KPMG

Cost of Capital Study 2016

Value measurement – quo vadis?

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This study is an empirical investigation with the aim of analyzing management practices. Information provided and explanations offered by the study do not offer a complete picture for deriving financial forecasts or costs of capital nor for proper actions or interpretation of the requirements for impairment tests, other accounting-related questions or business valuations.

Following upon last year's "Anniversary Edition" of our Cost of Capital Study, this year's 11th edition represents a "record". With 196 companies (compared with 148 companies in the previous year), more companies than ever before participated in the study. We would like to take this opportunity to express our gratitude for your participation.

The high number of participants and the positive feedback from the previous years represent both a success and a challenge for us. We hope that this study continues to be a fixed component of your practical valuations and our key topics remain especially interesting to you once again this year.

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Preface

Dear readers,

It is our pleasure to present you with the results of the eleventh edition of our Cost of Capital Study. This year we analyze how the continuing dynamics in the development of the economic environment and the high level of market volatility are impacting on corporate decision-making processes – for instance, in the framework of investment, transaction or transformation decisions – and subsequently on financial forecasts and the cost of capital.

Making the right decision or selecting the best course of action is increasingly oriented on the associated changes in performance and risk that are also the cause for subsequent changes in the value of the company. The basis for the assessment of company decisions is therefore valuation calculations, the core of which is the proper derivation of the budgeted cash flow as well as the equivalent cost of capital.

In a dynamic and volatile environment, the participating stakeholders are increasingly interested in a transparent communication about the future impacts of company decisions on the company's performance and the risks for the company as well as in the decision-making process itself.

Consequently, the focus of our study – along with the value-oriented decision-making process itself – is especially on its presentation in the framework of a transparent capital market communication.

In view of this, we selected "Value measurement – quo vadis?" as the motto for this year's Cost of Capital Study. Based on this motto, this year's Cost of Capital Study focuses on the following subjects:

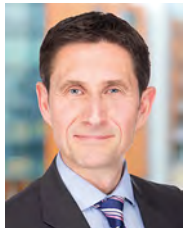
- New methods for value measurement?!
- Big data and business analytics tools
- Risk transparency and risk management
- Value-based management systems 2.0

Because the financial effects of decisions must also be properly reflected in the accounting, the collection of the empirical information continues to be oriented on the IFRS impairment test, due to the fact that the impairment test and its associated valuation is obligatory for all IFRS users.

Along with the study, we would like to invite you to take advantage of the interactive opportunities for analysis available on our website at www.kpmg.de/cost-of-capital.

We hope that this year's Cost of Capital Study also meets your expectations and serves as interesting reading. We would gladly discuss the results with you in the framework of a personal appointment and are, of course, available for any questions and comments you may wish to offer.

With best regards,



Dr. Marc Castedello
Partner
Deal Advisory, Valuation
KPMG AG Wirtschafts-
prüfungsgesellschaft

Stefan Schöniger
Partner
Deal Advisory, Valuation
KPMG AG Wirtschafts-
prüfungsgesellschaft

Editions of the Cost of Capital Study by KPMG

	'06	'07	'08	'09	'10
					
Innovations in the study	– Comparison of the target and actual implementation of the Impairment Test as per IFRS (IAS 36) and US-GAAP (SFAS 142) in German corporations	– Initial participation of corporations from Switzerland and Austria in addition to Germany	– Initial participation of corporations from Great Britain and the Netherlands	– Initial participation of corporations from Spain	– Analysis of industry-specific particularities – Initial querying of the prognosis of future economic development
Highlighted subjects of the study				– The effects of the financial market crisis on the balance sheet and valuation practice	– Focus on prognoses in a difficult market environment

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'11

- Focus on developments in volatile markets
- Impact of the continued difficult market environment on the practice of valuation, in particular on the cost of capital

'12

- Initial querying of the transaction behavior and intentions of companies

- Focus on managing uncertainty

'13

- First extensive industry analyses

- Impact of volatility on financial forecasts
- Interaction of risk-free rate and market risk premium
- Other risk premiums
- Sustainable growth rate

'14

- Detailed analyses for every industry

- Consideration of risk in the derivation of cash flows
- Risk equivalence in determining the cost of capital
- Small cap premium
- Debt beta: Sharing of risk between financiers

'15

- Study layout in tablet-friendly landscape format
- Possibility of individual analysis and data query with an Internet platform

- Corporate Economic Decision Assessment
- Consideration of performance and risk drivers
- Stress testing in times of higher volatility
- Quantification of operative risks
- Effects of the low-interest phase
- Paradigm shift in the determination of the market risk premium
- Value enhancement as a decision-making metric

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- Significant expansion in the number of participating companies
- Expansion of the Internet-based opportunities for analysis

- New methods for value measurement?!
- Big data and business analytics tools
- Risk transparency and risk management
- Value-based management systems 2.0

Summary of Findings

Derivation of the Cash Flow

Planning uncertainty

High volatility and the **uncertainty** of future prospects are part of the daily routine for planners and valuers.
Dealing with that remains a **major challenge** in the framework of decision-making processes and company valuations.

Growth expectations

Overall, the long-term **sales growth expectations** of the study's participants remain **unchanged**.
Expectations with regard to the future **growth of EBIT** are, by contrast, much more **reserved**.

Cost of Capital

WACC

The weighted average cost of capital (WACC) is, after years of a decreasing trend, at **7.1 percent**, at the same **level as the previous year**.

The **highest WACC** was observed in the technology sector with **7.9 percent**, the **lowest** in energy & natural resources with **6.3 percent**.

Risk-free rate

The average risk-free rate applied of **1.5 percent** in **Germany and Austria** and **1.3 percent** in **Switzerland** once again reached an historic low.

Market risk premium

With an average of **6.4 percent** in **Germany and Austria** and **5.7 percent** in **Switzerland**, the market risk premium applied by the participants continued to rise, in Germany and Austria, however, less so than the respective risk-free rates declined.

Beta factors

The **highest** unlevered beta factor was applied in the automotive sector with **1.01**, the **lowest** in real estate with **0.42**.

The participants from the energy & natural resources sector applied a **much lower** unlevered beta factor this year. The **greatest increase** of the unlevered beta factor was observed in the transport & leisure sector.

Cost of debt

Despite the lower risk-free rate, the average cost of debt applied remained **unchanged from the previous year** at **3.4 percent** due to higher risk premiums (credit spreads).

Impairment Test

Impairment

The percentage of companies that recognized an **impairment** on goodwill or assets is slightly below the level of the previous year.

Values and Value Enhancement

Investment decision

Investment decisions were made by the majority of participants based on **both** strategic **as well as** value-oriented objectives.

Monitoring

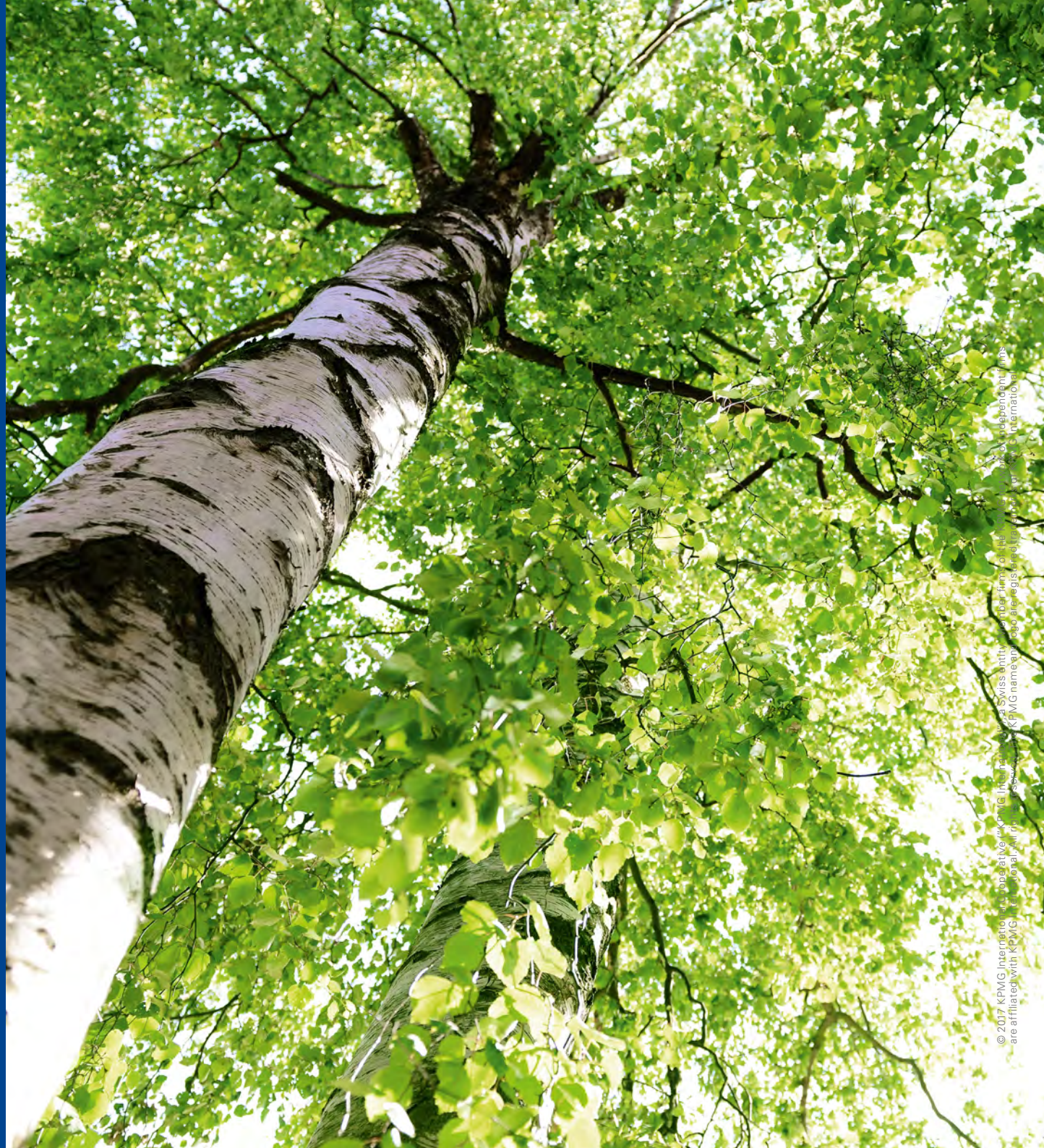
For the participants, the most important **aspect for monitoring** the development of value was the change in performance in the previous financial year.

About half of the participating companies considered **both** the development of the performance **as well as** the risk for steering and controlling purposes.

Capital market communication

As in the previous year, the majority of the companies did not use the **company value** and its change over time in their capital market communication.

1 Introduction

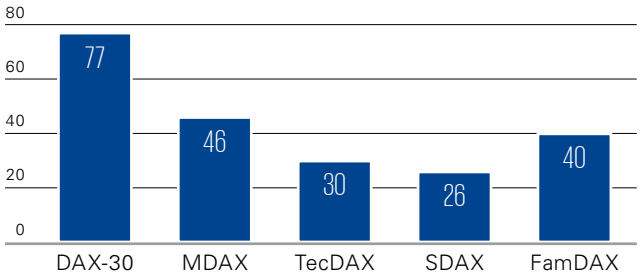


Study participants

With 196 companies participating in Germany, Austria and Switzerland, the participation was significantly higher than in previous years (2014/2015: 148 companies). Of the participating companies, 148 were in Germany, 19 in Austria and 29 in Switzerland.

The participation rate of the DAX 30 companies in the study was, at 77 percent, even higher than in the previous year (73 percent). In addition, 46 percent of the MDAX companies participated in this year's study (previous year: 34 percent). (Figure 01)

01 **Participation rates in Germany**
(in percent)



Source: KPMG, 2016

Survey period

The survey of the companies occurred between March and July 2016. The reporting dates of the consolidated financial statements included in the study were between 31 March 2015 and 30 April 2016.

Industry analyses

In the framework of the survey, the participants were requested to assign themselves to a sector or sectors in which their company focuses its activities. A separate analysis was only performed for those industries with a response rate of at least five participants.

As a result of the high number of participants it was possible for us, in contrast to the two previous years, to perform a separate analysis for the real estate industry.

In the industry-specific analyses, we concentrated on selected cost of capital parameters. In section 6 of the study, we show you the development of these critical parameters over time. In addition, our industry specialists provide insights into current developments, trends and an outlook of the developments expected for the individual industries.

