Valuation Football Field (M&A)

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Business Valuation Football Field: The Full Story !

Source used: Investment Banking: Valuation, leveraged buyouts and mergers & acquisitions. Second edition (2013). Joshua Rosenbaum & Joshua Pearl. Wiley Publishing company. 9781118472200.

Comparable Companies Analysis (multiples-1)

Comparable Companies Analysis (CCA): An Introduction

CCA provides a benchmark against which a M&A consultant can determine a valuation for a private company, or analyse the value of a public moment at a given moment.

With CCA we basically assume that similar companies are a very good reference for valuing a certain target company.

And we use the information for a lot of different issues like M&As (mergers & acquisitions), IPOs (initial public offerings), restructurings, investment decisions etc.

Selection of the comparable companies

When we want to value a certain company; the target, we want to learn as much on this company as we can.

This is in general more easy for public companies since here we have access to the annual reports (10-Ks), consensus research estimates, equity and fixed income research reports, press releases, investor presentations etc.

For private targets this is in general more difficult. But a M&A consultant will often receive detailed business and financial information in an organised M&A sale process (in the form of a confidential information memorandum).

Once we understand the target company, we need to find good comparable companies. Good target companies share both a similar business profile and financial profile.

With a similar business profile we mean: Sector, products and services, customers and end markets, distribution channels, geography etc.

With a similar financial profile we mean: Size, profitability, growth profile, return on investment, credit profile etc.

Usually the best way to find good "comparables" (comps) is to start at the target's public competitors. Because these companies share key business and financial characteristics, and are susceptible to similar opportunities and risks.

The following sources can be used to get information on the "comps": 10-Ks, investor presentations, credit rating agencies reports (e.g. Moody's, S&P, and Fitch), equity research reports, fairness opinions, Bloomberg sector classification etc.

Locate the financial information

Financial information on the "comparable companies" (comps) of the target can be found on: Bloomberg, Bureau van Dijk (Amadeus, Reach and Zephyr), company.info, Factiva, MD info, MergerMarket, OneSource, Thompson one banker etc.

It just depend what kind of database-tools your bank, corporate finance consulting firm, M&A boutique or accounting firm has.

We basically want to know the historical performance of the comps (e.g. LTM financial data) and the expected future performance (e.g. consensus estimates for future calendar years).

Historical information can be found in the annual reports like the 10-Ks. This information is used for balance sheet data, basic shares outstanding, stock options/ warrants, and information on non-recurring items.

And for future performance you can use for example equity research. Research reports provide the M&A consultant with estimates on future company performance like sales, EBITDA and/ or EBIT, and EPS for future quarters and future two or three year periods.

Within this respect, initiating coverage research reports are more comprehensive. And consensus estimates (Bloomberg) are used as basis for calculating forward-looking trading multiples in trading comps.

Key statistics

For all the comps you need key financial statistics and ratios. So you need info on: Size of the company, profitability, growth profile, return on investment and the credit profile.

Size

The size of the comps can be calculated with multiplying the share price of the target times the "fully diluted shares outstanding" (FDSO). FDSO is the basic shares outstanding including the in the money options and warrants and in the money convertible securities.

When we have calculated this, then we have calculated the market value of equity.

When we take the market value of equity and add the (market value) of debt, preferred stock and non-controlling interest (NCI), minus the (excess) cash and cash equivalents, then we have calculated the famous "enterprise value" (EV).

Profitability

For the profitability we want to know the comp's sales and percentages of gross profit, EBTIDA, EBIT and net income in relation to sales.

Growth profile

Very important, we need to know how fast the comps has been growing in the past and what the expected growth rate is.

We do this by checking the "Compound Annual Growth Rates" (CAGRs). These CAGRs basically show the average growth per year over a certain amount of years.

Within this respect, it is very interesting to look bottom line at "diluted earning per share". And here fore historical EPS need to be cleaned for non-recurring items.

Return of investment

We also want to know the returns, like return on equity, return on assets and return on invested capital (EBIT/ (average net debt + equity)).

Credit profile

And we want to know what the leverage level of the "comp" is, so we need to know "debt over EBITDA" and debt as part of "debt + preferred stock + non-controlling interests + equity" (capital structure).

