

Chapter 32

VALUATION TECHNIQUES

Just how rosy is the future?

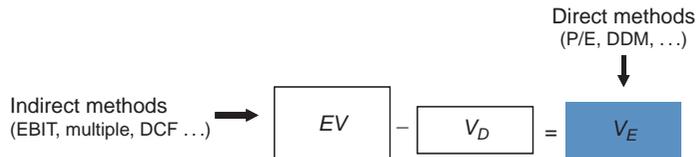
This chapter contains an in-depth look at the different valuation techniques and presents the problems (and solutions!) you will probably encounter when using them.

Section 32.1

OVERVIEW OF THE DIFFERENT METHODS

Generally, we want to value a company in order to determine the value of its shares or of its equity capital.

Broadly speaking, there are two methods used to value equity: the direct method and the indirect method. In the direct method, obviously, we value equity directly. In the indirect method, we first value the firm as a whole (what we call “enterprise” or “firm” value), then subtract the value of net debt to get the equity value.



In addition, there are two approaches used in both the direct and indirect methods:

- The fundamental approach based on valuing either:
 - a stream of dividends, which is the **Dividend Discount Model (DDM)**; or
 - a stream of free cash flows, which is the **Discounted Cash Flow (DCF) method**.

This approach attempts to determine the company’s intrinsic value, in accordance with financial theory, by discounting cash flows to their present value using the required rate of return.

- The pragmatic approach of valuing the company by analogy with other assets or companies of the same type for which a value reference is available. This is the **peer comparison** method. Assuming markets are efficient, we should be able to infer the value of a company from the value of others.

| | Indirect approach | Direct approach |
|---|---|--|
| Intrinsic value method (discounted present value of financial flows) | Present value of free cash flows discounted at the Weighted average cost of capital (k) – value of net debt | Present value of dividends or free cash flows to equity at the cost of equity capital: k_E |
| Peer comparison method (multiples of comparable companies) | EBIT multiple \times EBIT – value of net debt | Multiple (P/E) \times net income |

The **sum-of-the-parts method** consists of valuing the company as the sum of its assets less its net debt. However, this is more a combination of the techniques used in the direct and indirect methods rather than a method in its own right.

Lastly, we mention options theory, whose applications we saw in Chapter 35. In practice, nearly no one values equity capital by analogy to a call option on the assets of the company. The concept of real options, however, had its practical heyday in 1999 and 2000 to explain the market values of “new economy” stocks. Needless to say, this method has since fallen out of favour.

If you remember the efficient market hypothesis, you are probably asking yourself why market value and discounted present value would ever differ. In this chapter we will take a look at the origin of the difference, and try to understand the reason for it and how long we think it will last. Ultimately, market values and discounted present values should converge.

Section 32.2

VALUATION BY DISCOUNTED CASH FLOW

The Discounted Cash Flow (DCF) method consists of applying the investment decision techniques (see Chapter 16) to the firm value calculation. We will focus on the **present value** of the cash flows from the investment. This is the **fundamental valuation method**. Its aim is to value the company as a whole (i.e. to determine the value of the capital employed, what we call enterprise value). After deducting the value of net debt, the remainder is the value of the company’s shareholders’ equity.

As we have seen, the cash flows to be valued are the after-tax amounts produced by the firm. They should be discounted out to perpetuity at the company’s weighted average cost of capital (see Chapter 23).

$$EV = \sum_{t=0}^{\infty} \frac{FCFF_t}{(1+k)^t}$$

In practice, we project specific cash flows over a certain number of years. This period is called the **explicit forecast period**. The length of this period varies depending on the

sector. It can be as short as 2–3 years for a high-tech company, 5–7 years for a consumer goods company and as long as 20–30 years for a utility. For the years beyond the explicit forecast period, we establish a **terminal value**.

The value of the firm is the sum of the present value of after-tax cash flows over the explicit forecast period and the terminal value at the end of the explicit forecast period.

1/SCHEDULE OF CASH FLOWS OVER THE EXPLICIT FORECAST PERIOD

As we saw in Chapter 25, free cash flows measure the cash-producing capacity of the company. Free cash flows are estimated as follows:

| |
|--------------------------------------|
| Operating income (EBIT) |
| – Normalised tax on operating income |
| + Depreciation and amortisation |
| – Capital expenditure |
| – Change in working capital |
| = Free cash flow to firm |

You buy a company for its future, not its past, no matter how successful it has been. Consequently, future cash flows are based on projections. As they will vary depending on growth assumptions, the most cautious approach is to set up several scenarios. But for starters, are you the buyer or the seller? The answer will influence your valuation. The objective of negotiation is to reconcile the buyer's and seller's points of view. We have found in our experience that discounted cash flow analysis is a very useful discussion tool: the seller gets accustomed to the idea of selling his/her company and the buyer gets a better understanding of the company for sale.

It is alright for a business plan to be optimistic – our bet is that you have never seen a pessimistic one – the important thing is how it stands up to scrutiny. It should be assumed that competition will ultimately eat into margins, that increases in profitability will not be sustained indefinitely without additional investment or additional hiring, etc. Quantifying these crucial future developments means entering the inner sanctum of the company's strategy.

The length of the explicit forecast period will depend on the company's "visibility" – i.e. the period of time over which it is reasonable to establish projections. This period is necessarily limited. In 10 years' time, for example, probably only a small portion of the company's profits will be derived from the production facilities it currently owns or from its current product portfolio. The company will have become a heterogeneous mix of the assets it has today and those it will have acquired over the next 10 years.

The forecast period should therefore correspond to the time during which the company will live off its current configuration. If it is too short, the terminal value will be too large and the valuation problem will only be shifted in time. Unfortunately, this happens all too often. If it is too long (more than 10 years), the explicit forecast is reduced to an uninteresting theoretical extrapolation.

¹ It is not the business plan for the company but only projections made by a third party in February 2008. The financial analysis of the company was done in the first section of this book.

² Earnings Before Interest, Taxes, Depreciation and Amortisation.

³ Return On Capital Employed.

Let's look at Indesit's financial projections produced by the broker Exane BNP Paribas:¹

| in € m | 2007 | 2008e | 2009e | 2010e | 2011e | 2012e | 2013e | 2014e |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Profit and loss statement | | | | | | | | |
| Turnover | 3438 | 3502 | 3623 | 3739 | 3795 | 3852 | 3910 | 3968 |
| EBITDA ² | 317 | 317 | 358 | 388 | 427 | 431 | 408 | 402 |
| – Depreciation and amortisation | –127 | –132 | –133 | –138 | –156 | –159 | –162 | –167 |
| = EBIT | 190 | 185 | 225 | 250 | 271 | 272 | 246 | 235 |
| Balance sheet | | | | | | | | |
| Fixed assets | 1169 | 1171 | 1179 | 1183 | 1190 | 1196 | 1201 | 1203 |
| + Working capital | –48 | –10 | 4 | 16 | 24 | 32 | 40 | 48 |
| = Capital employed | 1121 | 1161 | 1183 | 1199 | 1214 | 1228 | 1241 | 1251 |
| Operating margin after 37% tax | 3.5% | 3.3% | 3.9% | 4.2% | 4.5% | 4.5% | 4.0% | 3.7% |
| ROCE ³ after 37% tax | 10.7% | 10.0% | 12.0% | 13.1% | 14.0% | 14.0% | 12.5% | 11.8% |

These projections are moderately ambitious with operating margin expected to rise from 3.5% in 2007 to a peak in 2011 (4.5%) before sliding back to around 3.5% in 2014. Over the period, the ROCE is projected to rise from 10.7% to a peak of 14% in 2011 before losing most of its gains at 11.8% in 2014.

Projected after-tax free cash flows are as follows:

| in € m | 2008e | 2009e | 2010e | 2011e | 2012e | 2013e | 2014e |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|
| EBIT | 185 | 225 | 250 | 271 | 272 | 246 | 235 |
| – Corporate income tax at 37% | –68 | –83 | –93 | –100 | –101 | –91 | –87 |
| + Depreciation and amortisation | 132 | 133 | 138 | 156 | 159 | 162 | 167 |
| – Capital expenditure | –150 | –158 | –161 | –163 | –165 | –167 | –169 |
| – Change in working capital | –34 | –10 | –7 | –8 | –8 | –8 | –8 |
| = Free cash flow | 65 | 107 | 127 | 159 | 157 | 142 | 138 |

Using a weighted average cost of capital of 10%, the beginning-2008 present value of the free cash flows generated during the explicit forecast period is €600m.

