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# Gazdaság & Társadalom

## TARTALOM

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# Alternative Approaches of Corporate Valuation Methods for Small and Medium Sized Enterprises[1]

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ABSTRACT The traditional methods like substance-value, net capital value and discounted cash flow (DCF) methods have proven to be problematic and show some limitations especially regarding the valuation of small and medium-sized enterprises (SMEs). A theoretically correct application of these methods can still leave room for interpretation for an auditor to influence the valuation results.

In a nutshell all these methods do not include the most important specific influencing factors on SME valuation in contrast to the valuation of a big company. The IDW (Institut Deutscher Wirtschaftsprüfer) e.g. names the differentiation between private and company assets, the salary of the managing owner and the lack of information or information asymmetry as key differentiation factors. By taking these factors into account the correct valuation of SMEs can be secured.

For the valuation of SMEs Busch (2008) and Behringer (2012) invented two different adapted valuation methods that consider the main differences between big companies and SMEs. They both reduce the complexity of the valuation process and include factors like the managing owner, the lack of separation between corporate and private assets.

## Introduction

The field of corporate evaluation is characterised by a great number of evaluation methods. This variety of methods is a result of business administration dealing with corporate evaluation for many years. The topic has an enormous relevance for the economy and therefore it is considered as a topical interest. All over the world different methods of corporate evaluation are applied, constantly developed as well as completely new invented (Ernst, Schneider, & Thielen, 2008, p. 1).

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The thought, valuation equals comparing, is the center of all valuation methods (Moxter, 1983, p. 123).

It is common practice to differentiate between profit based, market based and cost based evaluation methods. Cost orientated methods are mainly used for reasons of liquidation value, or the reproduction calculation. The discounted cash flow or the earning rate are used as a method for total evaluation and include estimated future earnings. The market based measures are the multiples that are calculated based on trading or transaction data, they provide the current company value (Seppelfricke, 2007, p. 12). Different reasons for corporate evaluation require different techniques. The reason for the evaluation defines the method that has to be used (Born, 2003, p. 1). Corporate valuation can be necessary in various situations in the lifetime of a company. Mainly it is linked to important decision concerning the future perspective. The reasons for an corporate valuation are buy or sell of a company as whole or parts of a company, conduction of capital, going public, management buy-out or management buy-in, legal regulations, reasons of contract, arbitration proceedings or accounting reasons like international accounting standards (Budde, Dörner, Geib, & Gelhausen, 2007, p. 149).

Corporate valuation is the basis of decision making. Faulty results can have serious consequences for the future perspective of a company and its stakeholders. If the buyer pays too much for a company a profitable company can go bankrupt, if future earnings cannot cover the costs that have been paid. The other way round if the price is to low on vendor side it can have an enormous influence on the life standard. It has to be a major goal for business administration to develop valid valuation systems that fit to various reasons of valuation (Behringer, 2012, p. 27). Especially for SME corporate valuation is very important in situations like alteration of generation, succession or simply sale (Behringer, 2012, p. 27). Small and medium enterprises (SME) represent the majority of transactions in Germany and therefore gain in importance (Röhl & Brügelmann, 2008, pp. 19-21).

Unfortunately various differences of SME compared to major companies were not taken into consideration of standard valuation methods (Hackspiel, 2010, p. 131). For politics and publicist, major companies with well known brands, are kept in the foreground. Major companies represent a minority compared to SME (Hamer, 2006, p. 28). According to the Institut für Wirtschaftforschung 99.6% of all tax-paying companies are SME. These companies generate 36.9 % of the total turnover in Germany. SME provide 59.9 % of all working places and they teach 83.1% of all apprenticeships. The economic influence of SME is bigger in eastern Germany than in western Germany (IfM, 2010).

More than 500 hidden champions and other SME represent the base of the German economy. SME are more specialized than major companies and mainly lead by a managing owner (Simon & Huber, 2006, pp. 52-54). One of the main differences between SME and major companies can be found in the management,

SME are strongly influenced by the owner. The decision making process is much faster in comparison to the major ones (Pfohl, 2006, p. 80).

The subjects of the paper are corporate valuation methods. The main focus is on the valuation of SME and analyses of two alternative approaches for valuation of SMEs.

**Application of valuation method on SME**

In the following chapter will check the applicability of the methods, on the valuation of SME. In the beginning the main differences between SME and major companies will be explained. It will point out the problems in valuation which will arise because of these differences. In the end of the chapter two valuation methods, which were invented in order to valuate SME were analyzed.

*Definition of SME*

The term medium sized enterprises cannot be defined exactly. Currently in science there is no uniform definition, which makes it even harder to get deeper into the topic (Wegmann, 2006, p. 13). A definition of the term small and medium sized enterprises should primarily grant a uniform classification and secondary form a homogenous group which is different to the group of major enterprises (Pfohl, 2006, p. 1).

A clear classification can be defined by using just one criteria. If the group is defined by two or even more criteria, the number of cases in which an enterprise would fit with one criteria into a different category than the other would increase. This would have a negative influence on the uniformity. On the other hand using just one criteria distinctive features and regional differences would not be taken into consideration. To grasp the differences within the group of small and medium sized enterprises it is sometimes necessary to define more than one criteria (Behringer, 2012, p. 30).

As criteria qualitative as well as quantitative features can be used. Quantitative features might be economic key performance indicators based on the annual financial statement. Quantitative features grant an exact definition of the analyzed company (Busch, 2008, p. 11; Behringer, 2012, p. 30).