Individual analyses

Furthermore, we would like to draw your attention to our Cost of Capital website. This website was introduced in our anniversary addition last year and allows study participants as well as other interested parties to obtain an individual and interactive data analysis of the study results. Using your own search criteria, you can generate the data that is relevant for you and therefore better understand the values and developments of the cost of capital parameters that are relevant for you.

At **www.kpmg.de/cost-of-capital** you will also find user-friendly presentations of both the cost of capital parameters from our current study as well as corresponding results from the previous years.

New Methods for Value Measurement?!

Our business environment is probably shortly before its greatest upheaval known to date. Increased globalization in connection with digitalization, Internet 2.0 and Industry 4.0 are resulting in fundamental changes. Established business models are being threatened by disruptive approaches and new technologies. This means that stable expectations, reproduced in long-term static financial forecasts are a thing of the past. The increased volatility has become the new normal – it promises great opportunities and risks at the same time – confronting companies and investors with major challenges.

More than ever, companies are confronted with the task of detecting opportunities and hazards at an early date so as to be able to react adequately and make the right decisions. Investors, too, must take the uncertainties of the future into consideration in their decisions to a greater degree than in the past. The dynamically changing market and competitive environment permanently pose new requirements – both in the approaches to making decisions themselves as well as in the transparency and documentation of the decision. Along with the practicability in the implementation and the communicability, the essential demand on decision-making methods in practice is that, on the one hand, they take all the relevant information into consideration and, on the other hand, also sufficiently reduce the complexity of reality. To that end, valuers and corporate consultants have to develop innovative decision-making and valuation concepts. The established methods available to date are not suited to meet these challenges and completely fulfill the expectations placed on them. They may become the source of poor decisions, threatening the very existence of companies.

In the following, we will present advanced tools for decision-making and company steering. First of all, we will discuss a practicable, conceptual extension for existing decision-making and valuation methods. Section 2 deals with possibilities for systematically compiling and processing relevant information by means of big data and business analytics tools. Section 3 demonstrates new ways for the transparent determination and assessment of risks in the decision-making process. With the results it is possible to derive practical recommendations for action and impact corporate risks – directly and quantifiably. Company decisions should always be oriented on the value effects associated with them. Numerous value-based management systems are, however, no longer appropriate for today's or the future's demands. For that reason, in section 5 we demonstrate what "Value-orientation 2.0" could look like and how it makes a valuable contribution to the capital market communication.

That current valuation methods – based on theoretical models such as the Capital Asset Pricing Model (CAPM) – only reflect reality to a limited degree is well known. An unmodified application of these models appears questionable in the current and future economic environment. Corporate decision-makers do not have, in contrast to theorists, the luxury of having an unlimited amount of time to solve their problems. In reality "valuation aids" such as the so-called alpha factors, fungibility surcharges or country risk premiums are responses of the valuation practice to the fact that it is not enough for the solution of real issues to move within the strict limits of a theoretical (CAPM) model. This is even more true if you consider that the real world of the international transaction markets and the ideal world of perfect markets only have very limited overlapping areas. In addition, the valuation practice searches for (subjective) marginal prices in the framework of the decision-making process and requires comparative marginal prices, while theoretical equilibrium models should only explain (fictitious) equilibrium prices in perfect markets. (Figure 02, page 11)

In view of this, we consider it to be recommendable and necessary for the assessment of company decisions to extend the classical approaches of practical valuation so that they also cover the numerous subjective issues and at the same time – in contrast to the, to date, purely practice-oriented valuation aids – are based on a practicable concept that is both transparent and coherent. Above all, this concept has to satisfy the demand for consistency and a lack of ambiguity; by contrast, the claim of being theoretically perfect need not be achieved.

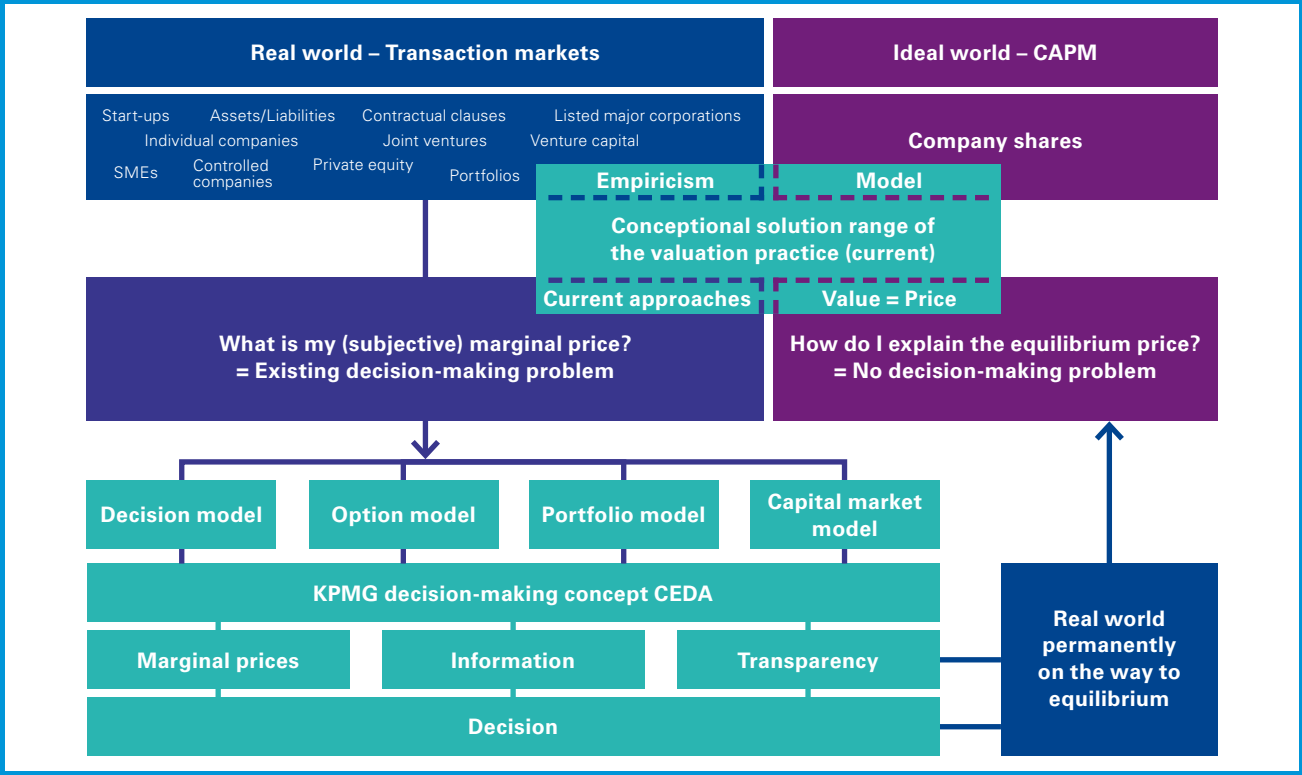
So as not to obtain a string of frequently disconnected single solutions that are relatively opaque and therefore consistently elude any form of comprehension, requires a conceptual framework. This framework should unambiguously include both the numerous, real decision-making situations as well as the various valuation concepts and consistently connect these with one another. Such an extended decision-making and valuation framework should also combine the specific subjective situation of the

customer with the actual issues and expectations of the individual target groups. It results in the subjective marginal prices sought in the practice of valuation as the basis for company decisions. The additionally obtained information leads to an improved capital market communication and transparency.

With CEDA (Corporate Economic Decision Assessment), KPMG provides a practicable decision-making and valuation concept. It combines observable, real matters consistently and unambiguously and can be flexibly adapted to various issues. It successively approaches the to date idealized model assumptions of the equilibrium methods to the drivers of the real markets. CEDA defines the conceptual framework that attaches the individual price tag to every option in every decision-making situation.

www.kpmg.de/ceda

02 **Extended concept for solving practical decision-making issues with CEDA**



Source: KPMG, 2016

"Practice has shown that established valuation methods are increasingly reaching their limits in an ever more rapidly changing world marked by high volatility and disruptive effects. This makes it susceptible to potentially making poor decisions, which are caused by the limitations of the models applied. A practice-oriented extension of the conceptual methods for understanding and determining value is possible without having to relinquish the previously established methodological basis."

Dr. Marc Castedello
Partner, KPMG in Germany

2 Derivation of the Cash Flows

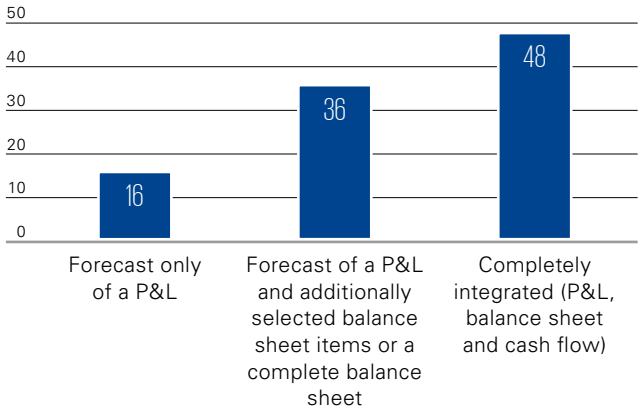
2.1 Preparation of the Financial Forecasts

The financial forecast is of primary importance in the course of corporate valuations – regardless of the reason – and represents the basis for a sustainable and systematic derivation of expected values in which all the expected risks and opportunities of the company to be valuated are completely reflected.

In contrast to the increasing trend in recent years (2013/2014: 41 percent; 2014/2015: 61 percent), the number of participants that perform a completely integrated financial forecast decreased. This year only 48 percent of those surveyed reported performing a completely integrated financial forecast. This means that only about half of the participants derive the valuation-relevant cash flow consistently from the interaction of the expected values of the profit and loss statement (P&L), balance sheet and cash flow statement. By contrast, the percentage of participating companies that performed only a planning of selected balance sheet items along with the planning of a P&L, increased significantly compared to the previous year (2015/2016: 36 percent; 2014/2015: 23 percent). An unaltered total of 84 percent of the participants applied an, in our opinion, appropriate planning structure for the derivation of the cash flow. (Figure 03)

In particular in the financial services sector only few participants (15 percent) perform a completely integrated financial forecast. The primary reason for this is that, due to their specific business models, the majority of banks and insurance companies do not perform balance sheet planning. The items relevant for the fulfillment of regulatory requirements (for instance, the volumes of loans and securities, capital investments, insurance-technical provisions) are, however, regularly planned so as to reproduce the maintenance of the regulatory equity requirements and other parameters in the financial forecasts. Along with the planning of the P&L and the risk assets and equity planning, the liquidity and funding planning is, however, also generally performed.

03 **Degree of detail of the financial forecasts**
Total (in percent)



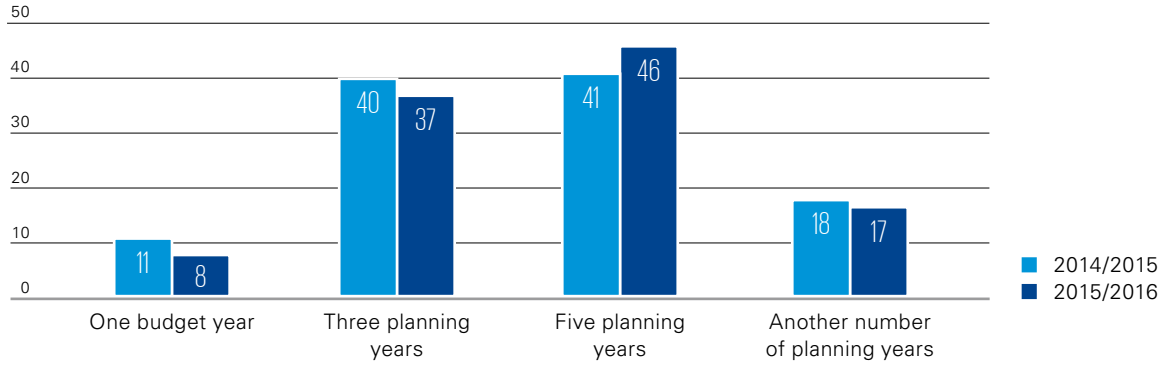
Source: KPMG, 2016

The selection of the planning period remains a matter of some incongruity. A longer planning period means – in particular in view of the observable dynamic market particularities – a greater planning uncertainty, if the planning period is not accompanied by additional scenario and simulation analyses. A short planning period, on the other hand, results in investment and product life cycles as well as long-term industry developments not being properly reproduced in the financial forecast, leading to erroneous results in the valuations and may then result in bad decisions.

The regulations of the IAS 36.33 (b) are also to be observed in the case of impairment tests – at least with the application of the value in use concept – whereby the financial forecasts should in principle not exceed a period of five years, unless the company can prove that it is able to estimate the future cash flows over a longer period with sufficient accuracy.