And we also need to know the "debt coverage", so for example the interest coverage ratio:

(EBITDA, (EBITDA – Capex), or EBIT)/ interest expense.

Supplemental financial concepts and calculations

For multiples we tend to look at LTM numbers in the income statement, so these are numbers from the last twelve months (LTM).

We also tend to "clean" these number for non-recurring items. These are items that most likely only took place once like for example: Inventory write downs and restructuring charges.

Key trading multiples

When we eventually have calculated the clean LTM EBITDAs and EVs (enterprise values) of the "comps", then we can calculate the EV/ EBITDA multiple of the comps.

Benchmark the comparable companies

When we have calculated all the financial statistics as mentioned above for all the comps, then we need to compare them with the target.

We now need to select the closest comparables in terms of business profile and financial profile. In the end, this is not a science but an art.

For the valuation of the target we in general focus on the two or three closes comparables to frame the ultimate valuation (for the comps).

When we have calculated the "comp-range" in EBITDA multiples this serves as an input for the "valuation football field".

After this we need to add more input to the "valuation football field" like:

Valuation through precedent transactions, discounted cash flow valuation (DCF) and leveraged buyout valuation (LBOs).

Source used: Investment Banking: Valuation, leveraged buyouts and mergers & acquisitions. Second edition (2013). Joshua Rosenbaum & Joshua Pearl. Wiley Publishing company. 9781118472200.

Precedent Transaction Analysis (multiples-2)

Precedent Transaction Analysis (PTA): An Introduction

PTA helps the M&A consultant to get a valuation range for a specific target company. And this valuation range is built through looking at prior M&A transactions and the prices paid. This of course can be of good help in cases like M&As and restructuring.

In order to find the precedent deals one needs to take a look at deals with similar companies involved, in similar market conditions, and they ideally took place recently.

Under normal conditions, the "transaction comps" have an higher multiple range than the "trading comps" for two reasons:

1) Buyers pay a "control premium" when they purchase another company;

2) Strategic buyers often have opportunities to realize synergies (so they can pay more).

So potential buyers and sellers look closely at multiples that have been paid in the recent past in comparable M&A deals.

How to select comparable deals?

You want to find as many relevant transactions as you can. For example you can:

-Review equity and fixed income research;

-Search M&A databases;

-Examine the M&A history of the target (or peers);

-Look in Merger Proxies for comparable acquisitions.

Concerning the databases, under here are some examples:

Bloomberg, Bureau van Dijk (Amadeus, Reach and Zephyr), company.info, Factiva, MD info, MergerMarket, OneSource, Thompson one banker etc.

Carefully study the "deal dynamics"

When you have found some deals that are potentially good to use, then it is time to look in the details. For example, what where the market conditions of the deal?

This since the market conditions have a big impact on a deal. Extreme examples are for example the height of the technology bubble in the beginning of 2000 when crazy prices were paid.

But this is not all, you also need to look at other considerations which we call "deal dynamics":

1) Was the buyer a strategic buyer of financial sponsor? Traditionally strategic buyers will pay more due to the ability to realise synergies;

2) What where the buyer's and seller's motivations for the transaction? E.g. strategic buyers are willing to pay more when the target fits in a strategic plan. And financial sponsors are willing to pay more when the target fits well within an existing portfolio company. And corporations in need for cash might sell non-core businesses relatively cheap when there is great speed of execution etc. etc. (use your common sense here).

3) Was the target sold through an auction process or negotiated sale? Auctions in general (when performed well) produce a higher price.

4) How did the buyer pay for the company, with cash or with stock? Stock in general results in a lower valuation.

Statistics, ratios and multiples

As with comparable companies analysis (comps) we put all the info of a precedent transaction into excel.

And here we want to have all the statistics and ratios as well in order to derive at a certain multiple.

First we start with multiplying the offer price times the target's fully diluted shares outstanding. Herewith all of the "in-the-money" options, warrants and convertible securities are converted (because of "change of control"). And then we follow the "equity bride" with debt (like) and cash (like) items to arrive at enterprise value.

We also want to know the purchase consideration. This refers to the mix of cash or stock that the acquirer offered to the shareholders of the target.