2/TERMINAL VALUE

It is very difficult to estimate a terminal value, because it represents the value at the date when existing business development projections will no longer have any meaning. Often analysts assume that the company enters a phase of maturity after the end of the explicit forecast period. **In this case, the terminal value can be based either on the capital employed or on the free cash flow in the last year of the explicit forecast period.**

The most commonly used terminal value formula is the Gordon–Shapiro formula. It consists of a normalised cash flow, or annuity, that grows at a rate (g) out to perpetuity:

$$\begin{aligned} &\text{Value of the company at the end of the explicit forecast period} \\ &= \frac{\text{Normalised free cash flow}}{k - g} \end{aligned}$$

However, the key challenge is in choosing the normalised free cash flow value and the perpetual growth rate. **The normalised free cash flow** must be consistent with the assumptions of the business plan. It depends on long-term growth, the company's investment strategy and the growth in the company's working capital. Lastly, normalised free cash flows may be different from the free cash flow in the last year of the explicit forecast period, because normalised cash flow is what the company will generate after the end of the explicit forecast period and will continue to generate to perpetuity.

Concerning the growth rate to perpetuity, do not get carried away:

- Apart from the normalised cash flow's growth rate to perpetuity, you must take a hard cold look at your projected long-term growth in return on capital employed. How long can the economic profit it represents be sustained? How long will market growth last?
- Most importantly, the company's rate of growth to perpetuity cannot be significantly greater than the long-term growth rate of the economy as a whole. For example, if the anticipated long-term inflation rate is 2% and real GDP growth is expected to be 2%, then if you choose a growth rate g that is greater than 4%, you are implying that the company will not only outperform all of its rivals but also will eventually take control of the economy of the entire country or indeed of the entire world (trees do not grow to the sky)!⁴

In the case of Indesit, the normalised cash flow must be calculated for the year 2015, because we are looking for the present value at the end of 2014 of the cash flows expected in 2015 and every subsequent year to perpetuity. Given the necessity to invest if growth is to be maintained, you could use the following assumptions to determine the normalised cash flow:

Normalised cash flow

| | |
|----------------------------------|-------|
| Normalised 2015 EBIT | 240 |
| – Corporate income tax at 37% | (89) |
| + Depreciation and amortisation | 170 |
| – Capital expenditure | (171) |
| – Change in working capital | (9) |
| = Normalised 2015 free cash flow | 141 |

⁴ All the more so as in mature sectors, inflation is lower than in the economy in general.

Using a rate of growth to perpetuity of 1.5%, we calculate a terminal value of €1659m. Discounted over 7 years, this gives us €851m at beginning 2008. The enterprise value of Indesit is therefore €600m + €851m or €1451m. Note that the terminal value of €1659m at end-2014 corresponds to a multiple of 7.1 times 2014 EBIT. This means that choosing a multiple of 7.1 is theoretically equivalent to applying a growth rate to perpetuity of 1.5% to the normalised cash flow and discounting it at the required rate of return of 10%.

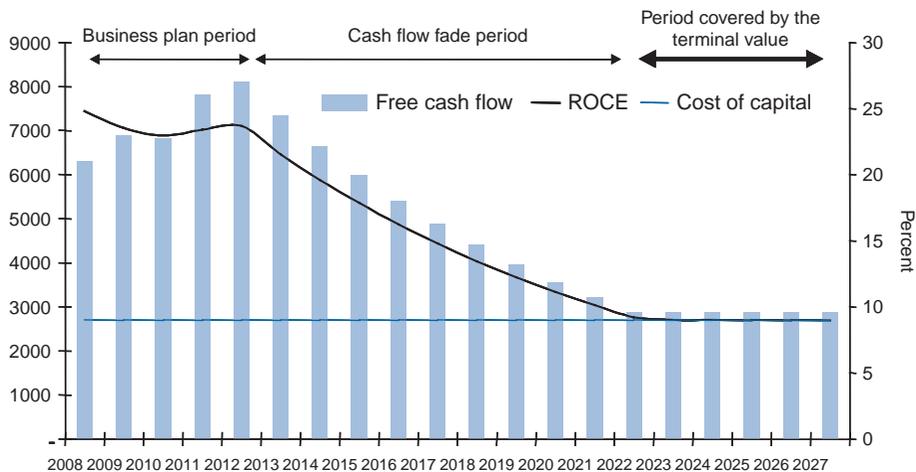
Sometimes the terminal value is estimated based on a multiple of a measure of operating performance. This measure can be, among other things, turnover, EBITDA or EBIT. Generally, this “horizon multiple” is lower than an equivalent, currently observable multiple. This is because it assumes that, all other things being equal, prospects for growth decrease with time, commanding a lower multiple. Nevertheless, since using this method to assess the terminal value implies mixing intrinsic values with comparative values, we strongly advise against it.

Computing the terminal value with a multiple prevents you from pondering over the level of ROCE that the company can maintain in the future.

Remember that if you compute a terminal value greater than book value, you are implying that the company will be able to maintain forever a return on capital employed in excess of its weighted average cost of capital. If you choose a lower value, you are implying that the company will enter a phase of decline after the explicit forecast period and that you think it will not be able to earn its cost of capital in the future. Lastly, if you assume that terminal value is equal to book value, you are implying that the company’s economic profit⁵ falls immediately to zero. This is the method of choice in the mining industry, for example, where we estimate a liquidation value by summing the scrap value of the various assets – land, buildings, equipment – less the costs of restoring the site.

Our experience tells us that no economic profit can be sustained forever. The company’s expected return on capital employed must gradually converge towards its cost of capital. This is the case with Coca-Cola, Michelin or British Airways. Regardless of the calculation method, the terminal value must reflect this. To model this phenomenon, we recommend using a “cash flow fade” methodology. In this approach, you define a time period during which the company’s return on capital employed diminishes, either because its margins shrink or because asset turnover declines. Ultimately, the ROCE falls down to the weighted average cost of capital. At the end of this time period, the enterprise value is equal to the book value of capital employed.

⁵ $NOPAT (EBIT \text{ after tax}) - WACC \times \text{Capital employed.}$



Readers will have to make choices: length of the cash flow fade period, speed of the convergence towards the cost of capital (form of the ROCE curve: convex, concave or a straight line as in our graph). They might also think that the company will be in a position to earn 1% or 2% more than its cost of capital due to the strength of its strategic position in its markets. Economic theory would not approve that!

This model can also be used for value destroying companies. Sooner or later, there will be restructurings and bankruptcies triggering improvements in ROCE, but before applying the cash flow fade method the other way around, our readers would be well advised to ask themselves whether or not their company will be among the survivors!

3/ CHOOSING A DISCOUNT RATE

As we value cash flow to the firm, the discount rate is the **Weighted Averaged Cost of Capital (WACC)** or simply, the cost of capital. Calculating an accurate cost of capital is one of the key drivers of any valuation exercise, based on the discounted cash flow approach.

Certain industrial companies use normative discount rates, for example we have come across some groups for which all investments had to have a 15% return (no matter what the characteristics of the target were). Beware of such rates that do not yield market values. These rates could either result in the destruction of value by paying too much, or to opportunities being lost because the discount rate is too high compared to market practice.

The weighted average cost of capital is the minimum rate of return required by the company's fund providers, i.e. shareholders and lenders.

It is the overall cost of financing a company's activities that must be estimated.

The difficulty is in estimating the weighted average cost of capital in real-world conditions. You may want to turn back to Chapter 23 for a more detailed look at this topic.

4/ THE VALUE OF NET DEBT

Once you obtain the enterprise value using the above methodology, you must remove the value of net debt to derive equity value. Net debt is composed of financial debt net of cash i.e. of all bank borrowings, bonds, debentures and other financial instruments,⁶ (short-, medium- or long-term), net of cash, cash equivalents and marketable securities.