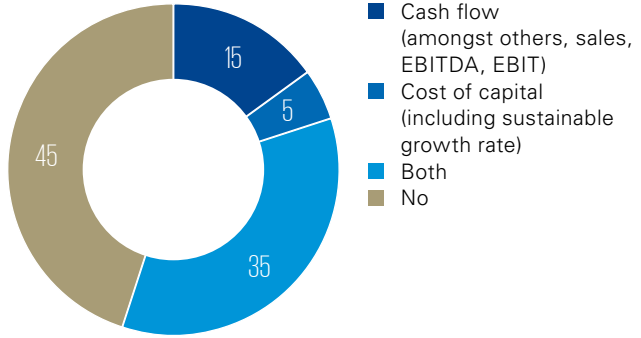
As in the past years, the majority of the companies surveyed continue to apply a planning period of three or five years, whereby there was a slight shift to longer planning periods compared to the previous year. The average of the planning years for the companies that selected a different number of planning years was about eight years. (Figure 04)

04 **Planning horizon – yearly comparison**
Total (in percent, multiple choices possible)



Source: KPMG, 2016

05 **Consideration of sensitivities**
Total (in percent)



Source: KPMG, 2016

A little more than half of the participating companies (55 percent) considered sensitivity analyses in the framework of their planning – mostly (with 35 percent) both for the cash flow and for the parameters that determine the cash flow as well as for the cost of capital. Another 15 percent performed sensitivity analyses exclusively for the cash flow – amongst others sales, earnings before interest, taxes, depreciation and amortization (EBITDA) as well as earnings before interest and taxes (EBIT) – or only for the cost of capital (5 percent, including sustainable growth rate). (Figure 05)

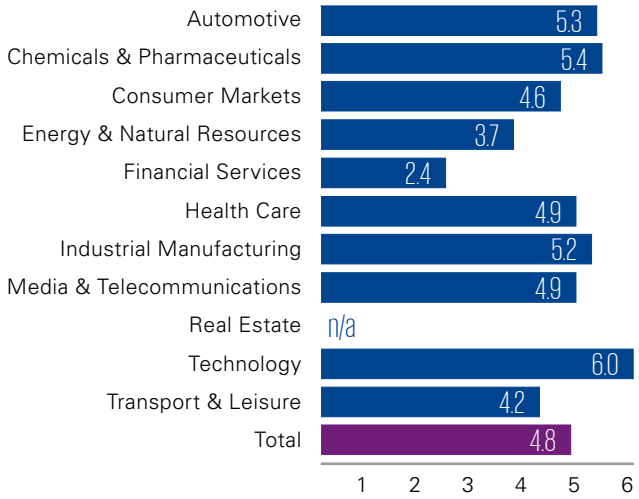
2.2 Growth Expectations

The assumptions with regard to the expected growth in sales as well as the achievable results, such as EBITDA or EBIT, are fundamental premises in compiling a financial forecast.

From the general economic perspective, the achievable results are also influenced by the future general macroeconomic development. In general, the current economic forecasts for the upcoming years for Germany, Austria and Switzerland assume a primarily stable, positive growth even following the United Kingdom's decision to leave the European Union. (Figure 06)

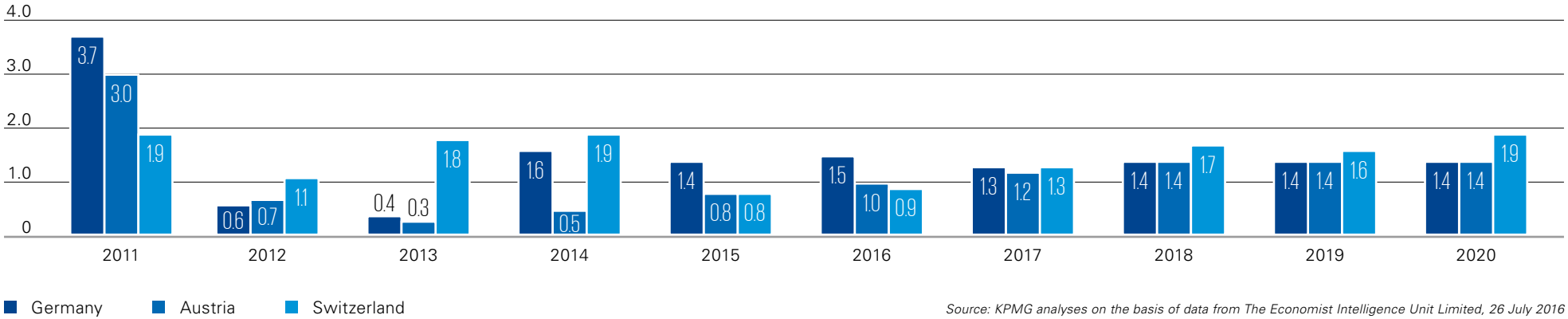
The growth expectations the participating companies are applying for sales was, at an average of 4.8 percent, about the same level as the previous year (2014/2015: 4.9 percent). With regard to EBIT, the participating companies continue to expect disproportional growth compared to sales. The expectations are, however, somewhat bleaker; they were, with an average expected EBIT growth of 8.8 percent, significantly below the previous year's value of 10.9 percent. (Figure 07; Figure 08, page 16)

07 **Forecasted sales growth by industry**
(in percent)



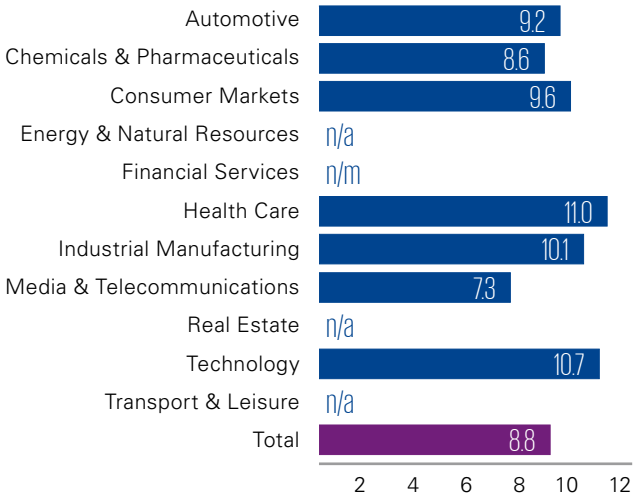
Source: KPMG, 2016

06 **Economic forecast of real growth of the gross domestic product**
Total (in percent)



Source: KPMG analyses on the basis of data from The Economist Intelligence Unit Limited, 26 July 2016

08 **Forecasted growth of EBIT by industry**
(in percent)



Source: KPMG, 2016

2.3 Determination of Expected Values

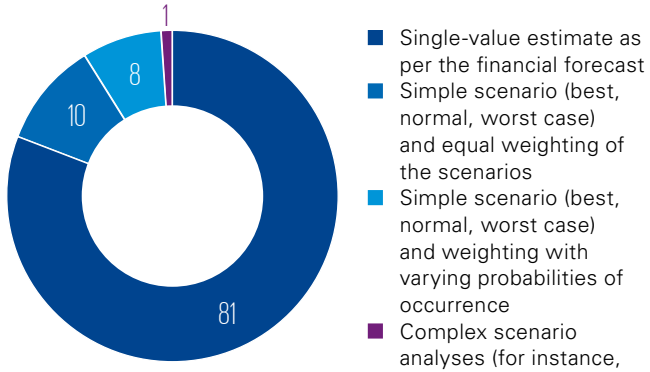
It is especially important for companies to continuously improve and expand the quality and flexibility of their financial forecasts. While the single-value estimate of a "normal" financial forecast may be sufficient in a stable economic atmosphere, in a volatile market environment the performance and risk drivers can only be systematically and transparently compiled with scenario-based multi-value financial forecasts. As explained in our following key topic, big data and business analytics tools are being increasingly applied in the analysis of performance and risk drivers.

Consistent with the trend in recent years, the majority of the study participants once again derived the expected values of the valuation relevant cash flow on the basis of a single-value estimate in accordance with the financial forecast (81 percent; previous year: 83 percent). A total of 18 percent of the participants performed a simple scenario analysis, thereof 10 percent with an equal weighting of the individual scenarios and 8 percent with a weighting in accordance with the specific probability of the scenarios. Only about 1 percent considered more complex scenario analyses in deriving expected values. (Figure 09)

"In times of increased uncertainty and volatility, planning becomes especially important. Scenario-based, multi-value financial forecasts allow companies to systematically compile and sufficiently reflect the performance and risk drivers."

Stefan Schöniger
Partner, KPMG in Germany

09 **Measurement of the expected value**
Total (in percent)



Source: KPMG, 2016

2.4 Determination of the Sustainable Year

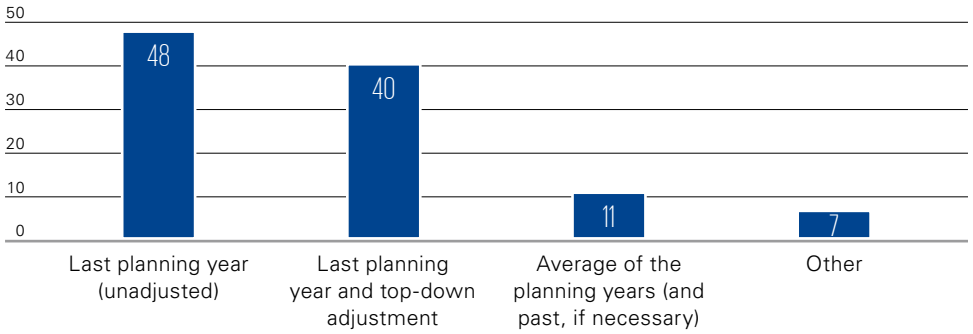
An important value driver in determining the value of a company remains the amount of the cash flow in the terminal value. Prerequisite for the determination of the terminal value is that the company has reached the so-called "steady state". To reflect a steady state, it is not only necessary to plan a sufficiently long period, but also to consistently reflect in simulations what possible long-term expectations appear from the perspective of the valuation day. These simulations generally do not lead to a single-value parameter, but rather to a range for the sustainable result.

The vast majority of the companies set the last budget year – sometimes taking so-called top-down adjustments into consideration – as the basis for the determination of the terminal value. An average of the planning years (and partially of past years) was used by 11 percent of the study participants for the determination of the terminal value. (Figure 10)

"Simply applying the last detailed budget year 'plus growth rate' for the determination of the terminal value is not just critical for companies with a cyclical business model or companies whose business model is subject to permanent change. In principle, the sustainable result for all companies should be determined on the basis of various scenarios and under consideration of long-term developments of the result so as to determine the requisite expected values for valuation purposes. Simulation-based methods such as Monte-Carlo simulations are available to that end."

Karen Ferdinand
Partner, KPMG in Germany

10 **Determination of the terminal value**
Total (in percent, multiple choices possible)



Source: KPMG, 2016

Big Data and Business Analytics Tools

The digitalization of entire areas of life and business is creating an immense flood of data and generating innumerable changes, innovations and inventions. The key to handling these immense amounts of data, which are frequently described with the buzzword "big data", is in intelligently linked and interactive analyses. In the assessment of financial forecasts – amongst other things as the basis for impairment tests – qualitative and quantitative analyses of big data are also playing an important role. In particular, analyses regarding market-based developments on the basis of extensive market and macro-data form an essential basis for the plausibility of the financial forecasts for various options. It is therefore necessary to reflect the market and macro-economic context on the basis of data as extensively as possible. Only with a comprehensive consideration of the relevant drivers, such as environmental and market factors (e.g. competition, purchasing power), can opportunities and risks be evaluated.

With the use of business analytics tools it is possible to efficiently process, structure and visualize unstructured masses of data from numerous sources and compile these to valuable insights. Sophisticated business analytics tools are therefore taking on an increasingly important place in the framework of testing the plausibility of financial forecasts and therefore also with impairment tests. By means of visualization they support the analysis of complex data structures and allow an efficient use of the increasingly extensive and more rapidly available masses of data. This development in turn allows valuers to obtain well-founded insights into market structures in a shorter period of time and therefore to check the plausibility of financial forecasts. KPMG has therefore been applying business analytics tools for years both for industry studies as well as for the analyses of financial forecasts in the framework of company valuations, impairment tests or the evaluation of options so as to accelerate the economic analysis and to better support clients in making strategic decisions.

To be able to compete internationally in the age of massive data and the associated short life cycles of information requires innovative, revolutionary and even disruptive approaches to sustainably guarantee the innovative strength and competitiveness of a company. Ever shorter development cycles and disruptive developments within a sector, for instance, are resulting in the classical methods of planning analysis, such as analyses of the past or wide-ranging analyses of the competition, becoming ever less important. Here, the use of business analytics tools allows the evaluation of a multitude of market analyses and therefore increases the quality of the performance measurement and aids in the assessment of risk for material planning assumptions. They can be better analyzed and visualized with regard to their financial impacts.