When an acquirer paid with cash, the acquirer can get the cash from its balance sheet, or by issuing equity and/ or by issuing debt in the markets. But they can also exchange their own shares for the shares of the target shareholders on a "fixed exchange ratio" or "floating exchange ratio". We need to know this info to assess the "deal dynamics" as discussed above.

When we have all the information, statistics and ratios, we can calculate the multiples. The most common multiple would be: (enterprise value/ LTM EBITDA).

On top of that we also like to know the premium that was paid = Offer price per share/ unaffected share price – 1 = premium paid.

And of course, we also like to know the synergies, we can even take the synergies up in the multiple: Enterprise Value/ (LTM EBITDA + synergies) = multiple with taking synergies into account. Again, we need to know this to assess the "deal dynamics".

Benchmark Comparable Acquisitions

For all the comparable transactions we want to produce the input sheet.

And then in the end we can produce the overview of all the comparable acquisitions.

When we eventually choose the few closest comparable transactions we can then take the valuation range up in the "valuation football field".

Together with DCF, comps and (sometimes) LBO analysis you have then a complete "valuation football field".

After that you only need to check whether a deal is expected to be "accretive or dilutive" with a "M&A model".

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Discounted Cash Flow Valuation (DCF)

Discounted Cash Flow Valuation: An Introduction

Discounted cash flow valuation (DCF) is an important alternative to market-based valuation techniques like "multiples".

So DCF is very valuable when there are limited of no pure play peer companies of comparable acquisitions available.

With DCF valuation I basically look at the free cash flows of a company and we "discount these back" to get to an "enterprise value". I will discuss all these steps in more detail.

You can image that within DCF valuation we need to make a lot of assumptions, that is why "sensitivity analysis" is a very important component of this type of valuation. Here "Microsoft excel" comes in very handy, because excel is great for sensitivity analysis.

Determine key performance drivers

For DCF valuation you need to understand the target and its sector the best way possible. Think of the business model, financial profile, value proposition, end markets, competitors, key risks etc.

This way you can determine the key drivers of a company's performance, particularly sales growth, profitability and free cash flow (FCF) generation. This since we need to come up with projections of future free cash flows (FCFs). And here fore we need to have insight on the:

1. Internal value drivers: e.g. opening new facilities, developing new products, securing new customer contracts, improving operational and/ or working capital efficiency etc.

2. External value drivers: e.g. acquisitions, end market trends, consumer buying patterns, macro-economic factors, legislative/ regulatory changes etc.

Unlevered free cash flow

When we take a closer look at unlevered FCF then we mean the cash generated by a company after paying: cash operating expenses, associated taxes, funding of CAPEX, funding of operating working capital (OWC).

But prior to payment of any interest expense!!

This because FCF is independent of capital structure as it represents the cash available to all capital providers, so both debt and equity holders.

In order to estimate FCF we need to make a lot of projections, think of projections on:

1. SALES, EBITDA and EBIT;
2. COGS and SG&A;
3. TAX;
4. D&A (depreciation and amortization);
5. CAPEX;
6. Changes in OWC.

For the projections we study carefully the past growth rates, profit margins and other ratios. These are usually a reliable indicator of future performance, especially for mature companies in non-cyclical sectors.

The projection period is on average 5 years, but this depends on its sector, stage of development, and the predictability of its financial performance.

With DCF valuation is it very common (and wise) to use multiple scenarios. The "management case" is often received directly from the company and alongside different scenarios should be developed.

Sales, COGS, SG&A, EBITDA and EBIT projections

Top line projections in sales often come from "consensus estimates" (consensus among equity analysts around the world).

Equity research often provides projections for a two to three year period. For the time after that industry reports and studies of consultants can be consulted to estimate longer term sector trends and growth rates.

Of course these projections need to be "sanity checked" with historical growth rates as well as peer estimates and sector/ market outlooks.

With COGS and SG&A projections I often rely upon historical COGS and SG&A levels and/ or estimates from research in the projection period.

EBITDA and EBIT projections for the projection period are typically sourced from consensus estimates for public companies. Of course here it is wise to review historical trends as well.

TAX, D&A, CAPEX and OWC

EBIT typically serves as the start for calculating FCFs. To bride from EBIT to FCF, several additional items need to be determined, including "marginal tax rate", depreciation & amortization (D&A), CAPEX and changes in OWC.