Theoretically, the value of net debt is equal to the value of the future cash outflows (interest and principal payments) it represents, discounted at the market cost of similar borrowings. When all or part of the debt is listed or traded over the counter (listed bonds, syndicated loans), you can use the market value of the debt. You then subtract the market value of cash, cash equivalents and marketable securities. To illustrate this point, remember that, prior to its restructuring, Marconi debt was trading at 35% of its face value!

The book value of net debt is often used as a first approximation of its present value. This approach makes sense especially when the debt was not contracted very long ago, or when it carries a variable rate and the company's risk profile has not fundamentally changed. If interest rate or the risk of the company has changed significantly from when

⁶ Including the value of hedging instruments if any.

the debt was issued, then the market value of net debt is different from its book value. For example, the debt of General Motors as of end-2007 had a carrying amount of \$193.5bn and a fair value of \$179.4bn.

When the company's business is seasonal, year-end working capital may not reflect average requirements, and debt on the balance sheet at the end of the year may not represent real funding needs over the course of the year (see Chapter 11). Some companies also perform year-end "window-dressing" in order to show a very low level of net debt. In these cases, if you notice that interest expense does not correspond to debt balances,⁷ you should restate the amount of debt by using a monthly average of outstanding net debt, for example.

7 The interest rate calculated as interest in the income statement / net debt in the closing balance sheet does not reflect the actual interest rates paid on the ongoing debt during the year.

5/ OTHER VALUATION ELEMENTS

(a) Provisions for risks and contingencies

Provisions for risks and contingencies must only be included if cash flows exclude them. If the business plan's EBIT does not reflect future charges for which provisions have been set aside – such as for restructuring, site closures, etc. – then the present value of the corresponding provisions on the balance sheet must be deducted from the value of the company.

Pension liabilities are a sticky problem (this is further developed in Chapter 7). How to handle them depends on how they were booked and, potentially, on the age pyramid of the company's workforce. You will have to examine the business plan to see whether it takes future pension payments into account and whether or not a large group of employees is to retire just after the end of the explicit forecast period.

Normally, pension liabilities should be treated as debt. Present value of future outflows for pension, net of pension assets, should be subtracted from the enterprise value.

With rare exceptions, deferred tax liabilities generally remain relatively stable. In practice, they are rarely paid out. Consequently, they are usually not considered as debt equivalents.

(b) Unconsolidated or equity-accounted investments

If unconsolidated or equity-accounted financial investments are not reflected in the projected cash flows (via dividends received), you should add their value to the value of discounted cash flows. In this case, use the market value of these assets including, if relevant, tax on capital gains and losses.

For listed securities, use listed market value. Conversely, for minor, unlisted holdings, the book value is often used as a shortcut. However, if the company holds a significant stake in the associated company – this is sometimes the case for holdings booked using the equity method – you will have to value the affiliate separately. This may be a simple exercise, applying, for example, a sector-average P/E to the company's pro-rata share of the net income of the affiliate. It can also be more detailed, by valuing the affiliate with a multi-criteria approach if the information is available.

(c) Tax-loss carryforwards

If tax loss carryforwards are not yet included in the business plan,⁸ you will have to value any tax-loss carryforward separately, discounting tax savings until deficits are exhausted. We advise discounting savings at the cost of equity capital as they are directly linked to the earnings of the company and are as volatile (if not more so).

⁸ Through a temporary lower corporate income tax.

(d) Minority interests

Future free cash flows calculated on the basis of consolidated financial information will belong partly to the shareholders of the parent company and partly to minority shareholders in subsidiary companies, if any.

If minority interests are significant, you will have to take them into account by either:

- performing a separate DCF valuation of the subsidiaries in which some minority shareholders hold a stake and subtract from the enterprise value the minority share of the subsidiary;
- including only the group share in consolidated cash flows (which requires detailed information about the group subsidiaries).

Naturally, this assumes you have access to detailed information about the subsidiaries.

You can also use a multiple approach. Simplifying to the extreme, you could apply the group's implied P/E multiple to the minority shareholders' portion of net profit to get a first-blush estimate of the value of minority interests. Alternatively, you could apply the group's price-to-book ratio to the minority interests appearing on the balance sheet. In either case, we would not recommend using book value to value minority interests unless amounts are low.

(e) Dilution

You might be wondering what to do with instruments that give future access to company equity, such as convertible bonds, warrants and stock options. If these instruments have a market value, your best bet will be to subtract that value from the enterprise value of the company to derive the value of equity capital, just as you would for net debt. The number of shares to use in determining the value per share will then be the number of shares currently in circulation.

Alternatively, you could adjust the number of shares used to calculate value per share. This is the treasury stock method (see p. 543). Its drawback lies in ignoring the value of out-of-the money dilutive instruments.

6/ PROS AND CONS OF THE CASH FLOW APPROACH

The advantage of the discounted cash flow approach is that it quantifies the often implicit assumptions and projections of buyers and sellers. It also makes it easier to keep your feet closer to the ground during periods of market euphoria, excessively high valuations and astronomical multiples. It forces the valuation to be based on the company's real economic performance.

You might be tempted to think this method works only to estimate the value of the majority shareholder's stake and not for estimating the discounted value of a flow of

dividends. You might even be tempted to go a step further and apply a **minority discount** to the present value of future cash flows for valuing a minority holding.

This is wrong. Applying a **minority discount** to the discounted cash flow method implies that you think **the majority shareholder is not managing the company fairly**. A discount is justified only if there are “losses in transmission” between free cash flow and dividends. This can be the case if the company’s strategy regarding dividends, borrowing and new investment is unsatisfactory or oriented towards increasing the value of some other assets owned by the majority shareholder.

Minority discounts are inconsistent with the discounted cash flow method. Similarly, increasing the cash-flow based value can be justified only if the investor believes he can unlock synergies that will increase free cash flows.

Nevertheless, as satisfying as this method is in theory, it presents three major drawbacks:

- 1 It is very sensitive to assumptions and, consequently, the results it generates are very volatile. It is a rational method, but the difficulty in predicting the future brings significant uncertainty.
- 2 It sometimes depends too much on the terminal value, in which case the problem is only shifted to a later period. Often the terminal value accounts for more than 50% of the value of the company, compromising the method’s validity. However, it is sometimes the only applicable method, such as in the case of a loss-making company for which multiples are inapplicable;
- 3 Lastly, it is not always easy to produce a business plan over a sufficiently long period of time. External analysts often find they lack critical information.

7/ DISCOUNTING CASH FLOW AND DISCOUNTING DIVIDENDS

⁹ That is, before 1995 in Europe and the USA.

Before people grew accustomed to using the discounted free cash flow to firm method,⁹ the dividend discounted model (DDM) was very popular: the value of a share is equal to the present value of all the cash flows that its owner is entitled to receive, namely the dividends, discounted at the cost of equity (k_E).

This method is rarely used today, because it is extremely complicated. The critical variable is the rate of growth in dividends. It is quite an arbitrary figure as, in the computation, this rate is not a function of any of the factors that give rise to it: marginal rate of return, payout ratio, gearing, etc.

This method is still used in very specific cases – for example, for companies in mature sectors with very good visibility and high payout ratios, such as utilities, concessions and real estate companies.

Using the same logic, one can compute the value of equity by discounting free cash flow to equity (and no longer to firm) at the cost of equity. Free cash flow to equity is money available for shareholders, i.e. free cash flow to the firm minus after-tax interests payments and plus change in net debt.

This method is not an easy one to carry out if there is regular change in the financial structure which prompts regular change in the cost of equity. But it is widely used to value banks, whose financial structures do not change much over time due to regulatory constraints.¹⁰

¹⁰ Basel II, McDonough ratio.

Section 32.3

MULTIPLE APPROACH OR PEER-GROUP COMPARISONS

1/PRESENTATION

The peer comparison or multiples approach is based on three fundamental principles:

- the company is to be valued in its entirety;
- the company is valued at a multiple of its profit-generating capacity. The most commonly used are the P/E ratio, EBITDA and EBIT multiples;
- markets are efficient and comparisons are therefore justified.

The approach is global, because it is based not on the value of operating assets and liabilities *per se*, but on the overall returns they are expected to generate. The value of the company is derived by applying a certain multiplier to the company's profitability parameters. As we saw in Chapter 25, multiples depend on expected growth, risk and interest rates.

High expected growth, low risk in the company's sector and low interest rates will all push multiples higher.