The automobile industry is also being confronted with dramatic changes. To survive in the long run, companies in this sector will have to revise their business models and current product and service models in the coming years. Here, too, decisions will have to be made on the basis of quality-assured indicators. For that reason, we have selected an analysis from this sector to demonstrate the use of a data analytics tool. With the example of the current worldwide car production according to cities, it can be seen that in evaluating this highly complex data and data structures without data analytical tools, the ability to analyze the data quickly reaches its limits, especially if you add in the dimension of time. With the aid of the new analytical instruments, the developments over time can be easily recognized and compared with those of management estimates. (Figure 11, page 19)

The analyses can be intelligently combined with various data sources and integrated into more advanced analyses. They allow for statements to be made about the prospects of various business models or the planning of an internationalization strategy, for instance, and can be checked for plausibility. Furthermore, the results of the analysis allow for various future scenarios to be simulated and – in combination with advanced instruments for decision-making and company steering as are described in other key topics of this study – the development of a "quantifiable feeling" for planning risks and therefore business risks.

The bottom line is that business analytics tools are already essential instruments for determining the plausibility of financial forecasts and their underlying assumptions. Their importance will continue to grow rapidly in the future. They allow the linking of data sources, the visualization of complex relationships and aid in the development of key performance indicators (KPIs). If necessary, they can be simulated so as to make the risks involved in the financial forecast more transparent.

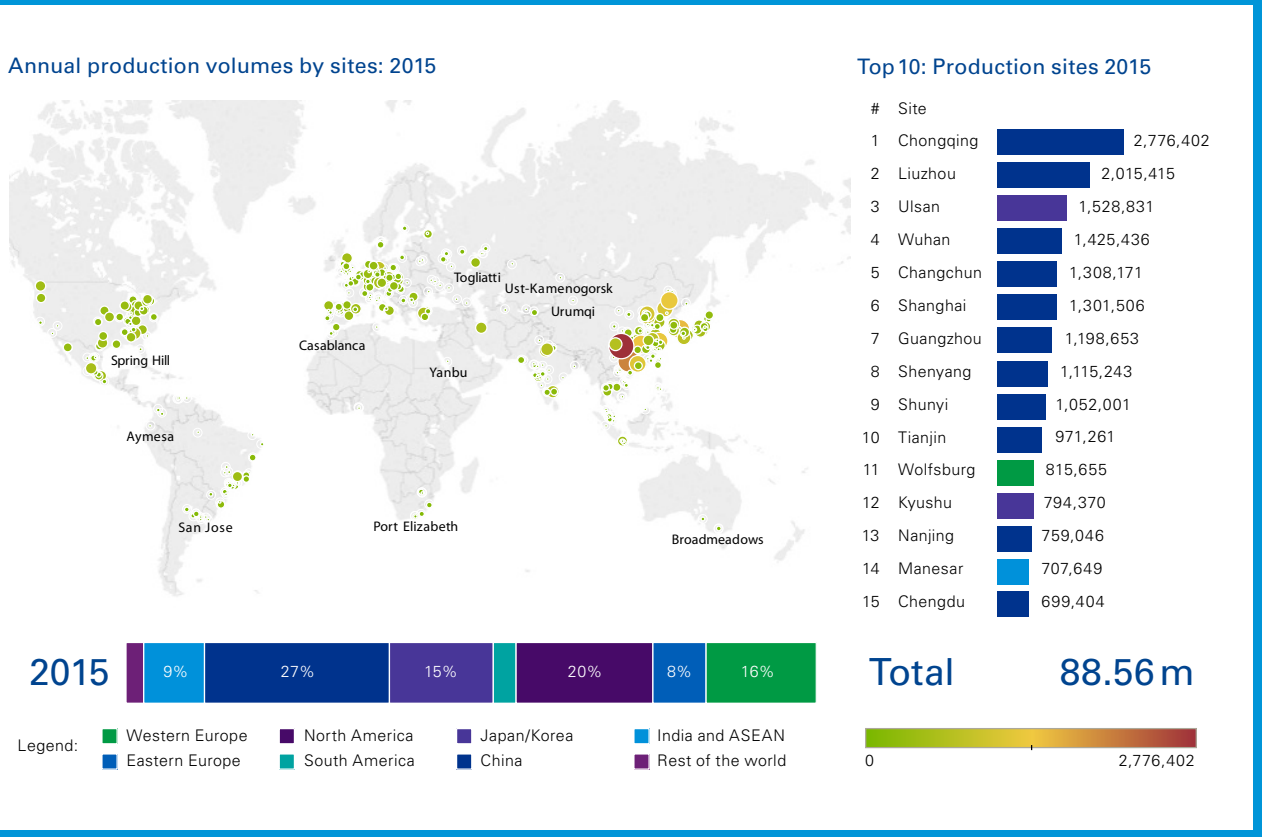
"By using big data analysis tools, we have been able to not only make our proven and accepted advisory solutions more dynamic, but also to expand the content. This enables us to provide our clients with even greater added value in the framework of assessing the plausibility of financial forecasts and impairment tests."

Olaf Thein
Partner, KPMG in Germany

With the following link and QR code you will find the sample analysis. Analyze and filter the dashboard according to your needs!

http://tinyurl.com/KPMGNextGenAuto

11 **Global automobile production**
Cars and light trucks (under 6 tons)



Source: KPMG Automotive Institute, LMC, Q1, 2016

3 Determination of the Cost of Capital Parameters

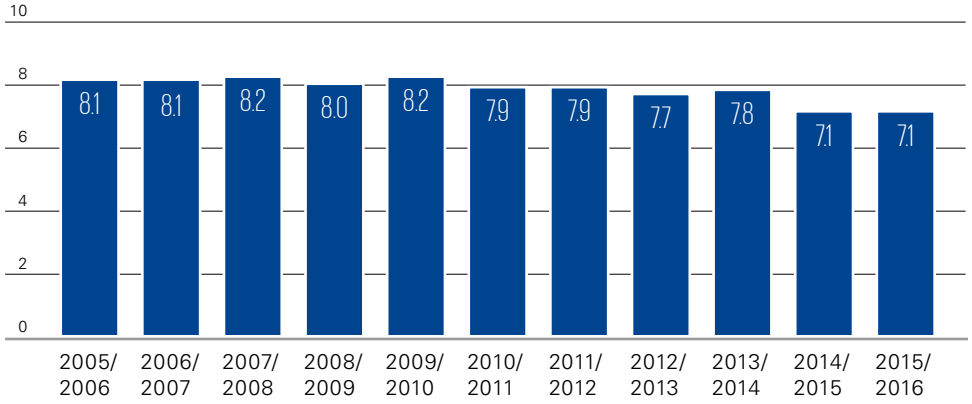
3.1 WACC Overview

Following the continuous downward trend of the weighted average cost of capital observable since 2009/2010, the WACC remained, at 7.1 percent, at the level of the previous year. The reason for the downward trend of the WACC in the past was the decrease in the risk-free rate that was not completely compensated for by a corresponding increase of the market risk premium, which resulted overall in a decrease in the cost of equity and the WACC. (Figure 12)

When considering the average WACC applied by all the surveyed companies as well as the WACC of the individual sectors, it should be noted that the data stems from companies from different countries, partially from different currencies and from varying points of time.

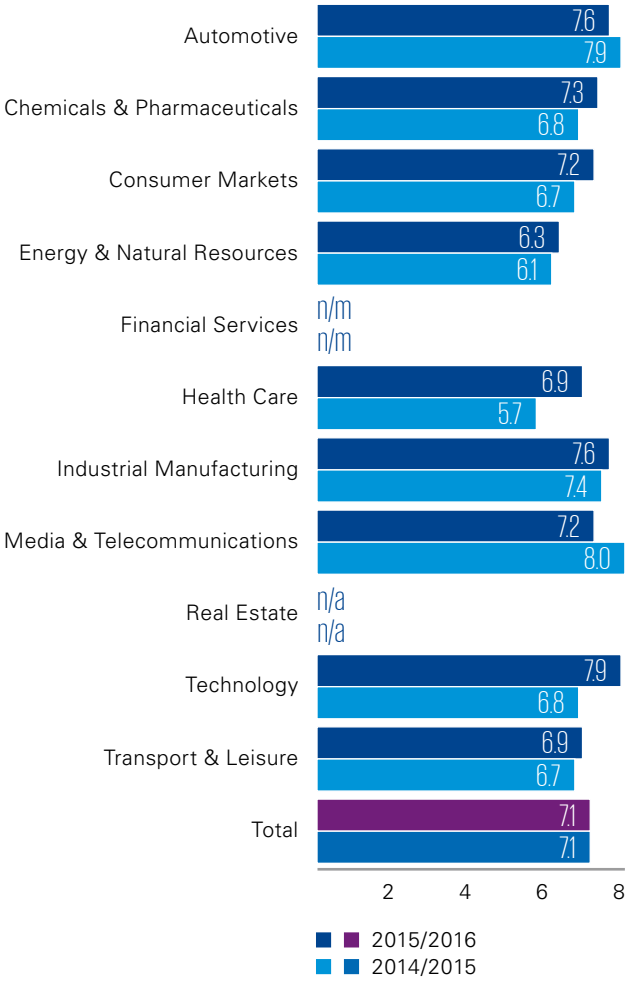
In contrast to the almost unchanged overall level of the WACC for all the participating companies, there is a very different development in the individual sectors compared to the results of the previous year. While the WACC in media and telecommunications decreased by 0.8 percentage points to 7.2 percent, in the technology and health care industries they increased by 1.1 and 1.2 percentage points, respectively. (Figure 13)

12 **WACC (after corporate taxes)**
Total (in percent)



Source: KPMG, 2016

13 **WACC (after corporate taxes) by industry**
(in percent)

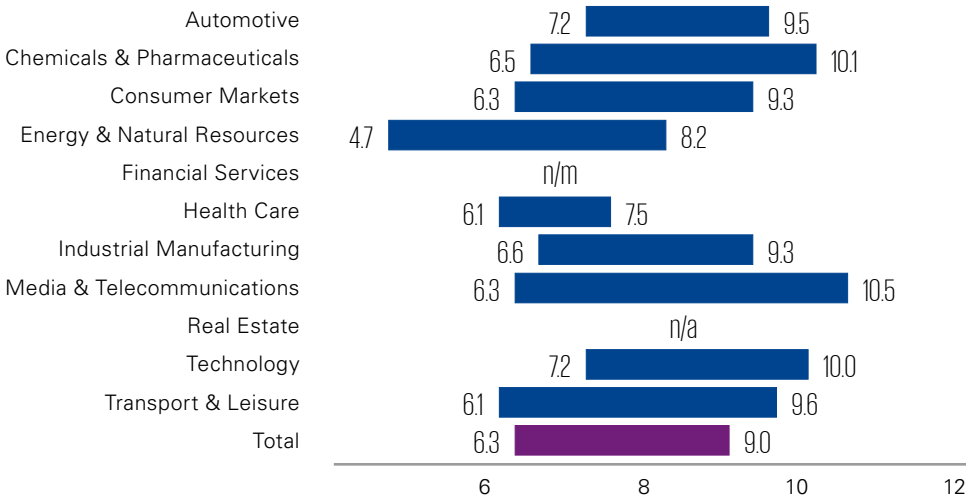


Source: KPMG, 2016

Varying costs of capital on the basis of individual cash generating units (CGUs) are considered by 40 percent of the study participants. Deviations here result from different risk factors within the individual CGUs. The WACC after corporate taxes for the individual GCUs ranged in average between 6.3 percent and 9.0 percent. The ranges reported varied greatly depending on the sector. (Figure 14)

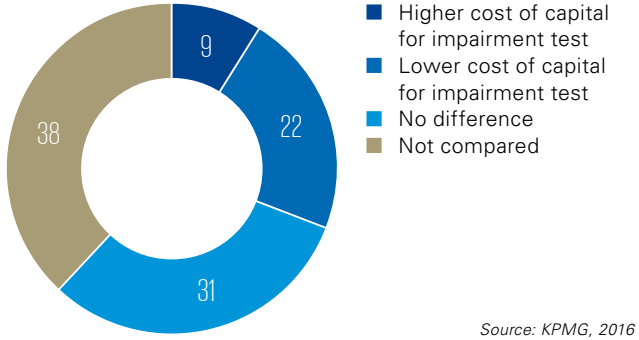
The surveys of the past demonstrated that the companies frequently applied various costs of capital for differing types of valuations. For that reason, we asked the participants the question of whether they also applied the cost of capital derived for the purposes of the impairment test for other purposes such as the valuation in connection with transactions or fiscal purposes. As in the previous year,