First we need to take tax out of the EBIT in order to arrive at NOPAT (net operating profit after taxes). Here fore we use the "marginal tax rate", but the company's actual tax rate (effective tax rate) in previous years can also serve as a reference point.

After that D&A is added because these are "non-cash" items. CAPEX is deducted because this is a real cash out and this also counts for OWC. OWC needs to be carefully studied and largely consists out of the "delta" in two subsequent years between "current assets minus current liabilities".

When we have carefully made the above steps, this then results in for example 5 free cash flows (ideally in 5 different operating scenarios).

Now it is time to discount these FCFs with a discount factor which we also call the "WACC".

Weighted average cost of capital (WACC)

The WACC is broadly accepted as a standard for use as the discount rate to calculate the present values of a company its FCFs.

The WACC can be thought of as an opportunity cost of capital of what an investor would expect to earn in an alternative investment with a similar risk profile.

It basically represents the weighted average of the required return on the invested capital in a given company.

For the WACC you need to choose a target capital structure for the company that is consistent for its long term strategy.

In case you target company is not public then consider the capital structure of "public comparable companies". This since it assumed that their management teams have created right capital structures since they are seeking to maximize shareholder value.

The cost of debt in the WACC represents the company's credit profile. This is based on multiple factors like size, sector, outlook, cyclicality, credit ratings, credit statistics, cash flow generation, financial policy, acquisition strategy etc.

So for the cost of debt we can for example look at publicly traded bonds and then the cost of debt is determined on the basis of the current yield on outstanding issues. But with private debt we can also look at current yield on outstanding debt.

Cost of equity

To determine the cost of equity is a little more complex. In many cases we will use the Capital Asset Pricing Model (CAPM). With this model we will look at a suitable return for the equity of a company.

This return consists out of the risk free rate (the return that you can make while staying in bed), so for example the return on 10 year government bonds of The Netherlands.

On top of that investors want to be compensated for the "Market Risk Premium", this is the spread over the expected market return and the risk free rate.

At last this market risk premium is affected by a Beta. A Beta is a measure of the covariance between the rate of return on a company's stock and the overall market return, with for example the "Amsterdam Exchange Index (AEX)" used as a proxy for the market.

When the valuator has collected all info: Target capital structure, cost of debt and cost of equity the WACC can be constructed.

Terminal value

In DCF valuation we calculate the terminal value of all future cash flows of a company. In many case FCFs are estimated for 5 years and then we assume a company will be in a steady state.

So we can calculate the present value of the estimated 5 FCFs, but then we still have to deal with the value after these 5 years.

We can do this with two methods: the 1) Exit Multiple Method (EMM) or the 2) Perpetuity Growth Method (PGM).

With the EMM we take the EBITDA of for example year 5 and multiple it with an exit multiple. After that we need to discount back this "terminal value" to year 0 (now).

Or we can use the PGM and take the FCF year 5 and we divide it by the WACC to calculate the "perpetuity value" (with or without "growth"). Of course, this terminal value also needs to be discounted back to year 0 (now).

Eventually we discount al the FCFs of the estimation period (let's say 5 years) and we also add the present value of the terminal value. And the outcome of this calculation is the "Enterprise Value (EV)".

When we deduct all debt and debt-like items and add all excess cash and cash-like items we have then calculated the market value of equity.

And simply said, when this market value of equity is higher than the book value of equity, there is "goodwill".

Then we can add the EV from DCF in the "football field" next to EV calculations from for example "comparable companies", "precedent transactions" and a "Leveraged Buyout Analysis (LBO)".

Source used: Investment Banking: Valuation, leveraged buyouts and mergers & acquisitions. Second edition (2013). Joshua Rosenbaum & Joshua Pearl. Wiley Publishing company. 9781118472200.

Leveraged Buyout Analysis (LBOs)

Leveraged Buyouts

A leveraged buyout (LBO) is the acquisition of a company, division, business, or collection of assets ("target") using debt to finance a large portion of the purchase price. The remaining portion is financed with an equity contribution by a financial sponsor (private equity party).

