

## Chapter 1 : Discounted cash flow - Wikipedia

*Discounted cash flow (DCF) is a valuation method used to estimate the attractiveness of an investment opportunity.*

Example DCF[ edit ] To show how discounted cash flow analysis is performed, consider the following example. Looking at those figures, he might be justified in thinking that the purchase looked like a good idea. However, since three years have passed between the purchase and the sale, any cash flow from the sale must be discounted accordingly. Treasury Notes are generally considered to be inherently less risky than real estate, since the value of the Note is guaranteed by the US Government and there is a liquid market for the purchase and sale of T-Notes. Another way of looking at the deal as the excess return achieved over the risk-free rate is But what about risk? There is a lot of uncertainty about house prices, and the outcome may end up higher or lower than this estimate. The house John is buying is in a "good neighborhood," but market values have been rising quite a lot lately and the real estate market analysts in the media are talking about a slow-down and higher interest rates. Under normal circumstances, people entering into such transactions are risk-averse, that is to say that they are prepared to accept a lower expected return for the sake of avoiding risk. See Capital asset pricing model for a further discussion of this. Therefore, allowing for this risk, his expected return is now 9. That return rate may seem low, but it is still positive after all of our discounting, suggesting that the investment decision is probably a good one: When investors and managers perform DCF analysis, the important thing is that the net present value of the decision after discounting all future cash flows at least be positive more than zero. If it is negative, that means that the investment decision would actually lose money even if it appears to generate a nominal profit. In this example, only one future cash flow was considered. For a decision which generates multiple cash flows in multiple time periods, all the cash flows must be discounted and then summed into a single net present value. Methods of appraisal of a company or project[ edit ] This is offered as a simple treatment of a complex subject. More detail is beyond the scope of this article. For these valuation purposes, a number of different DCF methods are distinguished today, some of which are outlined below. The details are likely to vary depending on the capital structure of the company. However the assumptions used in the appraisal especially the equity discount rate and the projection of the cash flows to be achieved are likely to be at least as important as the precise model used. Both the income stream selected and the associated cost of capital model determine the valuation result obtained with each method. This is one reason these valuation methods are formally referred to as the Discounted Future Economic Income methods.

## Chapter 2 : Valuation How To Do A Discounted Cashflow Analysis | Stockopedia Features

*The discounted cash flow valuation model will then discount the Free Cash Flows to Firm to their present value which will be equal to the Enterprise Value. In order to obtain the Equity value, net debt will be deducted.*

Step 1 – Calculation of Historical Cash flows You might be wondering why we should calculate historical cash flows if DCF analysis is all about discounting future free cash flows? Discount Rate and Growth Rate. Existing data is required to at least validate our assumptions going forward. Free cash flows are the cash available for distribution to investors and lenders. There are two types of free cash flows: The magic formula is: It is the cash flow available only to investors in the equity portion of the capital structure, meaning, available only to shareholders. Operating profit best represents company operations and hence, EBIT is used. Taxes and capital expenditures are deducted as they are both cash operating expenses. Depreciation and Amortization are added because they are non-cash expenditure. Whereas an increase in net working capital is subtracted as cash needs to be invested in inventory, receivables etc. Investment banks and investors generally use Unlevered Free Cash Flows as the financing structure should not affect the firm value in theory and financing structures will change quite often. Only when valuing highly levered companies or assets such as insurance firms, banks or real estate properties, the levered free cash flow makes more sense to use since the whole rationale in those industries is about benefiting from leverage.