14 **WACC (after corporate taxes) per CGU by industry**
(in percent)



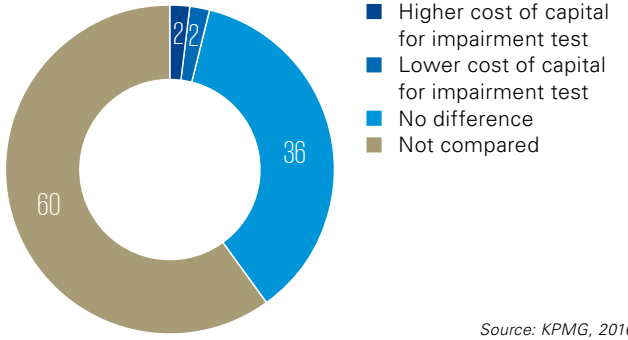
Source: KPMG, 2016

15 **Deviation of the cost of capital in M&A transactions and investment decisions**
Total (in percent)



Source: KPMG, 2016

16 **Deviation of cost of capital for fiscal valuations**
Total (in percent)



Source: KPMG, 2016

at about 62 percent (previous year: 63 percent), the majority of the participants performed a reconciliation between the cost of capital determined for the impairment test and the cost of capital in the framework of M&A transactions/investment decisions. A reconciliation with the costs of capital for fiscal valuations was only performed by 40 percent of the companies (previous year: 45 percent). (Figures 15 and 16, page 22)

> "In principle there should not be a deviation between the costs of capital for the varying valuation purposes, due to the fact that the costs of capital should at least be based on consistent concepts and there should only – if at all – be isolated cases of cause-related deviations in the parameters."
>
> Dr. Andreas Tschöpel
> Partner, KPMG in Germany

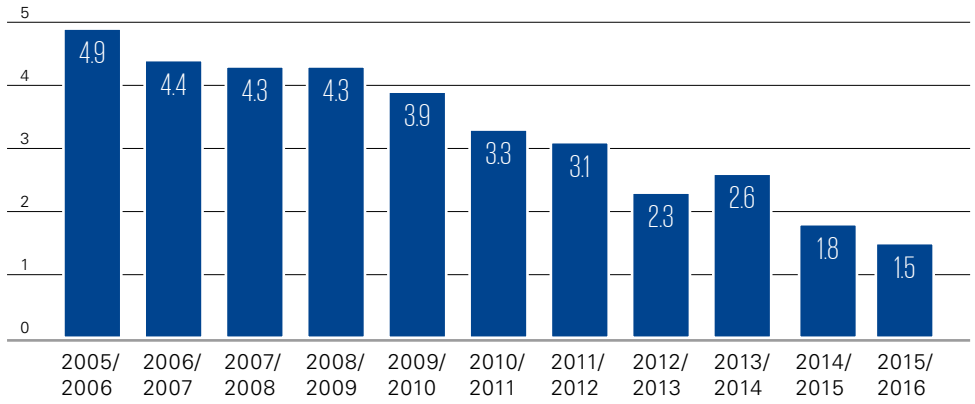
3.2 Risk-free Rate

The continuing downward trend of the average risk-free rate that began in 2008/2009 continued this year. Analogous to the development of the returns on government bonds from Germany, Austria and Switzerland, the risk-free rate used by the study participants in the study period also dropped to an historical low of 1.5 percent. (Figure 17)

In appraising the average risk-free rate applied by all the surveyed companies, it must also be considered that the company data here stems from different currency zones (euro versus Swiss franks) and from different reporting dates.

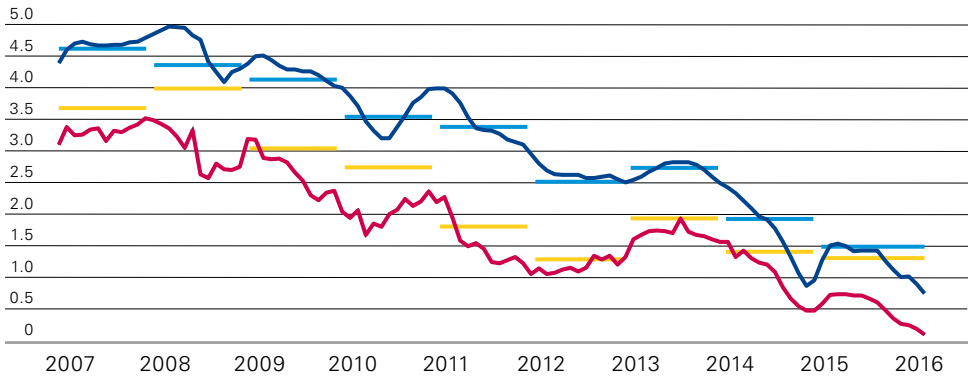
The companies from Germany and Austria applied a risk-free rate that decreased by 0.4 percentage points to 1.5 percent, while the risk-free rate of the participating companies in Switzerland remained almost on the level of the previous year with a decrease of only 0.1 percentage points. Therefore, the difference in the interest rates for the two currency zones continued to decrease and now amounts to 0.2 percentage points. (Figures 18 and 19, page 24)

17 **Average risk-free rate applied**
Total (in percent)



Source: KPMG, 2016

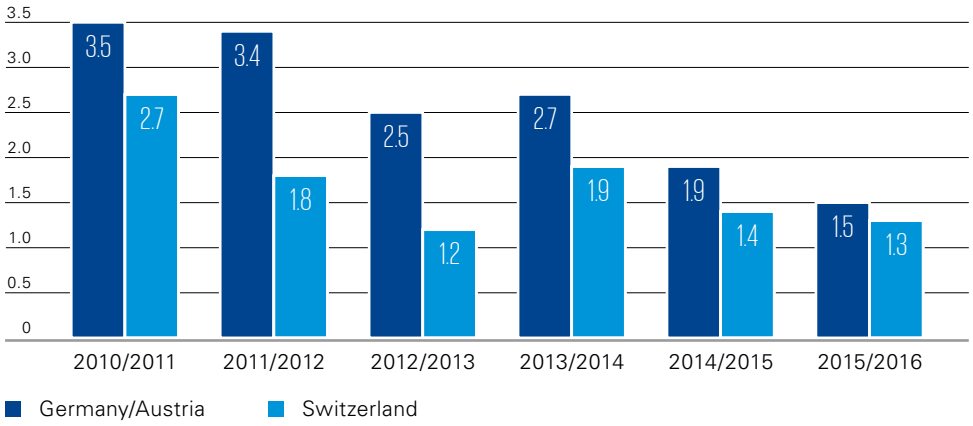
18 **Yield curve**
European Central Bank versus Swiss Nationalbank (in percent)



EUR risk-free rate on the basis of the European Central Bank yield curve (AAA sample, three-month average)
EUR risk-free rate as per the annual Cost of Capital Study
CHF risk-free rate on the basis of the Swiss Nationalbank yield curve (three-month average)
CHF risk-free rate as per the annual Cost of Capital Study

Source: KPMG analyses on the basis of data from the European Central Bank and Swiss Nationalbank

19 **Average risk-free rate applied**
Germany/Austria versus Switzerland (in percent)



Source: KPMG, 2016

"Switzerland and the Swiss companies mirrored the development of the global trend with a decreasing risk-free rate. The coming months will certainly be interesting now that the 30-year Swiss bonds also slipped below zero for the first time in June 2016. This means that both financial theorists and practitioners are being confronted with new challenges. Is a negative risk-free rate appropriate? What should the market risk premium be – constant or higher? Is it possible that company valuations increase in a negative interest environment? How do you factor in short-term deflation and long-term threatening inflation in corporate planning?"

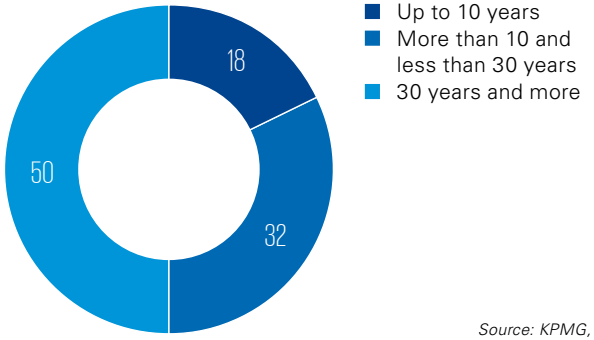
Johannes Post
Partner, KPMG in Switzerland

When analyzing the risk-free rates applied, the different maturities of the government bonds/yield curves used also have to be considered. In view of the, generally, existing premises of the going concern and the resultant infinite timeframe of a corporate valuation, a longest-term interest rate is preferred to guarantee the term equivalence and therefore the application of long-term yield curves.

This principle was adhered to by 45 percent of all the study participants in the observation period (previous year: 37 percent). Consequently, they apply government bonds or yield curves with a term of 30 years or more to determine the risk-free rate. In Germany and Austria, this procedure was applied with an above-average frequency of 50 percent. In Switzerland, the derivation continues to be based on government bonds/yield curves with a maximum term of ten years. With a portion of 59 percent, this method has, however, become somewhat less important compared to the previous year (previous year: 70 percent). (Figures 20 and 21)

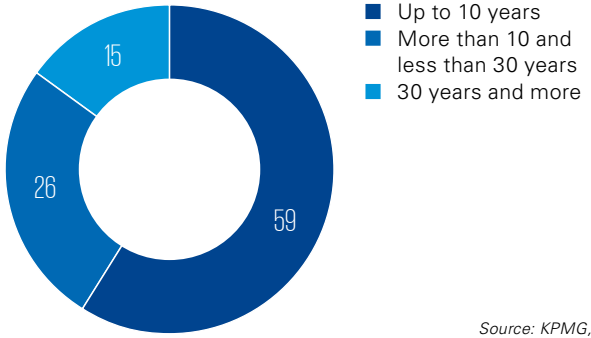
To illustrate the effects that result from applying ten-year or thirty-year bonds, in the following chart we have compared the average difference in returns of government bonds from Germany and Switzerland. This demonstrates that the interest rates of ten-year bonds is significantly below that of thirty-year bonds. (Figure 22)

20 **Determination of risk-free rate in Germany and Austria**
Total (in percent)



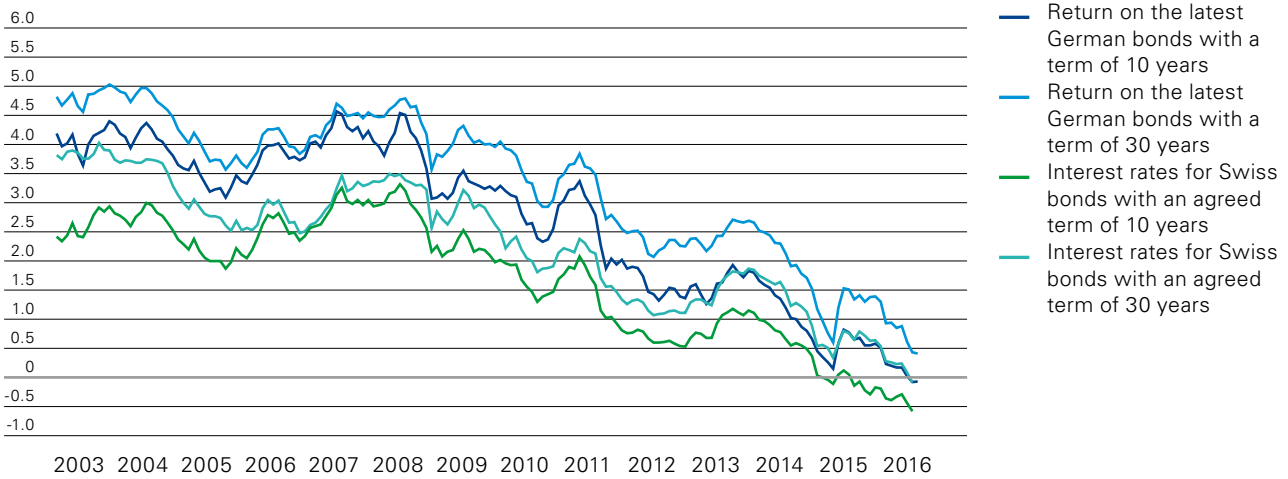
Source: KPMG, 2016

21 **Determination of risk-free rate in Switzerland**
Total (in percent)



Source: KPMG, 2016

22 **10-year versus 30-year bonds**
Germany versus Switzerland (in percent)



Source: KPMG analyses on the basis of data from the European Central Bank and Swiss Nationalbank

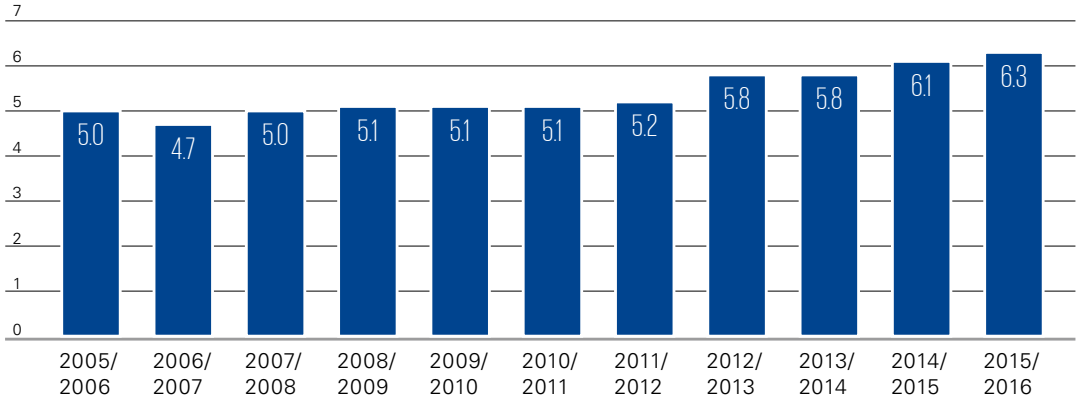
3.3 Market Risk Premium

The market risk premium describes returns demanded by an investor above the risk-free rate for holding a market portfolio containing risky securities. It should be noted that the market risk premium is not a parameter that is directly observable in the capital market, but rather – in accordance with the Capital Asset Pricing Model CAPM that is predominant in practice – only represents the difference between the empirically observable parameters market return and risk-free rate.

