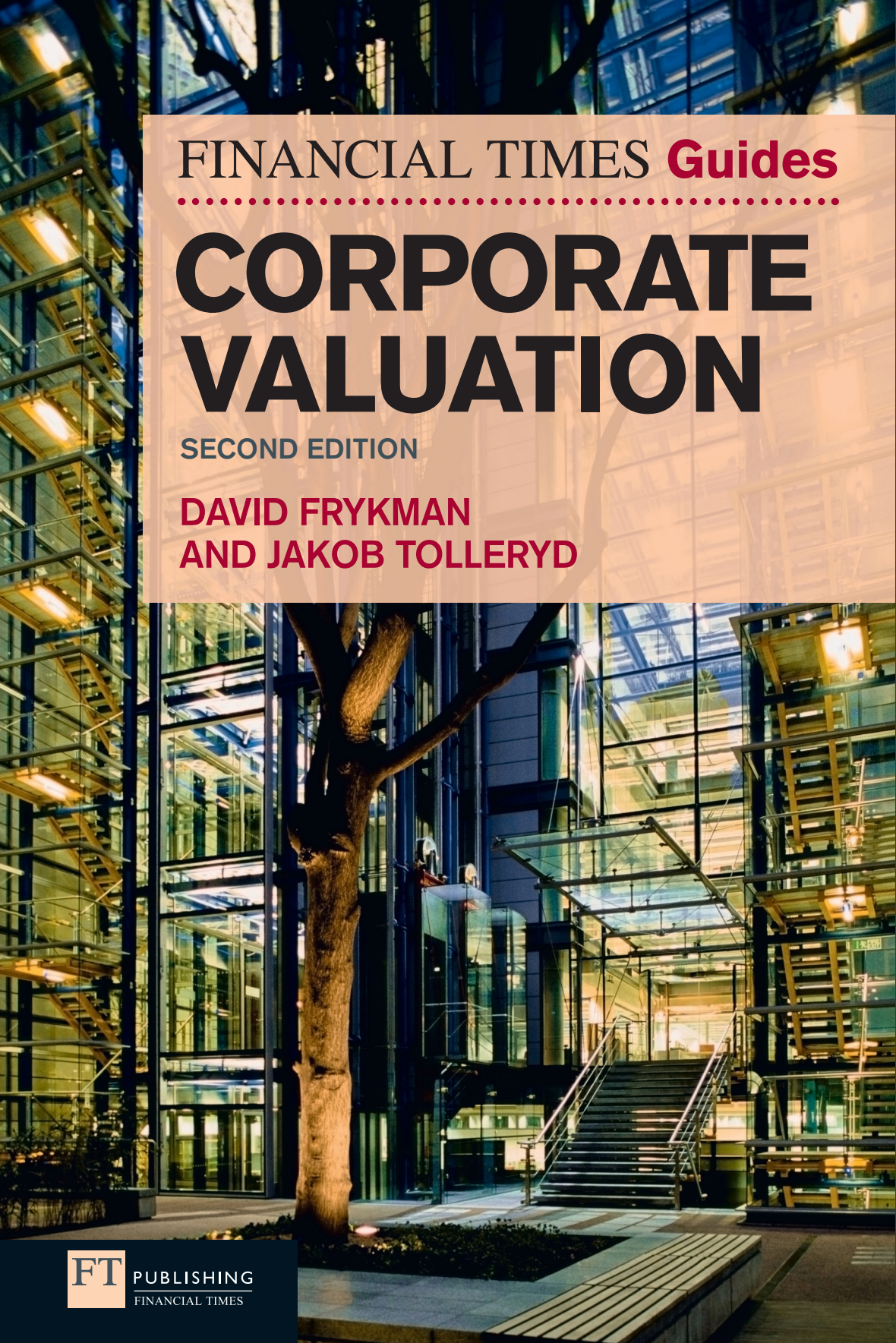
FINANCIAL TIMES Guides
CORPORATE VALUATION
SECOND EDITION
DAVID FRYKMAN
AND JAKOB TOLLERYD
FT PUBLISHING
FINANCIAL TIMES

Praise for the second edition of *The Financial Times Guide to Corporate Valuation*

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Analyzing comparability

Relative multiples produce a valuation of a company by applying the ratio for a certain variable from another company or the industry. It is important that these companies are similar to the company you are going to value. The multiple you aim to use should come from a company in a similar business and possess similar value drivers as the company you wish to value. But which companies are truly comparable? Some of the most important variables when seeking to compare similar companies are the following:

- market size
- market growth
- relative market share
- barriers to entry
- brand strength
- revenues
- gross margins
- growth in revenues and cash flow
- capital expenditure level
- operational and financial risk
- capital structure.

