting records on cash basis or use a hybrid of cash and accrual accounting methods, which make the forecast of earning based on accounting definition useless. So GAAP is not recommended to be used for valuation purposes.

3-3-8-4-3 choosing a discount Rate:

The discount rate for any investment should represent the expected return on alternative investment, taking into consideration all related risks. In most cases there will not be two privately owned companies even in the same industry that could be faced with the same market, personnel, management and economic risks over a five to ten years period.

The starting point for discount rate be the rate earned on a risk-free investment because its reflecting investment risk. The US treasuries of comparable maturity. If the cash flow covers five to ten years, then it's better to start with US treasuries ten-years note. For shorter periods, market rates on one year treasury are reasonably appreciated. Bu investment that yields as long term could start with thirty years bonds.

Then using treasury rates, analyst must add an arbitrary premium for perceived risk. Usually when buying and selling companies or equity interest, risk premium is normally determined through negotiation process.

The good aspects of business valuation techniques are that they do not change in short period, they stay for long time, in the case of capitalization rates one of the easiest quoted authorities is Ralph E. Badger (Ralf , E Badger ,1995) ⁽²⁶⁾. Badger classified risk into four categories:

“**Category 1**, low risk: 12 to 14.99 percent

Category 11, medium risk: 15 to 19.99 percent

Category, 111, high risk: 20 to 24.99 percent

Category 1V, very high risk: 25 percent and over “

This is very simple method that a single year's income to be multiplied by a factor falling within a range (i.e. 20 percent equals a factor of five). But although its easy method it ignores the discount of future benefits to present value.

“another highly respected valuation authorities was Arthur Stone Dewing (Lowrence W. Tuller - 2008). It is the same like Badger it applies a factor to a single year's income, but Dewing expends and elaborates his approach to seven classes and went further to define the type of businesses falling within each category.

Category 1: old established businesses, with significant hard assets qnd excellent good will: 10 percent or tine times current year's earnings.

Category 2: well-established businesses requiring “considerable managerial care”; 12.5 percent or eight times earnings

Category 3: strong well- developed businesses making products whose sale and earnings are susceptible to generate economic swings (i.e. recession and boom and requiring considerable managerial care but little specific knowledge by management executive; 15 percent or seven times earnings

Category 4: highly competitive businesses with low level of hard assets and requiring average of managerial care; 20 percent or five times earnings

Category 5: small, highly competitive businesses requiring little capita; investment ;25 percent or four times earnings

Category 6: large or small companies requiring special managerial skills of one or more people, with little capital investment and in highly competitive fields where failure id a strong possibility; 50 percent or two times earnings

Category 7: personal services businesses where success reflects the skills of the manager; 100 percent or one time earnings. “1”

A most recent addition approach was introduced by James H. Schilt in his “A rational approach to capitalization rates for discounting future income stream of closely Held Companies(Lowrence W. Tuller - 2008)

The fascinating thing about this approach it does incorporate discounting of future earning stream to present value. The below risk premiums are added to the risk-free rate, which found in the US treasuries to treach a suitable capitalization rate:-

Category 1: established businesses, good rate position, good management stable past earnings, predictable future- 6 to 10 percent.

Category 2: same as category 1 except in more competitive industries 11 to 15 percent.

Category 3: companies in highly competitive industries, with little capital investment and no management depth, although with good historical earnings record 16 to 20 percent.

Category 4: small businesses that depend on the skills of one or two people, or large companies in highly cyclical industries with very low predictability 21 to 25 percent,

Category 5: small personal services businesses with a single owner/ manager 26 to 30 percent.

3-3-8-5 “DCF” Model (Shannon P. Pratt,2008)⁽²⁷⁾

The basic DCF model is as follow: 1shannon

$$PV = \sum_{I=1}^n Ei / (1+k)^i$$

Where:

PV = present value

\sum = Sum of

n = the last period for which economic income is expected ; n may equal infinity (i.e. ∞) if the economic income is expected to continue in perpetuity.

Ei = expected future income in the I th period in the future (paid at the end of the period)

K = discount rate (the cost of capital, e.g. expected rate of return available in the market for other investment comparable risk and other investment characteristics)

I = the period (usually stated as a number of years) in the future over which the prospective economic income is expected to be received.

The expansion of this formula is

$$PV = Ei / (1+k)^I + E2 / (1+k)^2 + En / (1+k)^n$$

Where:

PV = present value

En = expected future economic income in the ends or last period in which an element of income is expected.

E 1, 2, etc is the first, second, third and so on expected future economic income for each period before the ends period (or years).

K = discount rate

Below is an illustration showing the basic formula for DCF using net cash flow (direct equity or invested capital) and a terminal period

$$\text{Present value during explicit period} = \frac{\text{NCF}_1}{(1+K)^1} + \frac{\text{NCF}_2}{(1+K)^2} + \dots + \frac{\text{NCF}_n}{(1+k)^n} + \frac{\text{present value of Terminal period}}{\text{NCF}_n (1+g) / (k-g)}$$

If we assume current year cash flow is \$20,000, with anticipated growth and discount rate as follows:

Table (18) Cash flow and growth

Current year earnings	Discount rate to equity	Years	Growth rates
20,000	26%	1	33%
		2	23%
		3	16%
		4	12%
		5	8%
Long-term sustainable growth rate		Perpetuity	6%

This can be modeled and shown in below schedule:

Table (19) DCF with terminal value

End of	Further reduced to	Further reduced to	Further reduced to	Final
Period 1	$\frac{\text{NCF}_1}{(1+K)^1}$	$20,000 \times \frac{(1+.33)^1}{(1+.26)^1}$	$26,600 / 1.26$	21,111
Period 2	$\frac{\text{NCF}_2}{(1+K)^2}$	$26,600(1+.23) / (1+.26)^2$	$32,718 / 1.5876$	20,608
Period 3	$\frac{\text{NCF}_3}{(1+K)^3}$	$32,718(1.16) / (1.26)^3$	$37,953 / 2.0004$	18,973
Period 4	$\frac{\text{NCF}_4}{(1+K)^4}$	$37,983 (1.12) / (1.26)^4$	$42,507 / 2.5205$	16,865
Period 5	$\frac{\text{NCF}_5}{(1+K)^5}$	$42,507(1.08) / (1.26)^5$	$45,908 / 3.1758$	14,455
	Terminal Value			
	$\frac{\text{NCF}_5(1+g)}{(k-g) / (1+k)^5}$	$45,908(1.06) / .2 / 3.1758$	$48,662 / .2 / 3.1758$	76,614
The sum of the present values expected future cash flows using Gordon Growth Model to calculate the terminal value				168,628

3-3-8-6 End of year and Midyear convention:

It is not true that DCF model calculate present value of future cash flows that will be received on the last day of each forecast period. Most of the companies they base their models on continuous cash flow through the year, but some have developed a short way that they can produce their cash flow on midyear basis.

This midyear model of DCF treats periodic cash flows as if they will be received in the middle of the year. So this is started by the first year forecast period (n) at mid period (0.5n) each successive following forecast period is calculated from mid period to mid period (0.5+1)

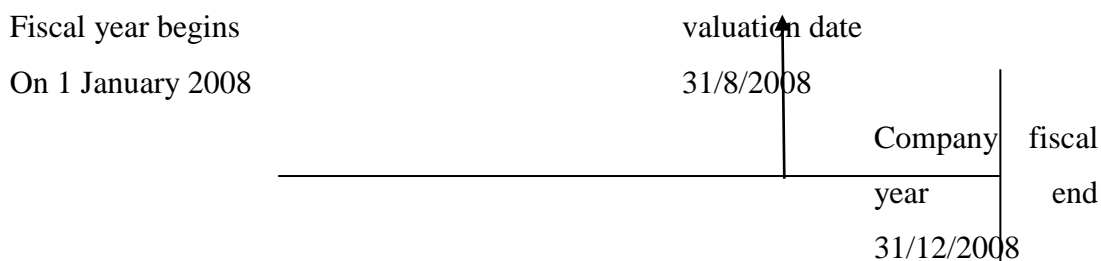
“When using the midyear convention for a partial year, the first and the second year factors are treated a bit differently. For example, if projection begins with calendar year 2009 through 2013 (five years) and the valuation date is 31/3/2009, the first year factor will be 0.375 (9/12 X.5) and the second year is 1.25 (0.375 X2+.5). One is added to the third, fourth and fifth years or 2.25 3rd, 3.25 4th, 4.25 5th. As usual the terminal year is equal to the last year of the explicit period of 4.25.” (Lowrence W. Tuller - 2008)

Then the midyear convention DCF model will be as follows:

$$NCF1 / (1+K)^{.5} + NCF2/(1+K)^{1.5} + NCF3/(1+k)^{2.5} + NCF4/(1+k)^{3.5} + NCF5/(1+k)^{4.5} + NCFn (1+g) / (k-g) / (1+k)^n$$

3-3-8-7 Adjusting the DCF for specific valuation date:

As it could be the valuation date may not be the same as the entity’s fiscal year end, adjustment to the present value calculation may be needed to reflect the “other than the year end) date. If we assume that a valuation date is 31 August 2008, with projections for the first projection year ending in four months, at 31 December 2008, with the assumption of equal distribution of earnings over the months, then 8/12th has to be removed and considering only 4/12th of the year 2008.



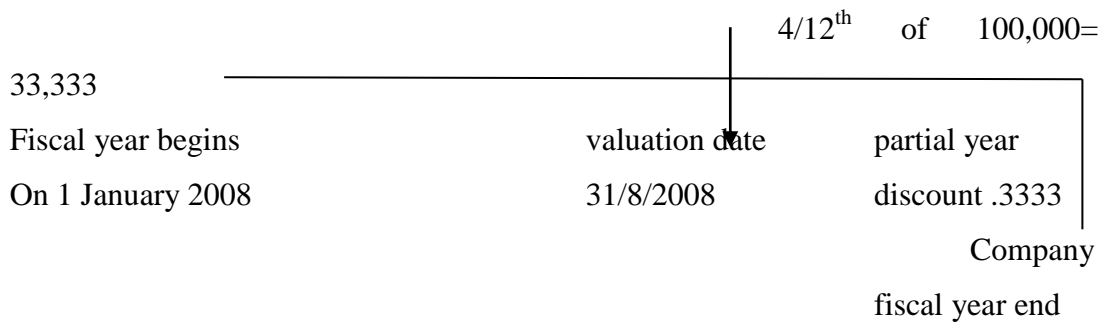
If we assume, NCF \$ 100,000, n = 1, g = 7% and ke = 20%

The following illustration will prove the above assumptions and example

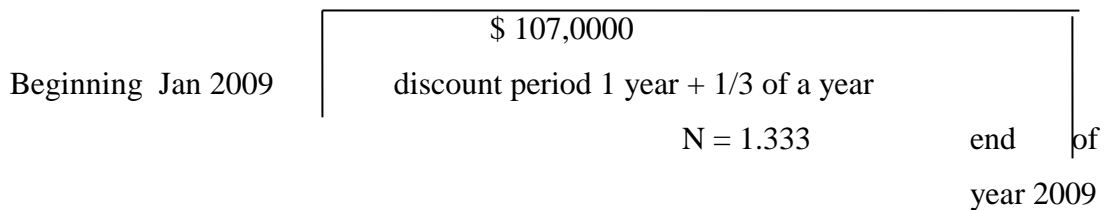
The present value of the first year projection deals only with 4/12th of the \$ 100,000 or \$ 33,333. If the second year projection shows a cash flow of \$ 107,000 or 7% increase, then at 31/8/2008 there will be a discount period of \$ 107,000 is 4/12th plus one year

1st year forecast period

Partial period factor



2nd year forecast 2009



Or

	Fiscal year ending December 31	
	2008	2009
NCF	\$ 100,000	\$ 107,000
Time: partial period factor	.3333	N/P
Time: present value factor ke 20%	<u>.941</u>	<u>.7842</u>
	31,364	83,909
	<u>83,909</u>	
Total Present Value	<u>115,273</u>	

Looking to the example above, the first year cash flow of \$ 100,000 had been multiplied by time factor of .3333 to arrive at the actual cash flow for the remaining of the year which are four months, then multiplied by full discount rate of 20%.

3-3-8-8 Multistage Explicit Period:

It is normal to have more than explicit period in a DCF calculation process. For instance, start-up might be expected to have four years of substantial growth, followed by five years of high growth and followed by another four years of growth at different rates that in excess of the norm. It is not recommended to include different discount rates in the valuation process.

Table (20) Multistage Explicit Period:

Time period	Years	Cash flow to equity	Average growth rate	Equity discount rate	End of year PV factor	Present value of cash flow
1 st explicit period	1	\$10,000	NA	26%	.794	7,940
	2	\$16,000	60%	26%	.63	10,080
	3	22,400	40%	26%	.5	11,200
	4	29,120	30%	26%	.397	11,560
2 nd explicit period	5	34,944	20%	26%	.315	11,010
	6	41,933	20%	26%	.25	10,480
	7	50,319	20%	26%	.198	9,960
	8	60,383	20%	26%	.157	9,480
	9	72,460	20%	26%	.125	9,060
3 rd explicit period	10	81,155	12%	26%	.099	8,030
	11	90,894	12%	26%	.079	7,180
	12	101,801	12%	26%	.062	6,310
	13	114,017	12%	26%	.05	5,700
Terminal Value		120,858	6%	26%	.050	30,210
						148,200

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New Jersey Wiley Finance, 2011P 134.

Formula to be added:

$$PV = \sum_{n1} NCF_0 \frac{(1+g)^i}{(1+k)^I} + \sum_n NCF_{n1} \frac{(1+g_2)^j}{(1+k)^I} + NCF_{n2} \frac{(1+g_3)^{(k-g_3)}}{(1+k)^{n2}}$$

Where:

K = the cost of capital

PV = present value

I = a measure of time (one year)

n1 = number of years in the first stage of growth

n2 = number of years in the second stage of growth

NCF₀ = cash flow in year 0

NCF_{n1} = cash flow in year 1

- NCF_{n2} = cash flow in year 2
- g₁ = growth rate from year 1 to year n₁
- g₂ = growth rate from year (n+1) to year n₂
- g₃ = growth rate starting in year (n₂+1)

3-3-8-9 Terminal Value:

This is the value of the business after the explicit forecast period, analysts/ valuers refer to in many terms, such as continuing value, residual value.

Dealing with continuing value is a very difficult process in business valuation, whenever the company is diverse the more important the continuing value becomes.

Some companies with capital-intensive and diversified product lines and ongoing management with a solid position in the market, should, presumably continue to produce profits and cash flow into perpetuity. On the other hand, small companies with unique product lines, ongoing research and development programs, strong financial capabilities, and solid marketing organizations should also continue to produce cash flows for an indefinite period. This will not be applied in some companies where it's continue depend entirely on one or two managerial personnel.

The owner equity of company may change over time and companies still generate cash flows. As cash flows in the long term earnings becomes the integral part of the business valuation.

Fundamental question, that how can we attach a numerical value to infinite earnings? . many theories have been developed over time to deal with this question, but all of them rely on statistical sampling techniques that employ standard deviation , linear analysis or logarithmic projections.

3-3-8-9-1 For small businesses the below approach works well:

- 1- Arbitrary choose a period long enough to make the end year significant for weighting investment options, such as a fifty years, seventy five or 100 years.
- 2- Assume that the cash flows from the last year in year finite forecast period will be typically for ever year thereafter. In other words, multiply the last forecast year's cash flow times the number of years in the continuing period.
- 3- Assume that the same discount factor applies ad infinitum.
- 4- Calculate the present value of the continuing cash stream

5- Add this present value to the sum of the annual present values derived within the forecast period.

Below is an example presenting a cash flow forecast for ten years with an 8.5% discount factor and 8.14417 as an equity rate and a continuing value. Value period estimated at fifty years and growth rate of 3%.

Table (21) Cash Flow Forecast

Years	cash flows (\$'000)	discount factor 8.5%	present value ('000)
1	100	0.921	92.1
2	103	0.875	90.12
3	106.09	0.837	88.88
4	109.27	0.795	86.87
5	112.55	0.754	84.86
6	115.93	0.716	83.08
7	119.41	0.68	81.2
8	122.99	0.645	79.33
9	126.68	0.613	77.65
10	130.48	0.582	75.94
Continue value	6523.87	.233*	<u>1520.52</u>
Total			<u>2,360.39</u>

*' discount factor for fifty years is .233 of 8.5%

Also continuing value could be calculated as (Lowrence W. Tuller - 2008)

$$NCF_{10} (1+g) / (k-g) = 75,940 \times 1.03 / (8.14417 - .03) = 78,218.2 / .0514417 =$$

1,520,521

Looking to the example, 64% of the present value is coming from the continuing value. A range of 55 to 65 percent of the present value is not unreasonable for larger, well-established companies, since it can be expected that will weather/ stand economic cycles and competitive pressure indefinitely. This will not be the case for small businesses. The annual failure rate for small businesses ranges

between 65 % to 75%, and to expect the remaining 25% to 35% of companies to competitive over the fifty years, is a bit of stretch, they cannot stand it.

There is one way to resolve this issue, is to use higher capitalization rate when calculating the continuing value. For personal service businesses and small retail companies, even 30% or 38% is too high. That is why businesses buyer sometimes uses Dewing's definition of category 5, which is four times the current year's earnings, or of category 7 which is one times the current year's earnings and

then ignoring both the discounting of a stream of cash benefits and continuing value, this might be more reasonable. This will not be the case for the seller, but will be used as starting point for negotiations.

Using of Gordon Growth Model for terminal year, it is assumed to be the value of the company at the beginning of year n+1.

The calculation is as follows:

Present value of NCF during explicit period:

$$NCF_1/(1+k)^1 + NCF_2/(1+k)^2 + \dots + NCF_n/(1+k)^n + NCF_n (1+g)/(k-g)$$

Where:

NCF = net cash flow commensurate with ke, the required rate of return

K = required rate of return

G = long-term sustainable growth

N = number of periods in the explicit forecast period

It is very difficult to have accurate forecast for cash flow after the explicit period, analysts and valuers assume that its stable and can be capitalized into perpetuity.

No one can predict the growth as it will continue at the same rate, but they take its average rate into perpetuity. Growth will be higher in some years and low in other and may continue for some years fluctuating, but the assumption is that it will average the long-term growth.

3-3-8-9-2 Other Terminal Value Calculation:

Gordon Growth Model is very easy to use and its accepted universally where most analysts applied. There are some other models like the “exist multiple model”, the “H” model and value driver model.

3-3-8-10 Exit Multiple Models:

This is where analyst could use multiplier of an income parameter such as net income, earnings before interest and tax (EBIT), or could use earnings before interest, tax, depreciation and amortization (EBITDA). This is often used by investment bankers, is generally determined from guideline company market data, and referred to as “exist multiplier”. It is used and applied to income parameter at the end of the explicit forecast period, as it’s difficult to support the use of market

approach within an income approach. It is not used as much but works as effective reasonable check on other models.

3-3-8-11 “H” Model:

This model has assumption that growth happens into two stages, during the explicit forecast period, where it will be high and then declines in a linear manner over specified transition period towards stable growth rate that can be used into perpetuity. The first stage of growth quantifies value attributable to extraordinary growth of the company during the forecast period. The second stage assumes stable growth and use Gordon Growth Model formula.

Stable Growth = $CF_0 \times (1+g_s) / (k-g_s)$

Plus

Extraordinary Growth = $CF_0 \times h (g_i - g_s) / (k - g_s)$

Where:

CF_0 = cash flow (initial cash flow)

K = discount rate

h = midpoint of high growth (transition period/2)

g_i = growth rate in the (initial high growth period)

g_s = growth rate in the (stable period.)

3-3-8-12 Value Driver Model

In the know Gordon Growth Model (GGM) invested capital, the analyst estimate continuing incremental investment capital (capital expenditure and working capital) to support him/her to determine the continuing free cash flow, then this free cash flow discounted at the weighted average cost of capital (WACC) less the growth rate to determine the value of the continuing operating cash flow of the entity. In the other hand, value driver discounts or capitalizes the adjusted net income of the company directly by the cost of capital. Analyst does not have to estimate the level of incremental investment of the entity. It also estimates the uncertainty surrounding the estimation of perpetual growth which is considered as a major influence on the value using GGM.

For many companies the return on new investment can be expected to converge to the cost of capital as all the excess profits are competed away. This is where the return on incremental invested capital equals the cost of capital. At the time of the above point occurs, the result of the valuation model is known as value driver.

$$\text{Continuing value (CV)} = \text{NOPLAT}_{t+1} / \text{WACC}$$

Where:

NOPLAT_{t+1} = net operating profit less tax

WACC = weighted average cost of capital

T+1 = first year after explicit forecast period.

Sometimes NOPLAT is equal to debt free net income, which is net income after tax plus tax-affected expenses. also it is normalized EBIT times one minus the tax rate.

As shown in the value driver formula is divided by WACC. In the opposite side GGM where cash flow is divided by cost of capital minus its perpetuity growth rate.

The value driver assumes the return on capital and cost of capital are the same regardless of growth. This does not mean there is no growth in the company future period, but the return that is associated with growth equals the cost of capital.

The expanded Value Driver Formula is:

$$\text{CV} = \text{NOPLAT}_{t+1} (1-g/\text{ROIC}) / \text{WACC}$$

Where:

NOPLAT = normalized level of NOPLAT in the first year after explicit forecast period

g = expected growth rate in NOPLAT in perpetuity

ROIC = expected rate of return on net new investment

If ROIC is equal to WACC then above is the convergence formula where implies growth has been maintained separately.

In some cases, the value driver model is used as a tool to test the return on new investment (ROIC) within GGM. (James R. Hitchner,2011)

	GGM		Value driver
CV =	$\text{CF1} / (\text{WACC}-g)$		CV = $\text{NOPLAT}_{t+1} (1-g/\text{ROIC})$
/WACC-g	$\text{CF1} / (\text{WACC}-g)$	=	$\text{NOPLAT}_{t+1}(1-g/\text{ROIC})/\text{WACC}-g$

$$\begin{aligned} \text{CF1} &= \text{NOPLAT}_{t+1} (1-g/\text{ROIC}) / (\text{WACC}-g) \\ \text{ROIC} &= g/1-\text{CF1}/\text{NOPLAT}_{t+1} \end{aligned}$$

This formula can assist the analyst in determining whether the assumed ROIC is above, below or at the cost of capital.

3-3-9 Relationship of DCF and CCF

The numerator used in the CCF method is the net cash flow at the end of the first year divided by the capitalization rate (k-g) in the GGM equals the products of the DCF model with constant growth.

Example:

Initial cash flow	\$ 10,000
Growth rate	6%
Discount rate	26%

Table (22) Relationship between DCF & CCF

Period 1	$\text{NCF1} (1+g)/(1+k)$	$10,000 \times 1.06/1.26$	$10,600/1.26$	8,413
Period2	$\text{NCF2} (1+g)/(1+k)^2$	$10,600 (1.06)/(1.26)^2$	$11,236/1.5876$	7,077
Period3	$\text{NCF3} (1+g)/(1+k)^3$	$11,236 (1.06)/(1.26)^3$	$11,910/2.0004$	5,954
Period4	$\text{NCF4} (1+g)/(1+k)^4$	$11,910(1.06)/(1.26)^4$	$12,625/2.5205$	5,009
Period 5	$\text{NCF5}(1+g)/(1+k)^5$	$12,625(1.06)/(1.26)^5$	$13,382/3.1758$	4,214
Terminal value				
	$\text{NCF5}(1+g)/(k-g)/(1+k)^5$	$13,382(1.06)/.2/(1.26)^5$	$13,382/.2/3.1758$	22,333
GGM total PV of expected future cash flow				53,000

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 158.

Proof CCF

End of year income

$$\text{NCF0} (1+g)/(k-g) = 10,000 \times 1.06 / (.26-.06) = 10,600 / .2 = 53,000$$

As shown above CCF is an abbreviation of DCF model.

3-3-10 Cost of Capital / Rates of Return

The cost of capital or rate of return for equity or invested capital, both of them used in the income approach in the discount and capitalization (cap) rates to calculate the economic benefit stream.

3-3-10-1 Variables:

In the income approach the value of the company is a function of three variables:

- 1- The economic benefit stream, i.e. cash flow.
- 2- The growth potential of the company being valued, short and long-term
- 3- The risk involve in receiving the benefits in the proper amounts and timeframes anticipated (i.e. the discount rate).

The value of any business depends entirely on the expected economic benefits and the level of growth of those benefits while the risk involve reduce the value of the business as the risk increases the anticipated benefits will demand higher rate of return. In most of the small and midsize businesses, they leave risk with no change but focus on the economic benefits and growth.