Historically financial sponsors sought a 20% annual return and an investment exit of 5 years. In a traditional LBO, debt has typically comprised 60% to 70% of the financing structure, with equity comprising the remaining 30% to 40%.

Companies with stable and predictive cash flows, as well as substantial assets, generally represent attractive LBO candidates due to their ability to support larger quantities of debt.

Cash flow is primary used to repay debt during to time to which the sponsor acquires the target until the exit. The debt portion of the LBO consists a broad array of loans like bank debt, high yield bonds, mezzanine debt and equity.

LBO analysis is used to check whether the deal is interesting for a financial sponsor. The LBO analysis is used to check whether the sponsor can make the needed returns (e.g. 20%) with a certain financial projection (operating scenarios), purchase price, financing structure and exit multiple after a certain number of years (e.g. 5 years).

In sell side advisory I always make the LBO model of the deal because I want to check how the deal "looks" for a financial sponsor. In other words: Is the deal interesting for private equity?

Also in buy side advisory it is interesting to make this analysis. For example it is interesting for a strategic party who wants to buy a certain target to know what competitive bidders (like private equity) are willing to pay for the target. You will never know for sure, but at least you can make an "educated guess" when you build the LBO model.

LBO model

Income statements

Let's assume we want to build a model for a certain target. Here fore we need financial projections of the company, these can for example be obtained from a "Confidential Information Memorandum" (CIM) or from a "Discounted cash flow model" (DCF) if we have made the DCF analysis already.

We first need to build the historical and projected income statements (P&L's) through EBIT. You can first start with typing in the numbers you have received from the CIM and then later on you can add multiple operating scenarios. The different scenarios can be typed in in a separate tab in excel and with the "CHOOSE function", and a built in "toggle", you can easily switch between operating scenarios.

So in first in stance we build the model until EBIT, because we do not know yet how the deal will be financed. So we also do not know yet the interest payments that need to be taken up in the projected income statements. This does not matter for now since we get back to this later on.

Balance sheets

After a start of the estimated P&Ls we need to start building the projected balance sheets. The opening balance sheet is typically provided in the CIM and entered into the model. And you need to add extra line items for the new financing structure after the deal.

In order to build the balance sheet after the deal you need to add two adjustment columns in which you type in the sources (how the deal is paid) and uses (what is paid for) of the deal. And also add a column in which you give the "pro forma balance sheet", so actually this is the opening balance sheet after the deal.

Cash flow statements

Of course does a LBO model also need cash flow statements (CFSs). We build them through the indirect method starting with net income and adding depreciation and amortisation since these are "non-cash" items. The net income is still not correct, because the right interest expenses are not yet taken up, but this does not matter since for now we are just building up the model.

In the CFSs we also need to show the year on year (YOY) changes in the balance sheet, think about the property, plant and equipment (PPE) and also the working capital line items (e.g. accounts receivable, inventories, prepaid and other current assets, accounts payable, accrued liabilities and other current liabilities).

The amounts of the above line items are forecasted in the balance sheet also through a separate "assumption tab". Together with estimating the operating scenarios in the P&L, also estimates can be made for the line items in relation to the

working capital. And with the "CHOOSE-function" in excel and a built in "toggle" you can switch between scenarios and this also effects the working capital (and the investments in working capital in the CFSs).

Also CAPEX (capital expenditures = investments in assets) need to be taken off as a "cash out" in the CFSs. They are also the result of the delta on YOY line items in the balance (e.g. PPE). And this line item PPE is estimated again in the "assumptions tab", for example as a percentage of sales.

The financing section of the CFSs will be still left blanc, because we have not assessed yet how to finance the deal (in different financing scenarios).

Transaction structure

When we have built the estimated P&Ls, balance sheets and CFSs it is time to enter the purchase price assumptions. To calculate the price of the shares we for example take a LTM EBITDA (last twelve months) (earnings before interest tax depreciation and amortisation) times a certain "multiple", let's say for example a multiple of 8. Then we have calculated the enterprise value (EV).

In order to get from EV to the price for the shares we need to deduct "net debt", which consists out of total debt minus (excess) cash. Actually here we also need to take the "equity bridge" with "cash like" and "debt like" items into account, but I will not get into details about the "equity bridge" here.