In fact, to do a proper analysis, you need to examine each and every comparable company and try to understand also the underlying business drivers. Why are the multiples different in the peer group? Do certain companies have superior products, better access to key customers, recurring revenues, lower customer churn, etc? The more you understand the financial and operating specifics of each company in the peer group, the more meaningful the multiple analysis will be.

The truly diligent investor will then be sure to take into consideration all possible value-affecting differences between the companies. However, as always, there is a trade-off between economy of use and the grade of accuracy – you will have to decide on what adjustments are necessary. If there is no suitable, comparable company, it might be best to use the industry average.

We will address the considerations needed for the different multiples in more detail under the description of the various multiples.

Time period

When using multiples, one important question is which year's data should be used as a basis for the analysis? Theoretically, it is of course the future finances available to the company, and ultimately its future cash flows, that are of interest. Also, empirical studies have shown that forward-looking multiples more accurately determine company value and are more aligned with how companies are actually valued in the marketplace. These studies were, however, based on data from listed US-based companies where precise and accurate forecasts are more available than for most other companies, in many other markets. For smaller companies and companies without the pressure from the public stock market, forecasts tend to be less reliable. In practice therefore, most investors and analysts tend to look both at the most recent historical data as well as forecasts for the coming years. For example, when valuing our example company Mobitronics in 2010 using an EV/sales multiple, a common approach would be to take today's market capitalization, add net debt and divide this by the 2009, 2010, 2011 and 2012 sales respectively to obtain four different multiples. These ratios would then be compared with ratios from comparable companies as we try to examine whether the valuation is high or low. For example, the EV/sales ratios for companies comparable to Mobitronics in 2009 are shown in Figure 5.2.

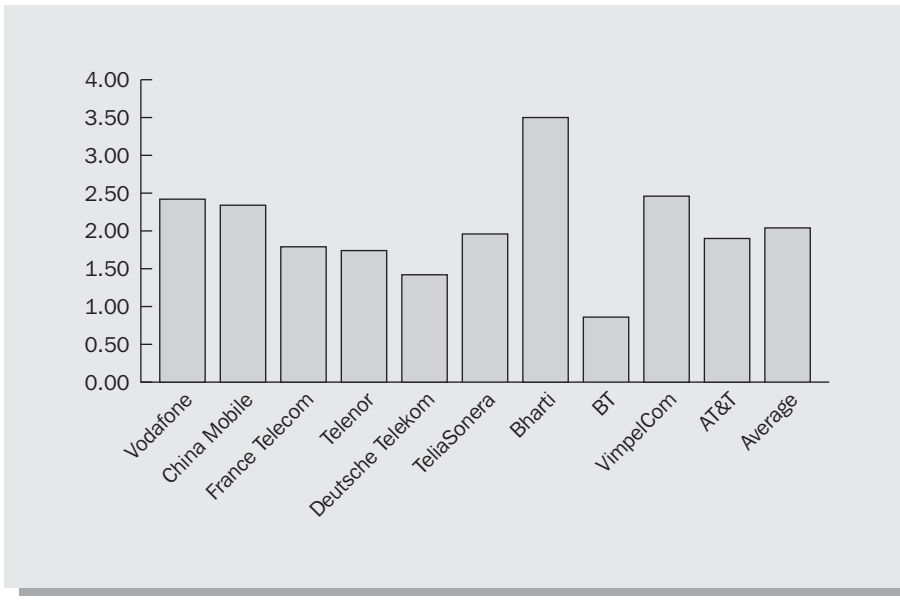

FIGURE 5.2 **EV/sales ratios for selected telecom companies in 2009**

Another analysis that could be of interest when valuing your business is to look at historical multiples. For example, if you are looking to find an undervalued asset, you may not wish to compare only how today's market is valuing the future cash flows of your business and other similar businesses. It may also be of interest to understand how it has been valued historically. More specifically, it may be interesting to compare the current multiple valuation of a mature company with its valuation during the same stage in the last macroeconomic cycle. For instance, the graph of the historical P/E multiple for Microsoft Corporation is shown in Figure 5.3.

Suppose you find that today's multiple is below or above its historical average. This may say nothing about the future development of the stock, but it is nonetheless an interesting data point in your valuation of the company. If nothing fundamental has changed in the business or the industry, but the multiple has, either the historical multiple or the current one is incorrect.

FIGURE 5.3 Microsoft P/E ratio (1987–2009)

The issue of accounting differences

Generally, in choosing your multiples, you wish to make the key statistics as comparable as possible. A number that is highly influenced by accounting will require more adjustments before it is comparable than those statistics that are less influenced. For example, profit multiples such as P/E ratios are very sensitive to accounting principles. If you compare the P/E ratios of two identical companies, where one company writes off assets at twice the speed of its competitor, the analysis regarding the two companies' relative valuations will be completely misleading. In general, accounting that does not affect cash flow does not and should not affect value.