3-3-10-2 Characteristics of cost of capital: (Shannon P. Pratt,2008)

The cost of capital for any enterprise represents the economic costs of attracting and retaining capital in a competitive environment where investors carefully analyze and compare all investment opportunities. Some basic concepts follow:-

- 1- The cost of capital is the expected rate of return that the market requires to affect funds to a particular investment. It is based on investor expectations. Actual past return are relevant to an estimate of cost of capital only to the extent that they are believed to be representative of future expectation.
- 2- The cost of capital depends on investment, not the investor - that is , it depends on the riskiness of the investment- rather than the risk characteristics of the investor.
- 3- In economic terms, the cost of capital is an opportunity cost, that is, the cost of forgoing the next best alternative investment (equivalent risk at higher expected return or lower risk at same expected return)

- 4- The cost of capital concept is based on the principle of substitution – an investor will not invest in a particular asset if there is a more attractive substitute
- 5- The cost of capital is market driven – it is the competitive rate of return available in the market on a comparable investment (i.e. an investment with equivalent riskiness)
- 6- The most important component of comparability is risk, which is the degree of certainty (or lack of it) that the investor will realize the expected return at the time specified. Since risk cannot be observed directly, analyst have developed several ways to estimate using available market data (generally based on some past period of time)
- 7- Each component of a company’s capital structure (i.e. debt and equity) has a cost of capital.

Investor expectations as required by the cost of capital:

There are mainly three components of investor expectations that captured in 3-3-

3- 10-3 the cost of capital:

- 1- The “real” rate of return – the amount that the investors expect to obtain in exchange for letting someone else use their money on a risk-less basis
- 2- Expected inflation – the expected depreciation in the purchasing power while the money is tied up
- 3- Risk- the uncertainty about when and how much cash flow or other economic benefits will be received

The real rate of return and the expected inflation is referred to as “time value of money” as the first one will generate the amount investors expected within certain time, while the second measure how that amount is affected by the purchasing power level, does it depreciated and full or still maintaining the same level of power.

3-3-10-4 Cost of Capital Method:

There are several ways to calculate the cost of capital:

- 1- Build-up Method (BUM)
- 2- Capital Asset Pricing Model (CAPM)

- 3- Modified Capital Asset Pricing model (MCAPM)
- 4- Weighted Average Cost of Capital (WACC)
- 5- Price / earnings Method

All investors are buying investment / interests in businesses not because of what they have accomplished in the past or even what it consists at present. Although these may constitute as very important component to determine the value, but people buy as what it will generate in the future, it is the anticipated future performance of a business that it gives its economic value.

3-3-10-5 Discount Rate/Capitalization rate and Anticipated Growth

The discount is used to calculate the present of future projections of a benefit stream when growth will vary from time to time. Normally projection reflects the growth of the business, but if growth is estimated to remain constant throughout the future life of the investment a capitalization rate is often used. The relationship between a discount and capitalization rates can be expressed as :

Capitalization rate = Discount rate – Growth rate

The assessment of a business value using DCF and CCF with constant growth

Example” (James R. Hitchner,2011)

This is an example to explain the relationship between discount rates, Cap Rates, and Growth

Table (23) Discounted cash flow Method

	Forecasted cash flow Value	PV Factor 25%	Present
Year 1	100,000	.8	80,000
Year 2	105,000	.64	67,200
Year 3	110,250	.512	56,448
Year 4	115,763	.4096	47,416
Year 5	121,551	.32768	39,830
Terminal Value	638,141 *	.32768	209,106
Value estimate-discounted			<u>500,000</u>

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 185.

Terminal Value *

Year 5 cash flow	121,551
Growth factor	X 1.06
Year 6 cash flow	127,628
Cap Rate (25%-5%)	.2
Total	638,141

Capitalization of cash flow Method

$$\begin{aligned} \text{Year 1 cash flow /cap rate} &= \text{value estimate} \\ &= 100,000 / (25\% - 5\%) &&= \underline{500,000} \quad - \end{aligned}$$

3-3-10-6 Growth

This is the most difficult issue facing the analyst that required exercising their professional judgment to assess the future growth of the company. In the past few decades the public market has witnessed a huge fluctuation in the growth rate. For example, CISCO Company reported a growth rate of 55% in 1998 and then 25%, 30% for the next five years (Paul Larson, Cisco Bear’s Den, 1998)⁽²⁸⁾.

This high growth cannot be sustained for most businesses this created a need for long-term assumptions. The meteoric rise and fall of short-term growths for whole market sector has created problematic valuation data and circumstances. In valuing a company, analysts need to estimate, various circumstances, sustainable growth into perpetuity, not just short-term growth. Also analysts should regularly value entities whose growth is either highly erratic and fluctuating or currently advancing at a much higher rate than can be sustained into perpetuity.

The analyst will select a discount rate which to value such abnormal benefit stream during a certain future period and then use a terminal year capitalization rate to value the perpetual benefits stream once true sustainable growth can be achieved, by using DCF method of income approach. “Since 1926, the US economy has been able to sustain a nominal growth rate approximately 6 to 6.5 percent over time. This is a combination of the real growth rate and inflation”. some analysts believe that in a capitalistic society a growth rate of 6 to 6.5 percent is suitable. The changes in the economic growth could be due to the competition which attracted higher growth industries putting pressure on profit margins and growth.

The relationship between risk and growth can be illustrated as follows:

Table(24) Discount rate versus growth rate

PV = CF1 / (Ke-g) values (\$'000)

CF1 = 100,000

Discount rate	Growth Rate				
	2%	4%	6%	8%	10%
16%	714	833	1,000	1,250	1,667
18%	625	714	833	1,000	1,250
20%	556	625	714	833	1,000
22%	500	556	625	714	833
24%	455	500	556	625	714

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 188.

3-3-11 Risk and cost of capital relationship

What is risk? (James R. Hitchner,2011)

There are three categories of risks according to financial economics:

- 1- Maturity .
- 2- systematic and
- 3- unsystematic

1- Maturity Risk is the reflection of changes in interest rate over the term of investment. 2- systematic or non-technical term market/ (undiversible) risk is the uncertainty of future return due/owing to the sensitivity of the return on the subject investment to variability in return for a composite measure of marketable investment. 3- Unique or unsystematic risk (diversible risk, residual risk, or specific risk) is a function of the characteristics of the

1/ Unsystematic Risk and Valuation, by Warren Miller 1999, AICPA, CPA industry, the individual company, and the type of investment interest and is related to the variation of return in the market as a whole.(Shanon P. Pratt and Roger J.2002)

3-3-11-1 Maturity Risk:

This is refer to as horizon risk or interest rate risk, and is the risk that led the value of the investment may increase or decreases, due to the changes in the general level of interest rates. The term of investment play big role, a as longer become the term, the greater will be the maturity risk. For instance, market prices of long-term bonds

fluctuate much more in response to changes in levels of interest rates than do short-term bonds or notes.

3-3-11-2 Systematic Risk:

This can be defined as the uncertainty of future returns due to uncontrollable movements in the market as a whole. Factors that arising systematic risk are; external, macroeconomic factors that affect all economic assets within the economy as a whole.

3-3-11-2-1 Defining Beta:

Is the factor by which the excess market return (in excess of risk-free rate) is multiplied, with the product then added to the risk-free rate to estimate the cost of equity for that company. That risk with no adjustments is unsystematic risk.

For public companies, normally systematic risk is captured by a measurement referred to as the beta of the enterprise. Beta of the market as a whole is equal to a value of 1.0. For private companies ownership interests also include systematic risk (sensitivity to the movement of market rates of return).

But it is very difficult to develop betas for private companies to measure their levels of systematic risk.

3-3-11-3 Unsystematic Risk:

It is the uncertainty of future returns as a function of something else other than movements in market rates of returns. These could include characteristics of industry, enterprise, or types of investment: circumstances for unsystematic risks may include, high product or technological obsolescence, and unforeseen loss of management enterprise and negative change in labour relations.

There is an assumption in capital asset pricing model that assume rational investors may eliminate the exposure to unsystematic risk through maintaining fully diversified portfolios. But this assumption will not work alone, there is another joint / interlock assumptions if not exist, then the analyst has to consider unsystematic risk as part of an overall rate of return. These assumptions include:

- Investors have accessed to perfect information for decisions- making purposes.

- There are no taxes to be considered
- The decision maker is fully rational

In all calculations of rate of return, the elimination of unsystematic risk is one of very difficult process.

3-3-11-3-1 Types of unsystematic Risks:

There are four primarily sources of unsystematic risk:

Size: two ongoing studies monitor the impact of the size effect on rates of return., regardless of the different methodologies and overlapping sampling population, the general conclusion of the two studies is identical. The smaller the company, the greater the risk.(Liam Fahey and V.K. Narayanan,1986) ⁽²⁹⁾

1- Macro environment: this includes six forces mainly:

Ibbotson SBBI Valuation Year Book, Morningstar, Chicago; and Duff by Roger Grabowski

- I. Economic
- II. Technological
- III. Social cultural
- IV. Demographic
- V. International
- VI. Political
- VII. With sub sources beneath each.

These forces are monitored by companies in order to minimize the negative impact of sudden macro environment changes. There is no way companies can influence the impact of these forces only the technological one. (1)

- Industry : industry related risk is made up of five forces, (Michael E. Porter,1979) ⁽³⁰⁾

- I. Threats of new entrance
- II. Bargaining power of suppliers
- III. Bargaining of customers
- IV. Threats of substitutes
- V. Rivalry

These can be influenced by purposeful actions from insightful managers

- Specific company's attributes, companies need to monitor change and have the resolve and the resources to act. Many times companies must modify their corporate culture to adapt to change.

3-3-11-3-2 Types of Risks- Another View

Ten other types of risks can be examined in conjunction with businesses valuation assignment: (Gary Trugman,2008) ⁽³¹⁾

- 1- Economic risk. The analyst must determine how the subject company will be affected by changes in the economic environment within which it operates. For example, what affect will anticipated changes in interest rates have on the company and industry?
- 2- Business risk. The analyst can analyze the company in terms of the risk associated with factors such as sales and growth volatility.
- 3- Operating Risk. The analyst can analyze the subject company to determine how much risk the company is expose to as a result of the commitments and costs associated with its operations. This assessment includes an analysis of fixed versus variable costs.
- 4- Financial Risk. The financial risks associated with a company pertain to the amount of leverage the company uses and the company's ability to cover its debt payments. The analyst can analyze the capital structure of similar companies to compare the subject company and its risk profile.
- 5- Asset Risks. These risks relate to the age and condition of the company's assets. Older assets represent a higher degree of risk for a company in terms of higher maintenance costs, lower productivity, and functional and technological obsolescence.
- 6- Product Risks. Product risks relate to diversification in a company's product line , including product lines that may become extinct with the introduction of newer products by competitors.
- 7- Market Risks. This type of risk relates to how well the company is geographically diversified. If the company operates within a local marketplace, changes in the local area can greatly affect it. A more diversified geographical market can reduce the risk associated with the company.

8- Technological Risks. New technology can adversely affect a company if it does not have the ability to keep up with the other companies in its industry.

9- Regulatory Risks. Regulatory agencies can adversely affect a business. Environmental regulations are probably one of the best examples of regulatory risk.

10- Legal risks. The cost of litigation can cause the end of a successful business. Even if successful, litigation can create such a financial burden on a business that it can no longer function as a going concern.

3-3-12 Methods for Developing Costs of Capital: (Gary Trugman,2008)

3-3-12-1 Build-Up Method (BUM):

This method is mainly used with small and medium-size companies. In a build up method, the discount rate is calculated by adding together the analyst's assessment of the systematic and unsystematic risk that associated with specific subject company or ownership interest.

there are a number of elements used together to drive the rate under this approach, mainly will discuss Ibbotson Data for calculation of a rate of return.

The traditional formula is: (James R. Hitchner - 2008)

$$E(R_i) = R_f + R_{pm} + R_{Ps} + R_{Pu}$$

Where:

$E(R_i)$ = expected (market required) rate of return on a security

R_f = Rate of return for a risk-free security as of the valuation date

R_{Pm} = equity risk premium for the "market"

R_{Ps} = risk premium for small size companies

R_{Pu} = risk premium for specific company, where u stand for unsystematic risk.

Some of the users or analysts add in R_{Pi} which is the industry risk premium from Ibbotson. But some other analysts they just rely on risk premium for size in excess of R_f which consolidate R_{Pm} and R_{Ps} into one risk premium when using Duff and Phelps.

3-3-12-2 Risk-Free Rate:

This is referred to as safe rate or the cost of money, and this the rate that available on investments that are considered to have no risk of default. the main example of this source iis the 20 years US treasury Bond. Because it has been widely used by duff and Phelps and Ibbotson to drive equity premium and have been calculated based on this 20 year Treasury bond benchmark for all periods from 1926 up to present. This is also remains true for all governmental bonds in different countries, as the government investment when issuing bonds or certificates =, they remain secured for the whole of the investment periods.

3-3-12-3 Equity Risk Premium (ERP):

This is the premium that investors must receive to seduce them to invest in the public equity markets instead of long-term government securities.

The ERP is forward-looking and represents the anticipated incremental return on common stocks over the investment horizon. There are two schools for calculating ERP, both of them based on historical excess return of stock over the long-term government bond income return. The first method is called the HISTORICAL ERP and the second is called SUPPLY-SIDE ERP. The choice on which one to use is mainly up to the analyst, taking into account that historical ERP is based on data that already known and easily calculated, but bear the risk of not predicting the future results. Both geometric and arithmetic average calculations were used, but the arithmetic calculation gives the best indication of what will occur next assuming past history is the correct proxy.

3-3-12-4 Supply-Side ERP:

This has been discussed in June 2001 by Roger Ibbotson and Peng Chen, producing white paper for the Jale investment Center for Finance, titled the supply of stock market returns. In this paper they estimate a forward-looking long-term entity risk premium using a combination of historical and supply-side approaches. They started with 1926 to 2000 historical history returns for their companies and decompose this data into supply-side factors, including inflation, earnings, dividends, price to earnings ratios, dividend payout ratio, book value, returns on equity, and GDP per

capita. Then each of these factors reviewed with respect to its relationship to the long-term supply side frame-work. Ibbotson and Chen formed that a lower long-term supply side forecast equity risk premium but only slightly lower than the comparable equity risk premium using historical return estimate. In conclusion of their report resulting in a long-term equity risk premium using this supply-side model was estimated to be about 6 percent arithmetically and 4 percent geometrically, where in 2001 it was about 1.5 percent higher.

3-3-12-4-1 Size Premium:

This is added normally when valuing smaller, closely held businesses. It is found that whenever the size of the company decreases the risk increases that are why smaller companies may have to pay additional premium to attract funds.

3-3-12-4-2 Does Size Matter:

There are many discussions on whether size premium adjustment should be included for smaller companies. But most of the discussions agreed that some adjustments should be made to cater for the fact that, smaller entities in the public markets have demanded higher rate of returns than their larger counterparts. In a presentation called “the small company risk premium” Does it really exist? Jeffery S. Tarbell presented a list of factors that typically reflect the increase risk of small companies: (Jeffrey S Tarbell,1999)⁽³²⁾

- 1- Difficult to raise money
- 2- Lack of product, industry, and geographic diversification
- 3- Inability to expand into new market
- 4- Key person management risk
- 5- Lack of management expertise
- 6- Higher sensitivity to economic movements
- 7- Lack of dividend history
- 8- Higher sensitivity to business risk, supply squeezes, and demand lulls
- 9- Inability to control or influence regulatory and union activity
- 10- Lack of economies of scales or cost disadvantages
- 11- Lack of access to distribution channels
- 12- Lack of relationships with suppliers and customers

- 13- Lack of product differentiation or brand name recognition
- 14- Lack of deep pockets necessary for staying power
- 15- Lack of externally generated information, including analyst coverage, resulting in a lack of forecast
- 16- Lack of adequate press coverage and other avenues to disseminate company generated information
- 17- Lack of internal controls
- 18- Lack of infrastructure
- 19- Possible lack of internal reporting
- 20- Smaller-capitalization companies are viewed as riskier by the credit markets, resulting in:
 - Higher in interest rate spreads
 - Lower multiples of EBITDA for financing
 - Lower collateralization rates
 - More restrictive covenant
 - Less use of stock as security interest.

These small company risk factors can be utilized to analyze the attributes of specific subject company which will help to select the level of adjustment needed for size and unsystematic risk. It is important, however, to double counting as these size adjustments may be the same adjustments for other operating attributes in the financial statements.

3-3-12-5 Company specific Risk Premium (PRu):

The risk specific (PRu) is the final component of the discount rate, to the company being valued and /or industry in which it operates. It is more judgmental area in business valuation, because company specific risk includes risk associated with specific industry in which the company is operating in relation to the economy as a whole as well as the risk associated with the internal working of the company including management, leverage, and dependence on specific suppliers, customers, market, ...etc.

3-3-12-6 Using Industry Risk Premia

Ibbotson industry risk Premia was applied on empirically supported studies of the risk associated with specific industries using full-information betas concept. This full-information beta calculates a weighted average beta for an industry segment by segregating the proportion of each publically traded enterprise within specific industry based on gross revenues. the result is an indication of the beta coefficient for an industry as a whole in relation to an overall market beta of 1.0.

Traditional Application of the Build-up Approach:

$$\begin{aligned} & \text{Risk-Free rate} \\ + & \text{Equity Risk Premium} \\ + & \text{Size Premium} \\ + & \text{Specific Company Risk} \\ = & \underline{\text{Cost of Capital Discount Rate}} \end{aligned}$$

Application of Build-up Approach using Ibbotson Industry Risk Premia

$$\begin{aligned} & \text{Risk-Free rate} \\ + & \text{Equity Risk Premium} \\ + & \text{Size Premium} \\ + & \text{Industry Risk Premium} \\ + & \text{Specific Company Risk} \\ = & \underline{\text{Cost of Capital Discount Rate}} \end{aligned}$$

Ibbotson calculates the factor of industry risk permia by using full-information betas. This method estimates industry risk by taking data from all companies participating within selected identified industry. The purpose behind this process is to capture the overall risk characteristics of the selected industry as compared to the overall market risk. The formula used by Ibbotson for calculating the industry risk permia is:

$$\text{IRPi} = (\text{RIi} \times \text{ERP}) - \text{ERP} \quad (\text{James R. Hitchner} - 2008)$$

Where:

IRPi = the expected industry risk premium for industry i , or the amount by which investors expect the future return of the industry to exceed that of the market as a whole,

RIi = the risk index (full-information beta) for industry i,

ERP = the expected equity risk premium (R_{Pm})

It depends on the industry index, if it is greater than 1.0 the industry risk will be positive, but if it is less than 1.0, then it will be negative.

Illustrative Example:

If the full-information beta (R_{Ii}) for home furnishing store is 1.1 and current ERP is 6.5%. the industry risk premium is:

$$\text{IRPi} = (1.1 \times 6.5) - 6.5 = .65\%$$

3-3-13 Capital Asset Pricing Model

Harry Markowitz developed the modern portfolio theory in 1952. But in 1960 William Sharpe made some modifications with the assistance of Markowitz, by which he develops means to measure risk. Sharpe connected each portfolio with a single risk factor; he was using the same concept of systematic and unsystematic risk. Systematic risk, is referred to as beta, is the risk of being in the market, which cannot be diversified, once you enter the market you should take this risk. Unsystematic risk is the specific risk and can be diversified. Sharpe has calculated that once you diversified one's portfolio, one could reduce or eliminate unsystematic risk. Therefore the return of the portfolio will remain on its correlation to the market. The CAPM is an attempt to provide a measure of market relationships which is based on the theory of expected returns if investor they do behave in the required manner that prescribed in the portfolio theory.

The capital market divides risk beyond simple maturity risk into two types:

- Systematic risk, the uncertainty of future returns due to the sensitivity of the returns on the selected investments in the return for the investment market as a whole
- Unsystematic risk. The uncertainty of future returns as a function of the characteristics of the industry, enterprise and types of investment interest.

The CAPM is developed mainly to quantify the systematic risk because rational investors can protect themselves from unsystematic risk through portfolio diversifications. As unsystematic risk is specific to the company and can be eliminated by diversifications. The CAPM is then modified to cater for the

unsystematic risk through adjustments for size and the specific company risk in order to get a rate applicable to valuation target.

The Traditional formula for CAPM is:

$$E(R_i) = R_f + B(RP_m)$$

Then the analysts suggested some modifications on this formula to be applied for smaller companies. As size is one of the factor to be considered in valuation process and risk assessment, analysts include modification for size and unsystematic/specific company risk.

R_e , B , and RP_m these are same for both CAPM and MCAP.

On the modification of the CAPM, analysts used the build-up model and introduce beta factor to be used as MCAPM.

Modified Capital Asset Pricing Model

The basic formula for MCAPM is (James R. Hitchner - 2008)

$$E(R_i) = R_f + B(RP_m) + RP_s + RP_u$$

Where:

$E(R_i)$ = expected (market required) rate of return on the security

R_f = rate of return for a risk-free security as of the valuation date

B = subject company's beta coefficient

RP_m = equity risk premium for the market

RP_s = risk premium for small size

RP_u = risk premium for specific company, where u stand for unsystematic risk

3-3-13-1 Understanding beta

In order to measure the systematic risk, the equity risk premium is adjusted by beta for the anticipated future return of the specific security, and that of the market as a whole. Investing in a large market such as Standard & Poor's 500 and New York Stock Exchange such beta has to be calculated to represent the overall risk of a company. Each public company has its own beta. Any stock market is assigned a beta of 1.0. these betas measure the volatility of the excess returns on these individual securities relative to that of the market as a whole. If beta for a company is more than 1.0 then this company is considered with high risk, but if it has beta of less than 1.0 then its conservative investment and has a systematic risk lower than the market. For example, if there is a portfolio of 0.5 beta for specific company then

this will participate in broad market movements, but only half as much as the market overall. But a portfolio of beta of 2.0 this will tend to benefit or suffer from broad market movements twice as much as the market overall.

The formula for Beta is: (James R. Hitchner - 2008)

$$B = \text{Cov}(R_s, R_m) / \text{VAR}(R_m)$$

Where:

B = subject company's beta coefficient

Cov = covariance of returns between subject company (Rs) and the market (Rm)

VAR = variance of the returns on the market

In the USA, there are many sources of beta information on publically traded companies that include:

- 1- Value Line Investment
- 2- Standard and Poor's Compustant and Stock Reports
- 3- Merrill Lunch, and
- 4- Barra

It has been noticed that beta published by different sources can provide different results due to differing time period, methodologies and adjustments. Analyst, however, should pay high attention when using betas from more than one source in any given valuation. There is another source from where analysts can get betas for public companies, its Ibbotson semiannual beta book, for more than 5,000 companies can be obtained from the cost of capital center at <http://corporate.morningstar.com/ib/asp>. the Ibbotson beta is updated source on regular basis and has many betas calculated with different methods, like the traditional ordinary linear squares method calculation, three-factors fama French calculated betas, and sum beta calculation.

Below will illustrate how beta can be different if taken from different various sources.

Company X beta is as follows”

Table (25) Beta Source

Sources	Market Proxy	Period & frequency of data	Adjustment Factor	Beta for X Company
Bloomberg	Over 20 domestic series	Adjustable daily, weekly, monthly or annually	$(.66 X \text{ unadjusted beta}) + (.033+1.0)$	1.05
Compustant	S&P 500	5 years, monthly	None	1.198
Ibbotson	S&P 500	5 years, monthly	Adjusted toward peer group beta weighted by statistical significance	1.04
Merrill Lunch	S&P 500	5 years, monthly	$0.33743 + 0.66257 X$ (unadjusted beta)	1.14
Value Line	NYSE Composite	5 years, monthly	$0.35 + 0.67X$ (unadjusted beta)	0.95

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 226.

The first step is to identify the appropriate source of beta, then the analyst has to determine which beta/s to be used for a particular subject. This process may involve an analysis of the similarities between the subject company and other public companies to find entities that are similar or by using an industry beta. The type of beta should also be selected, this type includes ordinary least squares betas and lagged or sum beta and an adjusted beta.

3-3-13-2 Unlevering and Relevering Betas

For publicly traded companies, published betas reflect the actual capital structure of the related entity and referred to as levered betas. Whenever this beta has been identified for application to certain subject company, it can be adjusted for differences in capital structure between the company providing the beta and the subject company.

This is complex process and required three steps:

- 1- The guideline companies betas are recalculated on unlevered basis assuming capital structure constructed of equity only,

- 2- The risk adjusted unlevered beta is relevered based on the assume capital structure for the subject entity,
- 3- The relevered beta is used in the MCAPM.

Below is Hamada formula named after professor Robert Hamada for Unlevering beta is: (James R. Hitchner - 2008)

$$Bu = BL / (1 + (1 - T)(Wd / We))$$

Where:

Bu = beta unlevered

BL = beta levered

T = tax rate for the company

Wd = percentage of debt in the capital structure (at market value)

We = Percentage of equity in the capital structure (at market value)

Example: assume guideline for company A”

- Published levered beta is 1.4
- Tax rate 40%
- Market value capital structure 35% debt, 65% equity

$$Bu = 1.4 / (1 + (1 - .4)(.35 / .65))$$

$$= 1.4 / 1 + (.6 \times .538)$$

$$1.4 / 1.3228 = 1.06$$

This beta of 1.06 is more than the market beta then we need to relevering it, the formula for relevering beta is

$$BL = Bu (1 + (1 - T)(Wd / We))$$

Below example to illustrate the application of above formula using the Unlevering beta calculated above, assume that the subject company decided to operate with only 20% debt.

Unlevered beta from above 1.06

- Tax rate = 40%
- Market value capital structure = 20% debt, 80% equity

$$BL = 1.06(1 + (1 - .4)(.2 / .8))$$

$$1.06(1 + .15)$$

$$1.06 \times 1.15 = \underline{1.22}$$

This formula of Hamada had been questioned by some analysts specifically with increasing debt, as seen above the increase in debt 35% has a beta of 1.06 but when debt become 20% it become 1.22 for levering beta.

