

ОБЩЕСТВЕНИ КОМУНИКАЦИИ И ИНФОРМАЦИОННИ НАУКИ
PUBLIC COMMUNICATIONS AND INFORMATION SCIENCES

**COMPANY VALUATION USING THE MULTIPLIER METHOD IN GERMAN
INHERITANCE TAX LAW – PART II/III**

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Abstract: *The following analysis of company valuation using the comparative or multiplier method is the second of a total of three parts. In valuation practice, a basic distinction is made between enterprise value multiples (the numerator is the market value of equity plus interest-bearing net debt) and equity value multiples (the numerator is the market value of equity) (Lhnert, Böckmann 2023, pp. 881, 887 ff.). This study provides an overview of the different equity value and enterprise value multiples and their reference values. The derivation of the reference values for the multiplier calculation, i.e. the relevant earnings parameters from the income statement, is presented. It is shown how the market value of equity (equity value) is calculated on the basis of the market value of total capital (enterprise value) (and vice versa). It is examined whether an adjustment can be made by adding to and/or deducting from the enterprise value using the multiplier method.*

Keywords: *Comparative Public Company Approach; Inheritance Tax Act; Multiplier Method; Recent Acquisition Approach; Company Valuation*

INTRODUCTION

In valuation practice, a basic distinction is made between equity value and enterprise value multiples. In the case of **equity value multiples**, the market value of equity serves as the numerator, while the denominator contains reference values that are defined **after interest payments**, which is why the denominator uses values such as operating earnings after interest and before corporate taxes, i.e. earnings before taxes (EBT) or earnings after taxes (EAT), the best-known multiplier is the so-called price/earnings ratio, in which the share price per share is set in relation to earnings per share or net profit for the year. However, all equity multiples do not take into account the fact that the **level of debt** influences the cost of equity, i.e. highly indebted companies have higher costs of equity than companies with low levels of debt, This problem can be avoided with enterprise value multiples, as the numerator of **enterprise value multiples** is the market value of equity plus interest-bearing net debt, i.e. enterprise multiples are calculated using the fiction of a company with no debt, Accordingly, the denominator contains reference values that are defined **before interest payments**, which is why values such as sales, earnings before interest, taxes, depreciation and amortisation (EBITDA), earnings before interest, taxes and amortisation (EBITA) or earnings before interest and taxes (EBIT) are used in the denominator; however, enterprise value multiples do not take into account the tax effect due to different capital structures (Löhnert, Böckmann 2023, p. 887 ff.).

The term “enterprise value” is not uniformly defined, which is why a distinction is made between the equity value and the enterprise value when calculating the multiplier, whereby the **equity value** represents the market value of a company’s equity (for listed companies, the equity value corresponds to the market capitalisation (market cap for short), i.e. the number of shares x share price) and the **enterprise value** refers to the value of a company’s entire operating business (Ernst, Schneider, Thielen 2018, p. 226).

To determine (the **numerator** of the multiplier) the enterprise value of the **comparable companies**, either the market value of the equity (market capitalisation; excluding non-operating assets) plus the interest-bearing net debt **or**, to determine (the numerator of the multiplier) the equity value of the comparable companies, only the market value of the equity (market capitalisation; excluding non-operating assets) (comparative public company approach with trading multiples).

For unlisted companies from realised **market prices of comparable transactions** (recent acquisition

approach with transaction or industry multiples), the enterprise value of the comparable companies or the equity value of the comparable companies must be determined (the numerator of the multiplier) using the discounted cash flow method (weighted average cost of capital approach enterprise value or **flow-to-equity approach equity value**).value of the comparable companies, a company valuation must be carried out using the discounted cash flow method (weighted average cost of capital approach→ enterprise value or flow to equity approach→ equity value) or the capitalised earnings value method in accordance with IDW S 1¹ (→ equity value) (Serf, 2005, p. 184; Ernst, Schneider, Thielen 2018, p. 11).