*Qualitative criteria*

The Institut deutscher Wirtschaftsprüfer (IDW) surrendered the quantitative definition for small and medium sized enterprises. The IDW defines companies by means of qualitative criteria which leaves the auditor a lot of room for the valuation. Especially the differentiation between small and major enterprises can differ from one to another auditor (Busch, 2008, p. 14). SME need to be legally

and economically independent. Dependent branches as well as enterprises belonging to corporation are not defined as SME. Major companies usually belong to a group and have an independent management. The owner's influence on operative and strategic decisions is little. SME are heavily dependent on the managing owner (Behringer, 2012, pp. 34-36). If management and ownership are combined in one person, the owner has a direct influence on the earning power of the enterprise. The companies are also called manger owned companies (Pfohl, 2006, pp. 14-17). Qualitative features are the internal structure and the way of handling business. The owner is the center of the enterprises. It is an interrelation between owner and enterprise (Busch, 2008, p. 30).

According to the IDW the lack of separation in business assets and private assets is another feature of SMEs. The knowledge and the capabilities of the owner is linked with the enterprises success. The bookkeeping is economically orientated and has a strong focus on taxes (IDW, 2008, pp. 38-40). Modern management methods are rarely used in SME, compared to major companies. Internal planning is kept on a lower level compared to major companies. These enterprises are steered by single persons and choices are mainly gut decisions. As a result planning and forecasting is not secured (Wegmann, 2006, p. 18). Reasons for the lack of planning are, the unpredictable future, the lack of resources as well as the flexible management (Pfohl, 2006, pp. 91-92).

In most of the cases when management and owner are the same person, the audit is more a self audit than supervised by others (IDW, 2008, p. 37). Companies managed by the owner are mostly operating under legal form of e.K. GbR or oHG. According to a study of the Ifm they represent 83% of the SMEs. The remaining percentages are limited liability companies 99% within that group operate under GmbH (IDW, 2008, p. 290). On account of the legal form and lower requirements for reports, these reports are less meaningful than those of major companies. Annual financial statements have a stronger focus on taxes (IDW, 2008, p. 39).

With regard to performance related factors like procurement, production, and sales SME are limited. Geographically SME are more specialized on local markets and niches by offering individualized services (Hamer, 2006, pp. 35-36). Even though SME are becoming more and more internationalized, their main focus lays on local and regional markets. These restrictions can be linked to lower market forces and a greater dependence on partners (Pfohl, 2006, p. 19).

Furthermore, SME from an economic point of view, have inappropriate net assets. This can be a result of the poor access to the money market. SME usually have very low percentage of net equity. Instead of supporting the substance by measures of equity financing, SME use debt capital secured by private assets. Therefore it is hard to divide between private and corporate capital (Busch, 2008, pp. 16-18). Compared to major companies SME have to pay higher interest-rates regardless of the rating. Because of the relatively small investments the transaction

costs carry a higher weight. The financing within the SME is tending to extremes of very high value of equity capital or in opposite to very little equity capital.

As a result of the lack of access to the capital market credit financing with banks dominates. The net asset based is traditionally influenced by the owner. Some SME are owned by families since generations (Börner, 2006, pp. 298-300). The typical owner of SME has a very large sum of equity capital invested in his company. Corporate goals are not only financial but also non monetary like added value of the work, responsibility for the employees etc (Helbling, 2012, p. 805).

*Quantitative criteria*

In research literature, there are many quantitative indicators for the size of a company mentioned such as number of employees, turnover, balance sheet total, assets, and market share. Most of them are not stored or with free access for the public. Basic approaches are therefore based on the number of employees and turnover (Knackstedt, 2009, pp. 11-13). In the international context the definition of the European Union gains importance. The thresholds for medium sized companies are more than 250 employees or a turnover above 50 million € per year or a balance sheet total of 43 million €. The thresholds for small enterprises are more than 50 employees and a turnover of 10 million € or more or a balance sheet total of 10 million €. Micro enterprises have a maximum of nine employees, a turnover of less than 2 million € and a balance sheet total less than two million € (Behringer, 2012, pp. 33-34).

The HGB defines in paragraph 267 which enterprises are small enterprises. At least two of three criteria need to be fulfilled to have a match. For small enterprises the balance sheet total needs to be less than 4 million €, the turnover less than 4,015 million €, and the number of employees in average per year needs to be less than 50. For medium size enterprises the balance sheet total needs to be less than 16.06 million €, the turnover less than 32.12 million €, and the number of employees in average per year needs to be less than 250. Major companies are everything above these criteria (Pfohl, 2006, p. 15).

The Institut für Mittelstandsforschung (Ifm) made a differentiation especially valid for Germany's SME. According to this definition the maximum number of employees is 500 and the maximum turnover is 50 Mio €, every company which exceeds these number is a major company (IfM, 2002).

**Limitations of general valuation method for SME valuation**

Single valuation methods are not suitable to evaluate the going concern value of SME, as they do not take subjective factors into consideration like synergic effects or other advantages granted by the investment. This is also a reason that the

substance value method not suitable to calculate a fair value. The substance value has got a high degree in objectivity and the problems that arise from future orientated total value methods is avoided by taking the past or current data into account. But the fundamental approach of creating a future value has failed (Serfling & Pape, 1995, p. 816).

Capital assets can only represent a certain value in connection with employees who have got the know how to use it. Furthermore the product does also need channels of distribution to meet the demand of potential customers. All these influencing factors were not taken into account by the substance value methods. Another point of criticism is that intangible assets are completely excluded by the use of these methods (Aigner & Holzer, 1990, pp. 2229-2230).