This formula is constant with the theory:

- “the discount rate used to calculate the tax shield equals the cost of debt (i.e. The Tax shield has the same risk as debt)
- Debt capital has negligible risk that interest payments and principal repayment will not be made when owed, which implies that tax deductions on the interest expense will realized in the period in which the interest is paid (i.e. beta of debt capital equals zero)
- Value of the tax shield is proportionate to the value of the market value of debt capital (i.e. value of tax shield equal $T \times W_d$)”

But this formula is based upon Modigliani and Miller’s formulation of the tax shield value for constant debt (Enrique R. Arzac and Lawrence R.2005)(33). Many analysts reach the conclusion that the formulas are not correct if the assumption of debt capital remains a constant percentage of equity capital. Also this formula assumes a steady decreasing ratio of debt to equity value if the subject company’s cash flows are increasing. The formulas are often wrongly assumed to hold in general. (Shannon Pratt and Roger Grabowski , 2008)

An alternate method for Unlevering and relevering betas is through the use of Milers-Ezzell formulas, presented by James A. Miles and R. Ezzel. The formula is looked like below (J. A. Miles and J. 1980) (34)

$$B_u = \frac{M_e - B_L - M_d - B_d[1 - (t \times kd(pt)) / (1 - kd(pt))]}{M_e - M_d[1 - (t \times kd(pt)) / (1 - kd(pt))]}$$

$$B_l = B_u + w_d / w_e (B_u - B_d) \{ 1 - (t \times K_d (dt) / (1 - K_d (dt))) \}$$

Where

B_u = Unlevered beta of equity capital

B_l = Levered beta of equity capital

M_e = market value of equity capital (stock)

M_d = Market Value of debt

B_d = beta of debt

T = Tax rate for the company

$K_d (dt)$ = Cost of debt prior to tax effect

W_d = Percentage of debt in the capital structure (at market value)

W_e = Percentage of equity in the capital structure (at market value)

There some analysts believe that this Miles – Ezzel formula is better than others.

Due to the fact that:

- The discount rate used to calculate the tax shield equal to the cost of capital (i.e, the tax shield has same risk as debt) this is specially in the first year as the discount rate used to calculate the tax shield thereafter is equal the cost of equity calculated using the asset beta for the company (the risk of the tax shield after the the first year is comparable to the risk of the operating cash flow).
- Debt Capital bears the risk of variability of operating net cash flow in the interest payment and the principal repayments may not not be made when fall due, which assume that tax deductions on the interest expense may not be realized on the same period that the interest is paid.
- Market value of debt capital remains at a constant percentage of equity capital, this implies that debt increase in proportion to the net cash flow of the firm.

3.4 Market Approach

Under the market approach to business valuation, one consults the market place for indications of business value, most commonly, sales of similar businesses are studied, or publicly traded company from stock market, to collect comparative evidence that can be used to estimate the value of the subject company. This approach uses the economic principle of competition which seeks to estimate the value of a business in comparison to similar business whose value has been recently established by the market.

The main idea lies in determining the reference to sale of reasonable comparable guideline companies (also known as comparables or comps) that have taken place in either the public or private marketplace. Based on the economic principle of substitutions, a rational financial buyer will not pay more for a company than the current price for a comparable company.

There are three methodologies under the market approach that use transactions as indications for the market value: (James R. Hitchner - 2008)

- 1- Guideline public Company Method – based on reasonably comparable publicly traded company.
- 2- Guideline Company Transaction Method- based on transactions of reasonably comparable private companies reported in various databases.
- 3- Direct Data Method (DMDM)- based on significant number of private transactions reported in various databases that purport to represent the market.

This approach is the most commonly used by real estate appraisers, which is referred to as the sales comparison approach. The real estate appraisers, who specialized in residential real estate, are generally had tens or even hundreds of comps from which to select the most appropriate and close to the estate that need to be sold.

The analyst has to exercise some sort of professional judgments, the guideline companies is only a starting point that direct or provide the analyst with some objectives quantitative guidelines, these value indicator must be tempered with consideration of quantitative factors, such as product services, depth and breadth of management, risk, and growth.

3.4.1 Selecting A method:

In deciding to select a certain methodology, the analyst needs to consider whether the information of the guideline companies is sufficient to answer basic questions. The analyst may use one or all the three methods, but the availability of the information may force the analyst which method to use.

Comparable companies and market are not necessarily the same as the subject company. An overall assessment of the potential guideline companies consider factors such as: (James R. Hitchner - 2008)

- Size management:
 - 1- Sales
 - 2- Profits
 - 3- Assets
 - 4- Market capitalization
- Operating efficiencies and financial risks measured by financial ratios
- Geographic diversification and areas of operation

- Similarity in lines of business

Analyst has to decide which factors from the available that will give the most consideration in making the determination of whether a company or industry market is suitable to be used under the market approach.

What are the main differences between the subject company and the comps, and how the analyst could incorporate them in the analysis?, and whether all the guideline companies and industry market were identical to one another and the subject company were identical to them, in such cases the subject company value would be equal to the guideline companies (all of which would have values identical to one another) and the industry market. From practice, this will never be the case, the analyst has to exert more efforts to identify the difference and determines which necessary adjustments need to be made to arrive at a reasonable estimate of value for the subject company.

The analyst must determine the key value indicators to be used for the subject company. What do buyers of these kinds of businesses look at when determining what they will pay? On what types of factors in publicly traded companies focus: revenue, income, cash flow, number of clicks, or assets? Should certain indicators of value be ruled out based on insufficient information?.

This is not the end of the process as after the analyst has arrived at a value under the market approach, it is still necessary to determine how much weight should be place on the market approach in the overall valuation.

3.4.2 Market Approach is forward looking:

Some analysts content that the market approach is not like the other approaches of business valuations. They argue that it is not forward looking (i.e. forecast in an income approach). This is incorrect. The value of the business generated under the market approach is not a function of how it performed last year or the year before, but it is a function of its perceiving future prospects. Historical balance sheet and income statements, from which many of the multiples used to value companies have been developed, can help telling where a business has been. These statements provide the necessary foundations from which forecast can be developed. Still these are only some of the pieces of information investors consider when establishing a

price for a business. For instance, a biotechnology start-up , which may have no sales and negative earnings, can have positive market values simply because investors believe that firm will show positive earnings and cash flow in the future.

3.4.3 Advantages and Disadvantages of the Market Approach:

3.4.3.1 Advantages: (James R. Hitchner - 2008)

- It is fairly simple to understand. Companies with similar products, geographic, and/or business risk and/or financial characteristics should have similar pricing characteristics. People outside of business can understand this logic.
- It uses actual data. The estimate of values is based on actual stock prices or transaction prices, not estimates based on a number of assumptions or judgments.
- It is relatively simple to apply. The income approach requires the creation of a mathematical model. The market approach derives estimates of value from relatively simple financial ratios, drawn from a group of similar companies. The most complicated mathematics involved is multiplication.
- It includes the value of all of a business's operating assets. The income approach also has this advantage. Using the asset approach, all of a business's assets and liabilities must be identified and valued- both tangible and intangible assets and liabilities. Many of the intangible assets may not appear on the balance sheet (i.e. customer lists, trade names, and goodwill). This is one of the reasons the asset approach is often not used to value ongoing businesses, but rather businesses on liquidation basis, where the value of these intangible assets might be small or zero.
- It does not rely on explicit forecasts. The income approach requires a set of assumptions used in developing the projected/ forecasted cash flows. The market approach does not require as many assumptions.

3.4.3.2 Disadvantages:

- No good guideline companies exist. This may be the biggest reason the approach is not used in a valuation; the analyst may not be able to find guideline companies that are sufficiently similar to the subject. Some

companies are so unusual or so diversified that there are no other similar companies.

- An insufficient number of data points or guideline companies exist. While there may be some information, it is not enough to form an opinion.
- Most of the important assumptions are hidden. Among the most important assumptions in a guideline price multiple is the company expected growth in sales or earnings.

This is not like the income approach where the short-term and perpetual growth rates are required assumptions; there is no explicit assumption (in the multiple) about the subject company's growth. As this will be a function of the growth rates built into the prices of guideline companies.

- It is not as flexible or adaptable as other approaches. Unlike the income approach, in the market approach it is sometimes difficult to include unique operating characteristics of firm in the value it produces. For example, a shifting product mix, resulting in higher future margins, may not be easily incorporated into a market approach analysis because there may be no other guideline company whose product mix is expected to change in a similar fashion. Likewise, subject company synergies cannot be easily factored directly into the analysis. To estimate the value of these two types of situations, either a combination of the market and income approaches is necessary, or the analyst will have to use professional judgment to adjust the value outside of the parameters suggested by the guideline companies.

3.4.4 Choosing the Guideline Companies

3.4.4.1 Understanding the Subject Company:

The analyst has to do some sort of analysis to understand the main company under valuation, these include many factors such as main products, clients, markets served, modes of distribution, and so on. It is also very important to understand the future plans, risk, expected growth, and other factors pertaining to the future. The analyst also should look deeply into line of businesses and how important each of the business segments to the overall company in terms of assets, sales volume, or profits. Normally, the most difficult aspect in analyzing big companies is the

existence of more than distinct line of business. If the subject company has one major line of business and other relatively small lines, then the value of the overall company will be driven from the major business segment. But if the subject company has more than one major line of business and are close in size, then the value of the business will be a composite of all the lines. It is always difficult to find the suitable comparable guideline companies

The analyst should try finding comparable companies that have similar business lines as the subject company, sometimes refer to as “pure play companies”.

3.4.4.2 Sources of Information about Potential Guideline Companies:

This is the most difficult step of finding a good potential guideline companies and most time-consuming aspects of implementing market approach. There are many different ways to identify such companies, but no single way that is best for all valuation.

3.4.4.2.1 Industry Classification:

There are many sources and ways available for the analyst to choose the potential guideline companies, from publicly traded companies and private transactions companies. One quick way is to choose companies in the same lines of business or industry as the subject company, taking into accounts that these companies will be affected and subject to many economic and business/industry factors as the subject, and their prices will eventually effect these influences. This line-of business characteristic is a way of attempting to incorporate the subject company’s outlook as well as its business, industry, and financial risk into its price.

In 1997 the North America Industry Classification System (NAICS) developed jointly by united State, Canada, and Mexico which had replace the US Standard Industrial Classification (SIC) codes. The first step is to find similar business that comes from the source that supplies data on publicly traded companies in the specific industry. This is not difficult as long as the NAICS code have been established. It is well known that since virtually all publicly traded companies sell to more than one class of customers or handle more than one product line or services, it

is necessary to determine the appropriate NAICS code for products that represent the bulk of a company's business.

The NAICS codes numbering scheme is structured with several sub-industry headings and therefore sub-codes, which will make the selection of guideline companies more difficult.

3.4.4.2.2 Sources of Government Data: (Lawrence W. Tuller- 2008)

The most important step is to establish the NAICS code, and then the analyst can tap into a vast number of government databases. The U.S Department of Commerce and the U.S Department of Labor collect reams of monthly, quarterly, and annually data from practically every company, both public or private that doing business in the united states. This data then be sorted by different levels of NAICS codes. This data is especially important when private sector organizations either do not publish compilation reports or are hesitant to release data to nonsubscribers and nonmembers. Also, in addition to this the U.S Department of Commerce compile unlimited number of statistics in special areas, here are some examples:

- Sales volume compared to inventory purchased
 - Number of new employees hired compared to employees terminated
- Square feet of floor space used in production
- Building permits and building starts
- Various employees benefits statistics
- Employees accidents statistics
- Bad debt ratios

There are a number of data providers who categorize companies on which they carry information by industry.

There are a number of issues/problems when relying on a particular data vendor's

3.4.4.2.3 classification of companies in an industry: (James R. Hitchner - 2008)

- Some companies (even relatively small ones) are diversified such that the sales or profits in their listed industry are only a fraction of their overall business. These companies are not pure-play companies and unless their mix of business

is similar to subjects, they may not be appropriate for the guideline company set.

- While a company may have most of its business in one industry, it may have been classified incorrectly. This could be due to simple misclassification by the data provider. For example, some companies that are actually distributors are classified as manufacturers because the data provider has focused on the product being distributed rather than the company's activities.
- Different data providers may place the same company into different industry classifications.

There is a challenge sometime faces the analysts, as some managers in publicly traded companies, believe that their companies are truly unique, and thus, they consider none of these publicly traded companies are comparable.

The market niche in which the subject company is operating can make the difference, but still if these nuance (difference) does not result in prospects for the subject company, then these companies could be used as guideline as the will be the same. Also management may argue that a particular publicly traded company could be used as guideline because it is a competitor, but the division that offers a product or service similar to the subject company's may be part of many larger lines of business.

3.4.4.2.4 Subject Company Management:

Sometime the management of the subject company could be a good starting point that helps to identify the appropriate industry and potential guideline companies. because management may well know its competition and are able to assist in providing inside financial and pricing information on them. It also helps to introduce and present the list of publicly traded companies in the specific industry to the subject company's management to obtain their input on which of these companies might be comparable.

3.4.4.2.5 Other Sources

There are other sources that can provide information about the subject company and its competitors. The accountants, attorneys and industry experts (who can be

contacted through trade associations, commercial banks, or brokers firms) who worked with the company. Also industry publications or web sites can be good sources of information about potential guideline companies.

3.4.4.2.6 More Information on Transaction Database

Here is brief on some database:

- **IBA**, Raymond Miles, the founder of the Institute of Business Appraisers (IBA) is responsible for the DMDD method based on the concept that a sufficient number of private transactions are representative of the industry market for the subject company. The information in this database is provided from business brokers. Information includes, business types, SIC code, reported annual gross revenue, reported annual earnings before owners compensations, interest, tax rate, reported owners compensations, total reported consideration, date of sale, and couple of pricing multiples.
- **BIZCOMPS**, this database includes same information like IBA, data is collected from brokers and intermediaries. These includes, SIC code, NAICS code, seller's discretionary earnings, asking price, sales price, inventory amount, amount of fixed assets, rent as a percentage of sales, number of employees and terms of the sales.
- **Pratt's Stats**, this is so advance that covers up to 88 concepts of transactions. Very detailed information is available for the business, including its latest financial information, any lease attributes, owners compensations, the type of entity, the terms of the transactions.
- **DoneDeals**, more information is available for the analyst about the compaies that help to estimate the value of the subject company.

3.4.4.2.7 Sources of Publicly Traded Company Data:

The government sources are available for everybody, but also there are other private sector sources which include: (Lawrence W. Tuller- 2008)

- 1- Standard & Poor's Register Corporation, Directors, Executives and Standard & Poor's Netadvantage; this will provide information for both listed and unlisted companies. The only problem is that it does not distinguish between publicly traded companies and privately held companies. In order to segregate the publicly trade companies and privately held companies, analyst

needs to use the National Quotation Bureau's pink sheet reports in conjunction with S&P Directories.

From these two sheet there is huge information about company history, listing of subsidiaries, location of principal plants and other properties.

2- Mergent's (formerly Moody's) Manuals. These are eight manuals from which analysts can get their respective information,

1- Mergent's Industrial Manual and News, 2- Mergent's Bank & Finance Manual and News, 3- Mergent's OTC Manual and News, 4- Mergent's OTC Unlisted Manual and News, 5- Mergent's Public Utilities Manual and News, 6- Mergent's Transportation Manual and News, 7- Mergent's International Manual and News, 8- Mergent's Municipal and Government Manual and News.

These manuals list both large and small companies whose shares are traded in public markets. Of the eight Mergent's industrial manual and news, which covers companies listed in NASDAQ (National Associations of Securities Dealers Automated Quotation System) markets and Mergent's OTC unlisted manual and news, are the most helpful to any analyst in the valuation.

3- DIALOG information Services. Subscribers to this service can download public company annual reports and SEC filing. The major drawback of this service is that, it is very expensive.

4- Value Line Investment Service; this is the most used reference service that provide useful information for both individual investors and securities advisors. This Value line tracks the financial and business performance of 8,000 stocks, 1,300 mutual funds, and 80,000 options and other securities. The service is render on the basis that the investment survey presents a one-page summary for each company that includes historical trends, historical and current stock price, description of the business and product lines, beta and wealth of profits, sales, and assets information.

5- D&B's Key Business Ratios; this is Dun & Bradstreet publications fourteen significant financial ratios for more than 800 different lines of businesses listed by NAICS code. Among the most significant ratios are; 1- current ratios 2- quick ratios 3- debt-equity ratios 4- net income to sales ratios . this service

does not pinpoint the specific companies, but the ratios by NAICS code can help to establish comparative standard. The only drawback of this service is that the ratios are drawn only for publicly traded companies.

These resources can narrow the search to find the comparative guideline companies. The companies in USA are very helpful, the analyst needs to create a list of companies from these resources and start phoning them for any information required, in addition the financial information can be obtained from more than 15,000 filed SEC (Securities and Exchange Commission) reports. These reports are opened for the public through a subscription to the service the analyst requires and can obtain any financial information.

3.4.4.2.8 Sources of Data for Privately Held Companies

The publicly traded companies can be easily accessed and gather data, but privately held companies in the same case, it is a little bit tricky. Much of the comparative analysis must be derived from scratchy, incomplete data that has to be collected, analyzed to make sense. Searching the internet can provide valuable data, including below sources(Lawrence W. Tuller- 2008)

Pratt's Stats; this is developed by Mr. Shannon P. Pratt, as a private transaction database, Pratt's Stats offers services on subscription basis, and had database "compiled and reports information on up to 81 data point highlighting the financial transactions details of the sales of nonpublic, closely held companies". It is available for both small and large companies and very strong sources in the business valuation comparables.

- 1- BizStats.com; this is a comprehensive internet site, and arguably thought to be the most complete source of closely held company data available anywhere. This site offers the profitability and operating ratios for small business companies in a raft of industries, including computer services, dentists, advertising agencies, motels , general building and construction companies. It also offers a range of financial ratios including, safest and riskiest businesses, debt/equity ratios, the most popular small businesses, current ratios and balance sheet ratios by industry – S- Corporation operating ratios, and employee productivity data, also offers

industry data, buy/sell prices, and many other business and economic data that will enable the analyst to benchmark his/her company against companies similar of size and similar in industries.

2- Trade Associations; most active trade associations solicit data from member firms to compile quarterly and annual statistics, which are then merged into industry average. Some trade associations compile industry average statistics such as:

- a- Employee turnover
- b- Number of employees
- c- Average sales
- d- Gross profits and operating profits as a percent of sales
- e- Annual capital expenditure
- f- Annual R&D expenditure
- g- Inventory turns
- h- Receivable days sales

3- Buy/Sell Data; the above deal with the securities of publicly traded companies and industry financial ratios of privately held companies, the most source that can provide data of exact company values can be taken from the actual selling prices of companies, subsidiaries, divisions, or product lines. Finding the selling price of privately held companies of a size comparable to the subject company to be valued, in the same industry and market would be of significant help. Selling prices of subsidiaries and divisions of public companies that meet comparable size and industry criteria might be of great assistance. But in such cases additional adjustments might be necessary to reflect overheads expenses borne by the parents company. In the USA there are tremendous sources to get information on buy/sell of recent sales of similar businesses. These sources might include the conference board, Mergerstat Review, the Merger and Acquisition Sourcebook, valuation resources website, Bizcomps Studies, BizMiner and many others.

3.4.4.2.9 Sources and Characteristics of Guideline Company Data and DMDM

Data:

There are two pools to have the guideline companies' information:

- 1- Guideline company transactions
- 2- Guideline publicly traded companies

3.4.4.2.9.1 Guideline Companies Transaction and DMDM (James R. Hitchner - 2008)

The term guideline company transactions refer to acquisitions and sales of entire companies, divisions, or large blocks of stock of either private or publicly traded firms. But DMDM trying to use transaction data as a proxy for Subject Company's market considering comparability of transactions only when there is a large data set to allow for segmentation.

The founder of the institution of business appraisers (IBA), Raymond Miles, is responsible for the DMDM method, this based on the sufficient number of private transactions are representative of the industry market for the subject company. The information in the database is obtained primarily from business brokers. For each transaction, the concepts include business type; SIC code (Standard Industrial Classification), reported annual gross revenues; reported annual earnings before owners compensation, interest, and taxes; reported owner's compensation; total reported transaction (or price) excluding real estate. Date of sales; and a couple of pricing multiples.

3.4.4.2.9.2 Advantage and Disadvantage of Direct Market Data Method:

The DMDM is a simple method, which represents its greatest advantage. For smaller businesses, the DMDM used to reflect the behavior of buyers and sellers more accurately than the guideline company method. The reason is that the small companies do not report sufficient information to use guideline company transaction method, and public companies are far in similarity to be comparable.

3.4.4.2.9.3 The disadvantages of DMDM are: (James R. Hitchner - 2008)

- 1- Some industries have undergone changes resulting in a change in the pricing of companies, resulting in limited current data to replicate the market
- 2- There is generally no way to verify or clarify the data

- 3- The P/E multiples may generally be unreliable
- 4- Not all industries have enough transactions to replicate a market

Advantages and Disadvantages of the Guideline Company Transaction Data:

The best about the guideline company transaction is to value very small businesses, as some transaction information is often available for very small businesses, but even the smallest guideline publicly traded company may be much larger than the subject.

Sometime the application of these data to the subject company is complex because of the difficulty determining whether a transaction is truly comparable given the limited information available in the database. This is considered as the major disadvantage of using this guideline company transaction information.

3.4.4.2.9.4 Publicly traded Companies:

These are the companies which are traded on any of the major exchanges; New York Stock Exchange (NYSE), American Stock Exchange (AMEC) or National Association of Securities Dealers Automated Quotation System (NASDAQ), there are more than 10, 000 companies which provide very rich information for valuation purposes.

Information Sources for Financial Statement Data or Publicly Traded Companies:

The publicly traded companies are required to file their financial statements electronically with the Securities and Exchange Commission (SEC), these filing made under the Electronic Data gathering, Analysis, and Retrieval (EDGAR) program.

Advantages/Disadvantages of Publicly Traded Company Data: (James R. Hitchner - 2008)

Because of the disclosure laws, the universe of publicly traded companies provides a wealth of information on a very large scale. This means:

- The availability of larger potential samples than those from transaction data
- Readily available, detailed financial statements and pricing data
- Fairly consistent data across companies, (i.e. in accordance with GAAP)
- Accurate depictions of the financial condition of the firm. Some analysts argued that publicly traded companies are much too large to be used as

comps in many situations. As some small subject companies may fall within such description, like mom-and-pop operations, small size practices as their size is very small compared to these publicly traded companies, and in such cases do not meet the requirements and standard to be comparable due to size variation.

3.4.4.2.9.5 Characteristics of Publicly Traded Companies:

For illustration purposes will provide data for publicly traded companies in below tables. Table on provides various summary for publicly traded companies, demonstrating the wide variety of companies that help the analyst to draw data. Note the small size of most publicly traded companies, in particular the median (in the meddile point) is \$139 million in sales; this means that one-half of publicly traded companies have sales of less than \$139 million. Table 2 will show the distribution of publicly traded companies by size and broad industry classifications.

Table (26) Summary Measures for Publicly Traded Companies

Range (in Millions)	Sales	Assets	Market Cap.
Under \$1	6.7%	3.4%	9.8%
\$1 to \$10	10.6%	8.3%	13.2%
\$10 to \$25	9.2%	6.3%	10.2%
\$25 to \$ 50	9.3%	6.2%	8.6%
\$ 50 to \$ 100	9.7%	6.8%	7.1%
\$100 to \$250	13.0%	14.2%	11.3%
\$250 to\$ 500	9.1%	12.3%	9.8%
\$ 500 to \$1,000	9.2%	12.2%	8.2%
\$1,000 to \$ 10,000	18.8%	23.6%	17.8%
\$10,000 to \$100,000	4.2%	6.5%	3.6%
Over \$ 100,000	0.3%	0.1%	0.4%
Summary Statistics (in Millions)			
10 th percentile	\$ 2.9	\$ 6.6	\$ 1.1
25 th percentile	\$ 81.0	\$ 22.3	\$ 47.2
Median	\$ 139	\$ 355.2	\$ 109.5
75 th percentile	\$ 858.0	\$ 1,601.5	\$ 756.6
90 th percentile	\$ 3,433.9	\$ 6,433.9	\$ 3,107.2

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 273.

Table (27) SIC Divisions:

Sales Range (in Millions)	A	B	C	D	E	F	G	H	I	Totals
Under \$1	4	37	4	140	32	10	12	53	103	395
\$1 to \$10	2	40	6	197	39	17	21	122	181	625
\$10 to \$25	3	14	5	170	32	9	5	187	118	543
\$25 to \$ 50	2	13	9	155	26	9	20	233	85	552
\$ 50 to \$ 100	2	17	2	175	31	11	25	200	114	577
\$100 to \$250	3	31	1	259	57	14	25	208	174	772
\$250 to\$ 500	0	12	6	196	47	23	35	115	107	541
\$ 500 to \$1,000	2	35	12	203	37	20	42	103	170	549
\$1,000 to \$ 10,000	1	69	25	391	148	53	113	146	13	1,116
\$10,000 to \$100,000	0	9	2	100	53	13	28	31	1	249
Over \$ 100,000	0	0	0	8	1	1	1	4		16

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 275.