RESEARCH METHODOLOGY

This study is the **second** of three parts and provides an overview of the different equity value and enterprise value multiples and their reference values. The derivation of the reference values for the multiplier calculation, i.e. the relevant earnings parameters from the income statement, is presented. It is shown how the market value of equity (equity value) is calculated on the basis of the market value of total capital (enterprise value) (and vice versa). It is examined whether an adjustment can be made by adding and/or discounting the enterprise value using the multiplier method. In the **third** part, the most important enterprise value and equity value multiples are explained and evaluated in detail. The role that non-operating assets play in the multiplier method is then analysed and the extent to which corporate taxes and the shareholders' personal income taxes affect the business valuation method is examined. In addition, it will also be shown to what extent case law recognises the multiplier method, as it can also be used effectively to minimise the inheritance or gift tax burden via § 11 (2) sentence 2 clause 1 of the Valuation Act. Finally, a critical appraisal of the multiplier method is provided.

RESULTS

Seppelfricke (Seppelfricke 2020, p. 293 f.) and Olbrich, Frey (Olbrich, Frey 2023, p. 478) propose the following calculation scheme:

Table:1 Calculation from enterprise value to equity value multiplier method

Market value of total capital (Enterprise value)		
- Interest-bearing liabilities		(= net debt
- Pension obligations	- Interest-bearing net debt	at the beginning of the
+ <u>Interest-bearing current assets</u>		<u>WACC approach)</u>
= Market value of equity (Equity value) excluding non-operating assets		
+ Non-operating assets		
<hr/>		
= Market value of equity (Equity value) including non-operating assets		

It should be noted that only the **interest-bearing net debt** is to be deducted from the market value of the total capital; this consists of the interest-bearing liabilities (e.g. bank and shareholder loans), the pension obligations and the interest-bearing current assets (e.g. cash and cash equivalents) to be offset; in recent years, it has become established practice to consider pension provisions (= “interest-bearing loan obligation” of the company to its employees) as interest-bearing financial liabilities and to take them into account in the calculation (Löhnert, Böckmann 2023, p. 888).

Whether the enterprise value or the equity value is used to calculate a multiplier depends on the reference figure used (e.g. sales or operating earnings after interest and after corporate taxes), as the reference figure (denominator) **specifies** the valuation (numerator), so to speak (= equivalence requirement) (Olbrich, Frey 2023, p. 479; Ernst, Schneider, Thielen 2018, p. 228).

If the peer companies are **indebted** but the company to be valued is not, it makes sense to choose the enterprise value with sales or a pre-interest profit figure as a reference value; an enterprise value based on sales is also considered if the profit is unknown or strongly influenced by accounting policy, whereas an equity value is considered if the capital structure between the company to be valued and the peer companies is compatible, which should be the exception in practice (Künkele 2023, p. 1656 f.).

Ernst, Schneider, Thielen provide an overview of practically relevant enterprise value and equity value

multipliers (Ernst, Schneider, Thielen 2018, p. 230):

Table 2. Overview of practice-relevant multipliers

Multiplier	Market prices of <u>comparable companies</u> Reference value of comparable companies	Reference value	Enterprise value multiplier or market capitalisation (equity value multiplier)	Dependence on framework conditions
<i>Enterprise value/Sales</i>	$= \frac{\text{Enterprise Value}}{\text{Sales}}$	Sales	EV	very low
<i>Enterprise Value/EBITDA</i>	$= \frac{\text{Enterprise Value}}{\text{EBITDA}}$	EBITDA	EV	low
<i>Enterprise Value/EBITA</i>	$= \frac{\text{Enterprise Value}}{\text{EBITA}}$	EBITA	EV	medium
<i>Enterprise Value/EBIT</i>	$= \frac{\text{Enterprise Value}}{\text{EBIT}}$	EBIT	EV	medium
<i>Enterprise Value/oFCF</i>	$= \frac{\text{Enterprise Value}}{\text{oFCF}}$	Operating free cash flow	EV	low
<i>Enterprise value/Sales value drivers</i>	$= \frac{\text{Enterprise Value}}{\text{Sales value drivers}}$	Value drivers for sales	EV	low
<i>Price-sales-ratio</i>	$= \frac{\text{Share price per share}}{\text{Sales per share}}$	Sales	MC	very low
<i>Price-earnings-ratio</i>	$= \frac{\text{Share price per share}}{\text{Earnings per share}}$	EAT	MC	high
<i>Price-book value-ratio</i>	$= \frac{\text{Share price per share}}{\text{Book value per share}}$	Balance sheet equity or economic equity	MC	very high
<i>Equity value/FtE</i>	$= \frac{\text{Equity Value}}{\text{FtE}}$	Flow to equity	MC	low

