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Earn-outs to bridge gap between negotiation parties – curse or blessing?

1. Motivation for using earn-outs

A number of circumstances have to be tackled and decided upon by the participating parties in the course of a company transaction. The main problem for the concerned parties (valuation subjects) is obviously the **valuation** of the company in question (the valuation object). Apart from a variety of possible valuation methods at their disposal, the aspired goals of the transaction, the subjective decision fields, and the expectations of the future performance of the company measured by its related future payments all play a decisive role in its valuation (Hering et al., 2016).

The computed marginal price as a maximal (minimal) willingness to pay (demand for payment) of the buyer (seller) is a crucial figure to evaluate the advantageousness of a company transaction (Hering and Toll, 2015; Hering et al., 2015b). If the marginal price of the seller is below the marginal price of the buyer, **the area of agreement is positive**, and there is a chance to reach a negotiation settlement. If, however, the minimum demandable price of the seller is higher than the maximum payable price of the buyer, there is **no potential area of agreement** in the initial round of negotiations. In this case, it is not as simple for the negotiating parties to yield an acceptable outcome for both sides of the negotiation. Around 90% of all initiated transaction processes are never closed and never result in a purchase contract (Borowicz et al., 2009, p. 77) since the conflicting points cannot be resolved (especially the question about an acceptable level of purchase price). The purchase price is particularly crucial, since it mirrors not only the expectations of any future payment surpluses of the company but also the number of additional conflicts that are channeled into it.

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As far as company transactions are concerned, it is certainly clear that the **information levels** of the concerned parties are different, which can be a main cause for divergent price expectations. The seller has an information advantage and is able to judge the future performance of the company more accurately than the buyer (Caselli et al., 2006, p. 97). The kind of information asymmetry depends on a number of company- and buyer-related factors (Kohers and Ang, 2000; Datar et al., 2001; Reuer et al., 2004). For instance, a listed company is subjected to certain corporate publicity regulations, which offers high transparency. The level of information asymmetry can also be inferred from the nature (tangible/intangible) and extent of the existing assets of the company. Companies that hold mainly intangible assets are more difficult to evaluate than those ones that possess assets for which market prices exist (Coff, 1999). The higher the efforts in research and development within a company or within a related branch, the more difficult it is to judge the future potential for success of the company from the viewpoint of a third party. If the buyer comes from a different line of business, it will be harder for him to get an idea about the potential future development of the company compared to someone who is familiar with the existing markets and technologies of this particular branch of industry (Coff, 1999). If the buyer and seller come from different nations, it is clear that the buyer has a knowledge deficit regarding the culture, habits, institutional circumstances, and market conditions of the target nation (Mantecon, 2009, p. 640). Apart from this, the regulations for disclosing information may differ from state to state such that the information asymmetry may be increased even further. If the former management of the company is on the buyer-side, the mentioned information asymmetries may only partially exist, since the executives are at least as well-informed as the former owners about the chances and risks of the transaction.

The question now is how the existing differences in price expectations of the transaction parties can be overcome such that an initial non-existent area of agreement encountered during the negotiations can be reversed into a consensus. For this purpose, many ways basically exist. For instance, the seller can give guarantees to pay corresponding compensations to the buyer if the expected targets of the company will not be reached. Besides this, **earn-outs** can be used to make the purchase price dependent on the future performance of the company (Toll and Rolinck, 2014). After a short characterization, we will discuss the suitability of earn-outs from the viewpoint of the buyer as well as the seller in the present contribution. Thereby, not only are the disadvantages addressed, but also the advantages. The contribution ends in Section 4 with a summary of our findings.

2. Characterizing earn-outs

2.1. The basic idea

Earn-outs are useful in separating the purchase price into an upfront fixed payment that is due at the transfer date (**base price**) and into a deferred variable part (**earn-outs**), whereby the variable components of the purchase price depend on the future economic development of the company or the realization of certain conditions that are laid out in a contract (Kohers and Ang, 2000, p. 445; Del Roccoli and Fuhr, 2001, p. 88; Craig and Smith, 2003, p. 45; Reuer et al., 2004, p. 20; Frankel, 2005, p. 22; Caselli et al., 2006, p. 98; Ragozzino and Reuer, 2009, p. 858; Cain et al., 2011, p. 152).