Step 2 – Projection of Future cash flows As next step, we need to develop projections of our free cash flow forecast into the future. For this, we need to determine projections normally for a minimum period of 5 years, in some cases e. The process for projection requires the following yearly estimations: Forecasting income statement for EBIT for the next five years using the growth rate Projecting change in working capital and capital expenditures Depreciation and amortization are a function of already existing assets and should also account for additional assets A typical projection of unlevered free cash flows looks like this: The important thing here is to project revenues bottom up by applying the segment reporting basis and using different growth rate for each segment. For EBIT, income statements shall be made and growth shall be used accordingly on sales. For other components of the free cash flows, balance sheets, and cash flow statements, are also projected. At the end of the forecast period, we need to estimate a perpetuity growth factor to calculate the terminal value of the cash flows. WACC is an important concept as when using IRR analysis, the WACC will be the hurdle rate, the required return on investment should achieve, otherwise, the risk is higher than its benefits. In that case, cash flows are made equal to their present value and the net present value will be zero. The popular ways to calculate Discount rate are: Cost of Equity CoE: There are many ways to calculate the terminal value. To keep it simple, practitioners mostly use one of the two following methods to calculate the terminal value are Perpetual Growth Model: Here, the assumption is the last growth rate will apply forever. Here, terminal value of cash flows is a multiplier of income flows measure such as EBITDA which can be observed from select trading multiples in the same industry or from recent benchmark transactions. The sum of the cash flows is equal to the value of the enterprise for unlevered free cash flows or equity value for the levered free cash flows.

**Chapter 3 : DCF Model Training: 6 Steps to Building a DCF Model in Excel - Wall Street Prep**

*The discounted cash flow (DCF) formula is equal to the sum of the cash flow Valuation The discounted cash flow DCF formula is the sum of the cash flow in each period divided by one plus the discount rate raised to the power of the period #. This article breaks down the DCF formula into simple terms with examples and a video of the calculation.*

These add up to A first important step has been taken. We have calculated the future free cash flows. And in particular over the upcoming forecasting period, year 1 through year 3. This period is often denoted as the forecasting period. In the forecasting period, these cash flows are based on certain expectations. We know future events during the forecasting period. And we can derive the business economic consequences from them. Note that this needs to be reliable to a sufficient extent. Can this be done with the preservation of the gross margin? Are investments in fixed assets correctly prognoses? Et cetera If something might happen that negatively affects the business, then this should be taken into account when calculating the future free cash flows. Otherwise, this would undermine the reliability of the valuation outcome according to the Discounted Cash Flow method. But let us assume this is not the case. Remainder period Of course it is likely that after the forecasting period in our case: This is plausible since the business is not expected to discontinue. The period after the forecasting period is called the remainder period. However, the remainder period is beyond our horizon. We have no precise notion about what will be going on then. But not taking any future cash flow in account would be reasonably unfair and incorrect. So, we must make some assumptions on the future cash flows during the remainder period This is, however, subject to many discussions when applying the Discounted Cash Flow method. A company that -after the forecasting period- has lost its market position to its competitors will generate only little free cash flows. But a company that still shows a crescendo growth after the forecasting period “ due to internal or external circumstances ” certainly performs significantly better. Anyway, we have to develop a view on the future during the remainder period. Is it likely that the business will be continued based the same revenue model? For what time period? Perhaps we must work with different standards here. Many approaches are applicable at this point. For example, apply a higher WACC or limit the remainder period in time. Here, a good understanding of the internal conditions and the external environment will help to present justifiable expectations of the future financial performance. What so ever, the economical value of the future cash flows during the remainder period is denoted as residual value, terminal value or continuing value. In this article, we will use the term terminal value. Cash flows during the remainder period Often, a number of assumptions are made for the estimation of free cash flows during the remainder period. Of course, these assumptions must be supported by realistic expectations. If not, they are not credible and will negatively affect the reliability of the valuation outcome. For example, it is often assumed that the free cash flows in the remainder period will continue infinitely in the future. That is of course not very much realistic. Like products, companies have a finite life. Upcoming technologies, substitute products, competition will all affect, and mostly shorten, the life cycle. But, one could argue that the value of these free cash flows at the end of year 3 can be calculated with the formula for a perpetual of future cash flows. This is a commonly used approach and often practiced in valuation processes. This could be correct, but again, it needs proper justification. Note that this is the value of these future free cash flows per the end of the forecasting period. In order to determine the residual value per valuation moment, we have to discount that to valuation moment, i. And if we do so, the present value of the residual value is 0. Note that this is the enterprise value, the economical value of fixed assets and net working capital. From this, we can calculate the economic value of equity by applying: That this is not a fully correct approach will be explained later. For now, we will make some additional remarks on the remainder period. Remarks on the remainder period As written, the fact that the free cash flows in the remainder period will continue infinitely in the future is not probable. But it is also unlikely that there will be no structural increase of future free cash flows in the longer term. For example, as a consequence of price developments or economic growth. Furthermore, one could assume a growth larger than the economic growth. However, by definition, this cannot be the case. Because this growth would be the result of events behind our planning horizon, beyond our field of view. This is not a likely event. Therefore this can

