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Recommendation of the Working Group on Business Valuation of the Expert Committee on Business Administration and Organization of the Chamber of the Tax Advising, Auditing and Accounting Professions regarding

Simplified Planning Phase and Perpetuity Phase (Terminal Value)

Final version, as of 04.11.2015

1. Professional Guidelines KFS/BW1
   (1) According to ref (61) KFS/BW1, the detailed planning period (phase I) should be followed by a more simplified planning phase (phase II) if the assumption that the company immediately reaches the state of equilibrium or steady state directly after the detailed forecast period does not seem reasonable. Reasons for a applying a three-phase-model might include unfinished investment cycles at the end of phase I, longer term product life cycles, above average growth rates, tax or other special effects. According to ref (62) KFS/BW1, the simplified planning period can focus on the development of the key value drivers of the valuation object.
   (2) According to ref (63) KFS/BW1, the perpetuity phase (phase III) is based on general assumptions on the distribution policy and profitability levels with cash flows at constant level or at a constant growth rate.
   (3) Ref (64) KFS/BW1 requires explicit assumptions about the expected long-term development of the profitability of the business being valued during phase III, taking into account factors such as the company’s ability to resist the decrease in excess returns (convergence processes). A valid assumption is that the return (after tax) from the reinvestment of retained cash flows equals the cost of capital. However, if it can be expected that the return will sustainably be above of the cost of capital the relevant reasons must be explained. In general, the assumptions regarding expected returns, growth rates and profit retention need be consistent in the perpetuity phase.
   (4) Due to the often substantial share of the terminal value in the total value of the business, a critical view on the underlying assumptions is particularly necessary, according to ref (65) KFS/BW1.

2. Area of application
   (5) This recommendation deals with questions of a simplified planning phase and the perpetuity phase / the determination of the terminal value. They are particularly important if the valuation assumes that the business has an infinite life. However, the recommendations for the simplified planning phase must also be taken into account in cases in which the life of the business is limited but extends beyond the detailed planning phase.
   (6) A more simplified planning period is only required if an infinite life is assumed and the assumption that the company reaches a state of equilibrium or steady state directly after the detailed planning period does not seem plausible.
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The assumption that the business enters a steady-state at the end of the detailed planning phase may not be valid if e.g. unfinished investment cycles, long-term product life cycles, above-average growth rates, excess returns, tax loss carryforwards or other special effects, persist. However, if the assumption of a steady state at the end of the detailed planning phase seems plausible, it is not necessary to consider a simplified planning phase.

3. Definitions

(7) A simplified planning phase (phase II) leads to a shift of the planning horizon and therefore to a later point in time where the perpetuity phase (phase III) is reached. It allows for specific assumptions of individual key value drivers (e.g. sales growth, margins, returns, investments, tax effects from the utilization of losses carried forward, capital structure) over a longer period of time for each specific period, while the other parameters are simply carried forward. The simplified planning phase has to be modelled – like the detailed planning phase (phase I) - as an integrated financial business plan.

(8) A company is in a state of equilibrium or steady state within the meaning of ref (61) KFS/BW1 if the assumption is valid that the cash flows relevant for the valuation will remain constant in future or grow at a constant rate. Particularly, a state of equilibrium or steady state is reached when the assumption applies, that the rate of return for the business are nearly constant over time.

(9) The terminal value corresponds to the present value of the cash flows expected for the terminal year. It is generally determined based on assumptions about the long-term development of the profitability and the distribution policy. In literature, the terminal value is also referred to as "continuing value", "residual value", or "continuation value".

(10) In principle, the level of profitability of the company is to be measured on the basis of economic rates of return (e.g. internal rate of return). In practice, accounting-based returns on capital after corporate taxes, e.g. return on invested capital in the entity approach or return on equity in the equity approach, see ref (11) and (12), can be used for simplification purposes. Residual profits, see ref (13), can also be used as a measure of corporate performance.