The average market risk premium applied in the period from 2007/2008 to 2011/2012 ranged between 5.0 percent and 5.2 percent. As a result of the economic and financial crisis, it increased in 2012/2013 significantly by 0.6 percentage points to 5.8 percent and in the last year by another 0.3 percentage points to 6.1 percent. This year, too, there was an increase of the average market risk premium applied of 0.2 percentage points to 6.3 percent. (Figure 23)

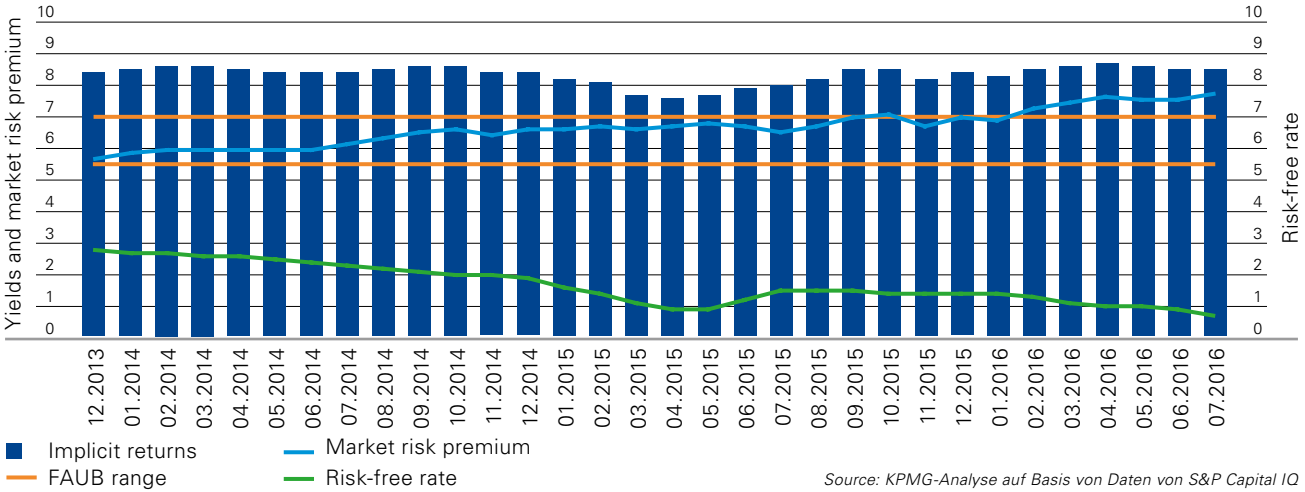
In this connection the Technical Committee for Business Valuation and Economics (Fachausschusses für Unternehmensbewertung – FAUB) of the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer – IDW) published the "Comments of the FAUB regarding the consideration of the financial market crisis for the determination of the discount rate in the valuation of companies" on 19 September 2012. In the framework of this publication, the committee recommended applying a market risk premium before personal taxes of between 5.5 percent and 7.0 percent.

23 **Average market risk premium**
Total (in percent)



Source: KPMG, 2016

24 **Change in expected returns in Germany**
(in percent)



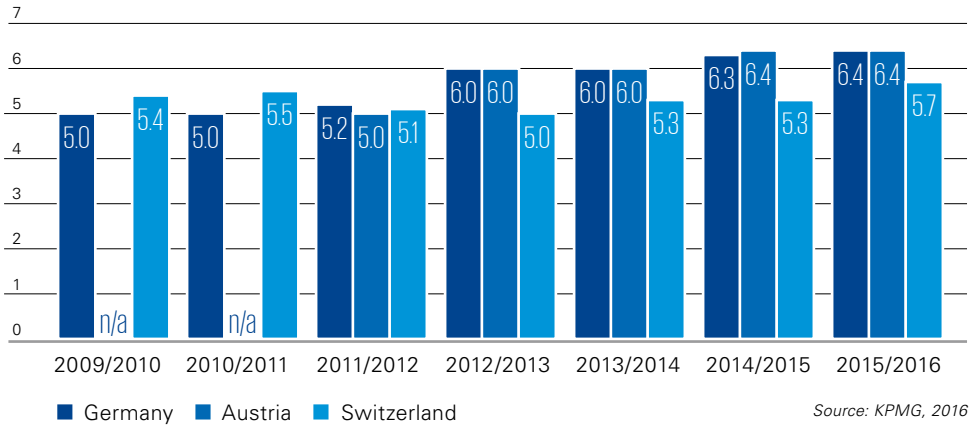
Source: KPMG-Analyse auf Basis von Daten von S&P Capital IQ

In view of this, as well as the continuing downward trend of the risk-free rate, the participants, assuming the relevant overall returns, considered once again a subsequent increase of the market risk premium that would at least partially compensate the decrease in the risk-free rate. This development also coincides with the implicit returns observed for listed corporations in Germany. (Figure 24, page 26)

The average market risk premium applied by the German study participants of 6.4 percent in 2015/2016 was above the mean of the range recommended by the FAUB. (Figure 25)

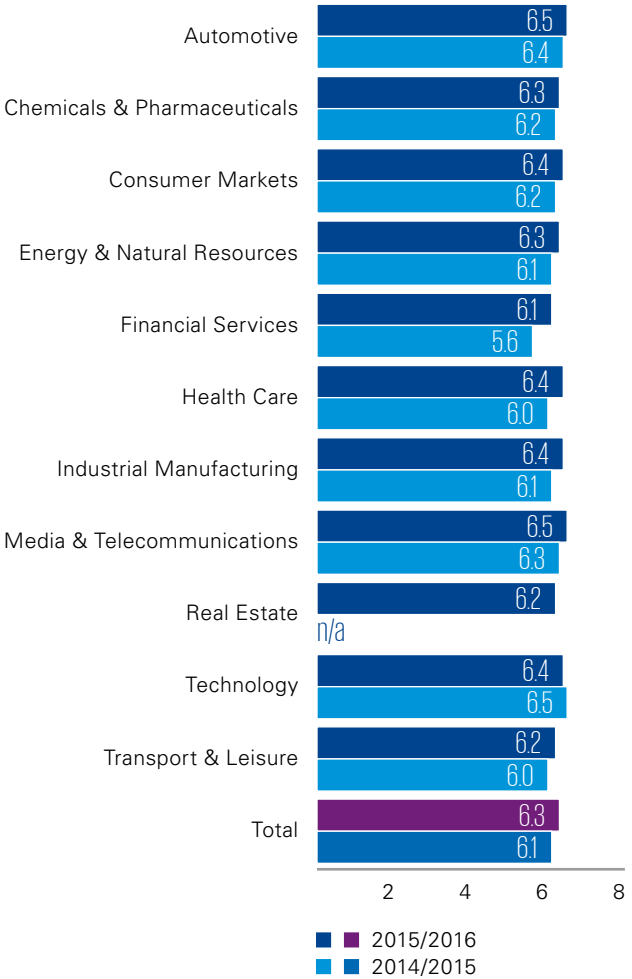
Due to the fact that the market risk premium is a sector-independent parameter, there should not be any material differences between the individual sectors. The average market risk premium applied by the participants ranged within a narrow corridor between 6.1 and 6.5 percent across the sectors. As in the previous year, the participating companies in the field of financial services applied the lowest premium with 6.1 percent, while the highest market risk premium of 6.5 percent was applied in the sectors automotive and media & telecommunications. (Figure 26)

25 **Average market risk premium**
Germany versus Austria versus Switzerland (in percent)



Source: KPMG, 2016

26 **Average market risk premium by industry**
(in percent)



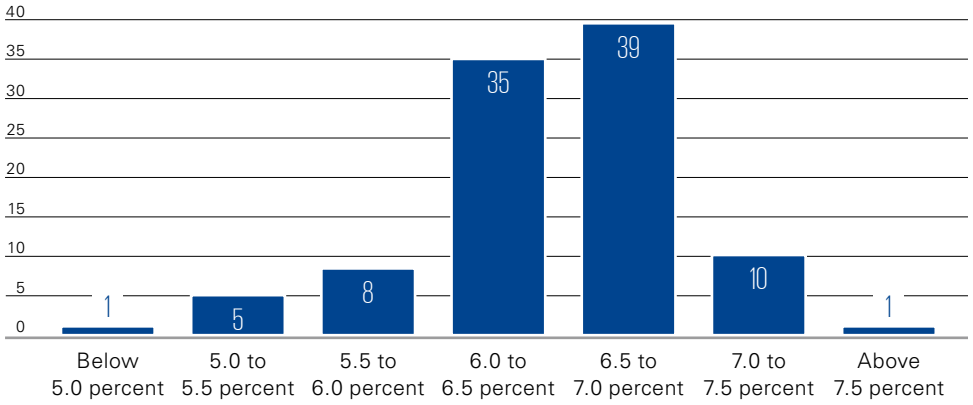
Source: KPMG, 2016

In the analysis of the individual companies, it was once again demonstrated that the majority (74 percent) of the German study participants applied a market risk premium between 6.0 and 7.0 percent. Only 1 percent each of the German study participants applied a market risk premium of below 5.0 percent or above 7.5 percent in determining their costs of capital. (Figure 27)

"In Switzerland, the average market risk premium applied was significantly below the premium applied in Germany and Austria while the risk-free rate was at a comparable level. All things being equal, this would only be plausible if the total return demanded by investors in Switzerland was lower than in Germany and Austria and they had correspondingly lower risk expectations for Switzerland."

Dr. Marc Castedello
Partner, KPMG in Germany

27 **Distribution of the market risk premiums of German companies**
(in percent)



Source: KPMG, 2016

3.4 Beta Factor

The beta factor is another important element in the determination of the costs of equity. It expresses to what degree the company-specific risk is comparable with that of the market portfolio.

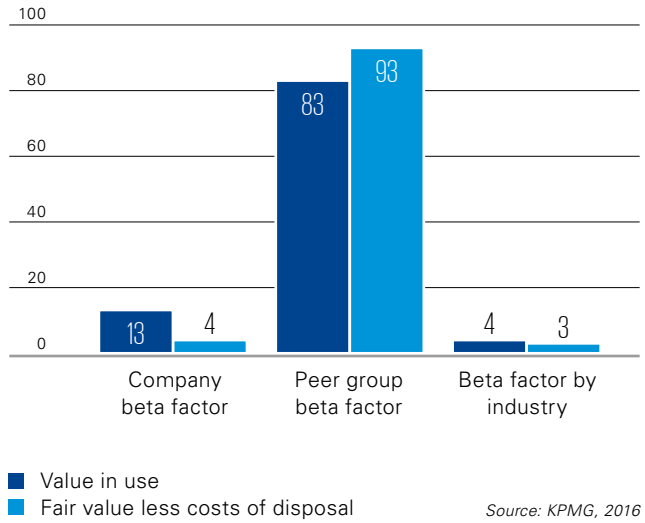
The difficulty in determining the future beta factor results from two aspects. In practice, beta factors are generally determined on the basis of historical returns from which the future-oriented beta factor is derived for valuation purposes. Furthermore, there are various hurdles in the compiling of historical beta factors – for example, that cash generating units (CGUs), as units to be valuated in the framework of the impairment test, are in principle not listed companies. Consequently, due to the fact that beta factors are generally not directly observable, comparable listed companies (peer group) are regularly used. This should best reflect the CGU's company-specific risk.