It must be taken into account that accounting differences between the peer companies become all the more significant the deeper the reference figure is “anchored” in the income statement, i.e. while sales are still largely spared from major accounting differences, every step down towards earnings after taxes (EAT) leads to a greater impact of accounting policy recognition and measurement options, which lead to a **dilution** of the reference figure (Löhnert, Böckmann 2023, p. 891), therefore the dependence on framework conditions indicates the influence of different national accounting and tax regulations as well as the utilisation of accounting leeway on the reference values and thus the multiples (Ernst, Schneider, Thielen 2018, pp. 230, 234).

MULTIPLIERS BASED ON FIGURES FROM THE INCOME STATEMENT

Most multipliers or multiplier valuations are calculated on the basis of figures from the income statement, such as turnover, EBITDA or EBIT, etc. (enterprise value multipliers), which are determined in accordance with the calculation scheme (see Table 3 (Ernst, Schneider, Thielen 2018, p. 233)), which is only partially based on the structure commonly used in annual financial statements (e.g. § 275 (2) of the German Commercial Code (HGB²)), so that individual items usually have to be reclassified. As a result, in a profit and loss statement prepared in accordance with the German Commercial Code (HGB), one-off income from the sale of fixed assets and current securities, insofar as they are included in other operating income, must be **reclassified** as extraordinary income. This requires a reclassification from their position before EBITDA (Earnings Before Interest, Taxes, Depreciation and

Amortization) to EBIT (Earnings Before Interest and Taxes). In doing so, other operating income and expenses should be analysed to determine whether they occur regularly or whether they are only of a one-off and therefore extraordinary nature (Ernst, Schneider, Thielen 2018, p. 232).

The specific selection of the multiples to be used depends on the sector to which the company to be valued belongs, its growth profile, the accounting differences and its earnings situation; it is therefore advisable to use an EBIT multiple rather than an EBITDA multiple in sectors in which the peer companies have different capital intensities, as the EBIT multiple takes into account the different reinvestment requirements due to depreciation and amortisation, if the company to be valued has higher or lower margins than the average or median of the peer companies, the sales multiple provides an indication of value, as it implies an identical margin profile between the company to be valued and the average or median of the peer companies (Löhnert, Böckmann 2023, p. 890 with further references).

Table 3. Derivation of relevant revenue indicators from the income statement for the multiplier calculation

Sales	
(EV multiplier)	
+ other operating income	
- Operating expenses	
<hr/>	
= EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation)	(EV multiplier)
- Depreciation and amortisation of fixed assets	
<hr/>	
= EBITA (Earnings Before Interest, Taxes and Amortisation)	(EV multiplier)
- Goodwill amortisation	
<hr/>	
= EBIT (Earnings Before Interest and Taxes)	(E V
multiplier)	
<hr style="border-top: 1px dashed black;"/>	
+ Extraordinary income	
- Extraordinary expenses	
+ Investment income	
- Interest expenses (or + net interest income)	
<hr/>	
= EBT (Earnings Before Taxes)	
(MC multiplier)	
- Income taxes	
<hr/>	
= EAT (Earnings After Taxes)	
(MC multiplier)	

PREMIUM AND/OR DISCOUNT ON THE ENTERPRISE VALUE

It should be noted that the business value determined after applying the multiplier (before taking into account the non-operating assets) does not yet represent the final value of the business valuation process using the multiplier method; it is often adjusted by a premium and/or discount, which can be attributed to the size of the valuation object at hand, the fact that it is generally not listed on the stock exchange and any differences between the company to be valued and the comparable companies that remain even after careful selection.

- a **Package premium** (PP = control premium, as the company to be valued is acquired as a whole, for example, which gives the possibility of influencing the management; in practice, package premiums of between 20%–50% are applied);
- a **Fungibility discount** (FD = discount due to the lack of stock market listing of the company to be valued compared to the comparable companies taken into account in the multiplier, which limits its marketability and thus resaleability);
- a **Portfolio discount** (PD = discount, because the company to be valued is a company that only manufactures *one* product compared to the market);
- a **“Small-Cap-Discount”** (SCD= discount, as the company to be valued is compared with the market leader and thus a subordinate market position of the company to be valued must be taken into account; in practice, small-cap discounts of up to 50% occur) (Olbrich, Frey 2023, p. 481 f.).