(11) Return on Invested Capital (ROIC) is calculated as the ratio of Net Operating Profit Less Adjusted Taxes (NOPLAT) and Invested Capital (IC). The invested capital corresponds to the sum of equity and interest-bearing debt and is determined based on the book values, taking potential adjustments into account.

\[
ROIC = \frac{NOPLAT}{IC}
\]
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(12) The return on equity (ROE) is calculated as the ratio of net income after taxes (NI) and balance sheet equity (Eq).

\[
ROE = \frac{NI}{Eq}
\]

(13) The residual profit corresponds to the profit for the period less interest on the tied-up capital. In the entity approach, gross residual profit (RG\textsuperscript{G}) can be calculated as the difference between the NOPLAT and the product of invested capital (IC) and weighted average cost of capital (WACC). In the equity approach, the net residual profit (RG\textsuperscript{N}) can be calculated as the difference between the net income for the year (NI) and the product of balance sheet equity (Eq) and the cost of equity (COE).

\[
RG^G = NOPLAT - WACC \times IC
\]

\[
RG^N = NI - COE \times Eq
\]

(14) It is considered as Excess return when return on capital (after corporate taxes) earned by the company in a period exceeds the (comparable) cost of capital. If WACC\textsubscript{t} represents the weighted cost of capital in period t and COE\textsubscript{t} the return required by the equity investors in period t, then ROIC\textsubscript{t} > WACC\textsubscript{t} applies in the entity approach and ROE\textsubscript{t} > COE\textsubscript{t} in the equity approach if excess returns exist. Key for the potential to generate excess returns is the existence of competitive advantages.

(15) Within a convergence process, it is assumed that excess returns resulting from competitive advantages, will diminish over time or even disappear in the long term due to the effects of competitive forces. Convergence processes are often assumed for the simplified planning phase and for the perpetuity phase. They can be characterized by different assumptions about the duration, speed (usually linear or convex) and depth (complete or partial reduction of excess yield) of the process of diminishing returns.

(16) Net capital investment refers to the sum of investments in fixed assets in excess of depreciation and increases in net working capital.

4. Recommendations

4.1 Simplified planning phase

(17) If the life of the business to be valued is considered indefinite, the simplified planning phase represents the transition from the detailed planning phase to the perpetuity phase and should therefore contribute to the general plausibility of assuming a steady state at the start of the perpetuity phase. It is also intended to increase the transparency of the valuation by making the assumed development of company-specific value drivers beyond the detailed planning phase more comprehensible.
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(18) The length of the simplified planning phase is to be determined on a case-by-case basis and depends on the underlying development of the key value drivers, see ref (6), and the assumed period of time to reach a steady state.

(19) It is advisable to already display the assumed development of profitability levels in the simplified planning phase; if necessary, considering convergence processes or a possible reduction of excess returns within the planning horizon. The reduction of excess returns during the simplified planning phase can eventually result in long-term achievable return levels which equal the costs of capital or other long-term return levels.

(20) For companies with relatively low capital requirements (e.g. service companies), returns on capital are usually of little significance. The performance of such companies can be assessed by the development of residual profits or returns on sales (e.g. EBIT margin, EBITDA margin).

(21) Particularly in the case of small and medium-sized enterprises (SMEs), attention should be paid to personal success factors and its contribution to future profits. According to ref (82) KFS/BW1, contributions by the company owner must be disregarded when determining an objectified business value to the extent that they cannot be realized in the future. In SMEs, success factors that are only partially or temporarily transferable are often reflected in the existence of certain intangible factors that are due to the formative activity of one or more owners. This is the case, for example, if the owner acts as the (main) service provider whose performance is decisive for sales or customer loyalty, or if he is the carrier of specific knowledge regarding product development.

(22) As an alternative to integrating the value contribution of individual, specific factors in the business plan for the simplified planning phase (e.g. tax effects from the utilization of loss carryforwards), their value contribution can also be considered separately as a so-called special value. In these cases the effects on future cash flows resulting from the special value are considered outside the financial business plan and discounted separately. If special values are recognized, it must be ensured that all related effects are taken into account and the underlying assumptions are presented in a comprehensible form.