The approach is comparative. At a given point in time and in a given country, companies are bought and sold at a specific price level, represented, for example, by an EBIT multiple. These prices are based on internal parameters and by the overall stock market context. Prices paid for companies acquired in Europe in 2008, for example, when EBIT multiples were still high (10 times on average) were not the same as for those acquired in 1980 when multiples hovered around four times EBIT, nor for those bought in 1990, when multiples were near long-term averages (around seven times).

Multiples can derive from a sample of comparable, listed companies or a sample of companies that have recently been sold. The latter sample has the virtue of representing actual transaction prices for the equity value of a company. These multiples are respectively called **market multiples** and **transaction multiples**, and we will look at them in turn. As these multiples result from comparing a market value with accounting figures, keep in mind that the two must be consistent. The enterprise value must be compared with operating data, such as turnover, EBITDA or EBIT. The value of equity capital must be compared with a figure after interest expense, such as net profit or cash flow.

2/BUILDING A SAMPLE OF COMPARABLE COMPANIES OR COMPARABLE TRANSACTIONS

For market multiples, a peer group comparison consists of setting up a sample of comparable listed companies that have not only similar sector characteristics, but also similar operating characteristics, such as ROCE and expected growth rates. Given that the multiple is usually calculated on short-term projections, you should choose companies whose shares are liquid and are covered by a sufficient number of financial analysts.

For transaction multiples you should use transactions in the same sector as the company you are trying to value. The transactions should not be too old otherwise they will reflect different market conditions. In addition, the size and geographical characteristics

of the deals should be similar to the one contemplated. There is often a trade-off between retaining a sufficient number of transactions and having deals that can be qualified as similar.

3/ THE MENU OF MULTIPLES

There are two major groups of multiples: those based on the enterprise value (i.e. the value of capital employed) and those based on the value of equity.

Multiples based on the value of capital employed are multiples of operating balances before subtracting interest expense. We believe NOPAT is the best denominator, i.e. EBIT less corporate income taxes on EBIT. But many practitioners use EBIT, which is not a major problem provided corporate income tax rates are roughly the same for all the companies in the sample. The EBITDA multiple is also widely used.

Multiples based on the value of equity are multiples of operating balances after interest expense, principally net income (P/E multiple), as well as multiples of cash flow and multiples of underlying income – i.e. before nonrecurring items.

4/ MULTIPLES BASED ON ENTERPRISE VALUE

Whatever multiple you choose, you will have to value the capital employed for each listed company in the sample. This value is the sum of the company's market capitalisation (or transaction value of equity for transaction multiples) and value of its net debt at the valuation date and other adjustments presented.

In any case you need to be clear:

- the value of a minority stake will be added to the enterprise value if no dividend has been included into the company parameter (EBIT or EBITDA, which is normally the case), but not if it is included (net income);
- the part of pension cost corresponding to the interest cost is not to be included in the EBIT or EBITDA¹¹ if pension assets minus pension liabilities have been added to enterprise value;
- etc.

¹¹ Which could be the case under IFRS.

You will then calculate the multiple for the comparable companies over three fiscal years: the current year, last year and next year. Note that we use the same value of capital employed in all three cases, as current market values should reflect anticipated changes in future operating results.¹²

¹² For more on this, see the *Vernimmen.com* Newsletter n° 24, May 2007.

(a) EBIT multiple

The EBIT multiple is the ratio of the value of capital employed to EBIT (operating income). It enables us to compare the genuine profit-generating capacity of the sample companies.

A company's genuine profit-generating capacity is the normalised operating profitability it can generate year after year, excluding exceptional gains and losses and other nonrecurring items.

You may have to perform a series of restatements in order to derive this operating income (see Chapter 3 for a more detailed discussion).

Consider the following sample of listed companies comparable to Indesit, the characteristics of which in 2008 were as follows:

| €m | Electrolux | Whirpool | SEB | De Longhi |
|---|------------|----------|------|-----------|
| Market capitalisation (value of equity) | 3070 | 10,434 | 1745 | 487 |
| + Value of debt | 520 | 2838 | 1001 | 315 |
| = Value of capital employed (A) | 3590 | 13,272 | 2746 | 802 |
| 2008 Operating income (EBIT) (B) | 408 | 1741 | 290 | 123 |
| 2008 EBIT multiple (A/B) | 8.8 | 7.6 | 9.5 | 6.5 |

The 2008 average pre-tax operating income (EBIT) multiple is 8.1 times. Applied to Indesit's 2008 operating income of €185m, comparable multiples would value Indesit's enterprise value at €1498m and at equity €1084m, taking into account €331m of debts and €84m of provisions.

(b) EBITDA multiple

The EBITDA multiple follows the same logic as the EBIT multiple. It has the merit of eliminating the sometimes significant differences in depreciation methods and periods. It is very frequently used by stock market analysts for companies in capital-intensive industries.

Be careful when using the EBITDA multiple, however, especially when the sample and the company to be valued have widely disparate levels of margins. In these cases, the EBITDA multiple tends to overvalue companies with low margins and undervalue companies with high margins, independently of depreciation policy. EBITDA does not capture certain (other) elements of profitability. Applying the sample's multiple therefore introduces a distortion.¹³

¹³ This is also true for the EBIT multiple.

(c) Other multiples

Operating multiples can also be calculated on the basis of other measures, such as turnover. Some industries have even more specific multiples, such as multiples of the number of subscribers, number of visitors or page views for Internet companies, tonnes of cement produced, etc. These multiples are particularly interesting when the return on capital employed of the companies in the sample is standard. Otherwise, results will be too widely dispersed. They are only meaningful for small businesses as shops where there are a lot of transactions and where in many countries turnover gives a better view of the profitability than the official profit figure.

These multiples are generally used to value companies that are not yet profitable: they were widely used during the Internet bubble, for instance. They tend to ascribe far too much value to the company to be valued and we recommend that you avoid them.

5/ MULTIPLES BASED ON EQUITY VALUE

You may also decide to choose multiples based on operating balances after interest expense. These multiples include the P/E ratio, the cash flow multiple and the price to book ratio. All these multiples use market capitalisation at the valuation date (or price paid for the equity for transaction multiples) as their numerator. The denominators are net profit, cash flow and book equity, respectively. The net profit used by analysts is the company's bottom line restated to exclude nonrecurring items and the depreciation of goodwill, so as to put the emphasis on recurrent profit-generating capacity.

Using the same sample of comparable comparisons for Indesit presented before, we notice that their average P/E ratio beginning of 2008 was 10.4:

| €m | Electrolux | Whirpool | SEB | De Longhi |
|---------------------------|------------|----------|------|-----------|
| Market capitalisation (A) | 3070 | 10,434 | 1745 | 487 |
| 2008 Net income (B) | 313 | 1000 | 190 | 52 |
| P/E ratio (A) / (B) | 9.8 | 10.4 | 9.2 | 9.3 |

Applied to Indesit's 2008 net income of €96m, comparable multiples would value Indesit's equity at €989m.

These multiples indirectly value the company's financial structure, thus creating distortions depending on whether or not the companies in the sample are indebted.

Consider the following two similarly-sized companies, Ann and Valeria, operating in the same sector and enjoying the same outlook for the future, with the following characteristics:

| Company | Ann | Valeria |
|------------------------------|------|---------|
| Operating income | 150 | 177 |
| – Interest expense | 30 | 120 |
| – Corporate income tax (40%) | 48 | 23 |
| = Net profit | 72 | 34 |
| Market capitalisation | 1800 | ? |
| Value of debt (at 10% p.a.) | 300 | 1200 |

Ann's P/E ratio is 25 (1800/72). As the two companies are comparable, we might be tempted to apply Ann's P/E ratio to Valeria's bottom line to obtain Valeria's market capitalisation – i.e. the market value of its shares – or $25 \times 34 = 850$.

Although it looks logical, this reasoning is flawed. Applying a P/E ratio of 25 to Valeria's net income is tantamount to applying a P/E of 25 to Valeria's NOPAT ($177 \times (1 - 40\%) = 106$) less a P/E of 25 applied to its after-tax interest expense ($120 \times (1 - 40\%) = 72$). After all, net income is equal to net operating profit after tax less interest expense after tax.