These division, as taken from 1987 Standard Industrial Manual, are:

- A = Agriculture, Forestry, and Fishing
- B = Mining
- C = Construction
- D = Manufacturing
- E = Transportation, communication, electric, gas, and Sanitary service
- F = Wholesale Trade
- G = Rental Trade
- H = Finance, Insurance, and real estate
- I = Servicesvx

3.4.5 Financial and Other Indicators:

The analyst spent much of his time to identify the guideline companies that engaged and have the same or similar lines of businesses as the subject. There are also other factors which are necessary to help identifying the potential guideline companies with similar prospects and business and financial risk characteristics.

3.4.5.1 a- Size:

One of the most important indicators of comparability is size. Size can be expressed in terms of sales, total assets, or market capitalization. Numerous studies have indicated that, on average, smaller companies have lower pricing multiples than larger companies. The main reason for this is that smaller companies typically have more business and financial risk than larger businesses. As more risk means investors will require a higher rate of return on their investments; the way to get this is by lowering the price. (James R. Hitchner - 2008)

There are no specific size that can be stated to specific risk factors, but here are some of the most important factors:

- 1- Concentrations in products, markets, customers, suppliers, or marketing geographic areas
- 2- Lack of depth in the management team

There are many issues arise and be considered if size is specifically used to establish comparability. It can be used as a function for that specific industry, for a service businesses, total assets is probably the best measure. For manufacturing concerns, size might be captured in the level of total assets as well.

3.4.5.2 b- Growth:

This is very crucial when establishing comparability. The growth factor is extremely important and connected to value, as it is imbedded in the price if the stock. There is a positive relationship between P/E and expected growth. This expected growth is a more important factor in the determination of value than is historical growth, and this consistent with the valuation theory.

3.4.5.3 Other Factors

Profitability, in the historical term or prospective, can be considered when selecting guideline companies. Another factor that may affect the value is length of time the business has been operating.

As in general term, businesses with long operation period tend to have higher pricing multiples than those with short operation periods. Because younger companies are considered more risky than more established ones as their future is uncertain, with some exception to high tech companies.

3.4.5.4 .Basic Financial Indicators:

The analysis that should be done by the analyst should include such important financial measures, which may include:

- Size Measures; this may include financial factors such as sales, profits, total assets, market capitalization, and total investment capital.
- Historical Growth Rate; growth in sale, profits, assets, or equity must be considered. The time period over which to measure this growth is important.
- Activity and other Ratios; these may include total assets and inventory turnover ratios.
- Measures of profitability and Cash Flow; these may include the most common ratios;
 - a- Earnings before interest, taxes, depreciation, and amortization (EBITDA)
 - b- Earnings before interest, taxes (EBIT)
 - c- Net Income
 - d- Cash Flow
- Profit Margins; the current level of profit is probably less important than the ratio of profits relative to some base item- usually sales, assets, or equity
- Capital Structure; this is very important to use measures derived from the current capital structure. The most important measures are the values of outstanding total debt, and the market value of equity.
- Other Measures; these may be a function of what is important in the industry where the subject company operates. For instance, value drivers for retailers are inventory turnover; for banks, loan/deposit ratios; and for hospitals, revenue per bed and length of stay.

3.4.5.5 Displaying the Information

Once the key items have been chosen, the next step is to put the information into a useful format, in order to make comparison easy. Exhibit below is an example of

what such a presentation of standard financial indicators might look like for guideline public companies.

Several benefits come from this standardize format of guideline company analysis that make comparability more easy. (James R. Hitchner - 2008)

The income data are for the latest 12 months (LTM) prior to the valuation date (most recent four quarters) and the balance sheet data are for the most recent quarter prior to the valuation date

- A number of size measures are shown; however, only one or two are really necessary to help establish comparability. The other are used to develop valuation ratios.
- The remaining measures are independent of size, making them meaningful to compare across companies.
- There are summary statistics for each data series. In this case 25th , median, and 75th percentiles are shown. Other summary measures that could be used include different percentiles (such as the 10th and 90th) as well as simple average of the companies and a composite of companies.
- Outliers could indicate an anomalous situation for an industry or company. These apparent anomalies can be analyzed because they may contain important information over the last five years here.
- The last part of the table gives other operating ratios and indication of the capital structure.

Table (28) ; Presentation of Standard Financial Indicators

All amounts in millions

Guideline Company	Tangible Assets	Total Asset	Employees	Sales	Gross Profit	EBITDA	EBIT	Pretax Income	Net Income
Company 1	72.4	74.0	315.0	64.8	33.5	4.5	3.8	4.0	2.5
Company 2	40.2	51.5	353.0	62.0	42.4	9.5	7.0	5.8	3.3
Company 3	35.2	47.4	246.0	55.5	27.3	4.5	3.8	0.8	0.5
Company 4	44.4	52.0	361.0	54.3	26.5	6.0	4.5	4.7	3.1
Company 5	33.4	36.8	121.0	36.7	22.9	12.1	10.7	4.9	2.9
Company 6	25.5	36.3	206.0	31.0	10.7	1.4	0.9	0.1	(0.1)
Company 7	20.7	20.7	134.0	27.5	17.3	1.3	0.8	1.0	1.1
Company 8	26.5	29.8	100.0	21.3	8.0	4.2	1.9	2.3	1.2
Company 9	12.3	13.3	117.0	17.1	7.3	1.7	1.2	0.9	0.5
25th. Percentile	25.5	29.8	121.0	27.5	10.7	1.7	1.2	0.9	0.5
Median	33.4	36.8	206.0	36.7	22.9	4.5	3.8	2.3	1.2
75th. Percentile	40.2	51.5	315.0	55.5	27.3	6.0	4.5	4.7	2.9
Subject Company	3.6	4.1	29.0	5.2	2.5	0.5	0.4	0.4	0.3
Long-term Growth									
Company	Sales	Gross Profit	EBITDA	EBIT	Pretax Income	Net Income	Assets	Shrhd Equity	
Company 1	17.9%	21.3%	36%	40.6%	51.6%	58.4%	33.2%	46.6%	
Company 2	18.6%	18.7%	34.4%	36.9%	58.5%	33.7%	18.3%	8.2%	
Company 3	17%	14.2%	-0.9%	4.9%	-0.4%	-36.6%	15.8%	11.2%	
Company 4	10.5%	10.8%	22.8%	23.6%	28.4%	28.6%	17.3%	25.4%	
Company 5	49.1%	51.1%	66.4%	67.2%	75.2%	75.2%	42.7%	47.0%	
Company 6	40.3%	35.2%	31.0%	32.9%	23.0%	23.0%	28.1%	21.5%	
Company 7	31.3%	12.6%	-4.9%	-7.8%	-4.1%	5.3%	9.3%	8.5%	
Company 8	5.2%	-2.7%	-5.5%	-12.1%	16.0%	13.1%	4.0%	5.0%	
Company 9	18.7%	18.1%	14.9%	14.6%	26.8%	13.9%	11.1%	11.4%	
25th. Percentile	13.3%	12.6%	-0.9%	4.9%	16.0%	13.1%	11.1%	8.5%	
Median	17.9%	18.1%	22.8%	23.6%	26.8%	23.0%	17.3%	11.4%	
75th. Percentile	18.7%	21.3%	34.4%	36.9%	51.6%	33.7%	28.1%	25.4%	
Subject Company	4.4%	2.2%	19.2%	20.0%	25.0%	16.7%	-2.2%	-2.6%	

Company	Latest 12 Months Margins (% of Sales)					Long-term Margins (% of sales)				
	Gross Profit	EBITDA	EBIT	Pretax Income	Net Income	Gross Profit	EBITDA	EBIT	Pretax Income	Net Income
Compny 1	51.7%	6.9%	5.9%	6.2%	3.9%	52.4%	12.5%	11.2%	10.5%	7.5%
Compny 2	68.4%	15.3%	11.3%	9.4%	5.3%	69.0%	12.9%	9.7%	5.9%	4.0%
Compny 3	49.2%	8.1%	6.8%	1.4%	0.9%	55.5%	12.2%	10.1%	6.5%	6.6%
Compny 4	49.8%	11%	8.3%	8.7%	5.7%	48.9%	11.2%	9.0%	9.2%	6.2%
Compny 5	62.4%	33%	29.2%	13.4%	7.9%	55.6%	0.0%	0.0%	10.8%	6.4%
Compny 6	34.5%	4.5%	2.9%	0.3%	-0.3%	40.5%	9.6%	7.6%	8.0%	4.6%
Compny 7	62.9%	4.7%	2.9%	3.6%	4.0%	66.8%	7.1%	5.1%	6.1%	4.7%
Compny 8	37.6%	19.7%	8.9%	10.8%	5.6%	50.4%	33.9%	25.6%	19.7%	11.8%
Compny 9	42.7%	9.9%	7.0%	5.3%	2.9%	42.5%	9.4%	6.8%	4.6%	3.0%
25th. Percentile	42.7%	6.9%	5.9%	3.6%	2.9%	48.9%	9.6%	7.4%	6.1%	4.6%
Median	49.2%	9.9%	7.0%	6.2%	4.0%	52.4%	11.7%	9.4%	8.0%	6.2%
75th. Percentile	62.4%	15.3%	8.9%	9.4%	5.6%	55.6%	12.6%	10.4%	10.5%	6.6%
Subject Company	48.1%	9.6%	7.7%	7.7%	5.8%	46.9%	9.0%	7.3%	7.1%	5.5%

Table (28) continue

Company	Sales/ Asset	Curr . Rati o	Quick Ratio	W/C /Sale s	Inv. Turn	Total Debt (\$mil.)	Comm.Equit y (\$ Mil.)	Debt/ Equit y	
Company 1	.9	2.9	2.4	0.7	3.4	3.1	47.0	0.1	
Company 2	1.2	2.8	1.6	0.4	2.5	11.8	28.5	0.4	
Company 3	1.2	2.4	3.9	0.3	2.4	8.6	32.2	0.3	
Company 4	1.0	5.2	2.2	0.6	2.8	1.8	43.7	0.0	
Company 5	1.0	2.9	0.8	0.3	3.8	3.7	19.9	0.2	
Company 6	.9	1.7	2.6	0.2	2.2	7.3	21.1	0.3	
Company 7	1.3	4.0	4.4	0.5	2.9	0.1	16.1	0.0	
Company 8	0.7	7.6	1.0	0.7	2.2	-	26.2	-	
Company 9	1.3	2.2	1.4	0.3	2.5	4.2	7.1	0.6	
25th. Percentile	0.9	2.4	2.2	0.3	2.4	1.8	19.9	0.0	
Median	1.0	2.9	2.6	0.4	2.5	3.7	26.2	.02	
75th. Percentile	1.2	4.0	3.1	0.6	2.9	7.3	32.2	0.3	
Subject Company	1.3	3.9	3.1	0.6	2.0	-	3.8	-	

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 284.

3.4.6 Adjustments to the Guideline and Subject Companies:

This is the first step before the comparison between companies; some adjustments have to be made. Normally the publicly traded companies need fewer adjustments than privately held companies. The adjustments could be due to of using different accounting methods and policies, so financial data needs to be adjusted to have same uniform.

3.4.6.1 Income Adjustment:

There are a number of adjustments need to be done in the subject company's income statement, including:

3.4.6.1.1 Non-operating Income/Expenses

Non-operating income or expense need to be adjusted in the subject company's financial statements, because the publicly traded companies may not typically have large number of non-operating items.

The non-operating income or expenses items may arise in many ways, such as investments in unrelated businesses and assets, and income on excess working capital. The usual way of doing this is by subtracting the income or expenses from the overall income of the subject company, using appropriate ratios, and add the value of the assets or liability that giving rise to the non-operating income or expense. If for example, the non-operating income comes from marketable securities, this is a very straight forward process. But if it comes from real estate or another operating entity, a separate appraisal may have to be made to get the market value of the asset.

Example; (James R. Hitchner - 2008)

A privately held company manufactures electronic medical instruments. It has a significant amount of excess working capital that it has invested in high-grade corporate bonds. The risk characteristics of the company's main business are much different from those of the corporate bonds. To apply pricing ratios derived from guideline companies holding small amount of excess cash to the overall income of the subject would misstate its value.

Assumptions:

Non-operating portfolio of high-grade corporate bonds = \$ 10,000,000

Coupon rate of bonds = 5 percent

Company's pretax income (excluding the interest payments on the bond) = \$1,000,000

Guideline companies average pretax price-to-earning ratio = 12

Value of subject including Bond Income of \$500,000

Total Pretax Income \$1,500,000

Price/pretax earnings X 12

Value of the subject \$18,000,000

Value of subject excluding non-operating Bond Income:

Total pretax income = \$1,000,000

X price/pretax Earnings = X 12

= Operating Value 12,000,000

+ Value of Bonds 10,000,000

= Total Subject Value \$ 22,000,000

Looking to the calculations of the two values, there is huge difference between them, obviously, the first calculation is incorrect. The required rate of return implied by the valuation multiple is too high for the operating business and the non-operating assets, where had low risk corporate bond; the first calculation clearly understate the overall value of the business.

When including the income from bonds as part of the business, the value of the business is \$ 18,000,000. But when separating this segment from the business and valued separately the value increased to \$ 22,000,000. whenever, there are different assets, that may include different business operations within the same company, the rate of return may differ accordingly. When a company operates in different business segment or industries, it is essential to segregate the different operations and to be valued separately to arrive at the accurate business value.

3.4.6.1.2 Owner's Compensation

The high compensation that the owners receive while they are on the top of the management of the company, which could be higher than the market level, specifically in the privately held companies, which is not exist in the publicly traded companies, it is viewed as a return on capital to those managers and not a compensation. In the publicly traded companies, the return of or on capital comes in the form of dividends or an increase in the value of the stock, and the income- based stock multiples of publicly traded companies reflect this type of compensation. When it comes to analyze the costs of the privately held company, this excess “of compensation” will be removed from the expenses and treated same way as in the publicly traded companies, which does not exist. The same apply if the owner's compensation is less than the market level, the difference between what had been paid and what should be paid will be brought to the cost of the company. This concept is applied to a controlling interest, as many analysts they do not do the compensation adjustment because they believe that the minority shareholders they do not have the power to change the compensation policy with a company. But this could be broke by the minority shareholders suing the company to reduce the high owners compensation received by the manager. Of course, the assessment of the “excess” compensation could be difficult to prove in most cases, as managers could

do multiple tasks that entitle them to receive such money or this could be a prerequisite for some managers to hold and take such responsibilities.

3.4.6.1.3 Income Taxes

There is another difference between publicly traded companies and privately closed companies, that these companies do not pay income tax at the corporate level because they are partnership or S corporations. This tax difference should be reflected in the net income and cash flow which appears higher than the net income of the tax-paying companies.

3.4.6.1.4 Non-recurring Items

The analyst needs to assess the effect of these items which are similar to non-operating items. They need to eliminate them from the consideration for both publicly traded companies and privately held companies.

3.4.6.2 Balance sheet Adjustments:

Using market approach, most of the adjustments need to be done in the income statement which very few ones could be done in the balance sheet. These could include:

3.4.6.2.1 Non-operating assets/liabilities

This should be done in the balance sheet to remove the non-operating assets and liabilities, which require a commensurate adjustment on the income statement as well.

3.4.6.2.2 Inventory

The inventories of the guideline companies and the subject company should be reported using the same accounting method; either LIFO or FIFO or even weighted average.

3.4.6.2.3 Debt and Working Capital

These are the most difficult adjustments the analyst has to do in the balance sheet.

Two issues must be addressed:

- 1- Actual level of “long-term” debt
- 2- Whether the company has sufficient or excess working capital

Long-term versus Short-term Debt

This “long-term” debt is actually referred to the debt that is part of the capital structure, which constitute the permanent long-term funding of the entity. The long-term debt listed in the balance sheet could be only small portion of the permanent funding of a company. This is depend on the company to choose short-term or floating rate debt rather than long-term, fixed-rate debt for a number of reasons, as the believe of the company that the short-term debt rate could be more stable or could fall in the future. Also the short-term debt is cheaper than the long-term which could save the company substantial money. Or this could be due to the inability of the company to obtain long-term funding. This short-term debt sometime is treated as part of the capital structure. For example, if there is any replacement for long-term debt with short-term debt and the overall level of debt is not falling, then this new debt is probably long-term debt disguised as short-term funding, which could be confirmed by the company management. If long-term asset (e.g. property, plant, and equipment) are increasing and this increase are being matched by an increase in the short-term debt, then this new debt is going to be permanent and should be treated as such. If working capital is negative or low relative to that of the guide-line companies, this fact may indicate that some of the short-term debt is not being used to support working capital needs and should be considered permanent funding. Sometime the term shareholder loan should be classified as equity rather than debt.

3.4.6.2.4 Excess versus Sufficient Working Capital

The level of working capital in most cases may require adjustments to match the guideline companies. Generally in the publicly traded companies there is no excessive level of working capital, as investors tend to be unpleasant about it, only an exception could be for the cash for acquisition or for recent debt or equity funding. However, it is common practice in the privately held companies to have

either high level of cash, marketable securities, or other short-term liquid investments.

3.4.7 Summary on Choosing Comparables

The process of choosing guideline companies can be summarized as: (James R. Hitchner - 2008)

- Using a variety of data source, compile a list of companies in the same or similar industry as the subject company
- Review the detailed business descriptions of these companies and eliminate those that are dissimilar to the business of subject companies
- Eliminate or adjust multiples of companies whose financial characteristics are not similar to the subject company such as size and growth potential
- Collect detailed financial information (both historical and prospective, if available) about each of the potential guideline companies, placing the data in a format that is consistent across all companies, and include the same information for the subject company
- Make any necessary adjustments to the guideline companies and the subject company.

3.4.7.1 Calculating Standard Pricing Multiples:

This is referred to as pricing ratio, valuation multiple, or valuation ratio. This relates the value of the company to one of the balance sheet or income statement items. It is a way of scaling values that analyst used to companies of different sizes. For example company A and B both had price /earnings ratios of 14, but company B is 8,500 times the size of company A in terms of sales. (James R. Hitchner - 2008)

Pricing multiples provide some insight into what investors are willing to pay for a certain level of sales, income, and assets. For instance, a price/earnings multiple of 15 implies that the investors are willing to pay 15 times earnings for the stock of the company.

The price multiples have “price” in their numerators; price is not always defined in the same way. This is depends on whether the market value of shareholders equity “MVEq” or the market value of invested capital “MVIC” is used. The choice of

which one to use is entirely refer to the purpose of the valuation, the capital structure of the guideline companies and the analyst preference.

If the purpose of the valuation is to determine a controlling value, then MVIC may be better measure of prices since a controlling buyer is interested in the entire company, irrespective of its current capital structure. For minority positions, the market value of equity can be the price concept.

The norm of capital structure term is usually refers to the relationship between the market values of debt and equity, but never the book value of equity.

There are two ways to express and describe the capital structure, either debt divided by MVEq or debt divided by MVIC.

Financial Statements Measures: (James R. Hitchner - 2008)

The second part of the pricing multiple is the denominator, the financial statement parameter that scale the value of the company. The four general four groupings of valuation ratios include those based on:

- 1- Revenue
- 2- Profitability or Cash Flow
- 3- Book Value
- 4- Some other measure

Some specific common measures include:

- Revenue
- Gross Profit
- EBITDA
- EBIT
- Debt-free net income (net income plus after tax interest expense)
- Debt-free cash flow (debt –free net income plus depreciation/amortization)
- Pretax income
- Net after tax income
- Cash flows
- Asset related
 - Tangible assets
 - Book value of equity
 - Book value if invested capital (book value of equity plus debt)

- Tangible book value of invested capital (book value of equity, less intangible assets, plus book value of debt)

- Employees

In theory, the best denominator to use is based on expectation (i.e. using next year's expected revenue or income). It is an appropriate match with the numerator, since the value of the equity or invested capital is a prospective concept, containing market's best assessment of the prospects for the future.

Analysts can use any of the above in the denominator, but using the last 12 years income or earnings prior to valuation is the best. The advantage of using net income is that it is a very popular measure. The most useful version of net income is net income before extraordinary items; most investors recognize that extraordinary income or expenses will not recur and price the stock accordingly.

The advantage of using EBIT or EBITDA are that more closely reflect the operation of the business and they exclude the non-operating, financing (capital structure), and tax planning (depreciation policies for EBITDA) aspects that are part of net income. If it happens that the capital structure, tax situations, and non operating characteristics of the guideline companies and the subject company were similar, then it would probably make little difference whether EBIT or EBITDA or net income were used in the valuation multiples.

There are other sources of information that investors may use to get the appropriate multiples, these might be:

- **Industry**, within the same industry, investors tend to take similar multiples to take investment decisions, and this will guide the analyst which value measures are most important. Information published in trade journals and financial press that discussed the recent acquisitions will provide valuable types of multiples that help investors to take decisions.
- **Subject Company**, the appropriate multiples to use in the valuation analysis could be directed by the particular situation of the company. For instance, if the analyst would like to use key valuation multiples for industry and appeared to be price to earnings (could be net income) but the subject company had not yet and could not expect

to have positive earnings in the next year or two, the analyst could use the standard P/E will, definitely result in negative value. The analyst has to use different definition of earnings or different valuation measure altogether.

- **Rules of Thump.** (James R. Hitchner - 2008) These rules of thumps have been developed over time as a result of actual transactions taking place in different businesses. These rules of thumps have are quoted as a multiple of some financial measures such as 1.5 times operating cash flow or 2 times revenue. They are too broad and can be of great help in two ways; the financial measures used in the pricing definition (like operating cash flow) this is considered as indicator of the measures that investors look at so the analyst may include it in the calculation of the valuation multiples. Also rules of thump can serve as a test of the reasonableness of the valuation conclusion. If for example the rule of thumb in an industry is 2 times earnings and the valuation conclusion is 11 times earnings, the analyst has to reconcile the two measures.

3.4.7.2 Computation of Multiples:

This is very simple process, calculating the various valuation multiples need only to take the price, which is either the market value of equity or invested capital as of valuation date, then divides it by the appropriate financial statement parameter.

Multiple = price / parameter

There are several ways to calculate these multiples, one approach is to calculate everything on a per-share basis first and then calculate the valuation ratios. Another way is to calculate these ratios on gross basis, using aggregate market values, since the number of shares is eliminated from both the numerator and denominator. For instance, price/earnings can be calculated by dividing the price of a share of stock by the most recent earnings per share or by dividing the latest market value of equity by the last 12 months earnings.

Therefore, to continue calculating the multiples, the analyst has to match the price to parameters. The price has to be match to appropriate parameter based on which providers of capital in the numerator will be paid with the monies given in the denominator. To elaborate more on this area, in price/EBIT , price is MVIC, as the earnings before interest payments and taxes will be paid to both the debt and equity holders. In price/net income, price is the market value of equity only, because net income is after interest payments to debt holders and represents amount potentially available to shareholders. Whenever there is a denominator that excludes interest (e.g. EBIT or EBITDA) should be matched with the corresponding numerator (e.g. MVIC)

MVIC is normally represents the numerator for:

- Revenue
- EBITDA
- EBIT
- Debt-free net income
- Debt-free cash flows
- Assets
- Tangible book value of invested capital

But MVEq is normally paired with:

- Pretax income
- Net income
- Cash flows
- Book value of equity

3.4.7.3 Dispersion of Pricing Multiples:

Statistically, the coefficient of variation is the most suitable to measure and analyze the dispersion of the data relative to its average value. The higher the coefficient of variation, the larger the range of pricing multiples. For example, looking to the table (30) MVIC/EBITDA , which ranges between 3.8 to 15.6 has lower coefficient of variation than the price/net income, with low of 10.2 and high of 112.2.

To reach the coefficient of variation needs to divide the standard deviation of the set of data by its average value. Normally the coefficient of variation can be used to

compare the dispersions of series of numbers whether or not they are of similar magnitudes. The coefficient of variation has many advantages of which will help the analyst the key valuation indicators. In our example in the table (30) companies MVIC/Sales, MVIC/EBIT and MVIC/EBITDA are fairly close to one another and have lower coefficient of variation, which suggest that their sales, EBIT and EBITDA might be better indicators taken by the market when it sets prices for these types of companies.

Table (30) Pricing Multiples

Company	\$ Million M Value		Debt/MVEq	MVIC				MVEq		
	Equity	Inv.Cap		Empl.	Sales	EBITDA	EBIT	Pretax Income	Net Income	Book Value
Compny 1	42.3	45.4	0.1	144	0.7	10.1	11.9	10.6	16.9	0.9
Compny 2	33.7	46.5	0.4	132	0.8	4.9	6.6	5.8	10.2	1.2
Compny 3	56.1	64.7	0.2	263	1.2	14.4	17.0	70.1	112.2	1.7
Compny 4	55.3	57.1	0.0	158	1.1	9.5	12.7	11.8	17.8	1.3
Compny 5	64.6	68.3	0.1	565	1.9	5.6	6.4	13.2	22.3	3.2
Compny 6	6.7	14.0	1.1	68	0.5	10.0	15.6	67.0	-	0.3
Compny 7	20.2	20.3	0.0	152	0.7	15.6	25.4	20.2	18.4	1.3
Compny 8	16.0	16.0	-	160	0.8	3.8	8.4	7.0	13.3	0.6
Compny 9	10.1	14.3	0.4	122	0.8	8.4	11.9	11.2	20.2	1.4
25th. Percentile	16.0	16.0	0.0	132	0.7	5.6	8.4	10.6	16.0	0.9
Median	33.7	45.4	0.1	152	0.8	9.5	11.9	11.8	18.1	1.3
75th. Percentile	55.3	57.1	0.4	160	1.1	10.1	15.6	20.2	20.7	1.4
Subject Company				0.8	0.4	0.4	0.5	1.1	1.2	0.6

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 298.