never be argued with success. Or whether this is a result of the new investments or efforts of the new management after the moment of valuation. This also affects the eternal discussion between the buyer and seller of a company. According to the seller, future growth is an intrinsic ingrained value of the company. A consequence of the facts and circumstances at the time of valuation. The buyer has to pay for this. But the buyer often reasons completely different. The future growth of the company and the related growth of the free cash flows is a result of his own efforts. He will certainly not pay the price for that! In short, the cash flows during the remainder period must be carefully motivated. And only based on these motivations an acceptable valuation outcome can be achieved. WACC The core of the Discounted Cash Flow method is the calculation the net present value of all future cash flows during the forecasting period and remainder period. This discounting process is necessary because of the time value of money: And let us now have a closer look at this WACC! On the debit side of the balance sheet we can find the assets of the company. They generate the cash flows. These are fixed assets and net working capital. But also intangible assets, patents, know-how, commercial network. So goodwill in general. These assets are financed by the capital components: Note that we have credited current liabilities, like creditors, accrued expenses, notes payable, et cetera as a part of the net working capital. Now the formula for the WACC is relatively simple: Cost of equity or required rate of return on share capital;  $R_d$ : Cost of interest-bearing debt,  $i$ . The total of all net present values represents the economical enterprise. Note that this is not the economical value of the equity the shares. For this we have to add to the outcome the unbound cash or cash-like items and subtract from the outcome the interest-bearing debt or debt-like items. So far the process seems to be simple and straightforward. But there are several complications that make the Discounted Cash flow method difficult in a computational sense. And this because of the following reasons: At first, the Equity and interest-bearing Debt must be taken at the market value. We cannot use the book values, which can be found in the accounting reports. That is definitely a challenge. But, what is risk and what surcharges must be taken into account? We will also come back to this further. Thirdly, the  $R_{eq}$ , determined according to the previous remark, may not be applied in the formula of the WACC. Because this particular  $R_{eq}$  assumes that no debt was contributed to the funding. This particular  $R_{eq}$  is so-called unlevered. If the company is co-financed with borrowed capital  $i$ . The  $R_{eq}$  leveraged is therefore higher. And only that higher leveraged  $R_{eq}$   $R_{eq_l}$  may be used. We will also explain this later. All in all, this means that the determination of the WACC is an iterative and therefore a complex process.

## Chapter 4 : Value Stocks with DCF Model in Excel Using MarketXLS

*Discounted cash flow (DCF) is a valuation method used to estimate the attractiveness of an investment opportunity. DCF analysis uses future free cash flow projections and discounts them (most.*

The time value of money assumes that a dollar today is worth more than a dollar tomorrow. A challenge with the DCF model is choosing the cash flows that will be discounted when the investment is large, complex, or the investor cannot access the future cash flows. The valuation of a private firm would be largely based on cash flows that will be available to the new owners. DCF analysis based on dividends paid to minority shareholders which are available to the investor for publicly traded stocks will almost always indicate that the stock is a poor value. However, DCF can be very helpful for evaluating individual investments or projects that the investor or firm can control and forecast with a reasonable amount of confidence. DCF analysis also requires a discount rate that accounts for the time value of money risk-free rate plus a return on the risk they are taking. Depending on the purpose of the investment, there are different ways to find the correct discount rate. Alternative Investments An investor could set their DCF discount rate equal to the return they expect from an alternative investment of similar risk. To simplify the example, we will assume Aaliyah is not accounting for the substitution costs of rent or tax effects between the two investments. This DCF analysis only has one cash flow so the calculation will be easy. Once tax effects, rent, and other factors are included, Aaliyah may find that the DCF is a little closer to the current value of the home. Although this example is oversimplified it should help illustrate some of the issues of DCF including finding appropriate discount rates and making reliable future predictions. The WACC is the average cost the company pays for capital from borrowing or selling equity. For example, the risk-free rate changes over time and may change over the course of a project. Changing cost of capital or expected salvage values at the end of a project can also invalidate the analysis once a project or investment has already started. Applying DCF models to complicated projects or investments that the investor cannot control is also difficult or nearly impossible. For example, imagine an investor who wants to purchase shares in Apple Inc. This investor must make several assumptions to complete this analysis. What is the right discount rate? Are there alternatives available or should she just rely on the estimated market risk premium? Discounted Cash Flow Model DCF Summary Investors can use the concept of the present value of money to determine whether future cash flows of an investment or project are equal to or greater than the value of the initial investment. In order to conduct a DCF analysis, an investor must make estimates about future cash flows and the ending value of the investment, equipment, or other assets. An investor must also determine an appropriate discount rate for the DCF model, which will vary depending on the project or investment under consideration. If the investor cannot access the future cash flows, or the project is very complex, DCF will not have much value and alternative models should be employed.