The first term ($25 \times \text{NOPAT}$) should represent the enterprise value of Valeria, i.e. $25 \times 106 = 2650$.

The second term ($25 \times$ after-tax interest expense) should represent the value of debt to be subtracted from enterprise value to give the value of equity capital that we are seeking. However, $25 \times$ interest expense after tax is 1800, whereas the value of the debt is only 1200.

In this case, this type of reasoning would result in overstating the value of the debt (at 1800 instead of 1200) and then to understate the value of the company's equity.

The proper reasoning is as follows: we first use the multiple of Ann's NOPAT to get Valeria's enterprise value. If Ann's market capitalisation is 1800 and its debt is worth 300, then its enterprise value is $1800 + 300$, or 2100. As Ann's NOPAT is $150 \times (1 - 40\%) = 90$, the multiple of Ann's NOPAT is $2100/90 = 23.3$. Valeria's enterprise value is therefore equal to 23.3 times its NOPAT, or $23.3 \times 106 = 2470$. We now subtract the value of the debt (1200) to obtain the value of equity capital, or 1270. This is not the same as 850!

These distortions are the reason why financial analysts use multiples of operating income (EBIT) or of operating income before depreciation and amortisation (EBITDA). This approach removes the bias introduced by different financial structures.

6/ TRANSACTION MULTIPLES

The approach is slightly different, but the method of calculation is the same. The sample is composed of information available on recent transactions in the same sector, such as the sale of a controlling block of shares, a merger, etc.

If we use the price paid by the acquirer, our multiple will contain the **control premium** the acquirer paid to obtain control of the target company. As such, the price includes the value of anticipated synergies. Using the listed share prices leads to a so-called minority value, which we now know is nothing other than the standalone value. In contrast, transaction multiples reflect majority value – i.e. the value including any control premium for synergies. For listed companies it has been empirically observed that control premiums are around 25% of pre-bid market prices (i.e. prices pre the announcement of the tender offer).

You will find that it is often difficult to apply this method, because good information on truly comparable transactions is often lacking.

7/ MEDIANS, MEANS AND REGRESSIONS

People often ask if they should value a company by multiplying its profit-generating capacity by the mean or the median of the multiples of the sample of comparable companies.

Our advice is to be wary of both means and medians, as they can mask wide disparities within the sample, and sometimes may contain extreme situations that should be excluded altogether. Try to understand why the differences exist in the first place rather than to bury them in a mean or median value that has little real significance. For example, look at the multiples of the companies in the sample as a function of their expected growth. Sometimes this can be a very useful tool in positioning the company to be valued in the context of the sample.

Some analysts perform linear regressions to find a relationship between, for example: the EBIT multiple and expected growth in EBIT; the multiple of turnover and the operating margin; the price to book ratio and the return on equity.¹⁴

¹⁴ In particular when valuing a bank.

This method allows us to position the company to be valued within the sample. The issue still pending is to find the most relevant criterion. R^2 indicates the significance of the regression line, and will be our guide in determining which criteria are the most relevant in the industry in question. Sometimes it allows you to choose a multiple outside the range of comparables' multiples simply because the company you are valuing has higher or lower expected growth than others you are comparing it with.

Section 32.4

THE SUM-OF-THE-PARTS METHOD (SOTP) OR NET ASSET VALUE (NAV)

The sum-of-the-parts method consists in valuing, and summing up the company's different assets, divisions or subsidiaries and deducting liabilities. It is a method well suited for diversified groups or conglomerates for which consolidated accounts projections give too global a view.

The sum-of-the-parts method is simple. It consists in systematically studying the value of each asset and each liability on the company's balance sheet. For a variety of reasons – accounting, tax, historical – book values are often far from reality. They must therefore be restated and revalued before they can be assumed to reflect a true net asset value. The sum-of-the-parts method is an **additive method**. Revalued assets are summed, and the total of revalued liabilities is subtracted.

For diversified groups, the SOTP or NAV method implies valuing subsidiaries or activities pro-rata the ownership level using either the DCF or the multiples of comparable companies method. Then debt of the mother company¹⁵ is deducted as well as the present value of central costs.

To apply this method properly, therefore, we must value each asset and each liability. Estimates must be consistent, even though the methods applied might be different.

¹⁵ Not the one of subsidiaries as it has already been taken into account when valuing the subsidiaries.

1/ TYPE OF APPROACH

(a) General philosophy

Several basic types of value are used in the sum-of-the-parts method:

- **market value:** this is the value we could obtain by selling the asset. This value might seem indisputable from a theoretical point of view, but it virtually assumes that the buyer's goal is liquidation. This is rarely the case. Acquisitions are usually motivated by the promise of industrial or commercial synergies;
- **value in use:** this is the value of an asset that is used in the company's operations. It is a kind of market value at replacement cost;
- **liquidation value:** this is the value of an asset during a fire sale to get cash as soon as possible to avoid bankruptcy. It is market value minus a discount.

The sum-of-the-parts method is the easiest to use and the values it generates are the least questionable when the assets have a value on a market that is **independent of the company's operations**, such as the property market, the market for airplanes, etc. It is hard to put a figure on a new factory in a new industrial estate. The value of the inventories and vineyards of a wine company is easy to determine and relatively undisputed.

A wide variety of values is available when we apply the sum-of-the-parts method. Possible approaches are numerous. We can assume discontinuation of the business – either sudden or gradual – or that it will continue as a going concern, for example. The important thing is to be consistent, sticking to the same approach throughout the valuation process.

For example, this is how the broker Exane BNP Paribas valued the leisure company Club Méditerranée in early 2008:

| | Value (€m) |
|---|-------------|
| Real estate value of owned villages | 749 |
| Stake in Jet Tours | 74 |
| Stake in Club Med Gym | 42 |
| Total gross fixed assets | 865 |
| Holiday village EBITDA | 40.1 |
| Multiple (×) | 5.0 |
| Operating value of village without real estate | 201 |
| Total value, Club Med | 1066 |
| + Financial assets | 86 |
| – Net debt 2008e | 337 |
| – Minorities | 61 |
| – Pensions | 27 |
| = Equity value | 727 |

(b) Tax implications

The acquirer's objectives will influence the way taxes are included (or not) in the sum-of-the-parts approach.

- If the objective is to liquidate or break up the target company into component parts, the acquirer will buy the assets directly, giving rise to capital gains or losses. The taxes (or tax credits) theoretically generated will then decrease (increase) the ultimate value of the asset.
- If the objective is to acquire some assets (and liabilities), and to run them as a going concern, then the assets will be revalued through the transaction. Increased depreciation will then lower income tax compared to liquidation or the breakup case above.¹⁶
- If the objective is to acquire a company and maintain it as a going concern (i.e. not discontinue its activities) and as a separate entity, the acquiring company buys the shares of the target company rather than the underlying assets. It cannot revalue the assets on its books and will depreciate them from a lower base than if it had acquired the assets directly. As a result, depreciation expense will be lower and taxes higher.

¹⁶ Acquisition of assets will most often generate deductible depreciation whereas acquisition of shares of a company will generate goodwill, which in most European countries does not give rise to tax deductible amortisation.

The theoretical tax impact of a capital gain or loss must be taken into account if the objective is to break up the company.

2/TANGIBLE ASSETS

Production assets can be evaluated on the basis of replacement value, liquidation value, going-concern value or yet other values.

We do not intend to go into great detail here. Our main point is that in the sum-of-the-parts method it is important to determine an overall value for productive and commercial assets. Rather than trying to decompose assets into small units, you should reason on a general basis and consider sufficiently large groups of assets that have a stand-alone value (i.e. for which a market exists or that can operate on a stand-alone basis).

For example, it makes no sense to value the land on which a warehouse has been built. It makes more sense to value the combination of the land and the buildings on it. An appraiser will value the combination based on its potential productive capacity, not on the basis of its individual components. Of course, this is not the case if the objective is to reuse the land for something else, in which case you will want to deduct the cost of knocking down the warehouse.

3/INVENTORIES

For industrial companies, valuing inventories usually does not pose a major problem, unless they contain products that are obsolete or in poor condition. In this case, we have to apply a discount to their book value, based on a routine inventory of the products.

In some situations, you will have to revalue the inventories of companies with long production cycles; the revaluation can lead to gains on inventories. This is often the case with champagne, cognac, whisky and spirits in general. Here again, revaluation will have an impact on income taxes. Remember that when you revalue inventories, you are **decreasing future profits**.