Formula for premium/discount on the enterprise value (Olbrich, Frey 2023, p. 481 f.):

$$Equity_{adj} = EQ_{comp} + PP - FD - PD - SCD + Non - operating Assets_{after tax}$$

<i>Equity_{adj}</i>	Market value of equity including the value of non-operating assets (= enterprise value)
<i>EQ_{comp}</i>	Market value of equity excluding the value of non-operating assets
<i>Non – operating Assets_{after tax}</i>	Liquidation value or present value of the expected liquidation proceeds from the sale of the non-operating assets after corporate taxes (corporation tax plus solidarity surcharge + trade tax) and personal income taxes of the shareholders (income tax plus solidarity surcharge)

In this context, Olbrich, Frey point out a supposed pseudo-objectivity of the comparative methods, because, for example, the selection of the comparable companies deemed suitable, the type and number of reference values used and the formation of a premium (package premium) or discount (e.g. fungibility discount) are at the discretion of the valuer, they are **not** verifiable, therefore a sensitive use is recommended within the framework of § 11 BewG³ in order not to jeopardise the recognition of the business value by the tax authorities using the multiplier method (Olbrich, Frey 2023, p. 487 with further references).

CONCLUSION

This study on company valuation using the multiplier method has produced the following five results:

1. In the case of **equity value multiples**, the market value of equity serves as the numerator, while the denominator contains reference values after interest payments.
2. Equity multiples neglect the fact that the **debt ratio** increases the cost of equity, so comparing equity value multiples for companies with different debt ratios leads to incorrect enterprise values; enterprise value multiples avoid this problem.
3. In the case of **enterprise value multiples**, the market value of equity plus interest-bearing net debt serves as the numerator, i.e. enterprise multiples are calculated on the basis of the fiction of an unlevered company, and the denominator accordingly contains reference values before interest payments.
4. Whether the enterprise value or the equity value is used to calculate a multiplier depends on the **reference value** used, as the reference value (denominator) determines the valuation (numerator),

so to speak.

5. If the multiplier method is used via § 11 (2) sentence 2 clause 1 of the Valuation Act to minimise the enterprise value and the inheritance or gift tax burden, it is advisable to use the premium and/or discount on the enterprise value **sensitively**.

NOTES

1. IDW S 1 is a valuation standard published by the Institut der Wirtschaftsprüfer in Deutschland e.V. (IDW), the Institute of Public Auditors in Germany. It provides principles for conducting company valuations in a consistent and standardized manner.
2. HGB is an abbreviation of *Handelsgesetzbuch* in German, which means German Commercial Code.
3. BewG is an abbreviation of *Bewertungsgesetz* in German, which means Valuation Act.

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ОЦЕНКА НА ДРУЖЕСТВА ПО МЕТОДА НА МУЛТИПЛИКАТОРА В НАСЛЕДСТВЕНОТО ПРАВО НА ГЕРМАНИЯ – ЧАСТ II/III

Резюме: Настоящият анализ на оценката на дружествата чрез сравнителния метод или метода на мултипликаторите е втората от общо три части. В практиката на оценяването се прави основно разграничение между множители на стойността на предприятието (числителят е пазарната стойност на собствения капитал плюс лихвоносния нетен дълг) и множители на стойността на собствения капитал (числителят е пазарната стойност на собствения капитал) (Löhnert, Böckmann 2023, pp. 881, 887 ff.). Настоящото проучване предоставя преглед на различните множители на стойността на собствения капитал и на стойността на предприятието, както и на техните референтни стойности. Представено е извеждането на референтните стойности за изчисляване на множителя, т.е. съответните параметри на печалбата от отчета за доходите. Показано е как се изчислява пазарната стойност на собствения капитал (стойността на собствения капитал) въз основа на пазарната стойност на общия капитал (стойността на предприятието) (и обратно). Проучено е дали може да се направи корекция чрез добавяне и/или приспадане от стойността на предприятието, като се използва методът на множителя.

Ключови думи: подход на съпоставими публични дружества; закон за данъка върху наследствата; метод на мултипликатора; подход на скорошно придобиване; оценка на дружеството

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