The basic assumption of multipliers can be subsumed as comparable transactions or company can be valuated on a comparable price level. Transactions multiples are also hard to carry out as transactions within the environment of SME are mainly kept secret. If transaction prices are available they can only be used as base of a multiplier if all details concerning that transaction are known (Ernst, Schneider, & Thielen, 2008, p. 161). Multiples do not indicate a future value, with the application of multiples the current market price can be calculated. Multiples are based on data of the past. Multiples can lead to a wrong price depending on the current mood of the market.

If the general market expectations are high the price will increase even if the company has bad substantial data. If a company has very figures, is well established in the market and the valuation is made after a crash the price will be too low (Busch, 2008, p. 308). Another source of failure is the definition of the peer group. SME only address themselves to a small niche of the whole product range of major companies. The peer group as a result is not as equal as in theory. Differences in the level of debts are normal (Schwetzler, 2003, pp. 87-88). The reduction of the corporate valuation down to reference value, the focus on data of the past and the inaccuracy in the peer group are reasons for not using multipliers as a mean to valuate SME (Busch, 2008, p. 310).

Especially in Germany it is a problem to collect data of unlisted companies. In those cases sectored data which fit to the peer group are used. The sector as the only criteria is not considered sufficient. For trading goods there are existing market prices whereas for corporate transaction they do not exist. A reason for this is that there are no identical companies in the market. Most companies differ in quality and quantity. Operating in the same sector does not mean having the same reputation, capital structure, and product range or capital structure. As a result the creation of a relevant peer group is nearly impossible (Knackstedt, 2009, p. 141). According to the IDW multiples can only be used as a measure to validate the results of the DCF or net-profit methods (IDW, 2008, pp. 35-38). In opposite to the IDW Grün Grün-Dreieich and Grote state those multipliers have a high

relevance in practice and are often used for the valuation medical practices or offices of freelancer. The number of fixed assets is compared producing companies small; the main value is the number of customers, knowhow and a good reputation. Other valuation methods would not be able to calculate a realistic value (Grün-Dreieich & Grote, 2012, pp. 840-843).

The complexity in corporate valuation lays mainly in defining the main factors or value drivers. These factors need to be carefully evaluated and combined to draw a conclusion about the value of a company with respect to the market and other influencing factors (Hommel & Braun, 2005, p. 80). Especially in the case of SME the little information base and the lack of structured planning make the valuation more difficult on account of not being listed in stock exchanges the valuation by DCF and multiplier methods fails on the lack of data (Keller & Hohmann, 2004, p. 194).

Total value methods are also limited applicable for the valuation of SME. SME are characterized by the owner who is working for the company, a problem in this case is how to calculate an adequate salary. Another problem for the valuation is the working power of family members as well as contract, credits and consulting costs for people who are connected with the owner (Busch, 2008, p. 349; Behringer, 2012, p. 241; Knackstedt, 2009, p. 105). In addition, the lack of division between private capital and corporate capital is another issue. A strict division of both is in most of cases not feasible (Keller & Hohmann, 2004, p. 194).

The analysis of the past is the base of the future perspective of the SME and its plausibility. Since it is mainly focused on taxation aspects, the annual financial statement is problematic as well. Another point of criticism is the reliability of the data as no auditor tested and certified it (Matschke & Brösel, 2007, p. 34).

A major problem of the analysis of data taken from the past annual statements is to exclude earnings from special influences. Unique appearing special influence cannot be predicted, e.g. insured cases of damage, product defects. The time span needs to be long enough to point out individual corporate investment cycles and give a sound prediction of future earnings (Ernst, Schneider, & Thielen, 2008, pp. 84-86). The analysis of the past needs to include environmental studies with respect to the supply and demand as well as the development of competitors. In most of the cases there are insufficient funds available to carry out such detailed methods like Porters 5 forces or others (Born, 2003, p. 47).

The net value approach and the DCF methods are based on the 2 periods. The first is the detailed planning period; the second is the terminal value period. The cash flow of the long term phase is based on the last cash flow taken from detailed planning period. This approach bears the risk of manipulation of the last year's detailed period in order to influence the total value.

Especially the assumption of constant earnings for the long term period can be questioned. Another characteristic of SME is the fluctuation of investment cycle

which can result in a not representative value for the second period. This can have a negative or positive influence on the result of the valuation (Henselmann, 2006, p. 5). Especially because of specific strengths and weakness of SME, e.g. good customer contact, fast speed of reaction, lack of long term planning, it can be useful to prolong the detailed planning period up to 10 years (Keller & Hohmann, 2004, p. 213). The estimated development for the future is a different problem. The auditor needs to check if internal forecasts are based on realistic predictions. Substantial completive advantages need to be made plausible for external third persons. In order to check the future prediction compared to the most relevant competitors, benchmarks are useful. This leads to the problem on how to generate the relevant information of the competitor (Henselmann, 2006, p. 4).

The Total value methods and the underlying CAPM have to face many critics. The CAPM is based on the assumption of a perfect market. The perfect market is defined as follows:

– unlimited excess without transaction costs
– no information asymmetry
– infinite speed of reaction
– unlimited credits without a rise in interest rate
– homogenous goods no preferences
– homogenous investors
– homogenous expectations
– free market entrance

All market participants are expected to be equally risk averse and have the same future expectations (Mandl & Rabel, 2002, p. 291).

SME generally have no clear division between private assets and corporate assets. A direct convertibility of SME into cash is not possible, which is a contradiction to the assumptions of the CAPM (Keller & Hohmann, 2004, p. 194).

As SME are characterized by the influence of the owner the knowledge can be a restriction as potential investors need to have the same base of knowledge. This is a contradiction to the basic assumptions of the CAPM theory's free market entrance. In reality there can be legal limits to access a company like pharmacies, notaries etc (Busch, 2008, p. 202). Owners of SME have limited possibilities to diversify the risk of the investment (Keller & Hohmann, 2004, p. 194). The basic assumption of the portfolio theory is not valid for SME investors. That is the reason why the CAPM is not applicable. As a result of the lack of diversification the systematic risk needs to be refunded (Busch, 2008, p. 203).

The CAPM Model is based on just one period, which is not clearly defined. The equity yield as discount rate can only be used under the assumption that the risk free interest rate, the market risk premium as well as the beta remains constant over the complete valuation period. This assumption is not realistic and leads to failure in valuation (Matschke & Brösel, 2007, p. 32). The basic version of

the CAPM is based on the market portfolio which includes all goods that can be traded within the stock exchange as well as besides like raw material, art, properties etc. In practice a certain index replaces the market portfolio, which is questioning the basic assumptions (Ernst, Schneider, & Thielen, 2008, pp. 95-97).

The CAPM assumes that by means of diversification the unsystematic risk can be eliminated. Investors get rewarded for the market risk. This assumption might by valid for single shares, but for packages which grant influence or for SME it is not valid. In reality the specific risk of buying a company cannot be eliminated. The CAPM does not cover the total risk of an investment (Matschke & Brösel, 2007, p. 34).

The CAPM consists of the market risk premium and the beta which represents the degree variation compared to chosen index. The MRP is defined by the market and the beta represents the individual risk (Meitner & Streitferdt, 2012, p. 514). The calculation of the beta bears the same risk of manipulation as an individually defined risk premium. The beta can be influenced by the underlying data, the selection of shares and the time span of the observed period (Ernst, Schneider, & Thielen, 2008, p. 60; Busch, 2008, p. 199).

In reality there is no such market like the stock exchange for investments in SME. Sometimes a surcharge for the lack of fungibility is calculated in addition to the beta factor (Busch, 2008, p. 210). A fast reaction on changes in earnings is not possible as the sale is most of the time contracts with long term cancellation periods are existing (Keller & Hohmann, 2004, p. 194). The sale of a company is also including a lot of additional expenses which were not taken into consideration of the CAPM (Knackstedt, 2009, p. 141).

The calculation of the market value of the equity capital poses a circulation problem. In order to calculate the correct cost of capital with the WACC the market value as an input factor is vital. But the market value of the equity capital is defined as the result of the corporate valuation by discounting the cash with the WACC (Busch, 2008, pp. 94-96). In general DCF and net value methods are not applicable for the valuation of young and high growth companies. The data of the past is not enough to estimate the future growth. If the cash flow is negative both methods fail without a question (Behringer, 2012, p. 313).

### Adapted valuation methods for SME

Based on the problems of the valuation of SME economists have invented special approaches which should compensate the difficulties. At first the author introduces a modified net value method based on the work of Stefan Behringer. The second method is based on the dissertation of Kai Busch who invented a modified mean value method, which is a combination of break-up value and net value method. Both authors do not rely on DCF method because of the capital market

based approach. Both take the skills of the current management into account. Both approaches will be analyzed. In the end the author will draw a conclusion which is the better method for the valuation of SME.

### *The modified net value approach for SME by Behringer*

Behringer uses a modified net value approach for valuation of SME, the result form Behringer's valuation method is subjective corporate value. Behringer starts the valuation process by the isolation of the object of the valuation. It needs to be clearly defined which assets should be included in the valuation process. The process starts with generating a list of assets which belong to the operative business of the company every asset within this list is representing a saving in costs for the investor. The focus is on a clear cut between private and corporate assets.

For reasons of taxation the function of the asset is decisive. From the legal point of view a differentiation between necessary and voluntary corporate assets has been put up (Behringer, 2012, p. 241). Necessary assets can only be used to generate and operative output, voluntary assets can be used for the company and for private reasons as well. All other assets are by legal definition private assets (Vollmuth, 2009, p. 60). Behringer uses these criteria to build up his inventory. Basically all assets that are of any interest to future success of the company should be a part of the calculation (Behringer, 2012, p. 243). Especially patents or properties which are excluded from the transaction need to be taken into calculation by additional costs for licenses, rental or leasing (IDW, 2000, p. 840).

As limiting factors Behringer takes the break-up value for the lowest price and the reproduction costs as the maximum price. Within that price span the transaction prices can be calculated. The modification of the net value approach is the inclusion of the owner's capabilities into the method. The earnings which are generated in SME are directly linked to the influence of the managing owner (Behringer, 2012, pp. 247-249). The marginal price is depending on the capabilities of the management. If the capabilities of the old management are better than those of the investor it would cause a reduction in price the investor is willing to pay. If the investor has better educational skills and is calculating expect synergies than the willingness to pay for the company increases. The marginal price on side of the vendor remains the same but the price range to come to a transaction increases.

The management skill corrects the estimated earning which result from common estimation methods. If the result of the management capabilities states that the success of the company is linked to the vendor and the investor does not gain anything with this investment there would be no realistic scenario for a transaction.

Behringer is using checklists to compare the capabilities of the current owner to those of the potential investor. This checklist will never be completed and is depending on the basic valuation circumstances, conditions, additions, or changes have to be made. If the auditor checked the capabilities of the current owner and the potential investor the result needs to taken into account for the valuation. If the skills of the potential investor are much better than those of the current owner the earning will rise in the medium term. The valuator needs to add this management factor in his estimation for the future earnings.

The result is a rise in the price for the company and a broader transaction span for both parties, which leaves more room for negotiations. The income of the current managing owner needs to be taken in consideration. This is a result of assuming that the alternative investment generates earnings without using the investors working force (Behringer, 2012, pp. 248-250). The problem of defining an adequate salary for the managing owner is a topic in many economical discussions. In case of incorporated companies the current height of management salaries has to be evaluated as well. The Benchmark in both cases is the salary the investor could generate as an employee. This is a subjective approach as for each potential investor the potential salary needs to be calculated. By comparing the salary with other salaries the received fringe benefit need to be included within the benchmark (Helbling, 2012, pp. 805-808).

The consideration of the risk of the investment compared to the riskless investment can be calculated in two ways. The first approach would be adding a security equivalent to the counter of the net value formula. The other approach would be adding a risk surcharge to the denominator (Behringer, 2012, pp. 262-265). The last mentioned approach is the main approach used for valuations (Mandl & Rabel, 2002, p. 232). Behringer is doing the same with his approach. For listed companies it is much easier to estimate potential risk based on information of the past, in order to calculate an objective risk surcharge which is reasonable for individual thirds. The transfer to the SME is more critical and problematic (Behringer, 2012, pp. 263-266). Any other approaches were far more criticized, as they are individually determined by the valuator and not inter-subjective reasonable. Form the theoretical point of view an individual risk premium for each investor is not satisfactory.

But according to Behringer the individual background of the investor needs to be considered as well. An investor who invested the total money in a company requires a higher risk premium than a group of investors who have many similar investments and can spread the risk. As limiting factors Behringer takes the break-up value for the lowest price and the reproduction costs as the maximum price.

Within that price span the transaction prices can be calculated. The reproduction as a maximum price can only be valid if the immaterial assets are very

little, if the location is not important and if the market is growing and if there is enough customer potential for new entries. If one of these factors is not fulfilled the assumption of the reproduction is not valid (Behringer, 2012, pp. 267-269). With respect to the above mentioned assumptions the net value can be calculated by the standard net value formula (Mandl & Rabel, 2012, p. 54):

$z$      = risk-premium,
$E$      = earnings,
$m$      = time horizon of the detailed planning period
$n$      = time horizon going concern period
$t$      = time index
$E_t$     = earnings in Period t
$NOC$  = non operating capital

### Adjusted mean value method according to Busch

According to Busch only the net value method is capable to calculate the future earning of SME. The DCF Method is not applicable as it only takes the systematic risk into consideration. Busch's approach is a modified net value approach in combination with the substance value method. In total it is a mean value concept. The advantage is sharing the risk for the vendor and the investor. The break-up value should be weighted with one third and two thirds are the modified net value approach (Busch, 2008, p. 343).

The forecast of the earnings is based on internal planning, which should be designed to be inter-subjectively reasonable. The earning power which is linked to the owner needs to be considered as well. The contact to very important suppliers should be included in the valuation. Contracts with suppliers need to be checked for uncommon payment conditions, like discounts or success premium. This uncommon condition needs to be cleared up if they will no longer exist or if the company is sold. Another factor is the contact with the customers, Busch expects a general loss in turnover by 15 %. This is done following the most likely scenario used in the Stuttgarter method. The owner's salary has to be included in an appropriate manner (Busch, 2008, pp. 348-350). In opposite to the DCF where, the terminal value represents an endless live time of the company (Ernst, Schneider, & Thielen, 2008, pp. 9-10), Busch had chosen a typical live time of 30 years. This expected life span is based on the assumption of a personification of the typical investor and is supported by an analysis of Simon Huber (Busch, 2008, pp. 350-353). Simon Huber calculated an average term of office of 20 years for the management. For market leading SME the average office term of the management is 30 years. Whereas the number of managing directors within the lifetime of these companies question Busch is approach (Simon & Huber, 2006, pp. 60-63).

Similar to the DCF Methods, Busch also uses the system of analyzing the past and give a future prediction in two periods. The first stage is the detailed planning period, the second is long term period. In Busch mean value method the detailed planning period is over five years as a result the long term phase is 25 years. The result of the last detailed year is the base for the long term period. The expected yield remains constant from year 6 up to 30 (Busch, 2008, p. 351).

As alternative investment Busch had chosen government bonds with a fixed interest rate. Taxes were only taken into consideration on base of the SME, private taxes were excluded. The riskless interest rate will be calculated for the life span of 30 years by meaning of the Svensson formula (Busch, 2008, pp. 354-356).

By an additional risk premium on the base interest rate uncertain investments shall be made comparable to the investment with secured earnings (Kuhner & Maltry, 2006, S. 131). With the help of credit ratings made by banks Busch rated the credit worthiness of the company. By using the internal rating based base-interest-rate for the calculation of the minimum capital requirements for the credit risk in accordance to Basel II, the probability of default (PoD) of credit a is calculated. Other fixed parameters of the rating are the loss given default (LGD) and the maturity (M) of 2.5 years which were defined by the banking supervision (OeNB, 2006, p. 44).

As corporate valuation is not about calculating minimum capital requirements for credits the LGD and maturity were left out of the calculation (Busch, 2008, p. 362). The POD shows, the probability of default within the next year (Bundesverband Deutscher Banken, 2005, p. 31).

The riskless interest rate is used for corporate valuation instead of using the credit rate. The POD is calculated based on the IrB. The Risk premium is calculated for the first year assuming constancy over the next 29 years. The internal bank rating is based on two components the first ones are called the hard facts the second are called soft (Busch, 2008, p. 363).

Hard facts and soft facts need to be put into proportions; in general hard-facts are more relevant than soft facts. The bigger the company, the more influencing are the hard-facts (KfW, 2000, pp. 27-29). Afterwards the weighted soft facts and hard facts were added in the rating to come to combined rating score. The rating scores were subsumed under ranges. Out of these ranges the different rating classes or rating grades arise (Krahnen & Weber, 2000, p. 8). The different rating grades will be linked to the POD of the rating class (Bundesverband Deutscher Banken, 2005, p. 15). Busch chose this model as the base of his corporate valuation method in order to calculate the (z) as surcharge for an uncertain investment.

Busch also decided to rely on the sixths stage scale of the "initiative Finanzstandort Deutschland". Every stage represents an interval like school grades, six represents the highest POD and one represents the lowest, which means six has to be calculated with the highest risk premium and 1 with the lowest.

**Table 1 Different rating grades**

| Rating-grade | Interval RGSH | Credit Rating | PoD- [=Riskpremium adapted to model as % of (i)] |
|---|---|---|---|
| I | 1,0-1,49 | Very good credit rating | to 0,3 % |
| II | 1,5-2,49 | Good credit rating | 0,3 to 0,7 % |
| III | 2,5-3,49 | Suffficient credit rating | 0,7 to 1,5 % |
| IV | 3,5-4,49 | Credit rating risk above the avarage | 1,5 to 3,0 % |
| V | 4,5-5,49 | Credit rating high risk | 3,0 to 8,0 % |
| VI | 5,5-6,0 | Credit rating very high risk o | 8,0 to 20 % |

*Source: (Busch, 2008, p. 366)*

The calculated probability of default as a result of the rating will be used to calculate the risk premium (z). Afterwards (z) the risk premium will be integrated in Busch valuation method inform as an addition to the risk free interest rate of the alternative investment (Busch, 2008, pp. 367-368):

z = risk premium
Pod= probability of default
$i_e$= interest rate of the alternative investment

The hard facts or the quantitative factors were obtained from the financial statements of the last 3 years (Bundesverband Deutscher Banken, 2005, p. 21). In order to take the future relevance into account the financial statements have different proportions. This is an analogy to the Stuttgart method were figures weighted according a timeline. The latest financial statement is the most relevant for the future perspective. The result of the hard fact rating is the rating score value. This is called (RGSH) rating score value of hard facts is the arithmetic mean of the past 3 financial years. Whereas the yearly total ratings of hardfacts $(GRH_{t-x})$, can be weighted according to their relevance to the future perspective of the company.

The rating of the hard facts is based on the results of the SME studies of the Austrian research group called KMU Forschung Austria in Austria. In Austria an empiric research was made which dealt with insolvency of companies linked to size in form of turnover and the sector (Bornett, Bruckner, Hammerschmied, & Masopust, 2006, pp. 41-44). Based on the knowledge of SME research Austria and the Austrian national bank figures like equity ratio, cash flow ratio, ratability of turnover, dept repayment duration, dept capital ratio and dept repayment ratio are reliable indicators for potential insolvencies (Busch, 2008, pp. 371-373).

The results of this had been divided into 10 different stages. The first stage is the worst and has got the highest probability of default. In opposite the 10th stage is the best and has the lowest possibility of default. Besides the different stages the companies were also differentiated by the turnover and the sector. In order to make these 10 stages conform to the rating scale of the IFG with it six stages scale Busch made the following the following classification:

Dezil 1[6,0-5,75]     and Dezil 2[5,74-5,5]     = Grade 6

Dezil 3[5,49-5,00]    and Dezil 4[4,99-4,5]     = Grade 5

Dezil 5[4,49-4,00] and Dezil 6[3,99-3,5]        = Grade 4

Dezil 7[3,49-3,00] and Dezil 8[2,99-2,5]        = Grade 3

Dezil 9[2,49-1,50]                                = Grade 2

Dezil 10[1,0-1,49]                                = Grade 1

These six resulting figures were differentiated by the proportion; the result is a total figure which is the so called (GRH). This process has to be carried out for each one of the 3 last financial periods. As already described the periods have different weights because of the relevance for the future earnings. Finally the rating score for the hard facts can be evaluated as follows (Busch, 2008, pp. 372-373):

RGSH          = Rating score value of the hardfacts
GRH           = Total rating score of the hardfacts within a year
t             = Time periode

The second part of Busch's valuation method is the rating of the individual soft facts. According to Busch soft facts can be divided into the following risk groups, management, accounting, organization, assets, employees, market, the current situation of the company, relation to the banks (Bornett, Bruckner, Hammerschmied, & Masopust, 2006, p. 14). Every group of risk will be divided into single risks. In order to make a statement concerning the dimension of the risk, the valuator classifies them into different scales. Busch uses the division into six different stages one is the best and six is the worst (Bundesverband Deutscher Banken, 2005, p. 14).

By dividing the quality of soft skills into these 6 grades Busch quantifies a qualitative feature and made it compatible to the IFD scale. According their importance for the future development of the company these clusters can be weighted differently (Busch, 2008, pp. 380-383). With the end of the rating procedure the results of the different groups of soft skill were combined to a single rating score.

RGT           = Rating grade in total
RGSH          = Rating score value of the hard-facts
RSSG          = Rating score value of the soft-facts

This rating grade can now be taken over to the rating scale of the IFD. A rating interval can be connected with a risk. The corporate value according to Busch's method can be calculated as follows (Busch, 2008, p. 398):

| | |
|---|---|
| CV | = Corporate value |
| CBV | = Cleared up break-up value |
| i | = interest rate |
| z | = risk-premium, |
| t | = time index |
| $E_t$ | = earnings in Period t |

### Assessment of the introduced valuation approaches

Busch and Behringer reject the DCF Methods as suitable for the valuation of SME (Behringer, 2012, pp. 247-249; Busch, 2008, pp. 347-349). Busch is calculating an objective risk premium measured KPI (Key performance indicators) and the capabilities of the managing owner compared to an assumed average investor. As a backup for the investor Busch includes the substance value to his valuation method (Busch, 2008, pp. 347-349). In opposite to Busch, Behringer uses the substance value as a limiting price, the substance value represents minimal price for the vendor. The risk premium is individually calculated for each potential investor considering the specific financial situation. A financial investor who is in control of many investments can spread his risk according to the portfolio theory, whereas a single investor who invested all his assets has to calculate a much higher risk premium. The capabilities of the current management are compared to those of the potential investor (Behringer, 2012, pp. 262-264).

According to the IDW the success of the SME is linked to the management skill of the managing owner. The earning power which is linked to the capabilities of the owner needs to be excluded. This leads to the question which other factors can influence the value of the company if the main value driver has to be excluded and the new owner should not take his place. If valuation would be strictly according to the IDW S1 the corporate value would be less than the break-up value (Busch, 2008, p. 135).

Behringer and Busch do contradict to that statement and therefore expanded their valuation methods by valuating the capabilities of the current management. Behringer measures the management skill compared to those of specific investors and Busch uses an average skilled management to get an objective value of management skill (Behringer, 2012, pp. 247-249) (Busch, 2008, pp. 347-349).

In the United States Tuller also developed a method for valution of SME. This method is based on the DCF Method and modified by implementing the lack marketability of SME and the family effect. The family effect is similar to the

valuation of the owner's capabilities and therefore supports the basic approaches of Busch and Behringer (Tuller, 1994, pp. 11-13).

The company which should be evaluated is embedded and under the influence of its environment. Interactions between the environment and the company have an influence on the future earnings. The most important influencing factors need to be defined, analyzed and the future influence needs to be taken into consideration. Such factors can be technical progress, interest rate, qualified employees as well as competitor's behavior new market entrants, purchasing power of customers etc.

In order to gain relevant information Ballwieser suggests benchmarking within a relevant peer group. Both methods do take these factors as a base for estimation of the future earnings, but especially for SME benchmarking within the peer group which leads to problems as there is little information given by the market (Ballwieser, 2007, p. 42). One of the main problems is the definition of a relevant peer group which includes companies with a comparable capital structure. Both methods do not invent a proper solution to solve this problem (Keller & Hohmann, 2004, p. 194).

In accordance with both methods Keller, Hohmann stated that the auditor needs to calculate the future turnover as well as the planned investments. The future turnover is influenced by the environment and the general demand. The turnover of the past which represents the base for the estimation of future turnover needs to be cleared from extraordinary influences. The planning of future turnover is in general not available as the managing owner has little time capacities for planning or the planning are only made in the head. As a result the auditor needs to put up a planning himself which leads to much room for subjective assumption which cannot be proved (Lanz, 1992, p. 75).

The estimation of projecting the future turnover linked to the environment and the market strategy, the valuator needs to estimate the resulting turnover based on his experience. The future turnover is always uncertain and therefore results in different scenarios (Ballwieser, 2007, p. 15). Future estimations are always uncertain no matter what forecast method is used as data referring to the future is always inaccurate and fragmentary (Helbling, 2012, p. 809). The uncertainty in forecasts is caused by the uncertainty which scenario is the most likely one (Peemöller & Kunowski, 2012, pp. 277-279). The uncertainly cannot be eliminated by math. As a result there is not one corporate value, the valuation must result in a bandwidth of potential values. The future plans on which the valuation is based need to be checked in detail by the auditor (Helbling, 2012, pp. 809-811). Both methods lead to a bandwidth of value which forms a corridor; within this corridor the transaction price can be found.

According to Barthel the management salary has an enormous influence on the result of the valuation, as balance sheet total is minimal compared to major

companies, even a negative corporate value is possible (Barthel, 1990, p. 1146). Behringer and Busch do also include the management salaries in their methods, Behringer is pointing out that the management salary needs to be corrected by surcharges and discounts if the salary is not reasonable (Behringer, 2012, p. 195), but the question about a reasonable management salary is difficult to answer. The management factor is very subjective and needs to consider engagement and the relevant skills. A comparison within the sector can only give an indication (Busch, 2008, p. 143).

Another point of criticism is that both methods do only take financial goals into account non financial goals were not taken into consideration (Mandl & Rabel, 2002, p. 32). Both methods are not able to imply strategic goals. Strategies and synergies usually take some time to have an effect on the earnings. Therefore there is a high possibility that these effects were not taken into account in the detailed planning period. As a result long-term planning period which is based on the last year of the detailed planning provides incorrect result (Behringer, 2012, p. 146).

As SME are not marketable like major companies listed in the stock exchange some auditors take it as general practice to calculate a discount between 35-40% on the calculated value (Lorson, 2004, p. 230). The advantage of investing in SME is the influence which it grants to the investor. If you buy a few shares you are not able to steer the company. As an opposite to the fungibility surcharge a control premium should also be taken into consideration (Pratt, Reilly, & Schweihs, 2000, pp. 345-347). Both authors were aware of this problem but they decided to exclude these surcharges for their method.

Both methods do include the substance value for Behringer the substance is minimum price to vendor. Busch uses a mean value method with 1/3 substance value and 2/3 net value method. As a contradiction to these approaches Suckut argues that a potential investor is not interested in purchasing a fix value. The investor is interested in the future earning which could possibly result from the investment. The actual value of the company can only be valuated by using the going concern assumption and not by the addition of data of the past. The other point of criticism is that the break-up value is based on the single values of each asset and on the assets regarded as a unit. The reproduction value is not capable to generate a maximum price (Suckut, 1992, p. 105).