The final step in the comparison process of the guideline company analysis is the application of the valuation multiples to the subject company. This is where the

companies that remain in the guideline companies set should be comparable to the subject company.

Table (31) shows the equity value (for 100 percent of the equity in the subject) will use the pricing multiples and apply them to the appropriate financial variables for the subject company. Considering that all amounts are in millions of dollars.

Table (31) Equity Value (\$millions)

Company	MVIC			MVEq		
	Sales	EBITDA	EBIT	Pretax Income	Net Income	Book Value
Compny 1	3.6	5.1	4.8	4.2	5.1	3.4
Compny 2	4.2	2.5	2.6	2.3	3.1	4.5
Compny 3	6.2	7.2	6.8	28.0	33.7	6.6
Compny 4	5.7	4.8	5.1	4.7	5.3	4.8
Compny 5	9.9	2.8	2.6	5.3	6.7	12.3
Compny 6	2.6	5.0	6.2	26.8	-	1.2
Compny 7	3.6	7.8	10.2	8.1	5.5	4.8
Compny 8	4.2	1.9	3.4	2.8	4.0	2.3
Compny 9	4.2	4.2	4.8	4.5	6.1	5.4
25th. Percentile	3.6	2.8	3.4	4.2	4.8	3.4
Median	4.2	4.8	4.8	4.7	5.4	4.8
75th. Percentile	5.7	5.1	6.2	8.1	6.2	5.4

Source: - James R. Hitchner, Financial Valuation, Application Methods, 3rd ED, New jersey Wiley Finance, 2011P 299.

The range of equity values for the subject is quite large, which is ranging from \$1.2 million to \$33.7 million. However, the range of values based on the median pricing multiples is very small which is from 4.2 to 5.4.

Equity Values Based on MVIC pricing Multiples:

The calculation is based on the sales;

Equity Value (subject) = {(MVIC/Sales (Comp) X sales(subject)- debt (subject)}

Will use the sales multiples from company 1 in (EXHIBIT 7.9 and EXHIBIT 7.8) apply to above formula;

$$\text{Equity Value (subject)} = 0.7 \times 5.2 - 0.0 = 3.6 \text{ (rounded)}$$

But for equity values based on MVEq pricing multiples , the calculation will be as follows:

Equity Value (subject) = MVEq/ Net income X net income (subject)

Using information from (EXHIBIT 7.8 and 7.9)

$$\text{Equity Value (subject)} = 16.9 \times 0.3 = 5.1 \text{ (rounded)}$$

Looking to the above example, the value of equity has been calculated with two different pricing multiples, (sales and net income) which provide two different values for the equity. (James R. Hitchner - 2008)

Conclusion; the analyst has to decide which types of pricing multiples to use. The final determination of which particular to use based on understanding of how the subject compares to the guideline companies in term of the important factors of size, growth, profitability, margins, capital structure and other measures.

3.5 The Components of Business Valuation

There are some general building blocks that valuers use to guide the business valuation. Valuers pay close attention to the following issues when valuing a business:

1. The nature of the business and the history of the enterprise from inception
2. General economic outlook and the condition and outlook of the specific industry
3. The book value of the stock and the financial conditions of the business
4. The earning capacity of the company'
5. The dividend paying capacity
6. Whether or not the enterprise has goodwill or intangible value
7. Sales of the stock and the size of the block of the stock to be valued
8. The market price of the stocks of corporations engaged in the same or similar line of business having their stock activity traded in a free and open market, either on exchange or over the counter.

Business valuation is a process based on actual and factual information; these are based on a set of internal and external factors which could be generated and provided from the company's financial statements, performance, operations, products and services, in addition to the competition of the industry, governments, and overall economy.

3.5.1 Internal Factors:(Gary E. Jones and Drik. - 1998)

These are company specific factors, which are internal and inside of the company. These could include, historical performance, financial strength; profitability/ earnings, cash flows, company managements, structure and ownership; size and conditions of operations, business systems, legal protection of products, operations, forecast/ projections /budgets and written business plan

The internal factors are inside factors of the subject company, these factors reveal how strong the company is in term of operations and performance, and how is the management style and ownership. These factors will also provide information on how big or small the subject company, how the products and services have been legally protected, and the way the company projecting the operations. These factors may include:

3.5.2 Historical Performance

The trend of a business that shown in it is past and future performance, will shape the direction towards which the company is heading.

The valuator task can be facilitated by the provision of detailed financial statements, which are the cornerstone of the valuation process. The quality of sound financial statements will strongly affect the volume of the work that valuator has to perform. IRS revenue Ruling 59-60 states and documents that any company must keep the financial reports, and tax returns for at least five years with supporting ledgers. Opting for not to keep sound records may result in out dated valuation or incorrect or sometime fraudulent information which may later inforce the valuator to do some adjustments to the financial statements, (which refer to as normalization process). Also the historical data may provide the trend of the company and how well it will do in future. The role of the management is very crucial on how they manage the company in the past, as well –informed buyers may question management’s integrity if it appears that the company had performed or cheated the government, specifically if the company taking gernerous and huge deductions or using overly aggressive tax policies, is likely to be equally dishonest with the potential buyer. In cases the historical performance may not give strong indication of the health of the company. As an example, an emerging company that generate losses for several years, it is detailed financial statements may help the valuator only, but will not provide good statements of the business value. It may provide additional information that the company had proritory interest in a technology that had spent much money on research and development and revenue from this products and efforts has yet to be materialized.

The audited financial statements (income, balance sheet, and changes in equity and reserves statements), represent the highest standard of reliability the valuator or analyst can have. (Jan R. William, Miller,1994) ⁽³⁵⁾

3.5.3 Financial Strength

The financial position of a company reflects its strength or weaknesses, as the balance sheet normally indicates the health position of the company, that indicates the assets, liability and owners equity. The balance sheet represents a snapshot at a certain time of the financial year. Consecutive balance sheet with sound financial positions for several years can form the basis of whether the company has valuable successful previous performance or not. Valuators should not, look to earnings as sole indicator of success, balance sheet tells a story of management capability, and how they manage to position the company in its current location, and how they succeed over time in a very competitive market.

3.5.4 Profitability/Earnings

Applying accrual –basis for income statements will reflect an accurate result of operations and reasonably accurate earnings, where the cash flow statement of the company provides insight picture and how resources have been managed to generate cash flow. The valuator or analyst has to take into account other factors necessary to assess the value of the company including how long time the business in operation, turnover of employees, relationships of customers and vendors, also should examine the return on investment, operating performance, and the financial position compared to other related companies in the industry as factors influencing earnings and cash flows.

Analysts should take close attention to the accrual basis transactions, and focus on how proper accounting were managed and the ability of management to watch and consider proper matching of revenue and expenses.

3.5.5 Company management

The value of the company affected by the management style that managing the it , and how well it is managed in the past, as both the quality of management and the

depth and knowledge of management will influence the value. With knowledgeable managers who look ahead to develop and position the company in a leading position, avail time and resources to develop and train their employees despite the operation pressure. Proper accounting records and systems should be in place. How charismatic leaders are? Or who are the technological wizards that responsible for the company's success?, What will happen if that key person leaves the company, would it be affected negatively? These key questions above let the analyst to pay close attention to them, as they affect the value of the business.

3.5.6 Company Ownership

The size of block of ownership is very important; if the interest being considered for transfer is minority interest; than an adjustment for a lack of control may be appropriate. Knowing the base value of the company is crucial before any discount or premium for control are applied. In some cases when there is a transfer of a controlling general partnership interest in a privately, closely held partnership, there could be a discount adjustment in many situations. This is not acceptable in many states in the US as it is not fair to the general partner who has fiduciary responsibility to the limited partners. How can he sells his/her interest for a premium, when he or she could sell the whole company and achieve liquidity for investors. Some legislation do not allow such practice to be applied, as there will be no limitations for the general partner who could make use of such legislations to fraudulent the other partners.

The IRS contends that in certain circumstances a premium is associated with swing vote concepts for minority interest(Internal Revenue Service Technical) ⁽³⁶⁾.

The IRS believes that the minority interest has a premium by being in a position to align itself with another equity interest and swing the interest in one direction or another. Therefore, the analyst should look carefully to the amount of control interest in the equity interest being valued.

3.5.7 Company Structure

The structure of the business; corporation, partnership, or sole proprietorship may definitely, affect the value of the business. Therefore, analyst has to check and

conform that the legal structure is in its good form. The seller of a company must either sell the assets of the company or sell the share at a price to reflect the contingent tax liability trapped in the corporation. In actual transaction, a well-informed buyer will certainly decrease the purchase price to reflect the trapped taxes and lower basis in the assets.

3.5.8 Size of Operations and Barriers to Entry

The size of the business is so important and played in both internal and external factors, as it could play as guarantor of financial strength and market-share, also in a capital-intensive industry a company may succeed because of high barriers to enter in the marketplace for new players who wanted to access the market. Where in a position of low barriers, many other competitors may enter the market and may affect reducing the value of the company.

3.5.9 Condition of Operation

The physical condition of a business with greater assets and equipments will dictate a higher value than a company that deferred maintenance and has lack of reinvestment capability. This triggers the importance of keeping the physical shape of the company's assets, and recommends reinvesting the earnings to improve the future well-being of the company.

Gary Jones and Dirk Van Dyke "The Case of Contingent Tax Liability: To Discount or Not?" "The Valuation Examiner, 1994.

3.5.10 Business Systems

Assets that unique to the company must be protected and well maintained, both physical and intangible are very important to the company. There are some assets that directly need protection such as trademarks and patents. Other assets should be maintained but not directly protected. The protection shall be through the company's policies and procedures throughout all departments and sections. Other assets may include; accounting systems, operations and policy manual, documentation procedures, company records, retention plan, trade secrets, customer and vendors lists. A good example could be where a company has well-maintained vendors lists,

where the management has a regular system to compare prices from regular vendors with prices quoted by competing vendors, then this company with such incredible records of vendors, is likely to have a higher value than a company that has no such policy to verify and compare costs. In the analysis done by the analyst will find that well-managed company will get and quote higher valuation. Because maintaining systems and policies that well defined, documented and protected, these policies reduce the risk of business failure and will increase the value of the business.

3.5.11 Legal Protection of Products and / or Services

The value of a business is extremely affected by the procedures taken to protect the products and services. The quality, pricing and unique attributes of the company's products/ services will determine the future earnings power of the company. Safeguarding these assets through patents, copyrights, trademarks and intellectual property protection will have a positive effect on the value of the business.

3.5.12 Operations

In most cases the historical reporting from the financial statements and the operation results in the past will not provide the reliable measures for the future estimates. To have more understanding for this point, let us take the following example, of a high-tech company that making losses in the previous years, but still the company commanding substantial business value in the market. The accounting principles (Financial Accounting Standard Board,1994)⁽³⁷⁾. Had dictated that this company had deducted the research and development expenses/ costs of the emerging products from it are profit and loss account. However, the prospects for this product were extremely positive. Later research revealed that this company had possessed and had held the largest share of the market. Although the results were losses for several years but still the company standing and commanding the market due to the fact that the future of the product materialized in the future and not on the early years of operations.

3.5.13 Forecast/projection/Budget

Forecasts presents “to the best of the responsible parties knowledge and belief, an entity’s financial position, results of operations, and changes in financial position”.(Don Pallais and Stephen D. Holton,1994)⁽³⁸⁾ a forecast is the most likely future patents of activity for a business. Where a projection represents an entity’s expected financial position based on hypothetical assumptions. Projections based on what if assumptions that differ from the existing situation. Projections could be based on one of these assumptions; what if a price of a barrel of imported oil doubled? What if chicken is found to be carcinogenic (causes of cancer)?. What if a giant national bookstore chain opens up a cross the street from a local bookshop?. It is an example of what if assumptions that could happen in any given situation.

A budget is primarily a management tool used to specify financial and operating objectives, for a given period of time. It is also used as management controlling tools to control the expenditures and take corrective actions to correct the deviations. The forecast and projection could be made with the assistant from a consultant, but budget should be made by the company’s own staff. Forecast and projection are very essential to the discounted cash flow method of valuation.

The resulting value when using the discounted cash flow is the present value of the earnings stream or a cash flow stream extended into the future for a reasonable period of time, plus the present value of the terminal value; the value after the forecasted period discounted with the discount rate and represents part of the business value.(American Institute of Certified Public Accountant,1995) ⁽³⁹⁾

The valuator’s tasks could be very easy if the company prepares budgets and the previous year’ performance results consistently meeting and exceeding management goals, the valuator can have strong confidence in the management ability to estimate the future value of the business. Comparing actual with budget will strengthen management position and indicate that they assess, check and correct deviations. Failure to have budgets and comparison policy is considered to be a serious weakness and reflect negatively on management and its ability to operate and run a business.

3.5.14 Written Business Plan

The business plan contains underlying assumptions, logic and numbers. It serves as a map for all stakeholders not management only, those who want to understand the business and know where the management is heading. Many small businesses owners do not allocate time and resources to develop a business plan, as they may think of wasting their resources or maybe they lack the skills of developing it. Written business plan gives indications to the valuator that management well understands the business. The plan also acts as a reference point for the valuator when projecting future earnings.

3.6 External factors

These are the factors that outside the day-to-day operation, they have greater influence on the business value that could be more than the internal factors. These factors may include; competition, industry, environment, government intervention, and the economy.

3.6.1 Competition and Size

In a competitive market-place, where a company is operating, that is locally, regionally, nationally or internationally, has a strong influence on the value of the company. Many of the internal factors mentioned above could affect the company's ability to maintain its competitive advantage. The company should not consider only the internal factors, it is very critical to weigh how well the company stands against the market competition.

The valuator is looking for issues such as stability and growth potential of the business and then through his/her analysis will relate these factors to how the competition is performing. This process done by the valuator is called micro analysis. The bigger picture is the macro analysis, how the industry as a group of common interest performs. The market guideline companies are good baseline for comparison. There are three methods mentioned in the market approach which are, guideline public company method, guideline company transaction method, and direct market data method. The valuator has to reconcile the data of the subject company and adjust the statement, if needed to reach and remove the differences.

3.6.2 Industry

This is very important factor where is the company is operating with other companies. Valuator has to analyze the industry, understand the factors that influence it. One example of this could be the trend of a management that retains production that has become simple commodities with significantly reduced profit margins. Savvy managers spot this trend and adjust the course of the business to compensate for market evolution. The industry analysis can reveal valuable information will enhance the value of a business beyond the valuation report.

3.6.3 Impact of Environmental Factors

The business owners and the valuers should take into account the impact of the environmental issues. For example if the business is a chemical plant, does it need regulation? Or it is subject to expensive renovations in order to pass inspections? Is that the reason the business is for sale? The valuator should also look to the environmental impacts from earthquakes, storms, fire, flooding, drought and infestations.(Cynthia Kroll et, al. “the Economic Impact of Loma Prieta Quake) ⁽⁴⁰⁾

3.6.4 Government Regulations

If a company does not meet the government, local or national regulations, then such company will increase the cost at the time of inspection and comply with the regulations. Such costs will decline the value of the business. The valuator has to consider such costs and adjust with a company that it is not complying with regulations.

3.6.5 Economic Conditions

Very few companies can escape the regional, national or international economic events, it hit every business but with different impact on each. In such cases strategies and financial resources are extremely necessary to raise the value of a business. Valuator should study and interprets the economic outlook for a business, and these economics events could have several impact on the business, they should be related to the external factors of the general economy which influence every business financial position in the industry. In the late 1970 for example a car dealer

who thought he is immune if interest rate and inflation increase. As gas prices soared, demand for his vehicles plummeted and rises interest rate at his small company's working capital resource. In a matter of months the resources was gone and bankruptcy loomed. When time was good, he simply had not addressed the need to have capital survive and unexpected downturn in business. He felt his management and selling skills were more powerful than the force of the economy and external factors over which he had no control. Unfortunately he was mistaken. (Gary E. Jones and Drik Van Dyke - 1998)

3.7 The process of Conducting a Business Valuation

It is a process that follows a number of key steps and logical understanding of many complex issues that need to be identified, research and analyzed, starting with the definition of the task at hand and leading to the business value conclusion.

Any complete and comprehensive business valuation begins with the engagement process (planning and preparation) then followed by three essential phases; including research and data gathering, analysis, and estimation of value and reporting.

The valuator has to decide, prior to starting the process, what standard of value the valuation is based upon; fair market value, fair value, investment value, liquidation value, or intrinsic value. The purpose of value the valuator engaged in, will determine the appropriate standard of value he/she should use.

3.7.1 The Valuation Methodology

In a fair market value valuation, this where the valuator will estimate the hypothetical estimated price which the business could change hands and discuss without any obligations on a willing buyer or a willing seller. This fair market value is normally the standard of value for gifts and estate tax valuation and other purposes. Fair value, is guided by common law and/ or government agencies, this standard of value is basically considered in dispute with minority shareholders .(James Schilt ,1985)(41)

In many cases, “the fair value should be determined on the business of the liquidation value but taking into account the possibility, if any, of sale of the entire

business as a going-concern in a liquidation”(2) in any valuation using the standard of value of fair value, there is a goal to provide the minority shareholders with an equitable result. This definition is vague to most people as it assume that if California Corporation code S 2000 Subdivision (a)

the business is valued as a going-concern and sold to hypothetical buyer who is not purchasing it in a fire sale, then that hypothetical transaction has more weight than a liquidation of physical assets. Also assumed that there will be no specific adjustment for lack of control, because it assumed the sale of the entire business and as a going-concern.

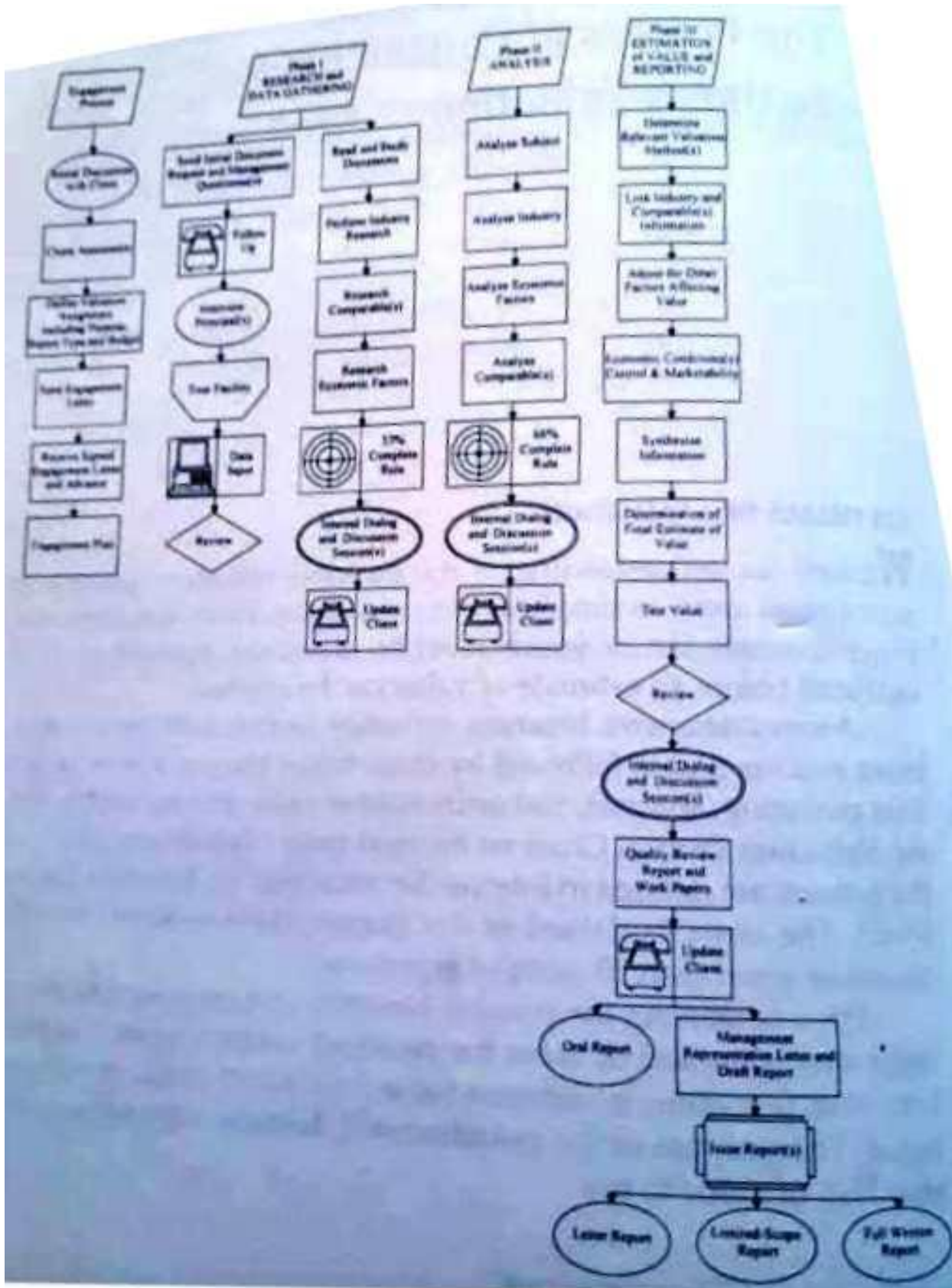
Investment value is the value of the business to specific buyer. This value is completely depending on the specific skills of the buyer and the expected potential synergies that may result from the process with the existing business/s strategic value, another term for investment value, “is the price a buyer is willing to pay to strengthen a company’s competitive position in a segmented market.”(Bruce R. Robinson,1995) (42)

Liquidation value is the value that reflects the assets and liabilities at the time of liquidation but not the earnings. The assumptions behind this value is that the business will stop operating as a going-concern, sale off its assets, pays off its debts, and include the cost of valuation. Intrinsic value “represents an analytical judgment of value based on the perceived characteristics inherent in the investment”(Shannon Pratt,1996) (43) this assumes that the market value will eventually come to equal the true or real or intrinsic value when other investors arrive at the same value.

The Valuation Process Chart

The above chart separating the valuation process into four main parts which discuss the major steps to be taken by the valuator; (1) engagement process (planning & preparation), (2) research and data gathering , (3) analysis and (4) estimation of value and reporting.

BUSINESS VALUATION PROCESS CHART



3.7.2 Engagement Process

There are certain steps to be followed by the valuator in this process (these steps are not fixed and could vary from one valuator to another depending on the style and method followed by the valuator), these steps include:

- a- Review of information about the business to be valued,
- b- Determining the scope of the project and whether it can be undertaken realistically,
- c- Decide whether to accept the prospective engagement.

Normally the client and his advisors want to assess and determine the fees, which are difficult to be assessed for each process, so the client and his team provide necessary information to assist in determining reasonable fees. During this process the valuator needs to determine why the business owner wants to carry out business valuation, and assemble all the required information necessary to carry out such business valuation. An engagement acceptance form can serve as a tool to understand the subject business and whether the valuator will accept the engagement or not, also this engagement will help the valuator to define the scope of the work he/she will undertake and discuss important issues before acceptance.

The scope of the engagement may include:

- a- What definition of value will be used, fair value, fair market value, ...etc.
- b- What equity interest is to be valued
- c- Whether there is sufficient historical financial information available
- d- What valuation methods are appropriate
- e- What kind of reports will be used to communicate the valuation conclusion
- f- Who will receive the final report
- g- The role of the valuator.

During this process the valuator should present a letter of understanding in a form of engagement letter, outlining the following:

- Scope of the project
- Estimated costs
- Expected out of pocket expenses

The engagement letter should also contain a provision for fees adjustment in event of unforeseen or changed of circumstances that will affect the scope of the services or the contents of the final report.

Normally, it is not advisable to establish a fixed –fee form of compensation, which could be too low that will prevent the valuator from doing his analysis in the right way. It is recommended for the valuator to receive an advance (normally % of the estimated fees), and the time for acceptance should be limited to around two weeks to accept the conditions of the engagement. There are some practitioners who designed some sort of engagement letter format that protect the interest of the clients and the valutors.

3.7.3 Ensuring the right Fit

There are well-known five questions based on input from the prospective client during the engagement assessment stage;

3.7.3.1 Are aware of any conflict of interest or problem about independence?

The valuator should be independent to the company, and should not perform a company's valuation if he/she is also involves and advises the company in accounting, tax, or policy consultant. It is recommended that the valuator should focus to get the right worth of the business and not to defend and act as an advocate to the client. The lack of independence stems from the possibility that the preparer of accounts or tax estimates could either consciously or unconsciously may furnish an estimate of value that favour the client.