For the enforcement of a company transaction by utilizing earn-outs we can distinguish between an improvement-option model and a multistage company purchase (Weiser, 2004, p. 513; Knauer and Pex, 2011, pp. 401–402). Whereas the buyer acquires only a certain part of the company in a **multistage company purchase** and is granted the right from the seller to buy further parts of the company at fixed exercise prices, the company is, by utilizing an improvement-option model, transferred completely to the buyer at the transfer date. In contrast, by means of an **improvement-option**, the fixed part of the purchase price (which becomes due at the closing of the transaction) is supplemented by additional payments that depend on the future performance of the company and may increase or even reduce the upfront fixed payment. Both variants normally increase the likelihood of a positive negotiation outcome. The granting of a call option enables the buyer to transfer a part of the economic risk to the seller so that the buyer is often willing to accept a higher purchase price for this opportunity. The seller receives the improvement-option for making concessions to the base price.

2.2. Elements

As a foundation for the computation of the additional payments, we must define a certain **metric** (Frankel, 2005, p. 22–23; Cain et al., 2011, pp. 155–156). Mostly, it is an observable performance measurement of accounting that can be precisely quantified and is inter-subjectively verifiable. For this purpose, sales, annual net profits, operating income, EBITDA, EBIT, or cash flow can be taken into consideration, to name just a few (Del Roccoli and Fuhr, 2001, p. 90; Gundersen, 2005, p. 2; Caselli et al., 2006, p. 99). It is also possible to define non-financial metrics; e.g., the grant of a certain patent or the continued success of a valuable customer relationship (Ziegler, 2016, p. 227). It is of great importance to choose a performance measurement that is complementary to the targets of the

buyer (e.g., concerning the maximization of profits, market share, technological leadership, etc.).

As the **basis for assessment**, we denote that part of the metric that is the numerical basis for the determination of the absolute level of the additional payments during the earn-out period (Weiser, 2004, p. 513). This may be the complete metric or only part of it. The absolute amount of the additional payments depends on the **participation** of the seller in reaching the basis for assessment whereby this participation will be contracted in a fixed or variable manner. It is conceivable that a certain earn-out payment will become due at the crossing of a pre-defined threshold or will change proportionally with the level of the assessment basis (Frankel, 2005, p. 24; Gundersen, 2005, p. 2).

The **earn-out period** is not defined consistently in the literature, but it typically has a time span from two up to five years (Datar et al., 2001, p. 202; Del Roccili and Fuhr, 2001, p. 88; Reuer et al., 2004, p. 20; Caselli et al., 2006, p. 99; Cain et al., 2011, pp. 156–157). Possible payment dates are within or at the end of the earn-out period, whereby the payments can be made in fixed or variable amounts as well as in cash or the form of company shares.

2.3. Functions

A central problem of company transactions is the information asymmetry between the negotiation parties (Datar et al., 2001), which can be overcome or at least mitigated by the **signaling function** of earn-outs (Datar et al., 2001, p. 231; Del Roccili and Fuhr, 2001, p. 88; Reuer et al., 2004, p. 20; Caselli et al., 2006, pp. 98–99; Ragozzino and Reuer, 2009, p. 876). If the negotiation situation comes to a stalemate and the marginal price of the seller is above that of the buyer, there is no area of agreement between the negotiation parties. The earn-out method allows the buyer to transfer a part of the business risk of not realizing the expected future performance of the company to the seller (Kohers and Ang, 2000, p. 445; Reuer et al., 2004, p. 20) and increases his willingness to pay a higher purchase price in return (Frankel, 2005, p. 22). On the other hand, the seller is willing to reduce the fixed purchase price claim if he is confident that the remaining part of the “desired price” can be realized by means of earn-outs. Thus, the limits of their respective **willingness to concede**, as far as the purchase price is concerned, can approach each other and can open a window of opportunity for a positive area of agreement (Del Roccili and Fuhr, 2001, p. 88; Ziegler, 2016, p. 226).

From the viewpoint of the buyer, the company transaction is an investment. Financial means must be raised, which may come from various sources. Besides the classical instruments of debt and equity financing, earn-outs can make a **contribution to funding** (Craig and Smith, 2003, p. 46; Gundersen, 2005, p. 2).

It is characteristic for earn-outs that the purchase price is not paid in a one-off payment but is spread over the earn-out period in the form of one or more payments depending on the ex-post company success. This form of purchase-price distribution is similar to a loan that is granted from the seller to the buyer and is paid back by means of earn-out payments.

An earn-out agreement has an **incentive and motivation function** for the seller to remain active and to provide his specific skills and knowledge within the target's management. In this manner, he is able to keep control over the determining metrics to realize the desired price in a proactive way (Datar et al., 2001, p. 202; Del Roccili and Fuhr, 2001, p. 88; Kohers and Ang, 2000, pp. 447–448; Caselli et al., 2006, pp. 98–99; Cain et al., 2011, p. 152).

3. Assessment of earn-outs from vantage points of negotiation parties

3.1. Suitability of earn-outs from buyer's viewpoint

Because of the deferral of the purchase price, the seller is still faced to the risk of not realizing the expected future success of the company such that an agreement on earn-outs is especially interesting for the buyer if the future development of the target cannot be predicted or can be predicted only under severe difficulties (Toll and Rolinck, 2014, pp. 156–158). The **risk to overpay is reduced** in case the company will not live up to its expectations in the foreseeable future (Kohers and Ang, 2000, pp. 446–447; Del Roccili and Fuhr, 2001, p. 89; Caselli et al., 2006, p. 98; Ragozzino and Reuer, 2009, p. 859). Apart from this, the buyer spares valuable cash. The buyer has fewer problems raising the appropriate financing for the acquisition of the company since the payments become due no earlier than when the company is on the road to success. For fixing the additional payments, the transaction parties must exercise caution to prevent them from having a “strangling” effect. This could take away incentives from the buyer to undertake his part of the necessary commitments for reaching the economic success during the earn-out period. This can be alleviated by capping the additional payments (Caselli et al., 2006, p. 99; Ragozzino and Reuer, 2009, p. 860) or by the decreasingly structured participation of the seller. Moreover, the earn-out period should not be too long since the buyer may have more problems to integrate the target into his current corporate structure the more that time passes (Ziegler, 2016, p. 228).

The transfer of the **financing function** to the seller means that the buyer spares liquid capital and needs to raise less debt and has fewer obligations to pay for interest and amortization (Del Roccili and Fuhr, 2001, p. 89). The variable parts

of the purchase price can be financed partially through retained earnings. However, the seller needs to be assured that the buyer actually honors his pledge to make the promised additional payments, which may become due dependent on metrics that only indirectly relate to liquidity (like the grant of a certain patent or the development of a new product). To face these problems, it lends itself to draft the possible earn-out payments at the closing date to a deposit on a fiduciary account or to secure the payments by backing them with assets or by a bank guarantee (Hilgard, 2010, p. 2916; Ziegler, 2016, p. 231). However, the capital commitment by using a fiduciary account undermines the intended financing function.

Company transactions are often characterized by the fact that the information about the company is distributed unevenly between the negotiation parties. The main cause is that the seller has inside information about the company, whereas the buyer only can obtain beneficial knowledge by analyzing past annual financial statements. With respect to an information economic context, pre-contractual asymmetric information entails the danger of **adverse selection**. Akerlof illustrated the concept of adverse selection with the aid of used-car markets (Akerlof, 1970). If the situation of a used-car buyer is one-to-one transferred to the buyer of a company, we can indeed observe parallels. Adverse selection occurs because of an information gap between the buyer and the seller, which exists *ex-ante*. Only the seller is really informed about the true quality of the company and has the incentive to present his company most favorably. Thus, the buyer must carry a quality risk and is inclined to assume only an average quality of the valuation object. He is therefore only willing to pay an average purchase price. However, the seller of a company of above-average quality may not be willing to accept a below-average price. A transaction to an average price is only attractive for those sellers who offer companies with below-average quality. Hence, only companies with below-average quality are offered for sale at this price. To let a seller of a company with good quality realize his desired transaction price, the potential buyer must be persuaded to increase his willingness to pay by signaling this higher quality to the buyer-side. Such a **signal** could be the implementation of earn-outs into the purchase contract (Caselli et al., 2006, pp. 98–99). The seller signals his pledge to carry a part of the entrepreneurial risk beyond the closing date of the transaction. This is an important signal to the buyer that the risks to actually overpay are diminished (Reuer et al., 2004, p. 20; Ragozzino and Reuer, 2009, p. 859). In return, he may be willing to accept a higher purchase price. Thus, we can state that the concession of the seller to arrange a performance-related price facilitates the burden to the buyer to distinguish between valuable and less-valuable companies and reduces the risk for him to overpay for the company.

If the seller will carry on management of the company, the agreement on earn-outs **gives him an incentive to make greater efforts towards the company's**

success (Baums, 1993, pp. 1275–1276; Del Roccili and Fuhr, 2001, p. 89; Weiser, 2004, p. 516; Knauer and Pex, 2011, pp. 403). Moreover, this has the additional advantage for the buyer that **valuable knowledge is retained** within the company (Del Roccili and Fuhr, 2001, p. 89). Especially, if we consider owner-managed companies, the seller will have enlarged knowledge with regard to customers, markets, and their corresponding technologies.

If the seller is managing the business, the buyer could be confronted with the problem of **moral hazard**. Here, we have a bilateral cooperation in which a principal (buyer) delegates a better-informed agent (seller) to carry out a certain task (managing the business) (Jensen and Meckling, 1976). Here, we have a special situation since the interests of both agents oppose each other and at least one party has superior information, which he could opportunistically exploit. Even if both information levels are (nearly) identical at the transfer date, that of the managing party will increase over time (Behringer, 2004, p. 247). Since the level of earn-outs is a matter of conflict between both parties, the seller has an incentive to exploit this information advantage and influence the basis of assessment defining the earn-outs for his own benefit and to the detriment of the principal (Frankel, 2005, p. 24; Baums, 1993, p. 1276; Behringer, 2004, pp. 247–248). If the annual net profit is used as a basis for assessment, the temptation for the seller is high to postpone necessary expenditures like those needed for maintenance or research and development (Del Roccili and Fuhr, 2001, p. 90). If sales are the basis for assessing the additional payments, it is possible for the seller to increase sales in the short term by offering price discounts or by increasing advertising, which may deteriorate the future prospects of the company in the long term. Also, leeway in accounting rules like options to capitalize or valuation options can be exploited in the seller's favor (Gundersen, 2005, pp. 2–3). Not least, it is required to agree on associated post-closing non-competition clauses (Gundersen, 2005, p. 2) to enjoin the managing seller from poaching employees and/or customers as well as passing internal information to competitors for his own benefit (Baums, 1993, p. 1276).

There are manifold **possibilities to manipulate** for the seller that must be *prevented* by appropriate measures. Thus, the buyer should covenant that he is able to exercise extensive rights of participation and control (Baums, 1993, p. 1276; Behringer, 2004, p. 247). The integration of a catalog of transactions into the purchase contract that are subject to approval would also counteract manipulations. To prevent the omission of necessary operating expenditures, a budget for research and development or certain principles for carrying out investments and depreciations could be set out in the contract (Frankel, 2005, p. 24). Apart from this, it would lend itself to integrate the acquired company into the investment controlling of the acquiring company. The best protection against manipulations would be to define the basis for assessment for the earn-outs that is least-prone

to error and can be precisely defined. Thereby, it could be specified how any exceptional circumstances should be handled. To prevent litigation, it is useful to exemplify the computation of the basis for assessment within the appendix of the purchase contract (Hilgard, 2010, p. 2914; Ziegler, 2016, p. 228).

Should the seller resign from the company after the sale, his influence on the success of the company and the outcome of the decisive quantities (which determine the additional payments) is diminished. He has to reckon that the buyer will act opportunistically and will try to prevent further earn-outs. Of course, the seller wants to counteract such behaviors by means of an appropriate drafting of the contract. For this purpose, concrete arrangements for the form of management, determination of the governing metrics (which define the additional payments), and participation and control rights have to be made (Gundersen, 2005, p. 3; Baums, 1993, p. 1276). These arrangements can strongly **restrict** the buyer **in his entrepreneurial freedom** since he may not be able to realize important projects, like the integration of the acquired company (Datar et al., 2001, p. 203; Frankel, 2005, p. 24). Furthermore, he loses a certain degree of flexibility since he must first assess the conformity of upcoming decisions with contractual agreements and has to coordinate them with the seller. If the buyer is concurrently managing the company, he has to take care that the contractual agreements will not restrict his entrepreneurial freedom to act too much; in particular, as far as the realization of possible synergy effects is concerned (Behringer, 2004, p. 250; Weiser, 2004, p. 517). Otherwise, a corporate transaction combined with earn-outs is unattractive from the buyer's viewpoint.

A contract that takes into account all possible contingencies that may occur in the wake of a transaction needs to be considerably complex (Ragozzino and Reuer, 2009, p. 860). The resulting **high transaction costs** reduce the advantageousness of an agreement on earn-outs (Datar et al., 2001, p. 203; Reuer et al., 2004, pp. 19–20; Frankel, 2005, pp. 22–25) since it is almost impossible to consider all contingencies, and it is foreseeable that arguments concerning the proper interpretation of the agreements could arise ex-post. The related potential costs are initiation and contractual costs as well as the costs for safeguards (e.g., for the adaptation of the contract to changed conditions) and enforcement (e.g., for legal fees).

3.2. Suitability of earn-outs from the seller's viewpoint

Utilizing earn-outs is especially useful from the perspective of the seller if he does not succeed in realizing his price expectations in the first place or has difficulties in finding a buyer for his company (Del Roccili and Fuhr, 2001, p. 89; Behringer, 2004, p. 247; Hilgard, 2010, p. 2913; Toll and Rolinck, 2014, pp. 158–159). Primarily, an agreement on earn-outs provides an **opportunity to**

proceed with a corporate transaction that would not be realizable without the implementation of such an instrument (Cain et al., 2011, p. 152). By declaring his motivation to accept a performance-related price and to assume some part of the risks, he widens the spectrum of potential buyers.

By means of a preparedness to agree on earn-outs, the seller sends an important signal to potential buyers. However, the seller will only do this if he is truly convinced of the future potential for success of his company (Caselli et al., 2006, pp. 98–99). A buyer will tend to estimate the quality of such a company higher and will be willing to accept a higher purchase price than without such a signal. It can be taken for granted that an agreement on earn-outs has an impact on **achieving a higher selling price** (Del Roccili and Fuhr, 2001, p. 89). In addition, it is possible for a managing seller to influence the level of the purchase price further on proactively by accepting performance-related earn-outs (Datar et al., 2001, p. 203).

On the other hand, by agreeing to a partially performance-based selling price, the seller takes the risk that he will **fail to receive his desired selling price** and must be even prepared to suffer a potential total loss of additional payments (Del Roccili and Fuhr, 2001, p. 90). It is conceivable that the buyer is incapable of making the contractually arranged additional payments to the seller if he is in a situation of insolvency or short of liquidity. Hence, the seller bears the credit risk of the buyer, which of course can be alleviated by agreements on collateral.

Especially in the cases in which the seller carries on managing the business, he has increased pressure to succeed and **cannot terminate his engagement in the company** (which may have been the initial (main) motive for the corporate sale) (Baums, 1993, p. 1275). This also holds true if he is not actively involved in management anymore but must execute certain contractually arranged participation and control rights. Furthermore, a seller who still manages the business may experience **motivational problems** (Meuli, 1996, p. 83). While forgoing the prompt appropriation of a fair and just selling price (in his view), he is instead responsible for achieving certain performance targets but is not allowed to reap the ripe and well-earned “fruits” and keep them all for himself.

From the seller’s viewpoint, contractual obligations can have a negative effect on the **freedom to act** (Baums, 1993, p. 1276). If he still runs the business, he has to manage the company as stipulated in the contract. If he resigns from the company, there could be a post-contractual competition restraint to keep him from exploiting inside information for his own advantage.

If the seller leaves the company at the transfer date, he is in danger of **suffering disadvantages by the opportunistic behavior of the buyer**. The buyer will try to use his full creativity to keep the earn-outs as minimal as possible (Frankel, 2005, p. 24). Apart from the exploitation of leeway in accounting rules, concealing the basis for assessment (Behringer, 2004, pp. 246–248) or shifting the earnings

to years that are beyond the earn-out period (Del Roccili and Fuhr, 2001, p. 90; Frankel, 2005, p. 24; Ziegler, 2016, p. 228), the seller faces further risks. Maybe he must defend himself against efforts by the buyer to sell the company to a third party or transfer its headquarters abroad (Del Roccili and Fuhr, 2001, p. 91). As a result, it could happen that the accounting rules change and the performance measures determined from the annual financial statements become incomparable as a result (Craig and Smith, 2003, p. 47). If the buyer is already in possession of one or more companies, he will try to integrate the purchased company into his current corporate structure. This can go even so far that the business operations of the target company are completely or partially transferred to another company or certain operating units are united under the roof of a corporate group (Gundersen, 2005, p. 2; Caselli et al., 2006, p. 99). In this case, the seller is exposed to the risk of a distorted success indicator concerning the acquisition object if arbitrary transfer prices are used in accounting during the earn-out period (Datar et al., 2001, p. 203). Thus, the computation of the basis for assessment of the earn-outs would be made more difficult at best. In the extreme case, the basis for assessment would no longer reflect the actual economic success of the target.