4.2 Perpetuity Phase (Terminal Value)

(23) The estimation of the expected long-term profitability level of the business to be valued in the perpetuity phase is usually preceded by an analysis of the expected development of the profitability level up to the beginning of the perpetuity phase. This analysis is ideally based on the results of the analysis of past performance, the understanding of the business model, the market and competition analysis and the resulting strategic competitive position of the company.

(24) If the return generated at the beginning of the perpetuity phase is higher than the cost of capital and the company is in a position to generate excess returns in the long term, a plausible explanation for the existence of excess returns must be given in the valuation report. The ability of the company being valued to generate sustainable excess returns must be assessed individually. Thereby the following aspects can be relevant:

- Dependency of the business model on the use of capital,
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- Intensity of competition,
- Existence of lasting competitive advantages (e.g. market position, barriers to market entry, intangible factors such as brands/licenses/patents, purchasing advantages, process advantages, economies of scale, location advantages, favorable contracts, production efficiency, R&D, process know-how, and distribution network)
- Speed of change in the industry
- Duration and shape of adaptation processes and resistance to pressure to adapt in the past
- Returns achieved by competitors and comparable companies

(25) Sector-specific factors that influence the long-term profitability as well as the ability to resist convergence processes include structural constraints on competitive forces (e.g. barriers to market entry). A high degree of concentration, high marketing intensity and high growth of an industry tend to have a positive effect on the long-term profitability levels. A high degree of specialization, the importance of economies of scale and a high proportion of end-users in an industry indicate a higher resistance to convergence processes.

(26) Company-specific factors that are considered to have a positive influence on the long-term level of profitability and resistance to convergence processes include intangible resources (brands, technology expertise, etc.), growth, company size, degree of vertical integration, focus (e.g. high concentration of total sales in a few market segments) and market share. While a high export share may have a positive impact on long-term profitability levels, it may also have a negative impact on the resistance to convergence processes. On the other hand, a high marketing intensity can have a negative effect on the long-term profitability level but a positive effect on the resistance to convergence processes.

(27) If the return generated at the beginning of perpetuity phase is higher than the cost of capital and it can be expected that the excess return will over time approximate the cost of capital, the convergence process as described in ref (64) KFS/BW1 is a relevant assumption to be made. This convergence process assumes that the generated return (after corporate taxes) on the net investments, which are funded by retained earnings, equals the cost of capital. Thereby, the net present value of an investment is always zero, if the investment generates a return (after corporate taxes) equal to the cost of capital. This assumption implies that investments in the perpetuity phase do not increase or change the value of the business. Consequently, growth assumptions do not create (positive or negative) value contributions.

(28) The convergence process described in ref (64) KFS/BW1 refers only to the return on net investments funded by retained earnings. The question regarding the expected return on the capital already invested in the business at the beginning of the perpetuity phase therefore remains open. If the assumption is made that the capital invested at the beginning of the perpetuity phase continues to generate excess returns at a constant level, the terminal value can be determined using the so-called "convergence formula" in accordance with the value driver model (see ref (32)). Since it is also supposed here that net reinvestments only yield a return in the amount of the cost of capital, a slowly - over an infinite period - approximation of a total return that equals the cost of capital is assumed.
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(29) In order to ensure the consistency of the assumptions on expected return, growth rate and reinvestment in the perpetuity phase, the derivation of the terminal value must be based on a consistent growth model. Among others, the value driver model by Copeland/Koller/Murrin can be used. Although this model is aimed at capital-intensive companies, it is, in principle also valid for service companies which rely on capital retentions to fund their investments.