The derivation of the beta factor from a peer group is implicitly required for the determination of the fair value less costs of disposal and the value in use, so as to take into account the necessary market perspective.

Due to the increasing convergence of industries, it is becoming ever more difficult to obtain a suitable peer group that reflects the operative risk of the CGU to be valuated.

If the individual CGUs are subject to different operative risks, an individual peer group should be determined for every CGU so the differing risk profiles of the individual CGUs can be adequately reflected. As in the previous year, however, less than half of the study participants perform such a differentiation of the peer group for the individual CGUs (2015/2016: 40 percent).

28 **Basis of the beta factor**
Total (in percent)



Source: KPMG, 2016

In addition – as described on page 34 in our key topic "Risk transparency and risk management" – advanced alternative approaches can be considered that are suitable for simulating the operative risk of CGUs on the basis of market and company data. Currently, such methods are not being applied to a sufficient degree in valuations.

This year companies using a peer group totaled 93 percent (fair value less costs of disposal) and 83 percent (value in use).

The application of beta factors from the group/company compiling the balance sheet is only then appropriate if the operative risk of the CGU coincides with the operative risk of the group and the stock price is not subject to major fluctuations that are not connected to the company's risk profile. Of this year's participating companies, 13 percent (value in use) and 4 percent (fair value less costs of disposal) applied the beta factor of the company compiling the balance sheet. (Figure 28)

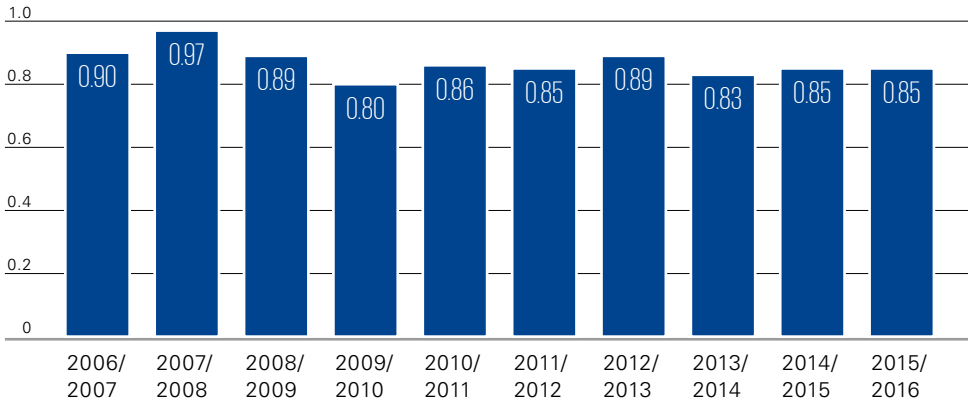
Unlevered beta factors

In determining the cost of capital, the systematic operative risk is reproduced by means of the unlevered beta factor. The average unlevered beta factor applied remained almost unchanged at 0.85 in the last two years. (Figure 29)

Despite the constant development of the overall average, within the individual sectors there were some significant changes compared to the previous year. Within the energy & natural resources sector, the average unlevered beta factor decreased by 0.18 to 0.76 and is therefore at its long-term historical average. This could be a sign that the study participants consider the uncertainties and challenging market conditions in the sector to be lower than in previous years. The strongest increase, by contrast, was observed in the transport & leisure industry. Here, the unlevered beta factor increased by 0.10 to 0.78 (previous year: 0.68). (Figure 30)

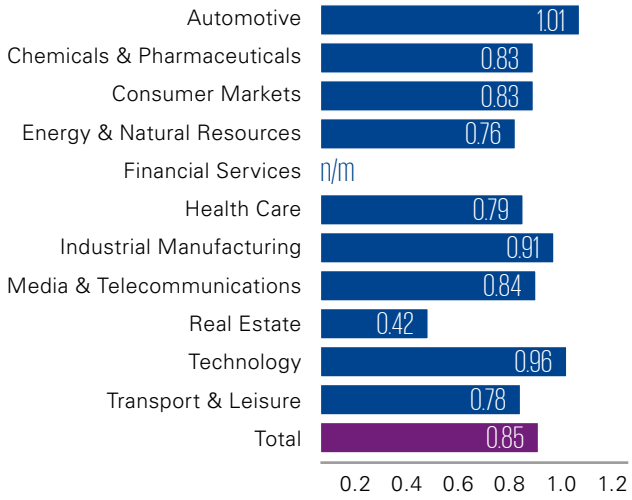
The highest average unlevered beta factor was in companies in the automotive industry (1.01), the lowest average beta factor was in real estate (0.42). The reason for the low fluctuation in the real estate industry is to be found in the earnings that are less subject to economic cycles, for instance, due to long-term leases and the basic need for housing.

29 **Average unlevered beta factors**
Total



Source: KPMG, 2016

30 **Average unlevered beta factors by industry**



Source: KPMG, 2016

Levered beta factors

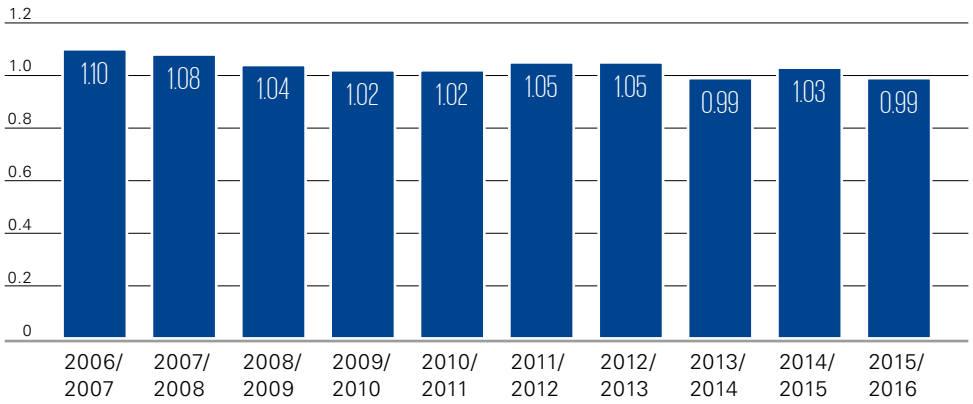
The levered beta factor serves as a metric for the equity provider's systematic risk under consideration of the capital structure risk from debt.

The average levered beta factor applied decreased compared to the previous year by 0.04 to 0.99. Because the level of the unlevered beta factor as well as the cost of debt remained unchanged compared to the previous year, the slight decrease of the levered beta factor can only be attributed to the lower debt ratio. (Figure 31; Figure 44, page 41)

In accordance with the definition of the beta factor as a relative measure of risk, the average of all levered beta factors of the market must be 1.00. As Figure 31 shows, the values attained have for years ranged closely around this theoretically correct value, which again was hit almost exactly this year. From this it can be concluded that the empirical data of this study sufficiently represent the whole market. This demonstrates that, at least in the average of the impairment test, there are no systematic errors in the estimation of the beta factor and therefore the systematic risk.

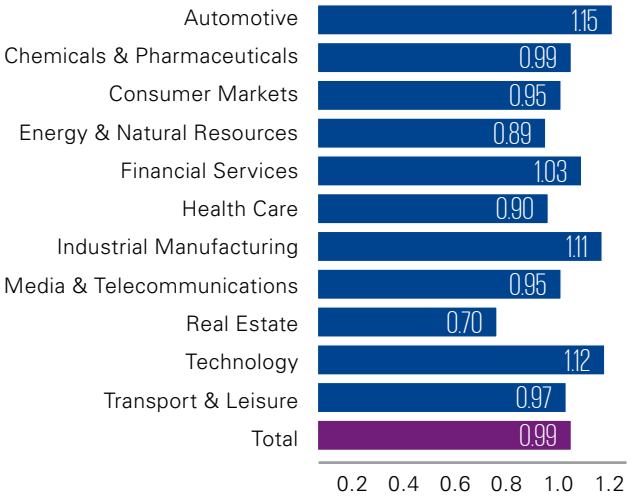
The highest levered beta factors were applied by the automotive (1.15), technology (1.12) and industrial manufacturing (1.11) industries, the lowest values were observed in the real estate (0.70), energy & natural resources (0.89) and health care (0.90) industries. (Figure 32)

31 **Average levered beta factors**
Total



Source: KPMG, 2016

32 **Average levered beta factors by industry**



Source: KPMG. 2016

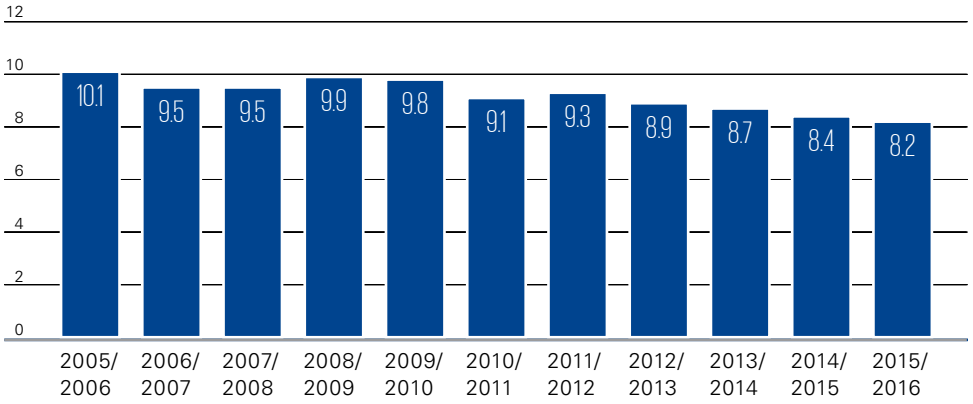
3.5 Cost of Equity

With the CAPM, the levered cost of equity results from the risk-free rate, market risk premium and the levered beta factor.

The trend of sinking levered cost of equity that was observed in the last few years continued. After 8.4 percent in the past year, it now sank to 8.2 percent. This decrease resulted from the changes in the individual parameters described above. Here, the cost-of-equity decreasing effects resulting from the lower risk-free rate were only partially compensated for by the increase in the market risk premium. (Figure 33)

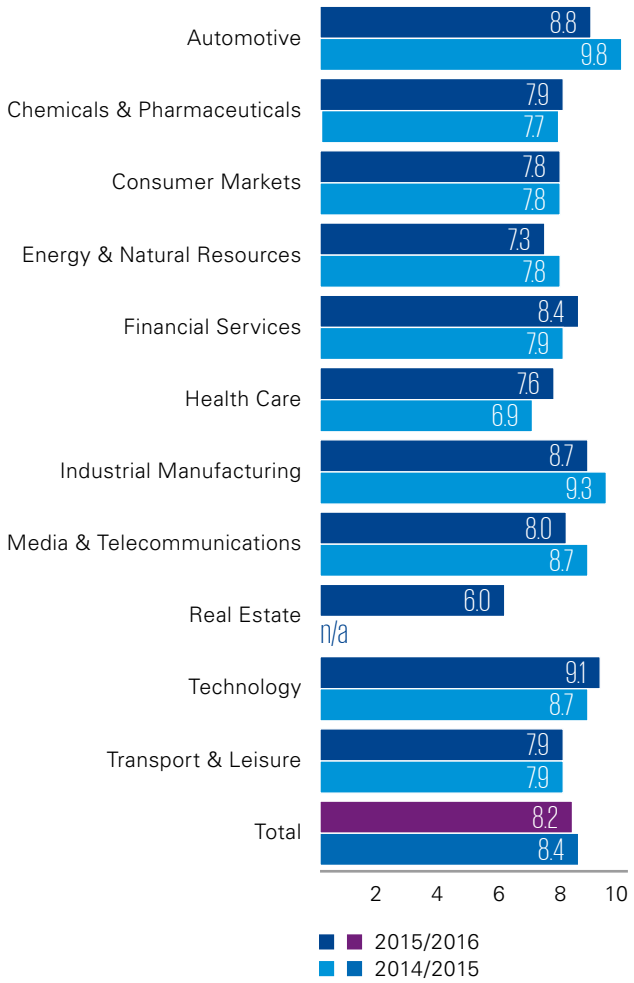
A comparison of the individual industries clearly shows differences in the development of the average cost of equity applied. While significant decreases were observed in the automotive, industrial manufacturing and media & telecommunications industries compared to the previous year, higher costs of equity were found in the financial services and health care sectors. In the other industries, the development remained relatively constant. (Figure 34)

33 **Average levered cost of equity**
Total (in percent)



Source: KPMG, 2016

34 **Average cost of equity by industry**
(in percent)

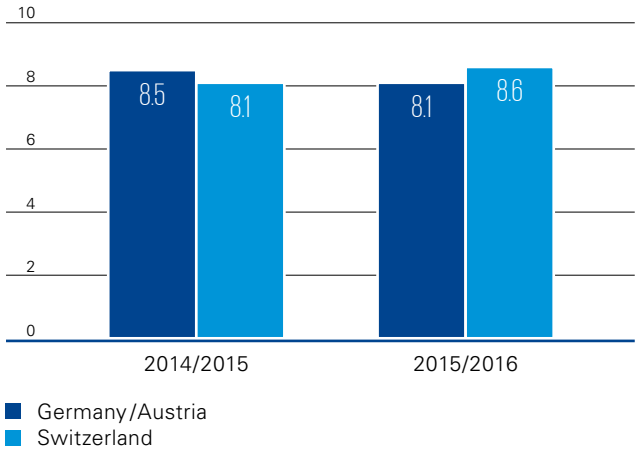


Source: KPMG, 2016

The development of the levered cost of equity in Germany and Austria was different than the development in Switzerland. While the levered cost of equity in Germany and Austria decreased, in particular as a result of the lower risk-free rate, the levered cost of equity in Switzerland increased, primarily due to the higher market risk premium. (Figure 35)

When considering the average cost of equity applied by all the surveyed companies as well as the cost of equity of the individual sectors, it should be noted that the data stems from companies from different countries, partially from different currencies and from varying points of time.