The seller must be especially careful to not be discriminated against if the buyer manages the company within the earn-out period. The seller could be in danger of being exposed to **manipulations** that affect the additional payments and unable to do anything against them (Baums, 1993, p. 1274; Behringer, 2004, pp. 246–248; Weiser, 2004, p. 517; Hilgard, 2010, p. 2913). Because of this reason, the earn-out period should be not too short. This would rather increase the incentives for the buyer to shift earnings from the earn-out period to subsequent years. On the other hand, the opportunities for the seller to influence and control are fewer the longer the earn-out period is. Hence, supplementary to an agreement on earn-outs, the seller will often demand the additional (minimal) assurance that he is contractually guaranteed the opportunity to exert influence (e.g., in the position of a managing director or as a member of supervisory or advisory boards) during the earn-out period (Gundersen, 2005, p. 3; Behringer, 2004, p. 248).

4. Summary and outlook

Earn-outs are an interesting approach to overcoming divergent price expectations. However, there is a substantial potential for conflict in the formulation and implementation of a concrete agreement on earn-outs (Del Roccili and Fuhr, 2001, p. 89). Thus, the disparate interests of the conflicting parties (especially with regard to the price) and their different information levels require a relatively complex contract arrangement, which is associated with high transaction costs.

Of course, existing information asymmetries could be mitigated in the beginning by considering valuation reports and/or exercising due diligence in investigating the company. However, these asymmetries cannot be completely removed even by these means. The use of earn-outs out of the pure wish of creating seemingly better financing for the transaction seems to be inappropriate (Meuli, 1996, p. 90). For this purpose, there are a number of less-complex contractual means available, like re-investments, vendor loans, or company purchase on an annuity basis. Because of the significant potential for conflict, it is recommended to set out certain procedures in the purchase contract (which could come into effect during mediation in the case of lawsuits). For this purpose, it is possible to appoint certain arbiters or arbitration courts (other than an auditor) in advance (Baums, 1993, p. 1275; Hilgard, 2010, p. 2917). To avoid such confrontations from the start, we must pay special attention to the careful and precise formulation of the earn-out agreement. In particular, we must take great care in writing a clear definition of the process that determines the profit sharing as well as a diligent provision of the rights and duties of the transaction parties (Weiser, 2004, p. 518). If the above-mentioned aspects are considered for the arrangement of a company transaction, the earn-out method can be truly beneficial for both negotiation parties and can contribute to the final success of otherwise-impossible-seeming transactions (Del Roccili and Fuhr, 2001, p. 93).

The corresponding literature on earn-outs consists in large part of publications that analyze this topic by the means of empirical post-studies, which address the Anglo-Saxon area in particular (Kohers and Ang, 2000; Datar et al., 2001; Reuer et al., 2004; Cain et al., 2011). However, the situation in the European Economic Area (and especially in Germany) has been studied only marginally (Ewelt-Knauer et al., 2011; Heimann et al., 2012). Unfortunately, data from ex-post studies can only give minor information for managerial decisions with a future perspective. Hence, there is a substantial demand for further research on ex-ante considerations for the determination of company transactions involving earn-outs. In the main part of the literature dealing with valuation problems, finance-theoretical valuation approaches are used (Crasselt and Lukas, 2008; Tallau, 2009a; Tallau, 2009b; Tallau, 2010; Ihlau and Gödecke, 2010). However, valuation methods based on financing theory assume a fictitious perfect market (Markowitz, 1952; Gordon, 1959; Modigliani and Miller, 1963; Sharpe, 1964; Lintner, 1965; Mossin, 1966; Black and Scholes 1973; Cox et al., 1979; Rappaport, 1981; Koller et al., 2010, Damodaran, 2011). These methods do not take into account the individual expectations of the specific valuation subject. Instead, they pursue a futile quest for the one true value that must be generally valid. Such methods are inappropriate to indicate the limit of the concession willingness of a decision maker under realistic conditions (Hering et al., 2014a, p. 49; Hering et al., 2014b, p. 41; Her-

ing et al., 2015a). For this purpose, investment-theoretical methods are more appropriate. Hence, for company transactions involving earn-outs, there seems to be a need to develop investment theory-based valuation methods that consider both existing market imperfections (e.g., debt limits or bid-ask spreads) and the individual expectations of a specific decision maker.