4/INTANGIBLE ASSETS

It might seem paradoxical to value intangible assets, since their liquidation value has for a long time been considered to be low. It is now widely acknowledged, however, that the value of a company is partly determined by the real value of its intangible assets, be they brand names, a geographical location, or other advantages.

The sum-of-the-parts approach makes no sense unless it takes into account the company's intangible assets.

Some noteworthy examples:

- **lease rights:** the present value of the difference between market rental rates and the rent paid by the company;
- **brands:** particularly hard to value but the importance of brands in valuation is growing.

In general, there are three methods for valuing brands;

- **patents and technical know-how:** they are valued as brands but with the same difficulties.

Method 1 The first method asks how much would have to be spent in advertising expense, after tax, to rebuild the brand. This method leads to undervaluation of new and successful brands and overvaluation of older and failing brands.

Method 2 The second method calculates the present value of all royalty payments that will or could be received from the use of the brand by a third party. It is very sensitive to the chosen royalty rate.

Method 3 The third method consists in analysing the brand's fundamental utility. After all, the brand's *raison d'être* is to enable the company to sell more and at higher prices than would otherwise be possible without the brand name. Discounting this "excess profit" over a certain period of time should after subtracting the related higher costs, yield an estimate of the value of the brand. Users of this method discount the incremental future operating income expected from the use of the brand and subtract the additional operating expense, working capital and investments, thereby isolating the value of the brand. We will not hide the fact that this approach, while intellectually appealing, is very difficult to apply in practice, because often there is no generic "control" product to use as a benchmark.

Lease rights and brands are difficult, but not impossible to value.

5/USEFULNESS OF SUM-OF-THE-PARTS VALUES

Sum-of-the-parts values can be deceptive as many people think they imply safe or reliable values. In fact, when we say that a company has a high net asset value, it means that from a free cash flow point of view, the company's terminal value is high compared with the value of intermediate cash flows. Consequently, the more "net asset value" a company has and the less cash flows it has, the more speculative and volatile its value is. Granted, its industrial risk may be lower, but most of the value derives from speculation about resale prices.

For this reason, the sum-of-the-parts method is useful for valuing small companies with no particular strategic value, or companies whose assets can be sold readily on a secondary market (airplanes, movies theatres, etc . . .).

Section 32.5

COMPARISON OF VALUATION METHODS

1/RECONCILING THE DIFFERENT METHODS OF VALUATION

If markets are efficient, all of the valuation methods discussed so far should lead to the same valuation. In reality, however, there are often differences among the sum-of-the-

parts value, the DCF-based value and the peer-comparison value. You must analyse the source of these differences and **resist the temptation to average them!**

(a) Analysing the difference between sum-of-the-parts value and discounted cash flow value

If the sum-of-the-parts value is higher than the DCF value or the value derived from a comparison of multiples, then the company is being valued more for its past, its revalued equity capital, than for its outlook for future profitability. In this case, the company should not invest but divest, liquidating its assets to boost profitability and improve the allocation of its resources.

¹⁷ *Breakup of ABN Amro, Scottish & Newcastle, Hagemayer.*

This strategy had its heyday in the 1980s and is back in fashion.¹⁷ Companies were bought up on the open market, and then sold off piecemeal. The buyer realised a gain because the parts were worth more than the company as a whole. Far from a return to unbridled, 19th-century capitalism, these purely financial transactions represented a better allocation of resources as well as punishment for bad management.

If the sum-of-the-parts value is lower than the DCF value or the value derived from multiples, which is the usual case in an economy where companies have a lot of intangibles, then the company is very profitable and invests in projects with expected profitability greater than their cost of capital. The company has real expertise, a strong strategic positioning and enjoys high barriers to entry. But the chances are that it will not escape competitive pressure forever.

For a long time, **goodwill** was a favoured tactic for adjusting sum-of-the-parts values for the company's expected return on capital employed, particularly with respect to its weighted average cost of capital. It was a quick way of valuing all of the company's **intangible capital**.

The starting point of these mixed methods is capital employed as analysed in Chapter 4, adjusted for capital gains and losses, if any.

A normalised operating income is then calculated, applying a required rate of return on capital employed. The difference between the operating income projected in the business plan and the normalised operating income is then deemed goodwill if it is positive, and negative goodwill if it is negative. Conceptually, this "excess profit" is the income stream the acquiring company is prepared to buy. This income stream is then discounted over a certain period of time. Note that if we discount the excess profit at the weighted average cost of capital, we come back to the notion of economic profit and its present value. This converges with the fundamental concept of valuation of cash flows – i.e. the difference between economic profitability and the discount rate, in this case, the weighted average cost of capital.

(b) Comparison values versus DCF values

If the value obtained via peer comparison is greater than the DCF-based value (and if all the calculations are correct!), then the company's managers should be thinking about floating the company on the stock exchange, because financial investors have a more positive view of the company's risk profile and profitability outlook than its management or current shareholders. Conversely, if the value obtained by comparison is lower than the DCF value and if the business plan is reliable, it would be wiser to wait until more of the long-term growth potential in the company's business plan feeds through to its financial

statements before launching an IPO; and perhaps do a Public to Private¹⁸ if the company is already listed.

¹⁸ See p. 922.

If transaction multiples generate a significantly higher value than market multiples or the DCF model, then it would be better to organise a trade sale by soliciting bids from several industry participants. In short, look before you leap!

(c) Is there one valuation method for selling a company and another for buying it?

There is no technical reason why a seller should not use one valuation method and the buyer another:

- A seller usually favours the DCF method as it is based upon a business plan which is rarely built on pessimistic assumptions! Most business plans are fathered by the management under instruction from selling shareholders. But in the back of his mind, a seller will not forget results obtained with a peer-comparison method as he will be very reluctant to sell at a lower multiple than the one obtained by a competitor a few months ago or the one he could get through an IPO after a dual-track process.
- A buyer will use the peer-comparison method to justify a lower price than that resulting from the DCF. He will claim that other buyers have paid 100 and there is no reason why he should pay 120 or 130. Nevertheless at the back of his mind, the buyer is thinking about his own business plan including synergies and new developments. He will soon be able to compute his own DCF to check whether the price he will pay is expected to create value for his own shareholders.

2/ THE LIFECYCLE THEORY OF COMPANY VALUE

Companies that have achieved a certain level of success will see their sum-of-the-parts and cash flow values differ throughout their lifecycle. Lifecycle is an important factor in determining the value of companies, as it was in determining the optimal capital structure and financing policies.

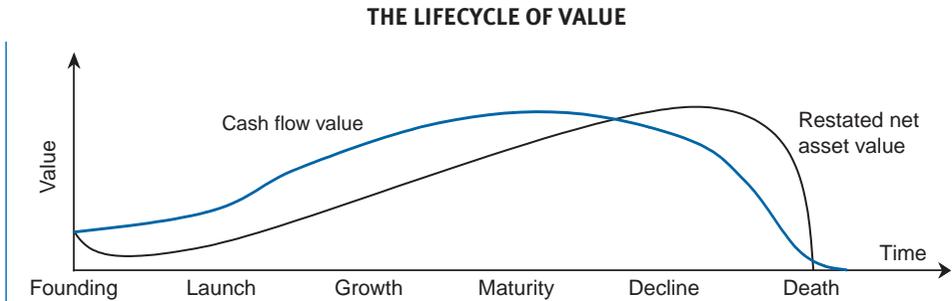
When the company is founded, its net asset value and cash flow value are identical; the company has not yet made any investments. After the first year or two of operations, net asset value may dip because of startup losses. Meanwhile, cash flow value is greater because it anticipates hopefully positive future profitability.

During the growth phase, net asset value will rise as all or part of the company's profits are reinvested and the company builds a customer base (the value of which does not appear in the accounts, however). Cash flow value also continues to rise and remains above the net asset value. The company's expertise has not yet become a tangible asset. It is still associated with the people who developed it.

At maturity, cash flow value will start growing more slowly or stop growing altogether, reflecting a normal profit trend. Nonetheless, the net asset value continues to grow, but more slowly because the company increases its payout ratio. Broadly speaking, net asset value and cash flow value are very close.