There are, of course, some situations in which a valuator can become involved as an advocate for the client (Appraisal Standards Board)⁽⁴⁴⁾ offer valuable assistance, and assist in obtaining the best negotiated price for the business. This is where the client comes to the

valuator and expresses his/her desire to sell or buy, this is considered investment value valuation, and in this cases its assumed that the valuator will apply the valuation standards of the an accredited association and expresses as estimate of value in accordance with the canons of ethics related to the process.

3.7.3.2 Is the expertise to perform the engagement within the valuator's capabilities?

This is a key question on whether the valuator has the technical know-how and experience and training to handle specific valuation, or has the ability to obtain the knowledge necessary for the valuation. It is not about the long time working in specific industry and gaining related experience to carry out business valuation in the industry, (Shannon Pratt's Business 1996)⁽⁴⁵⁾ but it is about the valuator, he./she should become familiar with the industry prior to undertaking the engagement. Familiarizing himself/herself with the industry will provide reasonable guidance about the industry that enables the valuator to carry out the engagement.

3.7.3.2 Is there sufficient staffing both to perform and oversee the valuation?

The valuator could have enough staff who capable to manage the engagement, but it is about the client, do his staff could manage and accept the engagement within time and current workload?

Such issues s mainly arises in professions like accounting and law, the most difficult management task is to plan for the workload that could come from various project or clients. The only critical question is can the normal high-quality and comprehensive valuation work be performed within a tight time frame?

3.7.3.3 Do the term of the proposed engagement; including fees arrangements violate applicable professional standards?

The valuator must take into account that by engaging in subject valuation he /she will not be doing anything which conflicts or against his/her believes that make the situation uncomfortable to the valuator.

3.7.3.4 Are you aware of any potential fee collection problem?

The valuator has to make sure from his own sources, that the client is able to pay for the valuation. If the is not the case, then the ability to pay may have appearance of contingent fee arrangement. The valuator has to ask for certain things in his/her engage letter to reduce the risk of nonpayment, like the financial statements and working capital, specifically cash, to make sure the ability to pay is not remote. But

also some other procedures may work fine. The most basic procedure is to agree in advance on what the fee is going to be and how it is going to be paid (Charles B. Larson and Joseph W. Larson, 1995).⁽⁴⁶⁾

3.8 The Engagement Letter

Once the two parties, the client and the valuator, reach to the point that they intended to work together, then the valuator has to present engagement letter that clearly outlining and stating the scope, limiting conditions, terms, objectives, and estimated cost of the projects. This letter should clearly eliminate any surprises later unless unforeseen or unexpected circumstances arise after the engagement has begun. At this point, it should be very clear to the client that if there is any future necessity arises to increase the fees for unforeseen work, should agree before starting the engagement.

3.9 Valuation Phases

3.9.1 Phase 1: Research and Data Gathering

This phase serves as the foundation for business valuation. This is very important for a reliable, robust valuation.

3.9.1.1 Internal Data

During this phase of research and data gathering, many internal information could be collected to assist accomplishing the assignment. Such internal company data includes annual financial statements, after tax returns, typically for the last five years, interim financial statements, for the year to date, copies of sales and financial projection; cash accounts, accounts receivable and accounts payable classified by ages. An inventory list, analysis of significant accrued liabilities, operating budgets, legal documents, detail of employee benefits plan, collective bargaining agreements, board meeting minutes list of patents, copyrights, and trademarks; and business plan. (Gary E. Jones and Drik Van Dyke - 1998). the details to which the valuator can go for and depth of research is governed by the engagement letter.

The research for data gathering differs from request to another. For instance forensic engagement to collect data requires much more depth and details than non-forensic

engagement. For example the valuator in a forensic engagement requests the detailed of accounts receivable behind audited extended financial statements

3.9.1.2 External Data

The other area that the valuator needs to collect information from is the business industry, economy and market data. Those sources , if available, include economic trends, regional and local demographic and economic conditions, industry data, competitors specific data, comparative financial data, industry reports, initial public offering documents, and data on market rate of returns

It is very important to note that the internal company information will not provide the full evidence of value, but the external research is very crucial to the valuation process. Within the context of gathering data from the industry, it is useful to interview industry experts as they may have the latest updates on all aspects of legal framework and other useful information. Sometime a piece of information may be available only with the industry experts, for example, the latest market transactions, trends, government regulations, and so on. There are other sources for information such as governments, universities, private associations, generally have more data that can be gathered in a reasonable amount of time, and then filter out the irrelevant issues. It is very crucial to filter and outlook the economic in general and the conditions and outlook of the specific industry in particular all relevant factors that affecting the fair market value of a business should be analyzed, including the economic outlook in general and the conditions and outlook of the specific industry. Definitely, the outlook for the business, industry, and the competitions need to be examined to develop an accurate estimate of value. If the valuator runs a formula or uses some valuations multiples of revenue, to estimate value, without considering the outlook for future, then he or she has omitted a critical ingredients from the process. This is basically telling that valuator has not need to be an industry expert to reach complex forecast conclusions; there are many other sources of information that will provide the assistance to reach a reasonable estimate of value.

3.9.1.3 Market Comparables

There are many sources for comparables of publicly traded companies, these available in the stock exchange across the world. in additions there are other sources which are accessible through easy-to-use relatively expensive data outlet; such as CompuServe, America On Line, Prodigy, Standard & Poor's & others. It is very important to filter the data to companies in the same general location during the process of searching for materials with other similar characteristics. It is the best for the sake of the search and valuator to have comparable companies that have similar attributes to the subject company to ease the process of compatibility. Normally this process is very difficult due to the fact that the comparables may be in different states or in different countries with different laws and regulations.

3.9.1.4 Developing Market Comparables

The adjustments for lack of control are a good example of the benefits of external evidence. Internal evidence normally shows lack of control, but the percentage adjustment supported by evidence that external to the business. for example, it may not be relevant to compare social insurance trust (fund) that have properties around the county, in Khartoum and other states that have assets portfolios , including office building, residential building to be compared to a family limited partnership (company) in apartment building locating in one of Khartoum state cities. This phase of research and data gathering comprises much more and need a lot of efforts to be exerted, not just getting the documents to fulfill a checklist; even in ost cases the checklist do not tailored to specific situation. It is the decision of the valuator to decide which relevant document to request from client and his staff that will save time and effort. It is up to the valuator to target and request to document collection to the specific situation. To illustrate and elaborate this point, let us take the following example, “as part of valuing a restaurant, it is important to review of the chefs food costs analysis. Food costs control a vital aspect of the value of any food service operation, and it should be tested against more than just an industry standard. Instead, it should be investigated carefully. Although a food costs analysis is rather detailed document to request from a business, this type of targeted information can

provide the insight for the core components of a valuation.” (Gary E. Jones and Drik Van Dyke - 1998)

3.9.1.5 Information on Competitors

It is always taking much time and difficult task for small companies to perform regular and detailed analysis of its competitors, this even in most cases involve paying considerable amounts of money to do such analysis; this payment trigger small companies to look, and join an industry association, which is collecting, tracking relevant data, trends, and result of operation of other businesses in the industry. for companies to sustain and obtain regular information, they must have association memberships that renewed annually, this membership will enable the company to have access and obtain relevant information on government regulations, current events, and forecast of the future. Better-managed companies with adequate financial and other resources are always have the capacity and ability to track their competition and are aware of changes that may affect the operations of their own businesses. Such type of intelligence pursued by such companies will lead to informed knowledge of competitor’s products, market share, and key employee movements, as well as increase value.

For the valuator to get the relevant information, a lot of hard work need to be done as should hover in front of computers screens, using telephones or digging through periodicals and newspapers for a flash of key words or phrases that will ignite the spark of interest. Gaining advantages from data is really hard work and full of dead-end searches and fatigues, but sometimes generates the fruits of the research and can locate special article or tidbit that that fills a gap in knowledge.

3.9.1.6 Research Techniques

The valuator should read, listen and search a lot of data, websites and articles; he/she must develop good interview and investigative mind and should be updated constantly. Because the information that he/she looks for might be lie deep in the text of an article, brokerage house research paper, an industry analyst report, or an obscure study by a university professor.

The most relevant and expressible example that can illustrate the above point can be the following example; a valuator collected boxes of financial and market information from the subject company in milk powder production industry, the valuator interviewed all relevant parties, and visited the business location for a tour of the facility to check for any abnormal things in the location, and meeting with key operating personnel. While he was on the tour, the valuator notices a piece of equipment that looked new. A latest packing machine; with updated technology that could change the whole packing system of the company. If this is installed, then it will dramatically change how the business is operating while definitely improve the profit margin of the company. This new piece of equipment change the future earnings of the company and thus the estimated value. If the valuator did not visited the location the importance of that equipment will be missed and lowered the value substantially. Touring the facilities of any operating businesses to be valued is a crucial part of the information-gathering stage, not phase one, as in most cases no one will tell or bring the new items to the valuator attention. The moral of the story: keep your eyes open and learn to interpret what is and what is not actually there.

3.9.2 Phase II: Analysis

This stage is very crucial to the client and valuator, as he or she collected the relevant information, must start analyzing the data quantitatively and objectively, looking for trends and indicators, both negative or positive, which offer clues about the value of the company with respect to it is environment in which its operating. Analyzing and waiving together the external and internal factors, the valuator can analyze the business performance from the historical financial statements, sales reports, operation and other reports that will assist in determining how it is stacks up against it is competition. In addition to above mentioned reports and financial statements, the valuator should analyze the industry as it provides information that enhances the value of a business beyond the valuation report.

It should be noted that the value of a business as a going-concern is directly reflected by its earnings history, trends, and future earnings capacity. The investor is willing to pay a price for the new investment but this is related to the time it will take to recover back his/her invested capital and a reasonable return on investment

(ROD); this period is normally estimated to be seven years or less for normal, private, closely held business enterprise. In the case of a less normal situation, such as a high-risks businesses or one in which the “tax tail” has been wagging the “business dog”, the period is closer to five years or less.

3.9.3 Phase III: Estimation of Value and Reporting

In this phase the valuator should select and apply the appropriate valuation methodologies and to articulate the estimation of value. This is done after na long process of gathering, analyzing, interviewing , visiting sites and discussions with managers, then the valuator should present his/her findings in a report form, of which there are four types as dictated by the purposes of the engagement and needs of intended users of the report.

These types are :

- 1- A full report
- 2- A letter
- 3- An oral report, and
- 4- A limited-scope report

This phase is considered the most challenging one from the other phases of conducting business valuation. During this phase the valuator must synthesize data, like industry and comparable information, and adjust for factors that may affect value to reach the vest estimation of value. It is the job of valuator to articulate the results in a form that understood by those who are not spent times with company’s management, the data and the analytical process of the information.

There are some schools of thought who agreed on taking the results of all valuation methodologies results and averaging them to reach to the estimated value of a business. But most of courts and authoritative do not accept the averaging method to estimate the value of a company. There is no way to take and assign mathematical weights in deriving and getting the fair market value. There is no purpose to take the several factors of book value, capitalized earnings, and capitalized dividends and then base the value of the business accordingly.

The valuator has to exercise his/her own judgments to reach a reasonable estimation. About 95% of his/her applied judgment will leave an acceptable margin of error in his /her judgments.

3.10 The valuation Report

This is the final step where has to exert more effort to produce acceptable reports that meet the needs of various users. There are four types of report to be generated ranging from highly technical, fully documented reports to more informational oral reports. The details, nature and the purpose of these reports are determined by the engagement the client intended use if the information, and client's budgets. All reports have something in common that they have to demonstrate, outline the relationship among factual information, quantitative analysis, and the intangible, more subjective parts of the analysis. The National Association of Certified Valuation Analysts (NACVA)(NACVA, 1995) ⁽⁴⁷⁾ has established member standards for three of these reports that provide direction to the valuator and ensure quality for the client.

It is the task of the valuator to produce and generate reports that should be understood by uniform parties. The ability to communicate the result in understandable format is vital for valuator. It is very important to report findings in easy understood written reports that all stakeholders can understand them; in particular employees and other who are unfamiliar with financial matters can grasp and understand what lies behind the valuation.

3.10.1 Full (Format) Written Report:

The general format of a full written report includes as identification or cover page, it has a table of contents, an estimate –of-value letter, the body, and an appendix containing financial statements summaries, common size analysis, independent appraisal on tangible assets, and other relevant documents and schedules to support the valuator's finding of value. Where the cover page should include:

- the name of the enterprise which had been valued, also include
- type of report,
- the effective valuation conclusion date,

- the name of the valuator and /or his or her firm,
- and the date the report is issued.

The estimate-of-value letter serves as a synopsis of the result of the valuation, including its purpose, the valuation date, and identification of the standard and premise of value, description of the equity interest being valued, estimate of value, reference to the limiting conditions, and an executive summary.

Table of contents following the letter provides easy access to the comprehensive material included in the report.

The body of the report contains the meat of the valuation. An explanation of reasoning and methodology behind the estimate of value. In this section the valuator can include the purpose of the valuation and the right approach to value the business.

It includes the following:

- a statement of limiting conditions, such as basing the valuation on historical and prospective financial information provided by the client rather than data provided by an audit
- an adequate description of the business background, industry, markets, competition, management, ownership, and structure
- a financial review
- the nature of the security interest being valued
- identification of the security and
- percentage of ownership it represents
- valuation methodology

3.10.2 Letter (Informal) Report

This is another unofficial report used when the valuator has been engaged only to issue report even though the valuation performed could be appropriate for the more in depth, formal report. This report contains the following:

- Estimate of value letter
- Body – similar to the above but shorter
- Short discussion of reasoning behind the report

3.10.2.1 **Oral Report**

This is when the report is presented orally but with written outlines to ensure proper communication in place. This report contains:

- The purpose of the report
- Valuation methodology
- Equity interest being valued
- The limitation of the use of the oral report
- Conclusion about the estimate of value
- Any other limitations on the scope of engagement

3.10.2.2 **Limited Scope Valuation Report**

This is the most common type of reports across most valuation firms in USA. Normally the client is not willing to pay more money for the analysis, so the report contains a very frank engagement letter and significant limitations on the scope and the assignment. Once the client has expressed his intention on time and money that will be paid the valuator must prepare a report to fit the assignment. Meanwhile the valuator needs to perform enough work to be reasonably sure that the limited scope estimate of value is close to the estimate of value from a full scope valuation.

This is not an easy task to balance resources on hand under a limited scope engagement. A valuator needs to investigate the industry, look for market comparables, analyze the company's financial statements, and calculate an estimate of value in the context of limited data. This job requires a great deal of experience and skilled hand to guide the investigation through to a confident finish.

3.11 Representation Letter

This is a final stage where the management should issue a letter of representation. This letter confirms the representation of the reliability of the information that management provided, and usually requested at the end of the engagement and will accompany the reviewed copy of the final draft of the valuator report. At the end the final draft of the report is reviewed by the client only for factual accuracy, and for the size of the estimate of value. Most of the agencies and valutors issue the report after the final payment have been remitted.

Chapter Four

Descriptive statistics and respondent's
information

4.1 Descriptive statistics and respondent's information

4.1.1 Descriptive Statistics

As far as measurement and validation of research instrument is concerned, before evaluating the psychometric properties of various constructs, it become necessary to describe and understand the descriptive statistics of the sample data. Descriptive statistics examines the accuracy of the data entry process; measures the variability of responses and reveals the spread of data points across the sides of the distribution. The understanding of descriptive statistics helps in the interpretation and generalization of research result.

And also skewness & kurtosis observed fairly normal distribution for our indicator of latent factor, and for all other variables (e.g. Company's average number of employees currently, company Age) in terms of skewness, However, observed mild kurtosis for our variable these kurtosis values ranged benign to 3. While this does violate strict rules of normality, it is within more relaxed rules suggested by Sposito, Hand, & Skarpness (1983)⁴⁸ who recommend 3.3 as the upper threshold for normality. The assessment of descriptive statistics (Table 4.1) reveals that all the variables fall within the predefined the important values.

Table 4.1: Descriptive Statistics

	N		Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
	Valid	Missing				
Age	107	2	.204	.234	-.910	.463
Qualification	107	2	.544	.234	-.534	.463
Specilization	108	1	1.311	.233	.292	.461
Professional	56	53	.156	.319	-1.726	.628
Job	105	4	-.096	.236	-1.521	.467
Experience	108	1	-.170	.233	-1.432	.461
Using Appraisal of fixed assets will provide insufficient information to value a business	107	2	-.967	.234	.436	.463
If intangible assets are not included in the appraisal process, business value is underestimated	107	2	-1.169	.234	1.791	.463
Valuing individual assets separately will provide good base to value a business	107	2	-.500	.234	-.346	.463
Ignoring intangible assets (Goodwill) will impact business value negatively	106	3	-1.141	.235	2.143	.465
Assets adjusted by management will impact the value of a business	106	3	-.907	.235	1.084	.465
Preparation of financial statements will have significant impact on business value	106	3	-.818	.235	.874	.465
Some small businesses can be valued based on experience only using the rule of thumb	105	4	-.127	.236	-.800	.467
Business value can be estimated from other businesses sold in the same industry	106	3	-.509	.235	-.566	.465
Using discounted cash flow method will provide reliable net present value (NPV) for a business	108	1	-.982	.233	1.918	.461

Using Cash flow forecast with growth rate will increase the business value	108	1	-.830	.233	.923	.461
Forecasting of future income (cash flow) will have significant impact on business value	106	3	-1.252	.235	2.597	.465
Estimating business value based on cost of capital or expected rate of returns will increase the investment value of a business	108	1	-.562	.233	.169	.461
Including risk element in value calculation will provide reliable information for decision makers	107	2	-.818	.234	.905	.463
Companies with proper financial forecasts will positively impact decision making process.	108	1	-1.304	.233	2.612	.461
Well established businesses worth high value based on their operational performances	108	1	-.582	.233	.271	.461
Big businesses have greater chance to get finance from financial institutions	107	2	-.673	.234	-.001	.463
Using pricing multiples of profitability/revenue will encourage investors to take decisions	108	1	-.723	.233	.516	.461
Earnings per share indicates high income, hence high value	108	1	-.581	.233	.175	.461
High earnings per share for a company will attract future investors to the company	108	1	-.462	.233	-.179	.461
Profitability analysis will provide investors with strong internal financial information to support decisions	108	1	-.653	.233	.360	.461
Earnings per share is a key indicator that investors considered when taking investment decisions	108	1	-.843	.233	1.600	.461
Investors perceive companies to be more profitable if they have high earning per shares	107	2	-.737	.234	1.225	.463
Earning per share is an indicator of dividends payout, hence a significant sign of good financial performance	107	2	-.522	.234	.055	.463
Relating business value of a company to its net profit will provide reliable information to take investment decision	108	1	-.795	.233	1.015	.461
Publicly traded companies can be valued by comparing similar multiples of	108	1	-1.064	.233	2.734	.461

companies operating in the same industry						
Privately held companies with strong financial positions will worth high value in the market	108	1	-.752	.233	.847	.461
companies prepare business plans will worth higher value than others	108	1	-.399	.233	.091	.461
listed companies can easily be valued in stock markets	108	1	-.690	.233	.658	.461
Databases in stock markets can assist in finding comparable companies to value a business	108	1	-.877	.233	.938	.461
Privately held companies can be valued by using comparable companies in the same industry	108	1	-.591	.233	.333	.461
Private databases provide reliable information to value businesses in the private sector	108	1	-.353	.233	-.194	.461
Private database access is very expensive to get required information re comparable companies	108	1	-.537	.233	.625	.461

Source: prepared by researcher from data (2021)

*All items were measured on a five-point Likert type scale

4.1.2 Response Rate

The questionnaire provides information on were asked to fill out a questionnaire, **109** of them (are valid), completed the questionnaire and considered the overall response rate to be 84.5 percent this was considered as high rate due to questionnaires given one by one to respondents and in researches used a self-administrated survey (Sekaran & Bougie, 2016)⁴⁹. Some of those who did not reply to complete the questionnaire said they did not have time to complete the questionnaires, whilst others did not show transparency. Below is Table (4.2) to shows the summary of questionnaire response rate.

Table 4.2: Response rate of questionnaire

Total distributed questionnaires	
Total questionnaires received from respondents	
Valid questionnaires received from respondents	109
Invalid questionnaires	
Questionnaires not received	
Overall response rate %	
Useable response rate %	

Source: prepared by researcher from data (2021)

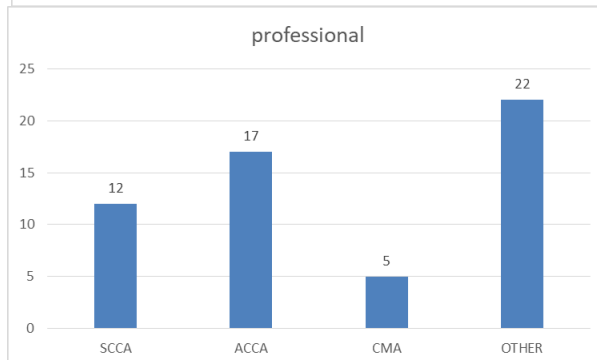
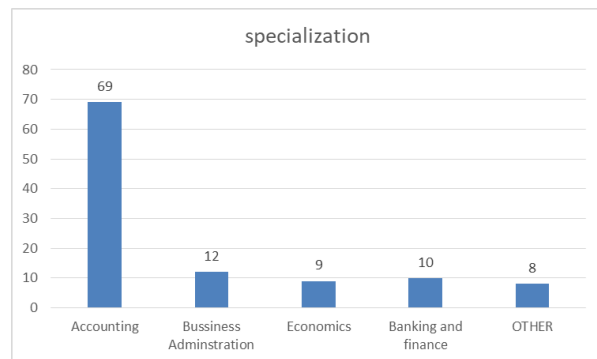
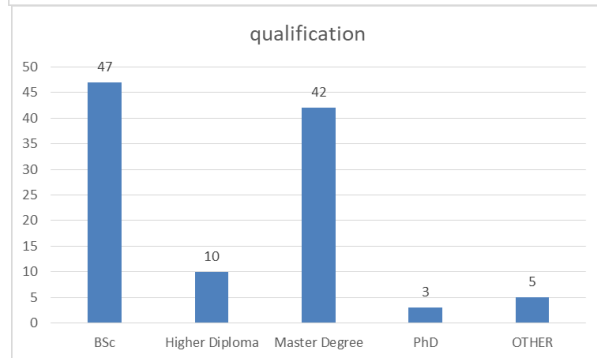
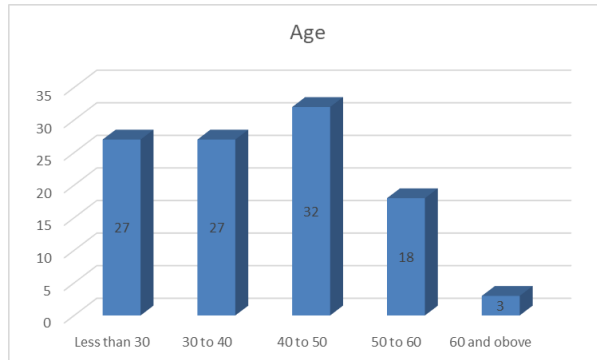
4.1.3 Profile of the respondents

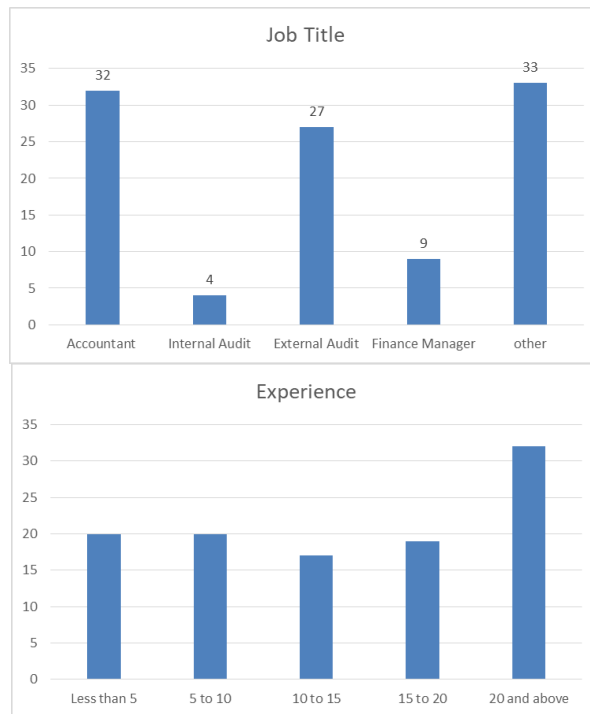
This part examines the profile of the respondents on the basis of descriptive statistics using the frequency analysis.