**Chapter 5 : Discounted Cash Flow (DCF) Analysis**

*Valuation using discounted cash flows is a method for determining the current value of a company using future cash flows adjusted for time value of calendrierdelascience.com future cash flow set is made up of the cash flows within the determined forecast period and a continuing value that represents the cash flow stream after the forecast period.*

If the value arrived at through DCF analysis is higher than the current cost of the investment, the opportunity may be a good one. The formula for calculating DCF is usually given something like this: Discounted cash flow models are powerful, but they do have shortcomings. DCF is merely a mechanical valuation tool, which makes it subject to the axiom "garbage in, garbage out. Instead of trying to project the cash flows to infinity, terminal value techniques are often used. A simple annuity is used to estimate the terminal value past 10 years, for example. This is done because it is harder to come to a realistic estimate of the cash flows as time goes on. At a time when financial statements are under close scrutiny, the choice of what metric to use for making company valuations has become increasingly important. Wall Street analysts are emphasizing cash flow-based analysis for making judgments about company performance. For investors keen on gaining insights on what drives share value, few tools can rival DCF analysis. Accounting scandals and inappropriate calculation of revenues and capital expenses give DCF new importance. It is harder to fool the cash register. Developing a DCF model demands a lot more work than simply dividing the share price by earnings or sales. But in return for the effort, investors get a good picture of the key drivers of share value: An added bonus is that DCF is less likely to be manipulated by aggressive accounting practices. DCF analysis shows that changes in long-term growth rates have the greatest impact on share valuation. Interest rate changes also make a big difference. Investors can also use the DCF model as a reality check. Instead of trying to come up with a target share price, they can plug in the current share price and, working backwards, calculate how fast the company would need to grow to justify the valuation. The lower the implied growth rate, the better - less growth has therefore already been "priced into" the stock. Because it does not weigh all the inputs included in a DCF model, ratio-based valuation acts more like a beauty contest: If the companies used as comparisons are all over-priced, the investor can end up holding a stock with a share price ready for a fall. A well-designed DCF model should, by contrast, keep investors out of stocks that look cheap only against expensive peers. DCF models are powerful, but they do have shortcomings. Small changes in inputs can result in large changes in the value of a company. Investors must constantly second-guess valuations; the inputs that produce these valuations are always changing and are susceptible to error. While forecasting cash flows more than a few years into the future is difficult, crafting results into eternity which is a necessary input is near impossible. A single, unexpected event can immediately make a DCF model obsolete. By guessing at what a decade of cash flow is worth today, most analysts limit their outlook to 10 years. Investors should watch out for DCF models that project to ridiculous lengths of time. Any time expectations change, the DCF-generated value is going to change. While many finance courses espouse the gospel of DCF analysis as the preferred valuation methodology for all cash flow generating assets, in practice, DCF can be difficult to apply in the valuation of stocks. Even if one believes the gospel of DCF, other valuation approaches are useful to help generate a complete valuation picture of a stock. Alternative Methodologies Even if one believes that DCF is the final word in assessing the value of an equity investment, it is very useful to supplement the approach with multiple-based target price approaches. If you are going to project income and cash flows, it is easy to use the supplementary approaches. Choosing a target multiple range is where it gets tricky. This improves the reliability of the conclusion relative to the DCF approach. In contrast, the DCF model discount rate is always theoretical, and we do not really have any historical data to draw from when calculating it.

**Chapter 6 : Discounted Cash Flow (DCF) Models in Excel - Downloads - Eloquens**

â™™! The Discounted Cash Flow (DCF) Model is used to calculate the present value of a company or business â™™! Why would you want to calculate the value of company? â€¢ If you want to take your company public through an IPO (initial public offering) of stock, you would need to know your company's.

The DCF has the distinction of being both widely used in academia and in practice. This DCF analysis suggests that Apple might be overvalued or that our assumptions are wrong! This guide is quite detailed but it stops short of all corner cases and nuances of a fully fledged DCF model. We can solve this as: The math gets only slightly more complicated: In Excel, you can calculate this fairly easily using the PV function see below. Thus, the first challenge in building a DCF model is to define and calculate the cash flows that a business generates. Unlevered DCF approach Forecast and discount the operating cash flows. The unlevered DCF approach is the most common and is thus the focus of this guide. This approach involves 6 steps: Forecasting unlevered free cash flows Step 1 is to forecast the cash flows a company generates from its core operations after accounting for all operating expenses and investments. Discounting the cash flows to the present at the weighted average cost of capital The discount rate that reflects the riskiness of the unlevered free cash flows is called the weighted average cost of capital. Once discounted, the present value of all unlevered free cash flows is called the enterprise value. Subtract debt and other non-equity claims The ultimate goal of the DCF is to get at what belongs to the equity owners equity value. Divide the equity value by the shares outstanding The equity value tells us what the total value to owners is. But what is the value of each share? Calculating the unlevered free cash flows FCF Here is the unlevered free cash flow formula: Increases in NWC are cash outflows while decreases are cash inflows. Capital expenditures represent cash investments the company must make in order to sustain the forecast growth of the business. Without a 3-statement model that dynamically links all these together, it is difficult to ensure that changes in assumptions of one component correctly impact other components. The 2-stage DCF model The 3-statement models that support a DCF are usually annual models that forecast about years into the future. However, when valuing businesses we usually assume they are a going concern. In other words, they will continue to operate forever. That means that the 3-statement model only takes us so far. We also have to forecast the present value of all future unlevered free cash flows after the explicit forecast period. This is called the 2-stage DCF model. The first stage is to forecast the unlevered free cash flows explicitly and ideally from a 3-statement model. The second stage is the total of all cash flows after stage 1. The present value of the stage 2 cash flows is called the terminal value. Imagine that we calculate the following unlevered free cash flows for Apple: Apple is expected to generate cash flows beyond , but we cannot project FCFs forever with any degree of accuracy. So how do we estimate the value of Apple beyond ? There are two prevailing approaches: The result of the analysis is very sensitive to this assumption. For example, if Apple is currently valued at 9. However, this approach suffers from a significant conceptual problem: Making matters worse is the fact that the terminal value often represents a significant percentage of the value contribution in a DCF, so the assumptions that go into calculating the terminal value are all the more important. Quantifying the discount rate, which in this case is the weighted average cost of capital WACC , is a critical field of study in corporate finance. You can spend an entire college semester learning about it. Adding the value of non-operating assets Many companies have assets not directly tied to operations. Assets such as cash obviously increase the value of the company i. But up to now, the value is not accounted for in the unlevered free cash flow calculation. Therefore, these assets need to be added to the value. The most common non-operating assets include: Cash Marketable securities Equity investments Below is Apple year ending balance sheet. The non-operating assets are its cash and equivalents, short-term marketable securities and long-term marketable securities. Getting to equity value: All debt short term, long term, bonds, loans, etc.. You can see it has commercial paper, current portion of long term debt and long term debt. As with the non-operating assets, finance professionals usually just use the latest balance sheet values of these items as a proxy for the actual values. This is usually a safe approach when the market values are fairly close to the balance sheet value. If they are significant, it is preferable to apply an industry multiple to better

reflect their true value. Net debt formula When building a DCF model, finance professionals often net non-operating assets against non-equity claims and call it net debt, which is subtracted from enterprise value to arrive at equity value, such that: Gross Debt short term, long term, bonds, loans, etc..

## Chapter 7 : DCF Discounted Cash Flow Model - Excel Template - Eloquens

*Discounted cash flow (DCF) analysis is a method of valuing the intrinsic value of a company (or asset). In simple terms, discounted cash flow tries to work out the value today, based on projections of all of the cash that it could make available to investors in the future.*

The valuation approach is widely used within the investment banking and private equity industry. Read more about the DCF model here underlying assumptions, framework, literature etc. On this page we will focus on the fun part, the modeling! All required inputs will be described in detail below. Expand each section to follow the free! Now lets do some modeling! To change your historical Financial Years, go to the Input sheet. Enter Capex Capital Expenditure which is the annual investments for the company each year. If you cannot find the information in the Annual Report, you can do some math, and take the difference from two years tangible assets and adjust for depreciation. This is also normally specified in the annual report. This information will sum up to Total Current Assets Subtract: The historical information will be used to make forecasts in the forecast period, to have something to compare with and base the forecasts upon. It is also great to use for the Output of the valuation. Step 2 - Make future projections The projections in the DCF model have large impact on the valuation, therefore, this step is extremely important. We will now use the historical information as a base in order to make good and likely projections of the future. In the picture below we have highlighted the information you should fill in. However read the instructions below the picture before you make your assumptions and input. This is normally a good measure for future estimates. Spend a lot of time with doing a good net sales forecast, normally you can use a more detailed level than just simple net sales price per kg, volume development, inflation etc. In our example we have chosen to use an average value of the historical information, in the forecast period, implying This is key, if your company is selling products But of course it varies from business to business. It varies from business to business. Does your business benefit from economies of scale? Or does it not? This will affect your assumptions. Depreciation look at historical depreciation in relation to sales and use an average from these years to use in the projection period. In this case, it was quite simple, we used 1. When a company is planning a lot of CAPEX, you might need to do your own depreciation scheme Corporate income tax use either the historical tax level or the corporate business tax applied in your country. This input is done in the Input Sheet. This is quite difficult to estimate, therefore you can use an average of the last five years in relation to sales. This section is for you who have access to a financial database such as Bloomberg, Reuters, FactSet or similar and know how to do trading comps. This is the most frequent used assumption when determining capital structure in a DCF model. Or simply use a fixed WACC! However, the below described method is more accurate and preferred if you have all the needed tools. The picture describes the input we have made in our example valuation, which is further described below the picture. Assumptions and input Identify a couple of listed companies that are similar to the one that you perform the DCF valuation of Enter the listed companies beta which can be found in a financial data base such as Bloomberg Enter the Market Value of debt of these companies. The market value of debt is the same as book value of debt Enter the market cap for the traded peers Enter the marginal tax rate All this information can be found in the data base. Now the model will calculate the Beta and unlevered and levered Beta and put as input in the valuation model. This change yearly so google your source. The Levered Beta is given from previous exercise Step 3 Now add a size premium according to Ibbotson as well. We have used 1. If you are not sure, you can calculate the rate by dividing interest paid during the last financial year with total debt The corporate tax rate has been given from previous steps Input sheet. Step 5 - Present value of free cash flow Next step is to calculate the present value of the generated cash flows in the projection period. Most values are already given as can be seen below: It should be equal to the long term inflation rate target. Now we will try to describe the results. Below are the results in our valuation example:

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*Terminal Value = Final year projected cash flow \* (1+ Infinite growth rate)/ (Discount rate-Long term cash flow growth rate) DCF Step 5 - Present Value Calculations The fifth step in Discounted Cash Flow Analysis is to find the present values of free cash flows to firm and terminal value.*

Lawn maintenance businesses go for 1. Publishers of newsletters typically have a rule of thumb of 1 to 2 times revenue. Your industry probably has some variation of this as well. These rules of thumb by and large are fairly accurate in terms of historically giving a value range for a business in a specific industry. However, it is only one valuation method, and it does not account for two things: Any unique features of your company that may command a premium or conversely any negative issues it faces that may require a discount. The future cash flow your company will generate. And it is this last issue that the discounted cash flow DCF method addresses. Of all the concepts we introduce at our seminars, the DCF is probably the most challenging for business owners, especially those without degrees in finance, to understand. So as we do in our seminars, we are going to present a simplified explanation of this method of valuation. Here is the official definition of DCF: All future cash flows are estimated and discounted to give their present values (PVs) – the sum of all future cash flows, both incoming and outgoing, is the net present value (NPV), which is taken as the value or price of the cash flows in question. Thus the discounted present value for one cash flow in one future period is expressed as: The DCF model is used by professional buyers to determine what they will pay today for the future earnings of your company. The model works this way: This is usually the current fiscal year that you are in. This is a fancy term for the building of five years of income statements, which ultimately show your recast earnings from year one of the pro forma through year five. With me so far? This is where it gets complicated. The critical issue is the rate you will be using to discount your earnings. The discount rate is critical because the lower the discount rate, the higher your business valuation will be. Conversely, the higher the discount rate, the lower it will be. So determining what discount rate to use is vital, and the discount rate is determined by the perceived risk associated with the investment. The Discount Rate is Key. This is an inexact science. A risk-free investment, say a government bond, would command a very low discount rate to value. An investment in a publically held company, although riskier, is not as risky as an investment in a privately held company. In addition, your particular company may have risk factors associated with it that could impact your discount rate. Other factors that could also impact it are your historic growth rate vs. Certainly the DCF valuation model is not the only valuation method that buyers will use to value your business. Savvy buyers will apply several methods to accurately value your company so that they can earn the ROI return on investment that they need. However, they will ultimately use the method that gives them the greatest return, which means your valuation may be lower. This allows you to have an idea of the value range you should expect buyers to be in. Of course I have over simplified the DCF process. The reality is that the method can be very complicated, as all valuation methods can become. A tremendous number of variables need to be accounted for that I cannot cover in 1, words or less. The information we provide is helpful as you begin your exit planning.

**Chapter 9 : Introduction To Discounted Cash Flow Valuation**

*Discounted Cash Flow Valuation: The Steps I Estimate the discount rate or rates to use in the valuation - Discount rate can be either a cost of equity (if doing equity valuation) or a.*

The Discounted Cash Flow Model, or popularly known as the DCF Model, is one of the more widely used equity valuation models in the investment industry. The underlying principle behind the DCF valuation model is that a business is worth the present value of its expected future cash flows. So, we estimate the value of the business as the present value of its expected cash flows by discounting the future cash flows at a risk-adjusted discount rate. The FCFE is the cash flow to all holders of capital in the firm, i. Our Approach Our approach will be to: Beyond that we focus on forecasting the long-term growth rate. This will allow us to calculate a terminal value for the firm after, say, 5 years. Inputs to the DCF Model 1. Forecasts of Future Cash Flows Since we need a base, we start with initial cash flows which we can derive from the available financial statements. The free cash flow can be calculated using the following formula: To do so, we forecast the near and long-term growth rates. Discount Rate To discount these cash flows, we use the weighted average cost of capital for the firm. This is because we are using the cash flows for the overall firm and not just equity. The WACC calculation requires many inputs and assumptions: Market value of debt and equity to arrive at the weights Cost of Equity: Pre-tax cost of debt and Effective tax rate While some of these are assumption, we can find some of these information from reliable sources. There are free sources of information as well as premium sources such as MarketXLS which make it easy to access and use the information in your excel models. Once we have all this information, we calculate the WACC using the following formula: Terminal Value In addition to the cash flows for the short-term projection period say 5 years , we need to estimate a terminal value for the firm which will reflect the value of the firm for all the years beyond our short term period of 5 years. The terminal value can be calculated as the present value of a growing perpetuity using a long-term stable growth rate  $g$ . Present Value of All Cash Flows Now that we have all the required data, we discount the forecasted cash flows and the terminal value to the present using WACC as the discount rate. Especially relevant here is that the resulting value is the intrinsic value of the entire firm. Intrinsic Value of the Stock Since the value we got is the value of the entire firm, we first calculate the value of equity by subtracting the debt value from the firm value we calculated above: You can also modify it as per your needs. Here are a few important points about how to use the spreadsheet: The model assumes a 5-year short-term growth period and then calculates the terminal value at the end of 5 years. You can easily tweak that to suit your requirements. Hence, the user should input this data.