If the company then enters a phase of decline, its profits decline and the cash flow value slips below net asset value. The latter continues to grow but only very slowly, until the company starts posting losses. The net asset value falls. As for cash flow value, it is already very low. **The net asset value then becomes particularly speculative.**

Net asset value and cash flow value evolve differently throughout the life of the company.



At any given point in time, it is very important to understand the reasons for the difference between the net asset value and the cash flow value, because this understanding gives important clues as to the situation and future prospects of the company.

You might now be thinking that our kaleidoscope of methods leads to as many **values** as there are images of the company:

- sum-of-the-parts, or net asset value;
- peer-comparison value;
- intrinsic value (i.e. DCF), etc.

We advise against calculating a wide variety of valuations, unless it is to show that you can prove anything when it comes to valuation. But you must not throw up your hands in despair either. Instead, try to understand each type of value, which corporate circumstances it applies to and what its implicit assumptions are. It is more important to determine ranges than to come up with precise values. Precision is the domain of negotiation, whose goal is to arrive at an agreed **price**.

Lastly, remember that valuing a company means:

- taking a speculative stance not only on the future of the company, but also on its market conditions. The cash flow and comparison methods demonstrate this;
- implicitly extrapolating past results or expected near-term results far into the future, opening the door to exaggeration;
- sometimes forgetting that net asset value is not a good reference if the profitability of the company differs significantly from its investors' required return.

Shareholders' decisions to sell all or part of a company are based on the price they believe they can obtain compared to their set of calculated valuations.

Section 32.6

PREMIUMS AND DISCOUNTS

A newcomer to finance might think that the market for the purchase and sale of companies is a separate market with its own rules, its own equilibria, its own valuation methods and its own participants.

This is absolutely wrong. Indeed the market for corporate control is simply a segment of the financial market. **The valuation methods used in this segment are based on the same principles as those used to measure the value of a financial instrument.**

Experience has proven that the higher the stock market, the higher the price of unlisted companies.

Participants in the market for corporate control think the same way as investors in the financial market. Of course, the smaller the company is, the more tenuous is the link. The value of a butcher's shop or a bakery is largely intangible and hard to measure, and thus has little in common with financial market values. But in reality, only appearances make the market for corporate control seem fundamentally different.

1/STRATEGIC VALUE AND CONTROL PREMIUM

There is no real control value other than strategic value. We will develop this concept later. For a longtime, the **control premium** was a widely-accepted notion that was virtually a pardon for dispossessing minority shareholders. When a company was valued at 100 and another company was willing to pay a premium of 20 to the controlling shareholder (holding 50.01% for example), minority shareholders were excluded from this advantageous offer.

The development of financial markets and financial market regulations has changed this: equality among shareholders is a sacrosanct principle in most countries. Shareholder agreements are a common method for expressing this principle in unlisted companies.

When control of a listed company changes hands, minority shareholders receive the same premium as that paid to the majority shareholder.

Nevertheless, entrepreneurs often have a diametrically opposed view. For them, minority shareholders are passive beneficiaries of the fruits of all the personal energy the managers/majority shareholders have invested in the company. It is difficult to convince entrepreneurs that the roles of management and shareholders can be separated and that they must be compensated differently – and especially that risk assumed by all types of shareholders must be rewarded.

What then is the basis for this premium which, in the case of listed companies, can often lift a purchase price to 20% or 30% more than current market price? The premium is still called a “control premium” even though it is now paid to minority shareholders as well as to the majority shareholder.

If we assume that markets are efficient, the existence of such a premium can be justified only if the new owners of the company obtain more value from it than did its previous owners. A control premium derives from the **industrial, commercial, administrative or tax synergies** the new majority shareholders hope to unlock. They hope to improve the acquired company's results by managing it better, pooling resources, combining businesses or taking advantage of economies of scale. These value-creating actions are reflected in the buyer's valuation. The trade buyer (i.e. an acquirer which already has industrial operations) wants to acquire the company so as to change the way it is run and, in doing so, create value.

The company is therefore worth more to a trade buyer than it is to a financial buyer (i.e. usually a venture capitalist fund who has no operations in the industry), who values the company on a **standalone** basis, as one investment opportunity among others, **independently of these synergies.**

The peculiarity of the market for corporate control arises from the existence of synergies that give rise to strategic value.

In this light, we now understand that the trade buyer's expectations are not the same as those of the financial investor. This difference can lead to a different valuation of the company. We call this **strategic value**.

Strategic value is the maximum value a trade buyer is prepared to pay for a company. It includes the value of projected free cash flows of the target on a standalone basis, plus the value of synergies from combining the company's businesses with those of the trade buyer. It also includes the value of expected improvement in the company's profitability compared to the business plan provided, if any.

We previously demonstrated that the value of a financial security is independent of the portfolio to which it belongs, but now we are confronted with an exception. Depending on whether a company belongs to one group of companies or another, it does not have the same value. Make sure you understand why this is the case. The difference in value derives from different cash flow projections, not from a difference in the discount rate applied to them, which is a characteristic of the company and identical for all investors. **The principles of value are the same for everyone, but strategic value is different for each trade buyer, because each of them places a different value on the synergies it believes it can unlock and on its ability to manage the business better than current management.**

For this reason, a company's strategic value is often higher than its standalone value.

As the seller will also hope to benefit from the synergies, negotiation will focus on how the additional profitability the synergies are expected to generate will be shared between the buyer and the seller.

But some industrial groups go overboard, buying companies at twice their standalone value on the pretext that their strategic value is high or that establishing a presence in such-and-such geographic location is crucial. They are in for a rude awakening. Sometimes the market has already put a high price tag on the target company. Specifically, when the market anticipates merger synergies, speculation can drive the share price far above the company's strategic value, even if all synergies are realised. In other cases, a well-managed company may benefit little or even be hurt by teaming up with another company in the same industry, meaning either that there are no synergies to begin with or, worse, that they are negative.

The following table shows the premia (bid price compared to share price 1 month before) of public deals in Europe and the USA.

2/ MINORITY DISCOUNTS AND PREMIUMS

We have often seen minority holdings valued with a discount, and you will quickly understand why we believe this is unjustified. A "minority discount" would imply that minority shareholders have proportionally less of a claim on the cash flows generated by the company than the majority shareholder. This is not true.

| | 1998–2008 (%) |
|-------------|---------------|
| France | 15% |
| Germany | 11% |
| Italy | 15% |
| Scandinavia | 21% |
| Spain | 15% |
| UK | 26% |
| USA | 27% |

Source: Mergermarket.

Whereas a control premium can (and must) be justified by subsequent synergies, there is no basis for a minority discount.

In fact, a shareholder who already has the majority of a company's shares may be forced to pay a premium to buy the shares held by minority shareholders. On average in Europe, the premium paid to buy out minorities is in the region of 20%, less than that paid to obtain control. Indeed, majority shareholders may be willing to pay such a premium if they need full control over the acquired company to implement certain synergies. For example, in 2007 the minorities of AGF were bought back by Allianz at a 9% premium over the 1-month average market price.

Having said that, the lack of liquidity associated with certain minority holdings, either because the company is not listed or because trading volumes are low compared with the size of the minority stake, can justify a discount. In this case, the discount does not really derive from the minority stake *per se*, but from its lack of liquidity.

Lack of liquidity may increase volatility of the share price. Therefore investors will discount an illiquid investment at a higher rate than a liquid one. The difference in values results in a liquidity discount.

Discounted Cash Flow, or DCF is based on the notion that the value of the company is equal to the amount of free cash flows expected to be generated by the company in the future and discounted at a rate commensurate with its risk profile. The discount rate applied is the Weighted Average Cost of Capital (WACC). DCF calculation is performed as follows:

- future free cash flows are discounted over the explicit forecast period, i.e. the period over which there is visibility on the company's operations;
- a discounted terminal value is calculated on the basis of an estimated growth rate carried to perpetuity;
- the value of equity is the difference between the enterprise value obtained above and the value of the company's net debt.

SUMMARY

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The peer group or multiples method is a comparative approach that sets off the company to be valued against other companies in the same sector. In this approach, the enterprise value of the company is estimated via a multiple of its profit-generating capacity before interest expense. EBIT and EBITDA multiples are among those commonly used. The multiple used in the comparison can be either a market multiple or a transaction multiple. The value of net debt is deducted from this enterprise value to get the value of equity. Equity can also be directly valued through a multiple of net income, cash flow or book equity.