The most common adjustments to consider for differences in accounting principles are shown in Table 5.1. These are just a few out of many accounting items you could compare and account for in order to achieve maximum comparability. However, as mentioned before, you need to decide how exact you wish the multiple to be. In many cases, an approximation might be sufficient.

Table 5.1: Common adjustments needed

Item	*Issue*
Amortization and depreciation	Do the companies you are comparing have the same time period as basis for write-off? Do they use the same principles?
Investments	Some companies may account for a certain type of capital outflow as a cost while others will define it as an investment in the balance sheet. This will affect the profit and must be accounted for.
Extraordinary items	Should generally be excluded from the calculations.
Leases	The basic but important difference that needs to be accounted for is whether the asset is included in the balance sheet as an investment purchased or off the balance sheet as rented.

One way to avoid some of these pitfalls is to use other statistics less influenced by accounting standards. This usually means calculating enterprise value instead of equity value. Certainly, this will depend on why you are

carrying out the valuation and whether you think calculating enterprise value will give rise to more complexities than the accounting differences will. But, if an enterprise valuation suits your purposes, there are a number of statistics to choose from which are less influenced by accounting. These include:

- **Sales (revenues)**. As the top line of the income statement, sales tend to be comparable between companies and even between markets. However, sales do not consider any of the costs involved in the business and do not give any measure of profitability. Also, caution needs to be taken since sales are not completely unaffected by accounting differences. In particular, differences in the handling of recognized and deferred revenues can be an issue.
- **EBITDA (earnings before interest and tax, depreciation and amortization)**. This item appears further down in the income statement and covers most costs in a company, and is a decent measure of profitability. It is also largely unaffected by accounting differences (often the two major accounting effects on EBITDA are how sales and costs are recognized). As it is also a good approximation of cash flow, EBITDA is one of the most commonly used statistics in multiple valuation today.
- **Cash flow**. This is, when calculated correctly, a statistic completely unaffected by accounting measures. Even cash flow may be 'massaged' by overly creative managers, see Enron for example, but it is still generally highly suitable for a multiple comparison. The downside is the complexity of calculating cash flow correctly and that cash flow may be very volatile from year to year due to extraordinary revenues, costs or investments. Therefore, one sometimes uses trend cash flow over a number of years in order to adjust for abnormal cash in- and outflow.

Different multiples

Below, we will present and calculate some of the most used and useful multiples, and discuss their pros and cons and when they should be used.

Book value (BV) multiples

- A book value multiple reflects the market value of the equity in relation to the company's book value. It is basically what would be left over for shareholders if the company was shut down and its debt paid back. Book value is the adjusted book value of total assets, less adjusted book value of liabilities. The ratio is called the price/book value or P/BV ratio and in some countries net asset value (NAV) ratio.

The formula for the relative multiple is:

$$\frac{\text{Price}}{\text{BV}} = \frac{\text{market capitalization}}{\text{adjusted BV of total assets} - \text{adjusted BV of liabilities}}$$

A book value multiple reflects the market value of the equity in relation to the company's book value

In the early days of valuation in the first half of the 20th century, the price/book value was widely used and was much more popular than it is today. That is because it works best with a company with a lot of tangible assets like factories, hardware, commodities, mines, etc. and that derives its revenues and cash flow from those assets. Examples of such companies today are banks, real estate and investment companies. All these industries have a common denominator in that they squeeze a small margin off a large asset base. Figure 5.4 illustrates the price relative book value in different industries.

However, many companies today rely heavily on intellectual assets and derive their revenues and cash flows from those intellectual assets. These companies often have relatively low book values, which makes the price/book value ratio unsuitable for valuation.

The formula for the fundamental multiple is:

$$\frac{\text{Price}}{\text{BV}} = \frac{\text{ROE} - \text{g}}{\text{ROE} \times (C_E - \text{g})} \times \text{ROE}$$

where ROE is return on equity, g is earnings growth and C_E is the cost of equity.

As can be seen from the fundamental formula, the return on equity (ROE) will to a large extent determine the P/BV ratio. A high ROE should normally result in a high P/BV ratio as investor demand will increase for a share giving them a good return on equity. A low ROE should, on the other hand, normally result in a low P/BV ratio as investor demand decreases for a share with a low return on equity. Similarly, a high earnings growth rate should lead to a higher P/BV ratio and a lower growth rate to a lower P/BV ratio.

When calculating the P/BV ratio for a company in distress, usually all intangible assets are removed from the book value since they most probably have no resale value. That ratio is sometimes referred to as price/tangible book value and is computed as: