GERRIT BRÖSEL
MARIO ZIMMERMANN

FUNCTIONAL BUSINESS VALUATION:
THE NEED FOR REDISCOVERY OF A MATURE CONCEPT

Introduction

The price of a good is determined as an exchange value from supply and demand. How high each party is willing to bid depends on its marginal utility, the outcome of its intentions and its preferences. Hence, the value of a good for the valuation subject is distinct, or in other words: subjective. This insight is based on the "subjective value doctrines" founded by Hermann Heinrich Gossen (German) and Carl Menger (Polish, PhD in Kraków) as well as the so-called Austrian School more than 100 years ago. In addition to that, the more famous Eugen Schmalenbach acknowledged and expressed the need for subjective orientation when it comes to valuation processes (Schmalenbach, 1917, p. 1).[1]

The *classic Anglo Saxon valuation school* who's most eminent representatives are Fisher, Dean and Hirshleifer emerged from the insights of the Austrian School (Fisher, 1930, inscription and preamble, pp. X-IX). Fisher, who based his separation theorem on the strict assumptions of perfect capital markets and pure competition, was refuted by Dean and Hirshleifer (Dean, 1951; Hirshleifer, 1958) by the use of differing (credit and debit) interest rates. This rebuttal can be assessed as the first step towards imperfect capital markets. However, the *neo-classic Anglo Saxon valuation school* abandoned this (promising) approach and took up Fisher's (rebutted) assumption of perfect capital markets and evolved many descriptive equilibrium models under strict and idealized premises.[2] Nowadays, these models form the tool box of valuation practitioners, financial analysts, investment professionals and other related proficiencies.

In order to account for the 2008/2009 financial crisis a period of self-reflection has to dawn. Theories and models including the present valuation practice have to be put to the test. Especially the widespread neo-classic valuation models and their inherent premises and assumption need closer consideration, with regard to whether their extent of abstrac-

---

[1] A comprehensive description of the historical development of the different valuation schools including a comparison is given by Hering (2004, pp. 107–114).

[2] To name only some representatives: Markowitz, Sharpe, Modigliani/Miller and Black/Scholes. It has to be stated that only under these strict assumptions, a congruence of value and price can be achieved.

tion from reality is (still) justifiable. In that period, practitioners and scholars should also consider alternative valuation concepts and test those on consistence and more (appropriate) realistic assumptions.

For this reason, the paper at hand introduces the concept of functional business valuation – a mature and realistic concept that is still mainly disregarded by the neo-classic Anglo Saxon valuation school (Olbrich, 2000, pp. 458–459). This valuation theory follows up on the results of the Austrian School and the German subjective value doctrines. After systematizing the valuation causes, the development of business valuation theory in Germany – from the objective over the subjective and lastly to the functional concept – will be displayed. Like every other calculation, business valuation calculation has to serve a purpose (Hering, Olbrich, Steinrücke, 2006, p. 407). Therefore, the subsequent paragraphs will give an overview about the main functions of functional business valuation doctrines and their different value types. In this context the potential use of financial valuation techniques will be discussed.

Valuation Causes

Within the framework of business valuation, the object that shall be valued, usually a whole company/business or certain definable parts of it, is called valuation object. The valuation subject on the other hand is the initiator of the valuation process. The causes of this process are various motives and occasions. The systematization of these causes, originating from the work of Matschke (1975, pp, 30–55 and 1979, pp. 30–42) and renewed by Brösel (2002, pp. 51–55), supports the model-theoretic analysis and enables a deduction of adequate valuation models. Causes connected with the change of ownership can be classified into the following types of conflict situations: Acquisition/sale and merger/demerger, one-dimensional and multi-dimensional, joint and disjoint as well as dominated and non-dominated conflict situations.

Conflict situations of the acquisition/sale-type are valuation causes in which one party (seller) abandons its ownership of the valuation object to receive a reward from the opposing party (acquirer). Merger/demerger conflict situations do not feature this kind of change in of ownership. The conflict type merger (Reicherter, 2000, pp. 119–122) describes a situation in which several companies shall be merged and the owners of these companies intended for valuation will receive proportionate ownership of the new entity. This definition applies to the situation type demerger vice versa.

In order to achieve a result from the negotiations between the conflicting parties, it is necessary to have consensus on specific terms. These specific terms are called conflict-resolution-relevant facts. Concerning the number of these facts, **one-dimensional and multi-dimensional conflict situations** must be distinguished. One-dimensional means that only one fact exists that is relevant to solving the conflict. In the case of the acquisition/sale conflict situation, the price is usually this sole fact. However, the crux of the merger/demerger

conflict situation is the distribution of shares in the new entity or the split-offs respectively. By contrast, it takes an agreement on several parameters to solve a multi-dimensional conflict situation.

Conflict-resolution-relevant facts can be divided into original and derivative facts. If parameters change the decision field directly, they have to be considered as **original conflict-resolution-relevant facts**. For instance, in order to promote a shift of ownership, the conflicting parties need to have consent on these factors. Therefore the original facts have a complementary relationship to each other. Original facts include e.g. the amount of remuneration, the extent of the company as well as regulations about restraints on competition. The very various ways to configure remuneration are assigned to the original parameters as well.

Derivative conflict-resolution-relevant facts on the other hand influence the valuation subject's decision field indirectly. Derivative parameters are utilized to deduce or found the value of the original circumstances and therefore have a means-end relation to the original facts subject to negotiation.

In a **disjoint/unaffiliated conflict situation**, one party values the object in a sole conflict situation that has no relation to other negotiations. Usually business valuation literature deals with this simplified situation. Exceptions are solely presented by Matschke (1975, pp. 336–356), Hering (2006, pp. 16–17) and Brösel (2002, pp. 51–55).

However, the **joint/affiliated conflict situations** are indeed of high practical importance. Here, the valuation subject is involved in more than one negotiation which creates interdependencies. An isolated consideration of one conflict situation is therefore not sufficient.

Discrimination between dominated and non-dominated raises the question, whether one conflicting party is able to dominate the valuation process and the change in ownership or not. Hence, none of the conflicting parties can enforce a change of ownership against the intention or without co-operation of the opposing party in a non-dominated conflict situation. On the contrary, one conflicting party is able to change ownership on the valuation object against the expressed will of the other conflicting party in a dominated conflict situation (Hering, Olbrich, 2001, pp. 20–38).

Valuation Concepts

The center of interest of the objective business valuation theory, which has been the leading opinion in business valuation literature until the 1960s, was to appraise an objective value of the company/business (e.g. Mellerowicz, 1952 and Lackmann, 1962). This approach is meant to be impersonal, meaning detached from subjective interests. The sought-after value is attached to the company and can be realized by every "ordinary" businessman, according to representatives of this theory.

The focus of this theory was to ascertain an unbiased value in order to overcome clashing interests of conflicting parties, without taking the parties' interests into account.

Therefore representatives of this concept mainly focused on past and present conditions while calculating the objective value. Because of its abstraction from the valuation subject, the so calculated objective value does not provide adequate decision support.

Representatives of the **subjective business valuation theory** argued for a controversial position that was supposed to replace the objective theory (Busse von Colbe, 1957; Münstermann, 1966 as well as Käfer, reprinted papers, 1996). According to their position, the calculated subjective value incorporates intentions and plans of a specific valuation suitor.

As a basic principle, every valuation subject ascribes a specific and generally different value to the valuation object, which is considered as the marginal price for the company of the valuation subject. This concept of business valuation is characterized by the fundamental doctrines of valuation: The principle of overall assessment, the principle of future orientation and the principle of subjectivity.

The highly controversial opinions expressed by the objective and the subjective business valuation theory were resolved by the functional business valuation theory (basic literature to this theory which is known as "Kölner Funktionenlehre" are e.g. Sieben, 1968; Matschke, 1969; 1975 and 1979; the latest comprehensive literature is Matschke, Brösel, 2007a; see also Matschke, Brösel, 2011). The main idea of the leading opinion in valuation literature since the 1970s is the purpose-dependent value of a business. Accordingly, the value of a business is calculated by incorporating the expectations, intentions and plans of the valuation suitor, with regard to the specific remit (Matschke, Brösel, 2008b, p. 7; see also Matschke, Brösel, 2007b). "A business does not only have a specific/individual value for every valuation subject but can also have different values for different remits" (Matschke, 1995, p. 973).

Valuation is conducted purpose-driven; the business value and its method to calculate it do not exist. The functional business valuation theory is based upon the fundamentals of comprehensive valuation, and the application of the future as well as the subjectivity amended by the principle of dependence of purpose (Matschke, Brösel, 2008b, p. 7; see also Matschke, Brösel, 2007b).

Valuation Functions and Types of Value

Only when beginning with the purpose of business valuation, sensible rules of valuation can be derived (Matschke, 1981, p. 115). Within the framework of functional business valuation, main and minor functions are distinguished (e.g. determining the form of contract, the tax base and the type of communication). The following remarks are confined to the main functions, to which the decision, mediation, argumentation and the connected types of value are subordinated.

The decision value of a business is the outcome of a valuation within the scope of the decision function. "Assuming a predetermined system of objectives or preferences and given decision field, the decision value discloses to the decision subject under which cir-

cumstances or complex of conditions the execution of a given action just barely does not reduce the achievable level of target achievement" (Matschke, 1972, p. 147). In other words, the decision value is the utmost limit of concession to the decision subject in specific conflict situations (Hering, Olbrich, Steinrücke, 2006, p. 407).

The decision value has four attributes: It is calculated in reference to a defined activity (attribute of activity-orientation) and is related to a specific decision subject (attribute of subjectivity and system of objectives orientation). It is a critical parameter (attribute of marginal value) that is exclusively valid for a concrete decision field and its deducible alternatives (attribute of decision field orientation).

If business valuation is tending to a change in ownership and the price is the sole relevant factor for the conflicting parties, the decision value corresponds to the marginal price of a party in this conflict situation. From the presumptive buyer's view, the decision value, as the upper price limit, is exactly the price he is willing/able to pay without taking an economic disadvantage. In negotiations, of course, this critical price should be kept secret in order to not weaken one's own position (Sieben, 1988, p. 81).

If business valuation is performed within the scope of the mediation function (Matschke, 1979), the outcome will be the arbitration or mediation value. An appraiser will be assigned as an impartial third party who has to determine the arbitration value. With this value, the conflicting parties can agree on a reasonable compromise regarding the conditions of change in ownership. Hence, the interests of both conflicting parties are equally respected. In order to be reasonable, the arbitration value should not infringe on both parties' negotiation limits (principle of rational behavior). This requires the existence of an overlapping negotiation bandwidth: Hence, the decision value of the buyer essentially has to be higher than the decision value of the seller.

The decision value therefore has a vital role within the mediation function. According to the principle of party-based adequacy, it incumbents on the appraiser to determine the arbitration value within the so-called arbitration-band based on the postulate of justice.

The outcome of a business valuation within the scope of the argumentation function is called the argumentation value (Matschke, 1976). The argumentation value is highly biased. Its purpose is to influence the opposing party within the negotiation. Utilizing this tactical value, the own position can be strengthened and in consequence, a better deal can be struck. Argumentation values are often proposed into negotiations as alleged decision or arbitration values. Appropriate argumentation values require knowledge of the own decision value as well as an assumption of the opposing party's decision value. The coordination of an argumentation value also requires knowledge of the own decision value promoted by an idea of the aspired result of the negotiation.

Applying neo-classic financial valuation models (e.g. types of DCF-method and the option pricing model) in order to calculate a decision value seems to be quite doubtful. Based on idealized information efficiency as well as perfect markets and pure competition, supporters of these models try to calculate a mystic objective exchange value that serve

as the company's virtual market-value (Olbrich, Brösel, Hasslinger, 2009, pp. 901–902; Serfling, Pape, 1996, pp. 57–64; Rams, 1998, pp. 676–680; Rollberg, 2009). Particularly with regard to small and medium-sized enterprises (SMEs), the evaluator is confronted with circumstances far off from being complete or perfect. Their limited capital basis due to limited access to capital markets and the condition of inherent asymmetric information are characteristic (Matschke, Brösel, 2007c, pp. 8–11).

Analyzing these descriptive equilibrium models, apart from unrealistic assumptions and their inconsistent combination[3], it is questionable why individuals would undertake transactions if the value of the company equals the price and the transaction therefore does not create any benefit. In order to support decision-based valuations, financial valuation models are hence not qualified.

But users of these models can be reassured: They don't have to throw their tools overboard when applying functional business valuation (Matschke, Brösel, 2003, pp. 157–181). The various methods of financial models found an "abundant reservoir to take various argumentation values and with consensus of both parties also arbitration values" (Hering, 2006, p. 168).

In order to calculate the limit of concession, however, it is recommended to use more appropriate investment-based models like the state marginal price model, the future performance value procedure or the approximated decomposed valuation (Brösel, 2002; Pfaff, Pfeiffer and Gathge, 2002, p. 198–210; Hering, 2006 and Matschke, Brösel, 2008a).

Conclusion

From a clinical perspective, there are only subjective values. The decision value is the central value of the functional business valuation doctrine, whose fundamentals derive from the concept of subject focusing. The decision value – as the limit of concession to the valuation subject in conflict situations – is not only the outcome of a valuation using the decision function method, but also the basis and crucial element of the mediation and argumentation function. In order to support decisions, it is necessary to incorporate e.g. specific goals, expectations and alternatives of the valuation subject under realistic assumptions.

Hence, "shareholder-value-techniques" are of no avail when it comes to decision support, but these methods can be helpful to the mediation and argumentation functions in situations where the involved parties have a strong belief in the "innovative" character of these "modern" valuation models.

In conclusion, with regard to contact with reality and consideration of the fundamentals of valuation (overall assessment, future orientation and subjectivity), the concept of functional business valuation ought to attract increasing interest by scholars as well as practitioners because it challenges the present one-dimensional approach to valuation.

---

[3] For in-depth critique see Hering (1999, pp. 145–167, 177–178 and 187).

Reference list

Brösel G.: *Medienrechtsbewertung*, Deutscher Universitäts-Verlag, Wiesbaden 2002.

Busse von Colbe W.: *Der Zukunftserfolg: Die Ermittlung des zukünftigen Unternehmenserfolges und seine Bedeutung für die Bewertung von Industrieunternehmen*, Gabler, Wiesbaden 1957.

Dean J.: *Capital Budgeting*, Columbia University Press, New York 1951.

Fisher I.: *The Theory of Interest*, MacMillan, New York 1930.

Hering T.: *Finanzwirtschaftliche Unternehmensbewertung*, Deutscher Universitäts-Verlag, Wiesbaden 1999.

Hering T.: *Quo vadis Bewertungstheorie? In: Festschrift für Karl Lohmann zum 65. Geburtstag*, Duncker & Humblot, Berlin 2004.

Hering T.: *Unternehmensbewertung*, 2nd Edition, Oldenbourg Wissenschaftsverlag, München 2006.

Hering T., Olbrich M.: *Zur Bewertung von Mehrstimmrechten*, "Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung" 2001, 53 (1).

Hering T., Olbrich M., Steinrücke M.: *Valuation of start-up internet companies*, "International Journal Technology Management" 2006, 33 (4).

Hirshleifer J.: *On the Theory of Optimal Investment Decision*, "The Journal of Political Economy" 1958, 66 (4).

Käfer K.: *Zur Bewertung der Unternehmung*, [in:] *C. Helbing, Schriftenreihe der Treuhandkammer / Schweizerische Kammer der Bücher-, Steuer- und Treuhandexperten*, 136, Treuhand-Kammer, Zürich 1996.

Lackmann F.: *Theorien und Verfahren der Unternehmensbewertung*, 2nd Edition, Duncker & Humblot, Berlin 1962.

Matschke M.J.: *Der Gesamtwert der Unternehmung als Entscheidungswert*, "Betriebswirtschaftliche Forschung und Praxis" 1972, 24 (3).

Matschke M.J.: *Der Entscheidungswert der Unternehmung*, Gabler, Wiesbaden 1975.

Matschke M.J.: *Der Argumentationswert der Unternehmung – Unternehmensbewertung als Instrument der Beeinflussung in der Verhandlung*, "Betriebswirtschaftliche Forschung und Praxis" 1976, 28 (6).

Matschke M.J.: *Funktionale Unternehmensbewertung: Band II: Der Arbitriumwert der Unternehmung*, Gabler, Wiesbaden 1979.

Matschke M.J.: *Unternehmensbewertung in dominierten Konfliktsituationen am Beispiel der Bestimmung der angemessenen Barabfindung für den ausgeschlossenen oder ausscheidungsberechtigten Minderheits-Kapitalgesellschafter*, "Betriebswirtschaftliche Forschung und Praxis" 1981, 33 (2).

Matschke M.J., Brösel G.: *Die Bewertung kleiner und mittlerer Unternehmen mit dem Zustands-Grenzpreismodell unter besonderer Berücksichtigung möglicher Folgen von „Basel II"*, [in:] *J.-A. Meyer, Unternehmensbewertung und Basel II*, Eul, Lohmar 2003.

Matschke M.J., Brösel G.: *Unternehmensbewertung*, 3rd Edition, Gabler, Wiesbaden 2007a.

Matschke M.J., Brösel G.: *Podstawy funkcjonalnej waluacji przedsiębiorstwa*, Discussion paper 2/2007, Ernst-Moritz-Arndt-Universität Greifswald. (http://www.rsf.uni-greifswald.de/filead-min/ mediapool/Fakult_t/Lenz/Diskussionspapiere/02-2007.pdf) 2007b.

Matschke M.J., Brösel G.: *Waluacja małych i średnich przedsiębiorstw z punktu widzenia dom-niemanego sprzedawcy*, Discussion paper 11/2007, Ernst-Moritz-Arndt-Universität Greif-swald. (http://www.rsf.uni-Greifswald.de/fileadmin/mediapool/Fakult_t/ Lenz/Diskussions-papiere/11-2007.pdf) 2007c.

Matschke M.J., Brösel G.: *Podstawy funkcjonalnej wyceny przedsiębiorstwa*, "Ekonomia Menedżerska" 2008a, 4.

Matschke M.J., Brösel G.: *Fundamentals of Functional Business Valuation*, Discussion paper 3/2008, Ernst-Moritz-Arndt-Universität Greifswald. (http://www.rsf.uni-greifswald.de/fileadmin/ me-diapool/Fakult_t/Lenz/Diskussionspapiere/03-2008.pdf) 2008b.

Matschke M.J., Brösel G.: *Wycena przedsiębiorstwa – Funkcje, metody, zasady*, Oficyna/Wolters Kluwer, Warszawa 2011.

Mellerowicz K.: *Der Wert der Unternehmung als Ganzes*, Girardet, Essen 1952.

Münstermann H.: *Wert und Bewertung von Unternehmen*, Gabler, Wiesbaden 1966.

Olbrich M.: *Zur Bedeutung des Börsenkurses für die Bewertung von Unternehmen und Unterneh-mungsanteilen*, "Betriebswirtschaftliche Forschung und Praxis" 2000, 52 (5).

Olbrich M., Brösel G., Hasslinger M.: *The Valuation of Airport Slots*, "Journal of Air Law and Com-merce" 2009, 74 (4).

Pfaff D., Pfeiffer T., Gathge D.: *Unternehmensbewertung und Zustands-Grenzpreismodelle*, "Be-triebswirtschaftliche Forschung und Praxis" 2002, 54 (2).

Rams A.: *Strategisch-dynamische Unternehmensbewertung mittels Realoptionen*, "Die Bank" 1998, (11).

Reicherter M.: *Fusionsentscheidung und Wert der Kreditgenossenschaft*, Gabler, Wiesbaden 2000.

Rollberg R.: *Angelsächsische Bewertungstheorie als Finanzkrisenverstärker.* "Die Steuerberatung" 2009, (10).

Schmalenbach E.: *Die Werte von Anlagen und Unternehmungen in der Schätzungstechnik*, "Zeitschrift für betriebswirtschaftliche Forschung" 1917.

Serfling K., Pape U.: *Strategische Unternehmensbewertung und Discounted-Cashflow-Methode*, "Das Wirtschaftsstudium" 1996, 25 (1).

Sieben G.: *Bewertung von Erfolgseinheiten*, Habilitationsschrift, Köln 1968.

Sieben G.: *Unternehmensstrategien und Kaufpreisbestimmung*, [in:] *Festschrift 40 Jahre Der Be-trieb*, 1988.

Prof. Dr. Gerrit Brösel
Dipl.-Kfm. Mario Zimmermann
Chair of Business Administration
Technische Universität Ilmenau

Summary

The paper at hand presents the functional business valuation theory. Based on the fact that like every other calculation, business valuation is initiated by a specific cause and therefore has to serve a determined purpose, these causes are analyzed and systematized at first. Subsequently, the paper outlines the development in Germany from the objective over to the subjective and finally to the functional business valuation theory. It deduces that only the functional business valuation provides the appropriate framework for successful valuation under the aspect of decision support. The key role in this theory is assigned to the three different types of value (decision value, arbitration value, argumentation value) which necessarily incorporate all expectations, plans and intentions of the valuation subject under realistic assumptions. Hence, functional business valuation has to be considered as the predominant approach, because it has not only an adequate contact with reality but also (exclusively) fully respects the fundamentals of valuation (overall assessment, future orientation and subjectivity) in order to achieve expedient decision support.