Table 4.3: Profile of the respondents

		Frequency	Percent
Age	Less than 30	27	24.8
	30 to 40	27	24.8
	40 to 50	32	29.4
	50 to 60	18	16.5
	60 and above	3	2.8
	Total	107	98.2
Missing	System	2	1.8
Total		109	100.0
		Frequency	Percent
Qualification	BSc	47	43.1
	Higher Diploma	10	9.2
	Master Degree	42	38.5
	PhD	3	2.8
	OTHER	5	4.6
	Total	107	98.2
Missing	System	2	1.8
Total		109	100.0
		Frequency	Percent
specialization	Accounting	69	63.3
	Bussiness Adminstration	12	11.0
	Economics	9	8.3
	Banking and finance	10	9.2
	OTHER	8	7.3
	Total	108	99.1
Missing	System	1	.9
Total		109	100.0
		Frequency	Percent
	SCCA	12	11.0

professional	ACCA	17	15.6
	CMA	5	4.6
	OTHER	22	20.2
	Total	56	51.4
Missing	System	53	48.6
Total		109	100.0
		Frequency	Percent
Job Title	Accountant	32	29.4
	Internal Audit	4	3.7
	External Audit	27	24.8
	Finance Manager	9	8.3
	Other	33	30.3
	Total	105	96.3
Missing	System	4	3.7
Total		109	100.0
		Frequency	Percent
Experience	Less than 5	20	18.3
	5 to 10	20	18.3
	10 to 15	17	15.6
	15 to 20	19	17.4
	20 and above	32	29.4
	Total	108	99.1
Missing	System	1	.9
Total		109	100.0





Source: prepared by researcher from data (2021)

4.2 Goodness of measures

This section reports on validity and reliability test results as a way of assessing the goodness of measure in this study (Sekaran & Bougie, 2016)⁵⁰. The study used exploratory factor analysis (EFA) and (CFA) confirmatory factor analysis. The following are the detailed information of each

4.2.1 Exploratory factor analysis for all variables in model

Through exploratory factor analysis Henson & Roberts (2006)⁵¹ state that it is possible to retain inherent characteristics (i.e. individual variability and covariances) of an initial or original data set. They also say that it is possible to eliminate any ‘noises’ arising from either sampling or measurement errors that include existence of any unwarranted information. Thus, exploratory factor analysis can also be viewed as an instrument intended for consideration of those latent variables that are significant in explaining variations. It is useful when looking at any interrelationships between variables hence offering support in development of new

theories (Henson & Roberts, 2006; Matsunaga, 2010)⁵². This researcher performs exploratory factor analysis in SPSS to yield a ‘clean’ pattern matrix. This involved factor extractions as well as generating key outputs, including; Kaiser-Meyer-Olkin (KMO) measure, Communalities, Total Variance Explained (TVE), Goodness-of-fit Test, Pattern Matrix and the Correlation Matrix. This process of generating a ‘clean’ pattern matrix involves going through several iterations until there were no cross-loading between scale items; which is central to determine discriminant validity.

4.2.1.1 KMO and Bartlett's measure of sample adequacy

Using Maximum Likelihood., the summary of results was showed in Table (4.4) and the SPSS output attached in appendix B3. As shown in Table (4.4) below all the remaining items has more than recommended value of at least 0.45 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of 0.60), and Bartlett’s test of sphericity is significant ($p < .01$). Thus, the items are appropriate for factor analysis.

Table 4.4: KMO and Bartlett's measure of sample adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.812
Bartlett's Test of Sphericity	Approx. Chi-Square	3932.612
	Df	903
	Sig.	.000

Table (4.4) depicts a good result for KMO and Bartlett’s test of 0.812 which is significant (0.00). This result shows that the sample size is adequate for structural equation modelling (Kenny & McCoach, 2003)⁵³.

4.2.1.2 Communalities for determination of sample adequacy

The communalities in Table 4.5 are equally important in the determination of sample adequacy. They represent the proportion of variance of each variable that are explained by the factors. Therefore, based on condition those variables with high values under communalities are well represented in the common factor space, while variables with low values are not well represented. Thus, to support sample adequacy none of the communalities must be less than 0.30 (Gaskin, 2012)⁵⁴. Table

4.5 shows that extractions are above minimum value of 0.30.

Table 4.5: Communalities for determination of sample adequacy

	Initial	Extraction
traditional1	1.000	.505
traditional2	1.000	.558
traditional3	1.000	.684
traditional4	1.000	.595
traditional5	1.000	.742
traditional6	1.000	.529
traditional7	1.000	.651
traditional8	1.000	.776
cash_flow1	1.000	.802
cash_flow2	1.000	.811
cash_flow3	1.000	.878
cash_flow4	1.000	.982
cash_flow5	1.000	.855
cash_flow6	1.000	.969
cash_flow7	1.000	.867
cash_flow8	1.000	.943
pricing1	1.000	.933
pricing2	1.000	.874
pricing3	1.000	.577
pricing4	1.000	.908
pricing5	1.000	.930
pricing6	1.000	.511
pricing7	1.000	.656
pricing8	1.000	.513
Databases1	1.000	.817
Databases2	1.000	.889
Databases3	1.000	.863
Databases4	1.000	.501
Databases5	1.000	.882
Databases6	1.000	.571
Databases7	1.000	.988
Databases8	1.000	.503

Source: prepared by researcher from data (2021)

4.2.1.3 Total variance explained for determination of sample adequacy

Total variance explained table confirms sample adequacy as shown in Table 4.6 where variance of 64.814 per cent is explained after several iterations to determine a clean pattern matrix shown in Table 4.6, (Gaskin, 2012). The fact that more variance is explained as shown in the ‘Cumulative % Variance’ column means that the extraction achieved from the data is good.

Table 4.6: Total variance explained for determination of sample adequacy

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.462	26.444	26.444	8.462	26.444	26.444	6.309
2	1.857	5.804	32.248	1.857	5.804	32.248	5.691
3	1.756	5.488	37.736	1.756	5.488	37.736	4.813
4	1.590	4.967	42.703	1.590	4.967	42.703	4.151
5	1.488	4.650	47.353				
6	1.416	4.426	51.779				
7	1.314	4.106	55.885				
8	1.192	3.726	59.611				

Source: prepared by researcher from data (2021)

4.2.1.4 Goodness-of-fit test for adequacy

In the wake of exploratory factor analysis, the goodness-of-fit test (Table 4.7) confirms that it is significant which is attributable to a large sample size (Gaskin, 2012).

Table 4.7: Goodness-of-fit test for adequacy

Goodness-of-fit Test		
Chi-Square	Df	Sig.
259.814	114	.000

4.2.1.5 The tests for convergent validity post-measurement validation

The test for convergent validity seeks to establish whether scale items load highly on their factors in the pattern matrix (Gaskin, 2012). A pattern matrix is the main link between factor analysis in SPSS and confirmatory factor analysis in AMOS.

Table 4.8: The pattern matrix to establish convergent and discriminant validity.

Pattern Matrix ^a	Component			
	1	2	3	4
traditional1	.304			
traditional2	.811			
traditional3	.549			
traditional4	.785			
traditional5	.644			
traditional6	.770			
traditional7	.600			
traditional8	.533			
cash_flow1		.575		
cash_flow2		.552		
cash_flow3		.639		
cash_flow4		.588		
cash_flow5		.433		
cash_flow6		.830		
cash_flow7		.667		
cash_flow8		.666		
pricing1				.530
pricing2				.404
pricing3				.439

pricing4				.686
pricing5				.638
pricing6				.589
pricing7				.871
pricing8				.566
Databases1			.682	
Databases2			.570	
Databases3			.618	
Databases4			.502	
Databases5			.776	
Databases6			.613	
Databases7			.537	
Databases8			.600	
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.				
a. Rotation converged in 4 iterations.				

Source: prepared by researcher from data (2021)

4.2.2 Confirmatory factor analysis (CFA)

Once exploratory factor analysis is complete (which yields a ‘clean’ pattern matrix) the next logical step for this researcher is to undertake confirmatory factor analysis. Confirmatory factor analysis makes it possible to develop a measurement model that is explicit using the factor structure underlying the data (Matsunaga, 2010; Johnson, Rosen, & Djurdjevic, 2011)⁵⁵. This researcher also utilises AMOS software package to test for model fit for each latent variable and the entire data set to develop a complete measurement model before moving into structural equation modelling. This is a precursor to the design of the questionnaires.

The measurement model (i.e. confirmatory model) can be developed in AMOS using two approaches. The first approach is manual orientated (Gaskin, 2012). This involves the researcher applying tools on the interface in AMOS. The second approach (adopted in this research) uses a plug-in called a ‘Pattern Matrix Model Builder’ (Gaskin, 2012). The procedure involves copying the pattern matrices generated in SPSS (during exploratory factor analysis) and pasting it into the ‘Pattern Matrix Model Builder’ in AMOS software package. This creates a measurement model diagram. This is then followed by selection of parameters of choice estimates and then running the model. The process of checking for model fit is done after running the measurement model (Kline, 2015)⁵⁶. The model validation

process undertaken by this researcher involved use of the correlation and regression weights from the generated output from the measurement model into the 'Validity Master Tab' in the 'Stats Tools Package'. This process is important and this researcher it to establish if there were any validity concerns.

5.4 Measurement and Validation

Measurement is a process through which an abstract concept is quantified, classified and interpreted (Carmines & Zeller, 1979; Hinkin & Schriesheim, 1989)^{57, 58} It can be defined as a scientific process of assigning some numbers to some of the attributes of an abstract concept (Cherryholmes, 1988; Cronbach & Meehl, 1955; Sireci, 1998)^{59, 60, 61} The focus of the measurement is on the crucial relationship between the empirically grounded indicators and the underlying unobservable concept (Cherryholmes, 1988). The very basic idea of measurement is to obtain a true score for an event or phenomena.

Validation is a process which evaluates the degree to which a measure succeeds in measuring what it intends to measure (Campbell & Fiske, 1959; Schriesheim, Eisenbach, & Hill, 1991)^{62, 63} It is a process of evaluating the extent to which observed empirical indicators represent the underlying theoretical construct i.e. extent to which the observed score reflected through empirical indicators give the true reflection of theoretical perspective. Although the purpose of validation is to minimize the difference between the observed score of an object and its true score, but it has been usually seen that every instrument contains some degree of error i.e. the observed score differs from the true score. Bagozzi, Yi, & Phillips (1991) have affirmed the above argument by quoting that "a measure often reflects not only a theoretical concept of interest but also measurement error".

Measurement error is the extent to which an instrument captures some extraneous construct rather than capturing the true meaning of the underlying construct. The extent of measurement error, contained by an instrument, has often been assessed by looking at the degree of the random error and systematic error (Bagozzi, Yi, & Phillips, 1991; Fiske, 1982)⁶⁴.

Model Fit

The fit index statistic tests the consistency between the predicted and observed data matrix by the equation (Keith, Multiple regression and beyond, 2006)⁶⁵. One of the

differences that exist between the SEM technique and regression method is that the former one does not have any single statistical test applicable for evaluation of model predictions “strength” (Hair, Black, Babin, & Anderson, 2010)⁶⁶. In this regard, Kline (2015) believes that there are “dozens of fit indexes described in SEM literature, more than any single model-fitting program reports”. However, according to Hair, Black, Babin, & Anderson (2010) the chi-square fit index, also known as chi-square discrepancy test, is considered as the most fundamental and common overall fit measure. Thus, in a good model fit the value of chi-square should not be very significant, i.e., $p > 0.05$ (Hair, Black, Babin, & Anderson, 2010). However, one problem usually experienced through this test relates to the rejection probability of the model having direct interaction with the sample size. Moreover, the sensitivity level of chi-square fit index is very high, especially, towards the multivariate normality assumption violations (Garson, 2012).

Many indexes have been introduced and developed to avert or reduce the problems related to the chi-square fit index. Some of the indexes included in the absolute fit indexes are as follows:

a) "Normal Chi-Square Fit Index" (CMIN/DF):

Normal chi-square fit index, χ^2/df , serves to adjust the testing of chi-square according to the sample size (Byrne, 2013)⁶⁷. A number of researchers take 5 as an adequate fit value, while more conservative researchers believe that chi-square values larger than 2 or 3 are not acceptable (Garson, G.D, et al 2007).

b) "Goodness-of-Fit Index"[30]:

GFI is utilized for gauging the discrepancy level between the estimated or predicted covariance and resulted or observed ones (Jöreskog, 1993)⁶⁸.

$$GFI = 1 - [\max [(\chi^2 - df)/n, 0 / \max [(\chi_{null}^2 - df_{null})/n, 0]]$$

The allowable range for GFI is between 0 and 1, where 1 indicates a perfect fit, which demonstrates that measures equal to or larger than 0.90 signify a ‘good’ fit (Garson, 2012).

a) Adjusted Goodness-of-Fit Index"(AGFI) (Jöreskog, 1993)⁶⁹:

AGFI is utilized for adjustment of the GFI relating the complexity of the model.

$$AGFI = 1 - [(1 - GFI) df_{null} /]$$

The measuring of AGFI is between 0 and 1, in which 1 or over 1 (AGFI>1.0) signifies a perfect fit, nevertheless, it cannot be bounded below 0, i.e., (AGFI<0). As in the case of GFI, AGFI values equal to or bigger than 0.90 signify a 'good' fit (Garson, 2012).

b) "Root Mean Square Residual" (RMR):

RMR shows the mean squared amount's square root, which distinguishes the sample variances and covariances from the corresponding predicted variances and covariances (Bentley, 1995)⁷⁰. The assessment relies on an assumption that considers the model to be correct. The smaller the RMR, the more optimal the fit is (Garson, 2012).

c) "Root Mean Square Error of Approximation" (RMSEA) (Steiger, 1990)⁷¹:

RMSEA is employed to gauge the approximation error in the population.

$$RMSEA = [(\chi^2 - df) / (n - 1) df]^{1/2}$$

In cases where the RMSEA value is small, the approximation is believed to be optimal. An approximately 0.05 or smaller value of RMSEA means a more appropriate and closer model fit in connection with the degrees of freedom. Nevertheless, between 0.05 and 0.08 displays the most preferable status and the more optimal fit results (Browne & Cudeck, 1989)⁷².

In addition, the following indexes are also included in the incremental fit measures:

a) "Normed Fit Index or Bentler Bonett Index" (NFI):

Normed Fit Index or Bentler Bonett Index or NFI is applicable to contrast and compare the fit of a suggested model against a null model (Bentler & Bonett, 1980)⁷³.

$$NFI = [\chi^2(Null Model) / \chi^2(df(Proposed Model))] / [\chi^2(df(Null Model)) - 1]$$

This index defines all the observed variables as uncorrelated. The values of NFI range between 0 and 1, where 0.90 signifies an optimal fit (Garson, 2012).

a) "Tucker Lewis Index or Non-Normed Fit Index" (TLI or NNFI):

The TLI or NNFI index is used to gauge parsimony, which is applicable through the evaluation and assessment of the degrees of freedom of the suggested model to the degrees of freedom of the null model (Bentler & Bonett, 1980).

$$NFI = [\chi^2(Null Model) / \chi^2(df(Proposed Model))] / [\chi^2(df(Null Model)) - 1]$$

However, it is not certain whether TLI can vary from 0 to 1. A fit of model is required to possess a TLI that is larger than 0.90 (Bentler & Bonett, 1980; Tucker, Lewis, & Love, 1970)⁷⁴.

b) "Comparative Fit Index" (CFI) (Bentler, 1990)⁷⁵:

CFI is not only less affected by the sample size, but also based on comparison of the hypothesized model to the null model (Kline R. B., 1998)⁷⁶.

$$CFI = 1 - \left[\max [(\chi^2 - df), 0] \max [(\chi_{null}^2 - df_{null}), 0] \right]$$

The values of CFI range between 0 and 1. However, its values need to be a minimum of 0.90 to be usable for a model fit (Garson, 2012).

In the context of present study, following criteria (Table 4.9) has been adopted for the measurement and validation of various constructs:

Table 4.9: Criteria

S. No.	Parameter	Criteria
1	Normed Chi-square (ratio of Chi-square to degrees of freedom)	Less than 3
2	Goodness-of-Fit Index (GFI)	At least .80
3	Adjusted Goodness-of-Fit Index (AGFI)	At least .80
4	Normed Fit Index (NFI)	At least .80
5	Comparative Fit Index (CFI)	At least .80
6	Root Mean Square Residual (RMR)	Less than .10
7	Root Mean Square Error of Approximation (RMSEA)	Less than .08
8	Standardized Residuals	Less than 2.5
9	Standardized factor loadings (SFL)	At least .50
10	Average Variance Extracted (AVE)	At least .50
11	Composite Reliability (CR)	At least .70

Source: prepared by researcher from data (2021)

5.5.1 Measurement and Validation for research model before modified

To assess the degree of correspondence between the manifest variables and latent construct of innovativeness a uni-dimensional CFA model (Figure 5.5) has been conceptualized and tested for its psychometric properties. The result of the uni-dimensional CFA model show in table ().

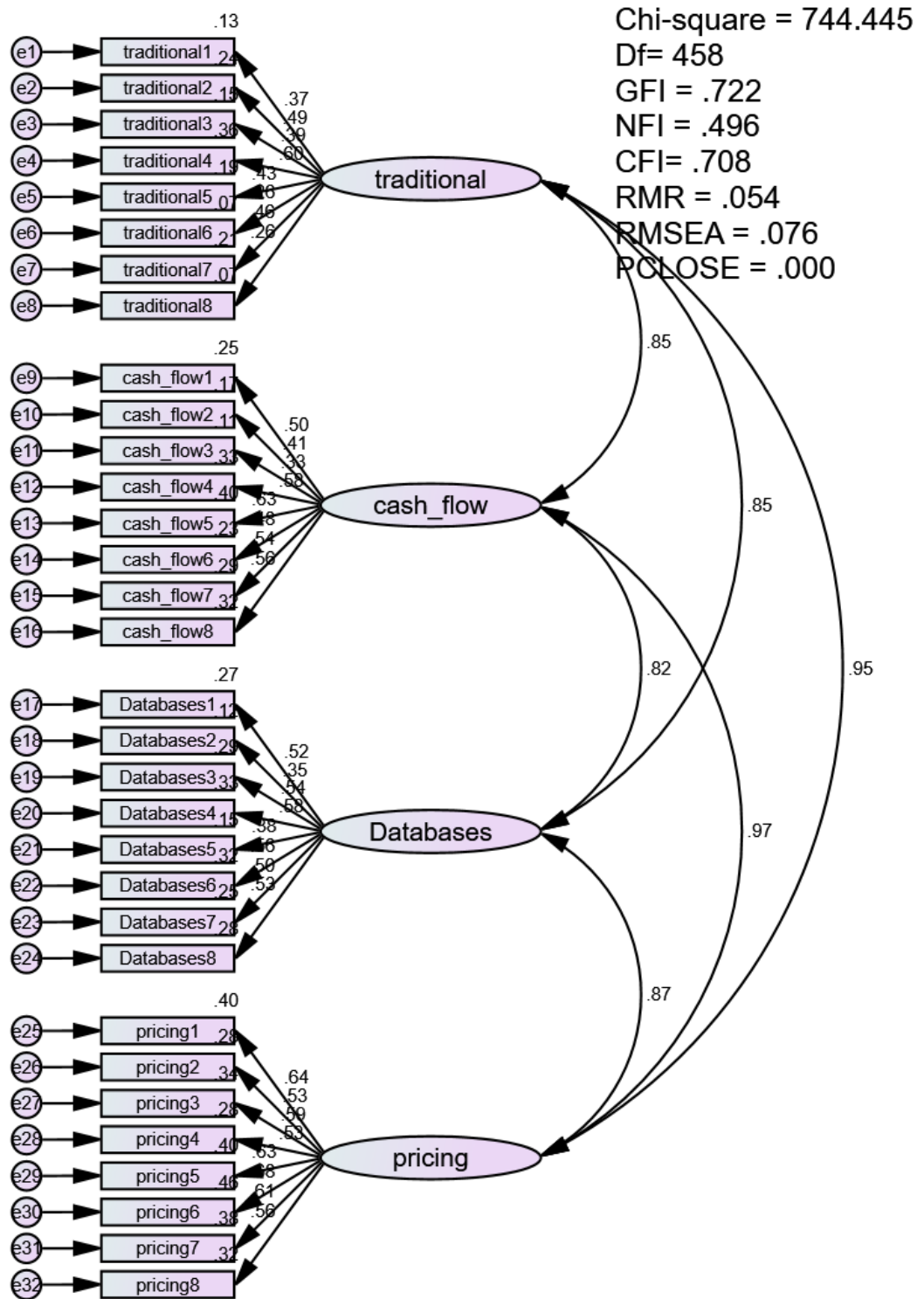


Figure 4.1 CFA Model for **research model before modified**

Source: prepared by researcher from data (2021)

Model Fit Measure

Measure	Estimate	Threshold	Interpretation
CMIN	744.445	--	--
DF	458	--	--
CMIN/DF	1.625	Between 1 and 3	Excellent
CFI	0.708	>0.95	Terrible
SRMR	0.085	<0.08	Terrible
RMSEA	0.076	<0.06	Acceptable
PClose	0.000	>0.05	Terrible

	CR	AVE	MSV	MaxR(H)	traditional	cash_flow	Databases	pricing
traditional	0.618	0.178	0.905	0.650	0.421			
cash_flow	0.733	0.262	0.940	0.750	0.852**	0.512		
Databases	0.725	0.252	0.749	0.737	0.846**	0.821**	0.502	
pricing	0.815	0.357	0.940	0.820	0.951**	0.969***	0.866***	0.598

Validity Concerns

Source: prepared by researcher from data (2021)

Discriminant Validity: the square root of the AVE for traditional is less than its correlation with cash_flow. **Discriminant Validity:** the square root of the AVE for traditional is less than its correlation with pricing. **Discriminant Validity:** the square root of the AVE for cash_flow is less than its correlation with Databases. **Discriminant Validity:** the square root of the AVE for Databases is less than its correlation with traditional. **Discriminant Validity:** the square root of the AVE for Databases is less than its correlation with pricing. **Discriminant Validity:** the square root of the AVE for pricing is less than its correlation with cash_flow. **Reliability:** the CR for traditional is less than 0.70. Try removing traditional4 to

improve CR. **Convergent Validity:** the AVE for traditional is less than 0.50. Try removing traditional⁴ to improve AVE. **1 Convergent Validity:** the AVE for cash_flow is less than 0.50. Try removing cash_flow⁵ to improve AVE. **1 Convergent Validity:** the AVE for Databases is less than 0.50. Try removing Databases⁴ to improve AVE. **1 Convergent Validity:** the AVE for pricing is less than 0.50. Try removing pricing⁶ to improve AVE.

Thresholds From:

Hu, L., Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives" SEM vol. 6(1), pp. 1-55.

1 Malhotra N. K., Dash S. argue that AVE is often too strict, and reliability can be established through CR alone.

Malhotra N. K., Dash S. (2011). Marketing Research an Applied Orientation. London: Pearson Publishing.

As a response to above arguments, item ‘ ’ has been dropped for the measurement of the construct of . a covariance sign has been introduced between ‘ the resulting measurement model (Figure 5.5) has been tested for its fit and psychometric properties.

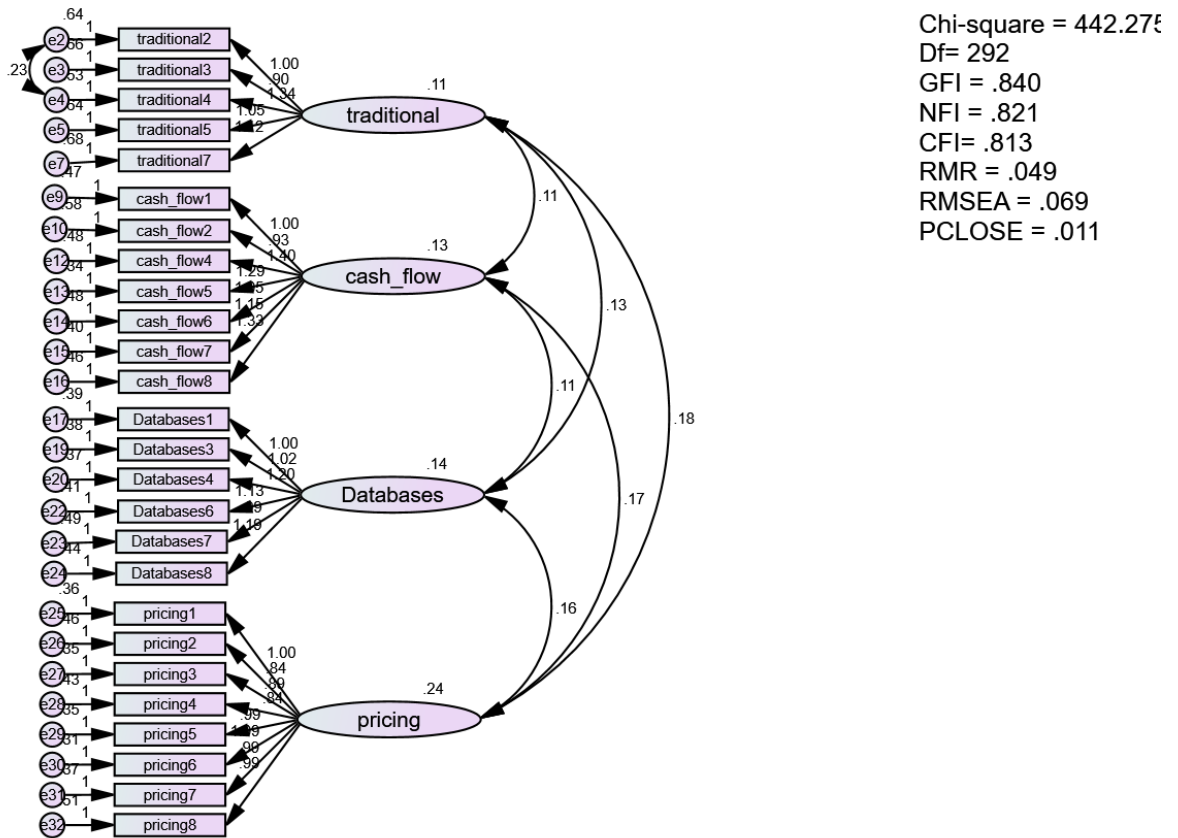


Figure 4.1 CFA Model for **research model after modified**

Source: prepared by researcher from data (2021)

The structural model of Confirmatory Factor Analysis (CFA) reveals the same measures that can be calculated to determine goodness of fit show in Table (4.10) The result of the unidimensional CFA **research model**.