The IDW does only allow using net value or DCF Methods for valuation of SME all other where rejected (IDW, 2008, p. 40). In contradiction to Busch, Ballwieser calls mean value methods as inappropriate as they are calculated by means of the substance value (Ballwieser, 2007, p. 185).

All mentioned valuation methods to not include meta economical goals, which can be described as power of influence on the strategy or being independent or simply the going concern of a life's work (Behringer, 2012, p. 228).

Corporate valuation and planning is focused on the future earnings, the calculation of a risk premium based on data of the past is a contradiction to that. Both methods rely on the incorrect assumption of the stationarity of the past data (Busch, 2008, pp. 197-198). Fischer Winkelmann calls this an incorrect prolonging of past data to the future and names it retro gnosis (Fischer-Winkelmann, 2006, p. 173).

### Conclusion and outlook

In Germany as well as internationally there is no approach enjoying popularity among theory and praxis at the same time. Even in law there is no clear definition on how to evaluate a company. The only result is that the company should be evaluated in an objective way to create a fair value (Behringer, 2012, p. 313). According to the guideline of the IDW corporate valuation must be based on the net value method or DCF (IDW, 2008, pp. 39-41). Besides the IDW many higher regional courts like OLG Düsseldorf München and Stuttgart accept DCF and net value methods as relevant methods to measure the corporate value of a company (Wüstemann, 2010, p. 1715).

All traditional methods does not include the most important influencing factors on SME valuation compared to the valuation of a major company. The IDW names differentiation between private and company assets, the salary of the managing owner and the lack of information. By taking these factors into account the correct valuation of SME is secured (IDW, 2008, p. 36).

For the valuation of SME Busch and Behringer invented a method that considers the main differences between major companies and SME. They both reduced the complexity of the valuation process and included the factors like a managing owner, the lack of separation between corporate and private assets just to name a few. Both methods are not applicable for companies with start-up losses.

Furthermore these methods are not applicable for the valuation of freelancer's workplaces like e.g. doctors, lawyers or tax advisors. These professions are different to industrial SME with tangible assets, as their main assets are intangible like knowledge and goodwill. For these companies substance is not as important as in the industrial sector. The main value is the number of clients and the potential future that they promise. In these cases multipliers are far more suitable (Grün-Dreieich & Grote, 2012, pp. 840-843). Within the last years the multiplier methods are used more often for the valuation of company transaction less than 50 million. In practice trading multiples are the most common methods (Keller, 2006, p. 12).

The market does not provide sufficient data for the valuation of a company based on similar transaction or even peer group, as SME do not unfold all data that have an influence on the company's value. Most information is kept

secret or fragmentary which makes them unemployable for the valuation process (Ballwieser, 1990, p. 165).

Even though the DCF may appear inapplicable for valuation of SME with regard to the capital market orientation, they are mainly used in practice. A reason might be that they seem to portrait in objective value on account of being calculated on market base (Keller, 2006, pp. 12-13).

All mentioned valuation methods do not include meta-economical goals, which can be described as power of influence on the strategy or being independent or simply the going concern of a life's work (Behringer, 2012, p. 228).

In many cases besides the valuation process earn out contracts were made which are linked to the payable value. If certain conditions are fulfilled and additional payment is the result. The other way round penalties payments can also be part of the contract. These contracts are useful measure to come to a fair value (Brösel & Hauttmann, 2007, p. 231).

Corporate Valuations had been and will be subjectively influenced. There is no right value that can be calculated. Corporate valuation is a mean to calculate a bandwidth value, within this bandwidth the vendor and buyer meet to carry out the transaction (Busch, 2008, p. 325).

Further fields of research can be seen in developing new approaches that are focused on the specifics of SME. In order to elaborate these approaches the term SME has be divided into different fields like micro, small and medium sized companies, which in the end should have their own valuation method. Another field of research can be seen in the combination of valuation measures. Earn out contracts can be also a very interesting topic for further fields of research. Another is the valuation of the managing owner, how can this subjective feature be portrayed in an objective manner. Further valuation methods also need to focus on the reduction of complexity and costs as well.

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## List of abbreviations

| | |
|---|---|
| APV | Adjusted Present Value |
| BC | Break up costs |
| BV | Break up value |
| CAPM | Capital Asset Pricing Model |
| CBV | Cleared up break up value |
| CF | Cashflow |
| DCF | Discounted Cashflow |
| DV | Debts value |
| EBIT | Earnings before interest and taxes |
| EBITA | Earnings before interest and taxes & armotisation |
| EBITDA | Earnings before interest and taxes depreceation & armotisation |
| e.K. | Eingetragener Kaufmann (registered merchant) |
| EV | Equity value |
| FCF | Free Cashflow |
| GAAP | General accepted accounting principals |
| GbR | Gesellschaft bürgerlichen Rechts |
| GmbH | Gesellschaft mit beschränkter Haftung |
| GRG | Total ratings of hardfacts |
| IDW | Institut deutscher Wirtschaftsprüfer (Institute of Public Auditors in German) |
| IfM | Institut für Mittelstandsforschung |
| KPI | Key performance idicators |
| LGD | Loss given Default |
| MRP | Market risk premium |
| oFCF | Operative free Cashflow |
| oHG | Offene Handelsgesellschaft |
| PBV | Price book value |
| PER | Price earnings ratio |
| POD | Probability of default |
| RGSH | Rating score value of hard facts |
| RSSG | Rating score value of soft facts |
| SME | Small and medium sized enterprises |
| WACC | Weighted average cost of capital |