References

- [1] Akerlof, G.A. (1970) 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism', *Quarterly Journal of Economics*, vol. 84(3), pp. 488–500.
- [2] Baums, T. (1993) 'Ergebnisabhängige Preisvereinbarungen in Unternehmenskaufverträgen („earn-outs“)', *Der Betrieb*, vol. 46(25), pp. 1273–1276.
- [4] Behringer, S. (2004) 'Earn-out-Klauseln bei Unternehmensakquisitionen', *Unternehmensbewertung und Management*, vol. 2(7), pp. 245–250.
- [5] Black, F. and Scholes, M. (1973) 'The Pricing of Options and Corporate Liabilities', *Journal of Political Economy*, vol. 81(3), pp. 637–654.
- [6] Borowicz, F., Heiß, D. and Schuster, M. (2009) 'Kaufpreisfixierung bei M&A – Ein hinderliches Kräftemessen?', *Mergers & Acquisitions Review*, vol. 20(2), pp. 77–84.
- [7] Cain, M.D., Denis, D.J. and Denis, D.K. (2011) 'Earnouts: A study of Financial Contracting in Acquisition Agreements', *Journal of Accounting and Economics*, vol. 51(1/2), pp. 151–170.
- [8] Caselli, S., Gatti, S. and Visconti, M. (2006) 'Managing M&A Risk with Collars, Earn-outs, and CVRs', *Journal of Applied Corporate Finance*, vol. 18(4), pp. 91–104.
- [9] Coff, R.W. (1999) 'How Buyers Cope with Uncertainty when Acquiring Firms in Knowledge-Intensive Industries: Caveat Emptor', *Organization Science*, vol. 10(2), pp. 144–161.
- [10] Cox, J.C., Ross, S.A. and Rubinstein, M. (1979) 'Option pricing: A Simplified Approach', *Journal of Financial Economics*, vol. 7(3), pp. 229–263.
- [11] Craig, B. and Smith, A. (2003) 'The Art of Earnouts', *Strategic Finance*, vol. 84, June, pp. 44–47.
- [12] Crasselt, N. and Lukas, E. (2008) 'M&A-Transaktionen mit Earn-out-Vereinbarungen: Ermittlung der bilanziellen Anschaffungskosten nach IFRS 3', *Zeitschrift für Internationale und kapitalmarktorientierte Rechnungslegung*, vol. 8(12), pp. 728–735.
- [13] Damodaran, A. (2011) *Applied Corporate Finance*, 3rd edition, Hoboken, NJ: Wiley.
- [14] Datar, S., Frankel, R. and Wolfson, M. (2001) 'Earnouts: The Effect of Adverse Selection and Agency Costs on Acquisition Techniques', *Journal of Law, Economics and Organization*, vol. 17(1), pp. 201–238.

- [15] Del Roccili, J.A. and Fuhr, J.P. Jr. (2001) 'The Pros and Cons of Earnouts', *Journal of Financial Service Professionals*, vol. 56(6), pp. 88–93.
- [16] Ewelt-Knauer, C., Knauer, T. and Pex, S. (2011) 'Ausgestaltung und Einsatzbereiche von Earn-Outs in Unternehmenskaufverträgen', *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung*, vol. 63(4), pp. 371–400.
- [17] Frankel, M.E.S. (2005) 'Save That Deal Using Earn-Outs', *The Journal of Corporate Accounting & Finance*, vol. 16(2), pp. 21–25.
- [18] Gordon, M.J. (1959) 'Dividends, Earnings, and Stock Prices', *Review of Economics and Statistics*, vol. 41(2), pp. 99–105.
- [19] Gundersen, M.J. (2005) 'Seller Beware', *Business Law Today*, vol. 14(4), pp. 1–3.
- [20] Heimann, C., Timmreck, C. and Lukas, E. (2012) 'Ist der Einsatz von Earn-outs durch deutsche Käuferunternehmen erfolgreich?', *Corporate Finance biz*, vol. 3(1), pp. 17–23.
- [21] Hering, T. and Toll, C. (2015) 'Application of Alternative Valuation Formulas for a Company Sale', *Global Economy and Finance Journal*, vol. 8(2), pp. 14–30.
- [22] Hering, T., Toll, C. and Kirilova, P.K. (2014a) 'How to Compute a Decision-oriented Business Value for a Company Sale', *Journal of Accounting, Finance and Economics*, vol. 4(1), pp. 43–52.
- [23] Hering, T., Toll, C. and Kirilova, P.K. (2014b) 'Acquiring a Company: Assessing the Maximum Affordable Price', *World Review of Business Research*, vol. 4(3), pp. 35–44.
- [24] Hering, T., Toll, C. and Kirilova, P.K. (2015a) 'Selling a Company: Assessing the Minimum Demandable Price', *Global Review of Accounting and Finance*, vol. 6(1), pp. 19–26.
- [25] Hering, T., Toll, C. and Kirilova, P.K. (2015b) 'Business Valuation for a Company Purchase: Application of Valuation Formulas', *International Review of Business Research Papers*, vol. 11(1), pp. 1–10.
- [26] Hering, T., Toll, C. and Kirilova, P.K. (2016) 'Assessing the Maximum Expendable Quota for a Milestone Financing Provided by a Venture Capitalist', *International Journal of Entrepreneurial Venturing*, vol. 8(1), pp. 102–117.
- [27] Hilgard, M.C. (2010) 'Earn-Out-Klauseln beim Unternehmenskauf', *Betriebs-Berater*, vol. 65(48), pp. 2912–2919.
- [28] Ihlau, S. and Gödecke, S. (2010) 'Earn-Out-Klauseln als Instrument für die erfolgreiche Umsetzung von Unternehmenstransaktionen', *Betriebs-Berater*, vol. 65(12), pp. 687–691.
- [29] Jensen, M.C. and Meckling, W.H. (1976) 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics*, vol. 3(4), pp. 305–360.
- [30] Knauer, T. and Pex, S. (2011) 'Earn-Outs', *Die Betriebswirtschaft*, vol. 70(4), pp. 401–405.
- [31] Kohers, N. and Ang, J. (2000) 'Earnouts in Mergers: Agreeing to Disagree and Agreeing to Stay', *The Journal of Business*, vol. 73(3), pp. 445–476.