The sum-of-the-parts method of valuation consists in valuing and summing up each of the company's assets, subsidiaries or divisions and subtracting liabilities. There are several types of net asset value, from liquidation value to going-concern value, and there are important tax considerations. Either capital gains or losses will be subject to tax or depreciable assets will be undervalued and yearly taxes higher. Calculating net asset value makes sense only if it includes the company's intangible assets, which can be particularly difficult to value.

No company valuation is complete without an analysis of the reasons for the differences in the results obtained by the various valuation methods. These differences give rise to decisions of financial engineering and evolve throughout the life of the company.

To the financial manager, the market for corporate control is nothing but a segment of the broader capital market. From this principle it follows that there is no such thing as control value other than the strategic value deriving from synergies.

Industrial synergies generally make a company's strategic value higher than its financial or standalone value. The essence of negotiation lies in determining how the strategic value pie will be divided between the buyer and the seller, with both parties trying, unsurprisingly, to obtain the largest possible share.

QUESTIONS



- 1/What is the most relevant cash flow when valuing a company using the discounted cash flow method?
- 2/What sort of a discount can a minority shareholder get compared with a financial value? Show how the situation differs between a listed company and an unlisted company.
- 3/What is a synergy?
- 4/Logically, should a foreign investor with little knowledge of the country pay more or less for a company? Explain why foreign investors often offer the highest price. What is the role of the investment bank?
- 5/Can you multiply a P/E ratio by the EBIT to get the equity value?
- 6/Describe the type of company that has a financial value higher than its strategic value.
- 7/Which method in your view would be best suited for valuing: a property management company; a holding company; mutual fund; a company in the aeronautics sector; a bicycle factory; a portfolio of movies?
- 8/Can an asset have several values? Why?

- 9/Is a valuation of a cinema theatre or a chemist shop in terms of a number of weeks' sales a result of the sum-of-the-parts or the cash flow method?
- 10/What are the two determining factors when valuing a wine estate?
- 11/Which method should be used for estimating the value of a company in decline?
- 12/When a company is bought, is there a control premium?
- 13/Name the types of companies for which cash flow value is much higher than net asset value.
- 14/Can the purchase of a company by venture capitalists create value? And by trade buyers?
- 15/Has a reduction in working capital of 1% the same impact on a DCF as a 1% improvement in the EBIT margin?
- 16/Why can we say that the mean or the median figure is the choice of an indecisive person?
- 17/What is the popular saying on which the cash flow fade method is founded?
- 18/Should the buyer's costs be separated from the target company's costs in the cost savings that come out of a merger of two companies?

1/ Megabyte plc is a high-tech company experiencing transitional problems. To get through this difficult period, management has decided on a €120m recapitalisation. In 5 years' time, the company should make net profits of €21m, and be valued at 30 times its profits. Assume that the discount rate is 25% and that there will be no cash flows generated for 5 years.

- What is the present value of shareholders' equity?
- What is the present value of shareholders' equity if profits of only €14m are expected in 5 years?
- What do you conclude from the above?

2/ The table below shows the forecasts for Management plc (in millions of €):

| Year | 1 | 2 | 3 | 4 | 5 |
|-------------------------------|------|------|------|------|------|
| Sales | 3960 | 4080 | 4200 | 4326 | 4458 |
| Cost of goods sold | 1782 | 1794 | 1806 | 1860 | 1917 |
| Marketing costs | 870 | 897 | 924 | 996 | 1026 |
| Administrative costs | 396 | 408 | 420 | 432 | 447 |
| Depreciation and amortisation | 330 | 315 | 300 | 300 | 300 |
| EBIT (Operating income) | 582 | 666 | 750 | 738 | 768 |

EXERCISES

The company is expecting annual capital expenditure of 300 per year over the next 5 years; working capital will increase by 50 in years 1 and 2, and stabilise thereafter. The following information is also available:

- the company has net debts today of €2250m;
- the company's cost of equity is estimated at 10%, and the cost of debt at 6% (before tax);
- financing is split 2/3 equity and 1/3 debt; the tax rate is 37%;
- an increase in inflows of 2% to perpetuity can be expected from year 6.

Work out the value of Management plc using the DCF method.

- 3/ The mean multiple for the 2008 operating profits of comparable peers is 15, and the mean 2008 P/E is 25. Calculate the equity value of Pixi Spa. Key figures for the company are set out below.

| | Millions of € |
|-------------------------------------|---------------|
| Net debt at 31 December 2007 | 100 |
| 2008 ^e operating profits | 60 |
| 2008 ^e net profits | 32 |

- 4/ You have to value Nestlé, the Swiss food group, using a peer-comparable method. In 2007, Nestlé earned an operating income of CHF15bn and had, as of 31/12/2007, a net financial debt of CHF21bn. Nestlé owned 74% of the listed group Alcon which was fully consolidated and posted a 2007 operating income of CHF2.3bn and had a net financial banking debt of CHF0.4bn. Alcon market value of equity was CHF48bn. Lastly, Nestlé owned 28% of L'Oréal, consolidated using the equity method and whose marked value of equity as of 31/12/2007 was CHF96bn. If the 2007 EBIT multiple of food groups was 14, what is your estimation of the equity value of Nestlé?

ANSWERS

Questions

- 1/ Free cash flows.
- 2/ A liquidity discount only. For a private company, the liquidity issue for a minority shareholder will be much more important as probably no one will want to buy this minority stake (apart maybe from the majority shareholder!). Stock market for a minority shareholder provides some (if not perfect) liquidity.
- 3/ See p. 671.
- 4/ He/she should pay less because information asymmetry works against him/her. There is a price to be paid for strategic reasons (e.g. to enter a market). This is where the advisory banks come in – their role is to reduce information asymmetry.
- 5/ No, as the P/E ratio can only be used with net income.
- 6/ A company with a large market share, that is very well run and in a high-growth non-strategic market segment.
- 7/ DCF value, sum-of-the parts value, sum-of-the parts value, sum-of-the parts value, DCF value, DCF value.

- 8/ Yes, because an asset can have a value for an investor or a trade buyer that differs from its value within the company of which it is currently part.
- 9/ It looks like the sum-of-the-parts method but it is actually the normalised cash flow method.
- 10/ Inventories, quality of the estate's land.
- 11/ Sum-of-the-parts value.
- 12/ Yes, due to expected synergy gains.
- 13/ Advertising and Internet companies, Louis Vuitton and Gucci.
- 14/ Yes, for an LBO. Yes. Improved management, more efficient allocation of resources and better sharing of information.
- 15/ Yes, if the improvement in margin is not a one-off event as the reduction in working capital generates a change in cash flow for only one year.
- 16/ Because you have to choose where to position the company to be valued among its peers and mean or median is the answer for those who do not know how to make a choice.
- 17/ Trees do not grow until they reach the sky – ROCE cannot be higher than WACC for ever.
- 18/ No. At the end of the day it will be value creative for the new group who gets it (the acquirer or the target's shareholders) is a question of negotiation.

Exercises

- 1/ Present value with profits of 21: €86.4m. Present value with profits of 14: €17.6m. A one-third drop in profits reduces the value by more than 80% – very high volatility of value.
- 2/ Cost of capital 7.9%. Enterprise value = €6967m. Equity value €4730m.

| Years | 1 | 2 | 3 | 4 | 5 | Terminal value |
|-----------------------------|-----|-----|------|------|------|----------------|
| EBITDA | 912 | 981 | 1050 | 1038 | 1068 | |
| – Corporate income tax | 216 | 246 | 279 | 273 | 285 | |
| – Change in working capital | 50 | 50 | 0 | 0 | 0 | |
| – Capital expenditure | 300 | 300 | 300 | 300 | 300 | |
| = Free cash flows | 346 | 385 | 471 | 465 | 483 | 8307 |

- 3/ Equity value = €800m = $25 \times €32m = 15 \times €60m - €100m$.
- 4/ Nestlé value of equity = $14 \times (15 - 2.3) + 74\% \times 48 + 28\% \times 96 - (21 + 0, 4) = CHF219bn$.

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