Then in the LBO model we need to add the sources and uses. Uses is where we spend the money on for the acquisition, e.g.: equity purchase price + repayment of existing debt + call premiums (if any) + financing fees + transaction fees for the investment banker or corporate finance consultant.

These "uses" need to be financed with "sources", for example: a revolving credit facility + certain term loans + notes/ bonds + equity + cash on hand. It is common to fill the model with multiple "financing structures" since Microsoft excel enables us to run sensitivity analyses on these different financing structures.

When we have added the sources and uses we need to connect them to the balance sheet. Most likely goodwill will be paid in a transaction. This simply means that a buyer pays more than the book value of the "net identifiable assets". We need to make these adjustments in the balance sheet as well.

Debt schedule

After that we can start filling the model with a debt schedule. When all the different debt components are modelled we can then also finish the: P&Ls, balance sheets and CFSs. This since we then know the interest payments for the P&Ls, paying back of principal and heights of the debt components at the end of different years for the balance sheets and CFSs.

For the interest payments we can use the forward Libor Curve from Bloomberg as a starting point. On top of that a spread is added for the different debt components.

In a discounted cash flow model we speak of a "free cash flow", but you can also see this term back in a LBO model. In a LBO model the term "free cash flow" means: Cash available for debt repayments.

And in the LBO model it is common to build in a "cash sweep", which means that all excess cash, after the mandatory principal repayments, will be used to pay back debt. And of course it makes sense to model in a "minimum cash amount" that should stay on the balance sheet for "working capital" purposes.

Further more the debt schedule needs to be modelled like a "waterfall", so the cash needs to flow back to the lenders depending on the level of seniority, e.g. from the revolving credit facility to the term loans, to the notes/ bonds etc.

After that the P&Ls should be finished with the interest expenses and the balance sheets and CFSs with the principal repayments and new debt amounts at the end of the year.

Perform LBO analysis

When your model is complete we want to perform LBO analysis. First of all we need to know the credit statistics since the deal is highly leveraged. So your model needs to show insights on the main credit statistics like: EBITDA over interest, senior secured debt over EBITDA, net debt over EBITDA etc. Of course, this needs to be shown for all the years of your forecast.

We also need to know what the returns are for the investment. Here fore we need to take an exit into account. The common practice for an analyst for modelling practises is to take (in first instance when you build the model) a similar exit multiple on EBITDA as the EBITDA multiple on which you can buy the company. E.g. when you can buy the shares for 8 times EBITDA enterprise value, then also model an 8 times "EBITDA year 5" as exit enterprise value.

In most LBO models a "cash sweep" is modelled in as mentioned before. This way in most models you see an original equity contribution. This is the equity contribution the financial sponsor has put in at the date of the acquisition. Then we assume we sell the shares again at a certain EBITDA multiple at year 5. And then we need to deduct the "net debt" level at year 5 as well. What is left is the equity value after year 5.

Imagine you buy a firm with an equity contribution of 20 million euro (the rest is debt) at the date of the acquisition. And you then you sell it for 50 million share value at year 5 (enterprise value - net debt). Here you make a cash return of 2,5 (50 million/ 20 million).

This cash return is a number we always need to know. But a more elegant number is the IRR (internal rate of return). It basically is the honest yearly return the

investor makes. And it stands for a "discount rate" in which the present value is exactly zero, so it shows the honest return for an investor.

At the same way as we calculate the cash return we like to calculate the IRRs of the LBO model for a range of for example 10 exit years. And then the most important IRR is the IRR with an exit after year 5 since this is an average holding period for a financial sponsor.

Personally, I am a big fan of the LBO model and always like to calculate the IRR of an acquisition since it is so honest. And you can even take up the LBO "valuation" on the football field if wanted next to "comps" and "DCF".

Source used: Investment Banking: Valuation, leveraged buyouts and mergers & acquisitions. Second edition (2013). Joshua Rosenbaum & Joshua Pearl. Wiley Publishing company. 9781118472200.

The M&A Model to calculate accretion/ dilution

The M&A model – Accretion/ Dilution: An Introduction

The M&A model consists essentially out of two standalone financial models, one for the acquirer and one for the target. These models are summed up in order to form "pro forma combined financial statements".