- [32] Koller, T., Goedhart, M.H. and Wessels, D. (2010) *Valuation*, 5th edition, Hoboken, NJ: Wiley.
- [33] Lintner, J. (1965) 'The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets', *Review of Economics and Statistics*, vol. 47(1), pp. 13–37.
- [34] Mantecon, T. (2009) 'Mitigating Risks in Cross-Border Acquisitions', *Journal of Banking & Finance*, vol. 33(4), pp. 640–651.
- [35] Markowitz, H. (1952) 'Portfolio Selection', *Journal of Finance*, vol. 7(1), pp. 77–91.
- [36] Meuli, H.M. (1996) *Earn-Out-Methode als Instrument der Preisgestaltung bei Unternehmensverkäufen*, Zürich: Treuhand Kammer.
- [37] Modigliani, F. and Miller, M.H. (1958) 'Corporate Income Taxes and the Cost of Capital: A Correction', *American Economic Review*, vol. 53(3), pp. 433–443.
- [38] Mossin, J. (1966) 'Equilibrium in a Capital Asset Market', *Econometrica*, vol. 34(4), pp. 768–783.
- [39] Ragozzino, R. and Reuer, J.J. (2009) 'Contingent Earnouts in Acquisitions of Privately Held Targets', *Journal of Management*, vol. 35(4), pp. 857–879.
- [40] Rappaport, A. (1981) 'Selecting Strategies that Create Shareholder Value', *Harvard Business Review*, vol. 59(3), pp. 139–149.
- [41] Reuer, J.J., Shenkar, O. and Ragozzino, R. (2004) 'Mitigating Risk in International Mergers and Acquisitions: The Role of Contingent Payouts', *Journal of International Business Studies*, vol. 35(1), pp. 19–32.
- [42] Sharpe, W.F. (1964) 'Capital asset prices: a theory of market equilibrium under conditions of risk', *Journal of Finance*, vol. 19(3), pp. 425–442.
- [43] Tallau, C. (2009a) 'Bewertung von Earn-Out-Klauseln im Rahmen von Unternehmenstransaktionen', *Finanz-Betrieb*, vol. 11(1), pp. 8–14.
- [44] Tallau, C. (2009b) 'Optionsbasierte Bewertung von Earn out-Vereinbarungen', *Mergers & Acquisitions Review*, vol. 20(8/9), pp. 376–382.
- [45] Tallau, C. (2010) 'The Value of Earn-Out Provisions: An Option-Based Approach', *Business Valuation Review*, vol. 28(4), pp. 174–180.
- [46] Toll, C. and Rolinck, J.P. (2014) 'Earn-out-Klauseln zur Überwindung divergierender Erfolgserwartungen – Fluch oder Segen?', *Mergers & Acquisitions Review*, vol. 25(4), pp. 154–159.
- [47] Weiser, M.F. (2004) 'Die Earnout-Methode zur Überwindung divergierender Wertschätzungen im Rahmen von M&A-Transaktionen', *Mergers & Acquisitions Review*, vol. 15(12), pp. 512–518.
- [48] Ziegler, A. (2016) 'Ausgestaltung von Earn-Out-Klauseln in Unternehmenskaufverträgen – Praktische Hinweise zur Vertragsgestaltung', *Mergers & Acquisitions Review*, vol. 27(6), pp. 226–231.