The convergent validity of the construct of hypotheses one has been assessed through standardized factor loadings, AVE and CR. Table (4.11) reveals that standardized factor loadings for all items were above the suggested cut-off of 0.50 (Hatcher, 1994)⁷⁷, with a minimum of 0.65, and were all significant at 1% level of significance. The AVE meets the criterion of .50. High score of CR (i.e.0.7) confirms the internal consistency of the scale items.

Table 4.10: Model Fit Indices of research model **after modified &** Psychometric Properties of research model

Measure	Estimate	Threshold	Interpretation
CMIN	442.275	--	--
DF	292	--	--
CMIN/DF	1.515	Between 1 and 3	Excellent
CFI	0.813	>0.95	Acceptable
SRMR	0.079	<0.08	Excellent
RMSEA	0.069	<0.06	Acceptable
PClose	0.011	>0.05	Acceptable

	CR	AVE	MSV	MaxR(H)	traditional	cash_flow	Databases	pricing
traditional	0.613	0.577	1.206	0.524	0.420			
cash_flow	0.731	0.583	0.951	0.742	0.897**	0.532		
Databases	0.706	0.687	1.041	0.709	1.020**	0.822**	0.535	
pricing	0.815	0.356	1.206	0.820	1.098***	0.975***	0.878***	0.597

Significance of Correlations: † p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001

Source: prepared by researcher from data (2021)

Hair, Black, Babin, and Anderson (2009) state that reliability refers to the degree of freeness of a measurement scale from error and hence brings consistent results. Reliability was evaluated with the help of Cronbach's α and composite reliability (CR). All measures of alpha exceed the minimum values of 0.6 (Hair et al., 2009), whilst all CR of constructs are greater than the threshold of 0.6 (Hair et al., 2009). Similarly, validity refers to the extent to which a measurement scale truly measures the construct that it was supposed to measure.

4.3.1 Descriptive Statistics of Variables

In this section descriptive statistics such as mean and standard deviation was used to describe the characteristics of surveyed to all variables (Independent, dependent) under study. Table shows the means and standard deviations.

Table 4.12 Descriptive Statistics to all variables

One-Sample Statistics			
	Mean	Std. Deviation	Std. Error Mean
traditional1	3.75	.992	.095
traditional2	3.94	.870	.083
traditional3	3.87	.872	.084
traditional4	3.92	.862	.083
traditional5	3.88	.879	.084
traditional6	4.09	.752	.072
traditional7	3.52	.909	.087
traditional8	3.68	.922	.088
cash_flow1	4.01	.776	.074
cash_flow2	3.88	.836	.080
cash_flow3	3.94	.808	.077
cash_flow4	3.68	.859	.082
cash_flow5	4.09	.752	.072
cash_flow6	4.21	.794	.076
cash_flow7	4.04	.757	.072
cash_flow8	4.05	.832	.080
pricing1	4.06	.773	.074
pricing2	3.94	.792	.076
pricing3	4.11	.737	.071
pricing4	4.03	.775	.074
pricing5	4.06	.768	.074
pricing6	4.01	.776	.074
pricing7	3.96	.781	.075
pricing8	3.83	.866	.083
Databases1	4.04	.732	.070
Databases2	3.97	.751	.072
Databases3	3.97	.726	.070
Databases4	3.94	.756	.072
Databases5	4.14	.763	.073
Databases6	3.92	.771	.074
Databases7	3.78	.798	.076
Databases8	3.83	.803	.077

Source: prepared by researcher from data (2021)

Note: All variables used a 5-point Likert scale (1= strongly disagree, 5= strongly agree).

Table 5 shows the mean, standard deviation the value of all items is come in the range between 3 to 5 it is refer to agree an a strong agree in all items .

One-Sample Test						
	Test Value = 0					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
traditional1	39.485	108	.000	3.752	3.56	3.94
traditional2	47.363	108	.000	3.945	3.78	4.11
traditional3	46.331	108	.000	3.872	3.71	4.04
traditional4	47.444	108	.000	3.917	3.75	4.08
traditional5	46.092	108	.000	3.881	3.71	4.05
traditional6	56.803	108	.000	4.092	3.95	4.23
traditional7	40.473	108	.000	3.523	3.35	3.70
traditional8	41.669	108	.000	3.679	3.50	3.85
cash_flow1	53.958	108	.000	4.009	3.86	4.16
cash_flow2	48.474	108	.000	3.881	3.72	4.04
cash_flow3	50.840	108	.000	3.936	3.78	4.09
cash_flow4	44.694	108	.000	3.679	3.52	3.84
cash_flow5	56.803	108	.000	4.092	3.95	4.23
cash_flow6	55.346	108	.000	4.211	4.06	4.36
cash_flow7	55.689	108	.000	4.037	3.89	4.18
cash_flow8	50.766	108	.000	4.046	3.89	4.20
pricing1	54.885	108	.000	4.064	3.92	4.21
pricing2	52.032	108	.000	3.945	3.79	4.10
pricing3	58.215	108	.000	4.110	3.97	4.25
pricing4	54.235	108	.000	4.028	3.88	4.17
pricing5	55.138	108	.000	4.055	3.91	4.20
pricing6	53.958	108	.000	4.009	3.86	4.16
pricing7	52.990	108	.000	3.963	3.82	4.11
pricing8	46.223	108	.000	3.835	3.67	4.00
Databases1	57.582	108	.000	4.037	3.90	4.18
Databases2	55.222	108	.000	3.972	3.83	4.12
Databases3	57.130	108	.000	3.972	3.83	4.11
Databases4	54.504	108	.000	3.945	3.80	4.09
Databases5	56.588	108	.000	4.138	3.99	4.28
Databases6	53.023	108	.000	3.917	3.77	4.06
Databases7	49.473	108	.000	3.780	3.63	3.93
Databases8	49.723	108	.000	3.826	3.67	3.98

Source: prepared by researcher from data (2021)

Note: All variables used a 5-point Likert scale (1= strongly disagree, 5= strongly agree)

the results are shown in Table . According to the results of **One-Sample Test**, H1 , H2, H3 and H4 are supported ($t =$ above 1.96 , $p < 0.001$), with a positive relationship.

Descriptive Statistics for variables in practices

	Mean	Std. Deviation
Traditional	3.8275	.53157
Pricing	3.9706	.45961
Databases	2.8207	.31988
cash_flow	2.9245	.34066

Source: prepared by researcher from data (2021)

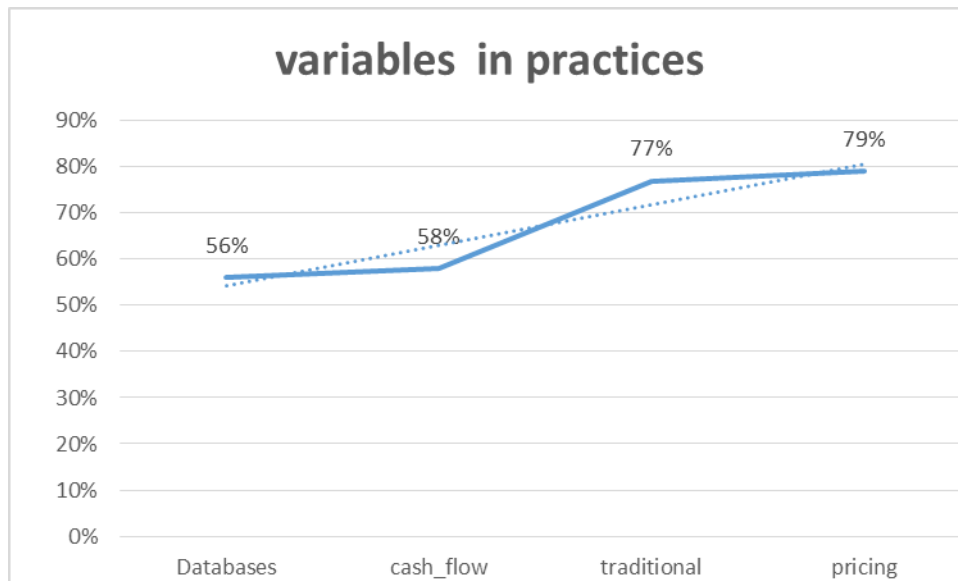
Note: All variables used a 5-point Likert scale (1= strongly disagree, 5= strongly agree)

Base on mean, standard deviation the ranking of variable is come on is : in the first level pricing is refer to **pricing multiples including earning per share (EPS) provide reliable information for investment .**

Second : testing the traditional business valuation methods will not provide sufficient information to determine the value a business is worth .

Third: Discounted cash flow method can provide reliable information to take decision in the business valuation process .

Finally Databases form stock markets and other private sources will assist to find a reasonable bases to value a business . came in the last .



Source: prepared by researcher from data (2021)

4.3.2 Correlation Analysis

Table (4.13) presents the results of the intercorrelation among the variables. The correlation analysis was conducted to see the initial picture of the interrelationships among the variables under the study. Therefore, the importance of conducting correlation analysis is to identify any potential problems associated with multicollinearity (Sekaran & Bougie, 2016). Table (4.13) represents the correlation matrix for the constructs operationalized in this study. These bivariate correlations allow for preliminary inspection and information regarding hypothesized relationships. In addition to that, correlation matrix gives information regarding test for the presence of multicollinearity. The table shows that no correlations near 1.0 (or approaching 0.8 or 0.9) were detected, which indicate that multicollinearity is not a significant problem in this particular data set.

Table 4.13: Person's Correlation Coefficient for All Variables

Correlations					
		pricing	Databases	cash_flow	traditional
Pricing	Pearson Correlation	1	.953**	.996**	.684**
	Sig. (2-tailed)		.000	.000	.000
	N	109	109	109	109
Databases	Pearson Correlation	.953**	1	.932**	.675**
	Sig. (2-tailed)	.000		.000	.000
	N	109	109	109	109
Cash flow	Pearson Correlation	.996**	.932**	1	.668**
	Sig. (2-tailed)	.000	.000		.000
	N	109	109	109	109
Traditional	Pearson Correlation	.684**	.675**	.668**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	109	109	109	109
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: prepared by researcher from data (2021)

Table (4.13) reveals the strong Pearson Correlation between pricing and Cash flow equal 0.996 come in the first level .

Dal Group

Dating back to its beginnings in 1951 as an engineering dealership under the name Sayer & Colley, DAL's history is rich with success stories, out of which emerged Sudan's largest and most diversified privately-owned conglomerate that offers a wide range of products and services to businesses and consumers alike, its reach spanning the length and breadth of the country.

Our overriding objective is to produce, sell and support quality products. It is this commitment that motivation considerable investment in product development and quality systems – the driving forces behind the Group's constant pursuit of excellence.

Equality is important to our deep commitment to building lasting relationships with our customers, business partners and other stakeholders through our ability to deliver additional value.

The Values of the Company

We focus on our customers, offering them best-in-class products and services while building long-term relationships

We strive to maintain a diverse workforce where people are valued and treated solely on merit and competence, irrespective of gender, beliefs, and ethnicity.

We build world-class operations, leading the way for others in the region, and are committed to the social, environmental and economic development of Sudan and the region.

We have no political affiliations, observe the law at all times, and act with integrity and honesty.

We aim to be a global leader in responsible business and do not engage in activities that harm people or the environment.

The Company Mission

We believe it is our duty to enrich the quality of people's lives and to behave responsibly in the process. As our business grows, so do our responsibilities. We care deeply about the wider impact of our actions and are always seeking new ways to make DAL Group a better, more responsible company.

In order to achieve that, we will:

Contribute to the on-going development of Sudan and the region through the provision of high quality, value added products and services to our customers.

Grow profitably by pursuing opportunities that leverage our expertise and operational excellence.

Provide employees with a working environment that stimulates innovation, diversity, teamwork, learning and development, while offering challenging and satisfying work opportunities with recognition and reward for outstanding performance.

Sayga Investment

Is one of DAL Group Companies which include, Sayga Flour Mills, Sayag Pasta, Animal Feed and Sayga Trading Company. These companies are running as major producer of FMCG (Fast-Moving Consumer Goods) companies in Sudan, Sayga flour Mill was covering more than 50% of Sudan flour bakery needs, Animal feed is covering a large part of livestock and animal feed requirements, Sayga Trading is specializing in ready made products and franchising including sugar, flour, Pasta and milk powder products.

Sayga Investment direct employment is more than 4000 employees and workers, in addition to indirect employments of contractors, consultants and drivers.

The company scattered across the country and has positioned itself as best food producer and seller, raising the quality first as a motto for the company in the last 15 years.

Cofftea Company

The story began in 1955. From humble beginnings as a merchant trading in different regions in Sudan to great success, **Mr. Mohamed Salih Idris** managed to enter the market and grow his business into one of the largest companies in the country.

In 1984, Mr. Idris established his own company which fast became a household name nationwide. He gave it a name that reflected its core business: Tea and Coffee. But he didn't just master the art of blending Tea and coffee, but also words. So, he named it COFFTEA.

Cofftea has now become a major distributor and packer of tea and coffee, supplying numerous sectors with a wide range of products.

Our extensive knowledge coupled with passion for the two brewed beverages have enabled us to provide our customers with premium products and consistent quality throughout the years, thus becoming the supplier of choice for millions of consumers.

Although its core activities revolve around tea and coffee trading, Cofftea has expanded its business scope to include other commodities such as sugar and oil, among others.

Company MISSION

To attain and maintain complete customer satisfaction, quality products, accessibility, and overall convenience.

Cofftea strives everyday to understand the origins of the products it offers, with the use of the latest technologies and by leveraging the expertise of our highly skilled workforce. With that in mind, we are constantly developing new products and packaging solutions that demonstrate our lifelong commitment to meeting our customers' growing needs.

Company VISION

To be the finest tea and coffee packer as well as distributor not only in Kenya and Sudan, but across the globe.

By creating and promoting great-tastings and organic beverages, we aim to grow our business with the same honesty and sustainability we use to craft the best products.

Cofftea has gradually expanded from tea and coffee to include other main products in Sudanese food trays, recently opened its edible oil factory that will support the growth and prosperity of the oil in Sudan.

5.1 Findings:

The field has found and explore many findings that will help current practitioners and future researchers to build on them to get the optimum business value. The field covered many sectors within the industry, the candidates who filled the questionnaires are of different academic qualification and specialization and different professional backgrounds, including financial and cost accountants, finance managers, certified practitioners, internal and external auditors, financial institutions and bankers in the investment sections and many other professional and practitioners in the accounting and finance field.

The data collected was of great importance that reflect different views of different samples. The statements in the questionnaire are based on a very specific area that touch and hit the estimation of business value using different business valuation methods. It is not a common practice in Sudan to follow the modern business valuation methods, but the questionnaire addressed the basic pre-requisite requirements steps that must be in place to apply these business valuation methods.

The followings are the findings from the field study:

- The income approach, which includes the discounted cash flow and capitalized cash flow methods, seem to be the most popular method across practitioners and evaluators,
- Discounted cash flow method has significant highlight used by companies as it include the time value of money, by discounting future economic benefits of a business
- Is Sudan local business environment, companies must follow and use the forecast techniques to predict the future cash follows
- Companies with sustainable growth should focus more on their growth rate, and generate future cash flow with steady growth rate that calculated and agreed by managements
- The cost of capita or expected rate of return is a key elements to estimate the business value, particularly with (Capital Asset Pricing Model) CAPM method

- Discounting of future cash flow pertains the usage of risk elements and inflation effect to provide reliable information to both buyers and investors
- The decision makers in big companies with financial forecasts and planning process will capitalize on the relevant information available to take sound decisions
- The usage of price multiples including profitability, revenue, earnings before interest and tax (EBIT) or earnings before interest and after tax (EBIAT) will provide investors with reliable and solid information to take decisions
- The study found that using multiples including earning per share is the best method to calculate the business value as it provide insight relevant information to take decisions
- Earnings per share has a positive effect on investors decisions , as investors looking for businesses that can maximize their income that compensate them for the time and resources enjected in the business
- Financial indicators such as net profit will provide investors with confidence on the financial performance of the company and encourage them to buy such businesses
- The lacking of huge database for both publicly traded companies or privately held companies is crucial to assist in building and constructing an estimate for a business value
- Privately held businesses with strong financial positions will worth high value if compared with weak financial position companies in the market
- There is greater importance of stock exchange database, unfortunately, in Sudan the database is not fully integrated and completed to enable searchers to use them smoothly without difficulty. The database does not reflect the true complete data of businesses that had been sold in the last ten years (for example) this database should be completed and accurate to reflect and assist in

building the comparable companies to complete the business valuation process.

- The field study revealed that the traditional methods are not providing sufficient information to help taking sound decisions in regards to business valuations
- The intangible assets (Goodwill) are very essential to be calculated and embedded in the business value of a company
- Appraising of individual asset will provide basic information, but will not be sufficient to effect the future business value
- In most cases management of the entity adjusts individual assets in to their favour which impact the market value of the business
- Lack of generating or preparing financial statements for small and medium size companies has negative impact on the value of the business, as financial statements are considered to be the cornerstone of any business valuation process
- The rule of thumb can be used only when there is no way to apply any of the business valuation methods. In this case the valuator uses the experience or practice in the market to estimate the value of a business without using any of the well-known business valuation methods

4.5 Recommendations:

Inflation, Valuation, and Selling Your Business

Tammie Miller By Tammie Miller - August, 2022

I have had nearly the same question in my last three meetings with business owners, "how will inflation/potential inflation impact the sale of my business?" This question can be tricky, and at times, the answer depends on the type of business in question. This conversation can be complicated, sometimes starting out as an economic discussion and then morphing into a political one -- which I have no interest in having. But let's try to lay out the impacts without getting too deep in economics and avoiding politics altogether, shall we?

Business owners have had to deal with a lot recently. When we sell a business we need to try to eliminate the impacts of COVID, PPP loans, and we need to talk about how supply chain issues impact the business. Now there is a new issue to think about -- inflation. Most businesses have probably felt the impact of inflation or, if not, will feel it soon.⁷⁸

Classic economics tells us that anytime you pour money into the economy you will have inflationary pressure. During COVID, the economy had lots of "free" money through relief programs, the government buying securities (more money in the system), the ability to obtain loans were plentiful, and there were subsidies. There was/is a LOT of money floating around to buy things. The aim of these policies is to keep interest rates low while encouraging economic growth. Growth happens because more money = more demand.

Add to this an environment where factories have experienced supply chain issues, labor shortages, and higher commodity prices creating production slowdowns or stoppages = less supply.

Finally, there is a lot of evidence that suggests that when people weren't traveling or going out to eat, they saved a lot of money. COVID restricted this type of spending and people instead have decided to spend that money on "things" instead. Even MORE demand.

And now we have the perfect petri dish for inflation.

Inflation has a very negative connotation. In the 1970's, mortgage rates in the high teens and Latin American horror stories, have some of us experiencing inflation-

related PTSD. However, inflation balancing out growth is part of having a strong economy, and it isn't always a bad thing.

Now to the question of inflation and M&A -- "what does all this mean for me, the business owner who is thinking about selling?"

1. Remember that we are selling future profits when we sell a business

Higher margin businesses sell for higher prices. The more profit a business makes, the more it will be worth. If inflation is impacting your profits and you are not able to pass price increases along to customers, your business will be worth less.

2. Businesses are worth more when they are growing

If inflation, labor shortages, or commodity prices have caused your business to grow more slowly or flatten out, this could negatively affect the projected growth rate that is applied to your business. Given that the single most sensitive cell in our valuation model is the projected growth rate, this will result in your business being worth less.

3. Valuations are ultimately driven by expected returns to the buyer

Right now, interest rates are very low, so investors aren't putting their money in bonds and there aren't as many places to put capital with low levels of risk. Buyers are willing to accept lower rates of return on other investments when there are few places to get a decent return at all (low return for them is created when they pay a higher price for a business with an expected set of cash flows). When interest rates increase, however, they will begin to demand higher returns on other investments, and that is created by paying less upfront for companies that they buy.

4. Lower interest rates mean cheap debt

Central banks combat inflation by raising interest rates. You have probably heard chatter about this recently. Central banks keep rates low when they want to encourage growth. During COVID and the recovery, governments wanted growth -- so they kept the rates very low. All signs point to the Fed keeping interest rates low through the next couple of quarters, but eventually they will have to increase them.

Low interest rates mean cheap debt -- and before you say, "who cares about debt?" - - let me stop you and say, "buyers care about debt -- a LOT." Buyers use debt to finance the purchase of businesses, and when it is more expensive, their returns go down. And how do they combat low returns? They pay less for companies.

5. All valuations are based on the buyer's thoughts on the future

Most buyers (unless they are hedge fund wiz kids) are not terribly creative with their thinking about businesses. If buyers see the economy growing, they think businesses will generally grow. If they see economic turmoil, they bring that thinking to their valuations. If inflation causes the Fed to raise interest rates and slow down its quantitative easing policies, growth could slow, bringing the current high valuation vibe to a halt.

To summarize, this is an excellent time to sell a business -- valuations are high, debt is still relatively cheap, and the economy is growing. However, inflation can quickly cause this environment to erode. Also, remember that the process of selling a business (done the right way) takes about 6 to 8 months. All this points to moving quickly to sell your business if you were thinking about it in the next year or so. Some businesses, those with very steady cash flows and in an industry that continually grows even if inflation persists (think I.T., SAAS, telecom, some inelastic food items), should continue to enjoy high valuations. However, most businesses, especially those with heavy capital expenditure requirements, will feel a material valuation change in an inflationary environment.

The field study revealed many findings as stated above which need to be considered in the future. The recommendations mainly based on the pre-requisite requirements for companies to be able to apply the business valuation methods in the future.

The business valuation methods do have crucial effect on the business value, the discounted methods of cash flow and capitalized method, the price multiples including earning per share and database comparable are the methods that businesses and evaluators /analysts should adapt and follow if business value is required to be estimated, as these methods captured and draw attention of investors.

The followings are the recommendations for this study:

- The price multiples including EPS (Earning per Share) is the best business valuation method. Companies should concentrate and focus on business financial performance to improve the earnings of a business. Focusing on the financial performance will improve the financial position and increase the price of the share (if other factors remain constant or relatively move with price of the share).

- Business planning process and forecasting will drive the business to better position, thus work as guidance and direction for the business which can be amended whenever there is a deviation from the original plan.
- Net income is key financial indicator to measure and improve earnings per share, companies should focus to foster their bottom lines in order to improve their business values.
- The discounted cash flow method is well-known and more accurate in term of considering risk associated and the uncertainty surrounding the ability to obtain future benefits, also discounting rate will diminish inflation in future income. Therefore companies should seek and apply discount rates that reflect the investors desires and interest or use the cost of capital
- Companies should base their future investments and forecasting process on a discount rate that should generate either the same income/ return or at least future benefits should be equal to current cost of capital
- All publicly held companies must be floated in the stock market to enable establishing database forum for all public companies
- Private sectors with government agencies/departments (tax chamber) can work together to establish a database for all private companies. This will foster and improve the reliability of information for this sector. There are many challenges ahead need to be tackled and overcome, and liaising with government agencies such as tax chamber can have huge impact on paving the way to establish such database forum for private companies. These will serve the government in improving tax collection and building information hub for privately held companies
- Well established private companies can lead the establishment and creation of private sector “hub” or database forum. Information will be available upon request against entrance fees or subscription fees

for the information users from researchers and analysts or anybody need information about certain sector or companies.

- Sudan is currently open for external investors and companies looking for basic information in all industries and sectors, by establishing such database forum or hub will introduce investment opportunities for many companies, as investors from abroad will find basic information that assist in taking decisions to invest in Sudan.
- Companies of all size, either big, small or medium should focus on generating financial statements as key element for business valuation process. Using appraisal method or rule of thumb will not provide reasonable estimate for small businesses. Exerting few efforts and little investment in improving financial records of a company can have great impact on business value. ERP (Enterprise Resource Planning) or any financial software can be implemented and used by companies will positively affect in generating and preparing financial statements which in turns will improve business value calculation.
- Traditional methods can be used only when there is no way to apply these modern methods, due to lack of required information that assist in applying modern methods
- Stock exchange database is of great importance to business valuation process, as will provide strong information for comparable companies that can be used from listing companies to establish and estimate a comparable value for a company.
- Government represented in central bank of Sudan and ministry of finance, must impose high standards and regulations that force all public companies to be registered and listed in stock exchange market with agreed time framework. Government can liaise with external parties that have deep experience in this regard to complete listing all public companies.

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