As with a LBO model, historical financial data is entered into an "income statement (IS) tab" and "balance sheet (BS) tab" in Microsoft excel. And then assumptions like growth rates, margins, working capital assumptions etc. that drive income statements, cash flow statements and balance sheets are entered into "assumption tabs" in Microsoft excel.

And an offer price for the shares of the acquisition and acquisition structure (payment with equity vs debt, example 50%-50%) data are then entered into a "transaction summary tab" in excel.

After that the financing structure (how the debt part is built up), allocations of the purchase price premium (purchase price allocation (PPA)/ goodwill), assumptions around deal-related depreciation and amortization (because of asset write ups/ PPA) and estimated synergies are entered into a tab called "pro forma assumptions".

Concerning the financing structure, a special tab is created in which for each debt instrument key terms are typed in. This tab is called "pro forma debt schedule".

Once all the appropriate deal-related information is entered into the model, it should automatically update two tabs, 1 concerning the "pro forma credit statistics" and 1 concerning the "accretion or dilution" after the deal.

I will talk about accretion/ dilution later on in this blog, but first let's take a look at some more basics of this so-called M&A model.

Build in flexibility with Microsoft excel

As with the LBO model, a M&A model is constructed with the flexibility to analyze a given proposed transaction under "multiple financing structures" and "operating scenarios".

On the "transaction summary tab" in excel; basically the first tab, toggle cells allow the corporate finance consultant to switch amongst others between multiple financing structures and operating scenarios. Here for the "choose function" in excel is used, like I discussed in my blog on the LBO model.

This is just really handy, because it would be crazy to type in different operating scenarios and financing structures when your managing director or the client asks for this. It can now be done simply with building in a "toggle" with some choose functions. Excel is our best friend.

Financing structure and deal structure

An acquirer of a target company needs to choose among the available funds based on a variety of factors, think of cost of capital, flexibility on your balance sheet, rating agency considerations and speed and certainty to close the transaction.

Debt financing refers to the issuance of new debt or to use "revolver availability" to partially, or fully, fund a M&A transaction. Examples of debt instruments are: a revolving credit facility, term loans and bonds/ notes.

Equity financing refers to a company's use of its own stock as an acquisition currency. An acquirer can either offer its own stock directly to the shareholders of the target. Or they can first issue shares and then use the cash proceeds to pay the shareholders of the target.

Equity financing offers the issuers with greater flexibility as there are no mandatory cash interest payments, repayments of principal and no covenants (as all the case with debt).

Goodwill, purchase price allocation (PPA) and deferred tax liability

In modelling a stock sale transaction "Goodwill" needs to be taken into account. When the purchase price exceeds the "net identifiable assets" of the target, this excess is first allocated to the target's tangible and identifiable intangible assets. These are then written up to their "fair value" and we call this purchase price allocation (PPA).

These tangible and intangible asset write ups are then reflected in the acquirer's pro forma balance sheet. And they are then depreciated and amortized over their useful lives which reduces after tax earnings.

This transaction related depreciation and amortization is not deductible for tax purposes. And from an accounting perspective, this discrepancy between book value and tax value is resolved through the creation of a deferred tax liability (DTL) on the balance sheet. For example called: "deferred income taxes".

Goodwill is calculated as purchase price minus target's net identifiable assets after allocations to the target's tangible and intangible assets (PPA). Once calculated, goodwill is added to the asset side of the acquirer's balance sheet and tested yearly for "impairment".

Merger consequences analysis

Merger consequences analysis measures the impact on "earning per share" (EPS) in the form of "accretion/ dilution analysis". And it also measures the credit statistics after the deal because of balance sheet effects.

This analysis enables strategic buyers to fine tune the deal for ultimate purchase price, deal structure and financing mix. Of course, for this key assumptions need to be made regarding purchase price, target company's financials (operating scenarios), and deal structure and forms of financing.

A corporate finance consultant does this by first constructing standalone operating models (income statements, balance sheets and cash flow statements) in excel for both the target and the acquirer. As mentioned, these models are then combined into one pro forma financial model that incorporates all the transaction related adjustments.

Merger consequences analysis: Credit statistics

Acquirers of target companies are often guided by the desire to maintain key target ratios for the credit statistics in setting up their M&A financing structure.