(30) According to the value driver model, the terminal value for planning horizon \( T \) \( (TV_T^{WACC}) \) can be determined in the WACC method using the following general formula:

\[
TV_T^{WACC} = \frac{NOPLAT_{T+1} \cdot (1 - \frac{g}{RONIC})}{WACC - g} = \frac{FCF_{T+1}}{WACC - g}
\]

(31) Since the growth and the growth-related increase in assets in the perpetuity phase must be funded in part by retained earnings, the free cash flow to the investors is always lower than the respective profits for the period after corporate taxes. An increase in the growth rate has both positive and negative effects on the terminal value: The reduction of the discount rate has a positive effect, while the reduction of the distributable NOPLAT has a negative effect as it increases the retention rate \( g/RONIC \). Under these assumptions, growth only generates a positive value contribution if the expected return on the net investment in the perpetuity phase exceeds the cost of capital.

(32) If – in the sense of the convergence process described in ref (64) KFS/BW1 – the expected return on the net investment corresponds exactly to the cost of capital, i.e. if \( RONIC = WACC \), additional growth causes neither a positive nor a negative value contribution leaving the terminal value unchanged. The level of the growth rate is then irrelevant for the terminal value. In this case, the terminal value can be determined using the following formula (convergence formula):

\[
TV_T^{WACC} = \frac{NOPLAT_{T+1}}{WACC}
\]

(33) When applying the convergence formula, it is assumed that the capital invested at the beginning of the perpetuity phase continues to generate excess returns at a constant level. The appropriateness of this assumption must be critically assessed in each individual case.

(34) It should be noted that if the convergence process described in ref (64) KFS/BW1 is used as a basis, the denominator cannot be reduced by the growth rate \( g \), as this would lead to an underestimation of retention requirements and consequently to an overestimation of the terminal value. This applies irrespective of whether growth is assumed to be purely inflation-related or related to capital retention. Therefore, if only inflation-induced growth

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1 FCF_{T+1} is the free cash flow forecast for the first period of the perpetuity phase, WACC is the weighted cost of capital, g is the annual growth rate (\( g < WACC \) always applies), NOPLAT_{T+1} is the operating profit after adjusted taxes forecast for the first period of the perpetuity phase and RONIC is the expected return on the net investments to be made in the perpetuity phase (Return on New Invested Capital).
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is assumed for the perpetuity phase, it is not necessary to reduce the denominator by the inflation rate when applying the convergence formula.

(35) In the equity approach, the terminal value for planning horizon $T$ ($TV^E_T$) can be determined according to the value driver model using the following general formula:\(^2\)

$$TV^E_T = \frac{NI_{T+1} \cdot (1 - \frac{g}{RONE})}{COE - g} = \frac{FTE_{T+1}}{COE - g}$$

(36) If the convergence process described in ref (64) KFS/BW1 is assumed, the expected return on equity on the net investment corresponds exactly to the cost of equity, i.e. $RONE = COE$. In this case, the terminal value in the equity approach can be determined using the following formula ("convergence formula"):

$$TV^E_T = \frac{NI_{t+1}}{COE}$$

(37) If the return generated at the beginning of the perpetuity phase corresponds to the cost of capital, for example because a complete diminishing of excess returns was already assumed in the simplified planning phase, and if it is assumed that the long-term profitability level also corresponds to the cost of capital, then the terminal value corresponds to the book value of the capital invested at the beginning of the perpetuity phase (entity approach) or the book value of the equity at the beginning of the perpetuity phase (equity approach).

(38) If the return generated at the beginning of the perpetuity phase is below the cost of capital, the application of the convergence formula according to ref (35) would be synonymous to assuming an improvement in returns during the perpetuity phase. The plausibility of such an assumption must be critically assessed in each individual case. If no improvement in returns can be expected, a liquidation scenario should be considered as an alternative to running a low-yield business.

5. Further Literature

\(^2\) $FTE_{T+1}$ is the forecasted flow to equity for the first period of the perpetuity phase, COE is the cost of equity, $g$ is the annual growth rate (always $g < COE$), $NI_{t+1}$ is the forecasted net income (profit after tax) for the first period of period III and $RONE$ is the expected return on new equity.
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