Most widely used credit statistics are grouped into leverage ratios (e.g. debt to EBITDA and debt to total capitalization) and coverage ratios (e.g. EBITDA to interest expense).

Merger consequences analysis: Accretion/ Dilution

Accretion/ dilution analysis measures the effect of a transaction on a potential acquirer's earnings, assuming a given financing structure. It centers on comparing the acquirer's EPS pro forma (after the transaction) versus on a standalone basis (before the transaction).

If the "pro forma combined EPS" is lower than the acquirer's standalone EPS, the transaction is said to be "dilutive".

Conversely:

If the pro forma EPS is higher, the transaction is said to be accretive.

A rule of thumb for 100% stock transaction (100% paid with equity) is that when an acquirer purchases a target with a lower P/E ratio (Price/ Earnings), the acquisition is accretive. In this case, transactions where an acquirer purchases a higher P/E target are de facto dilutive.

The latter could be reversed do by "sizable synergies".

Accretion/ dilution analysis is a key screening mechanism for strategic buyers. Acquirers do not pursue transactions that are dilutive over the foreseeable earning projection period.

For modeling purposes, key drivers for accretion/ dilution are purchase price, projected earnings for buyer and target (operating scenarios), expected synergies, form of financing, debt/ equity mix and the cost of debt.

The most accretive M&A deals have (relatively) low purchase prices, cheap forms of financing (more debt) and significant synergies.

Source used: Investment Banking: Valuation, leveraged buyouts and mergers & acquisitions. Second edition (2013). Joshua Rosenbaum & Joshua Pearl. Wiley Publishing company. 9781118472200.

Introduction Kersten Corporate Finance

Kersten Corporate Finance is an independent M&A consulting firm in The Netherlands.

Deal segment: Middle sized and SME companies. So companies with an Enterprise Value (EV) of in between 2 million euro and 100 million euro @ The Netherlands and Benelux.

Activities:

1. Selling companies;
2. Buying companies;
3. Business Valuation & Financial Modelling;
4. Financing of acquisitions with bank loans and/ or private equity firms;
5. Buy & Build strategies for strategic buyers and private equity;
6. Searching & selecting acquisition targets;
7. Finding multiples for precedent M&A transactions in a certain field.

Website M&A consulting & Valuations: **www.kerstencf.nl**

Introduction Joris Kersten

J.J.P. (Joris) Kersten MSc BSc RAB (1980) is owner of "Kersten Corporate Finance" in The Netherlands, and this is an independent M&A boutique (Mergers & Acquisitions) in consulting on M&As and valuations of medium sized companies.

Joris performs business valuations, prepares pitch books, searches and selects candidate buyers and/ or sellers, organises financing for takeovers and negotiates M&A transactions in a LOI and later in a share purchase agreement (in cooperation with (tax) lawyers).

Moreover, Joris is associated to 'AMT Training London' for which he provides training in Corporate Finance & Financial Modelling at leading ("bulge bracket") investment banks in New York, London and Hong Kong.

And Joris is associated to the 'Leoron Institute Dubai' for which he provides finance training at leading investment banks and institutions in the Arab States of the Gulf. This for example at Al Jazira Capital in Saudi Arabia and TAQA in Saudi Arabia.

In addition, Joris provides lecturing in Corporate Finance & Accounting at leading Universities like: Nyenrode University Breukelen, TIAS Business School Utrecht, the Maastricht School of Management (MSM), the Luxembourg School of Business and SP Jain School of Global Management in Sydney.

Moreover, he provides lecturing at partner Universities of MSM in: Peru, Surinam, Mongolia and Kuwait. And at partner Universities of SP Jain in Dubai, Mumbai and Singapore.

Joris graduated in MSc Strategic Management and BSc Business Studies, both from Tilburg University. In addition, he is (cum laude) graduated as "Registered Advisor Business Acquisitions" (RAB), a 1-year study in the legal and tax aspects of M&A's.

Currently Joris is following the "Executive Master of Business Valuation" to obtain his title as "Registered Valuator" (RV) given out by the "Netherlands Institute for Registered Valuators" (NIRV). This title will enable Joris to give out business valuation judgements in for example court cases.

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