35 **Average levered cost of equity**
Germany/Austria versus Switzerland
(in percent)



Source: KPMG, 2016

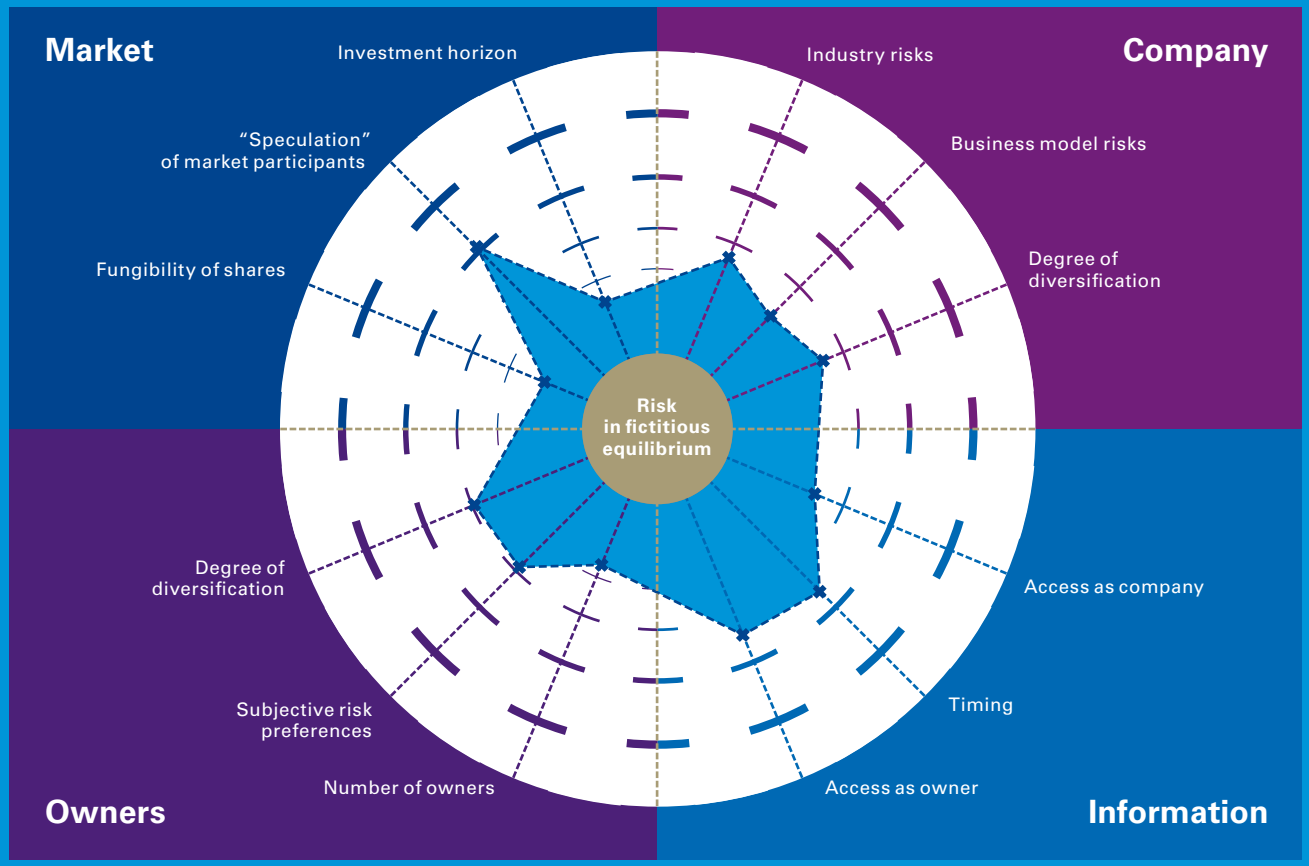
Risk Transparency and Risk Management

As described in the key topic "New methods of value measurement?!" (page 10), today's valuation methods can only reproduce reality to a limited degree. They only describe the equilibrium ideal status (which is never attainable) in which in theory "the market rewards only the so-called systematic risk". For an active and transparent risk management, however, corporate practice requires recommendations for practicable options that the current approaches are not able to provide. Subsequently, there is always the threat of valuation errors in terms of an incomplete consideration of risk where a decision-making situation does not reflect an ideal equilibrium state. That is probably frequently the case – theoretical approaches and real problems seldom overlap.

In the theoretical version of the "perfect market" all the company owners have comprehensive information about all the risks of all the existing investment opportunities. But where does this information come from in reality? Does it really exist? What decisions is it based on? Who is responsible for it? In real valuations, the company leaders are initially confronted with decision-making situations about different options. The CEO and CFO are, of course, supposed to act in line with shareholder value. But at the same time, the focus of their actions is oriented less on an idealized model situation than on the concrete strategic direction and long-term survival of their company in the highly competitive and complex markets. In the field of strategic consulting there is seldom a dearth of performance-increasing options; more frequently many decision-makers and their advisors have difficulties in determining and justifying comprehensible measures and recommendations for action to reduce risk.

Frequently, the reason for this is the narrow focus on theoretical equilibrium models, which should

36 **Can theoretical models completely reflect risks relevant for the marginal price?**



Source: KPMG, 2016

only explain how risk is to be considered in a perfect market; they do not offer practical options. That cannot, however, be the aim of real corporate decisions, where it is a matter of positively influencing the risk profile of the own company.

To compare several alternative options, it is initially required for the CEO and CFO to know the expected financial consequences (performance) and the risk associated with the decision. "Risk" here means the possible deviations of reality from a financial expectation (scattering of the expected performance parameters). Because the decision is made against the background of an existing business, it is necessary in a second step to investigate the corresponding performance and risk effects of the options on the company in terms of synergies (performance synergies and diversification effects). Then, in a third step, the expected effects in terms of an (idealized) capital market perspective have to be estimated, especially if the individual options are associated with a corresponding change in the business model. With these three steps, it is possible to determine transparent and consistent options and information for the decision-making and the subsequent capital market communication. (Figure 36, page 34)

The breakdown of the value contribution of the individual options into their performance and risk components is one element of KPMG's decision-making method CEDA, which offers numerous advantages over former methods with regard to company transparency and corporate steering. The established models have attempted – in the best cases – to take into consideration the "basic" operative risks in the valuation of the alternative actions on the basis of the comparative peer-group method. On the basis of the three-stage decision-making process described – corresponding to previous performance-increasing measures – it is now possible to also name concrete recommendations for action for corporate decision-makers for the reduction of risk in accordance with the degree and to consistently and transparently quantify the associated effects. In this manner, it is possible to adequately assign the actual cost of capital to various options with varying operative risks. And that even where previous approaches based on peer-group comparisons fail due to a lack of comparability. Advantages result for both internal steering as well as for accounting purposes. Poor decisions, often observed in practice due to uniform group-wide costs of capital, can be avoided, because on the basis of the individual costs of capital, the actual value-increasing options are identified and performed.

The composition of the specific new overall cost of capital for the company from the cost of capital of the individual company units and the specific options can be determined quickly and transparently. This allows for valuable information on the company's risk profile to be obtained and appropriately communicated. This, in turn, contributes to detecting the differences between the expectations of the market participants (with regard to the quasi "new company" after the action has been taken) and those of the company management and to better anticipate possible repercussions for the market capitalization of the company.

"The purely market-oriented risk reflection in the determination of the cost of capital regularly blocks out possible alternative actions for the company for a targeted risk management. The optimal corporate decision requires not only the recognition of primary risk drivers, but also in particular the transparency about to what extent these can be influenced and the resultant opportunities for active change in the costs of capital relevant for the decision."

Dr. Andreas Tschöpel
Partner, KPMG in Germany

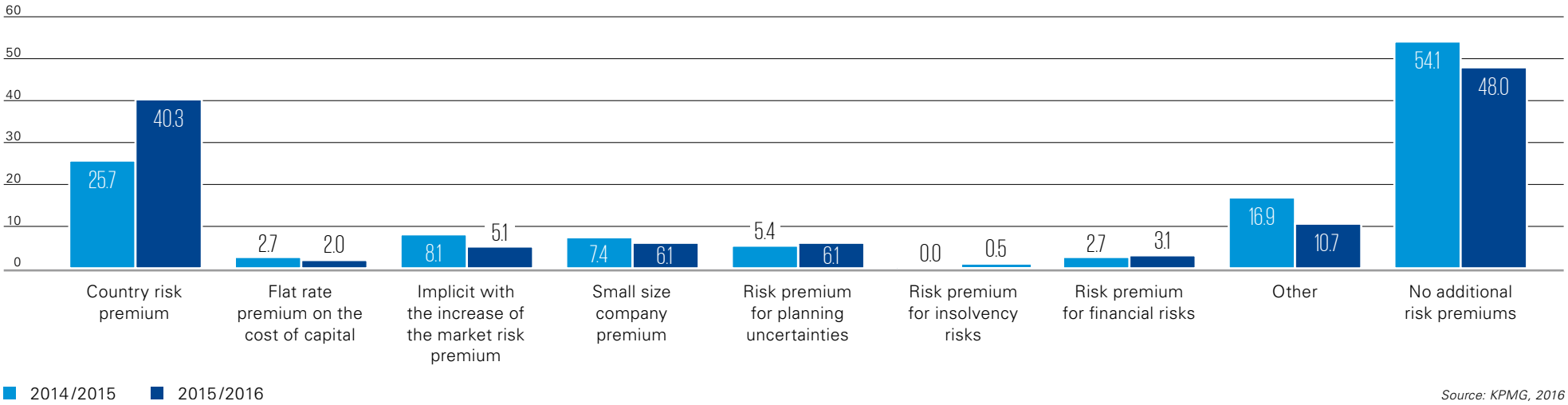
Along with an adequate consideration of risk, the risk components can be directly allocated to the risk drivers associated with the alternative actions. This increases the risk transparency in the decision-making process and provides opportunities for active risk management.

3.6 Other Risk Premiums

The results of this year's study show that additional risk premiums have become more important for participating companies in determining the cost of capital. While in the past year 45.9 percent of the study participants considered other risk premiums in determining the cost of capital, this year, at 52.0 percent, more than half did so. (Figure 37)

The country risk premiums continue to represent the most frequent additional risk premium applied by the study participants. This year, it was applied by 40.3 percent of the companies and therefore by significantly more study participants than in the previous year when only a quarter of the companies surveyed considered a country premium. One reason for the increasing popularity of the country risk premium could be that it is becoming increasingly difficult to empirically measure local market risk premiums and thus, for instance, the market risk premium for Germany is supplemented by an additional country risk premium. Other risk premiums, such as the implicit consideration of other risk factors in the market risk premium or the small size company premium, by contrast, became relatively less important compared to the previous year.

37 **Other risk premiums 2014/2015 versus 2015/2016**
Total (in percent, multiple choices possible)



Source: KPMG, 2016

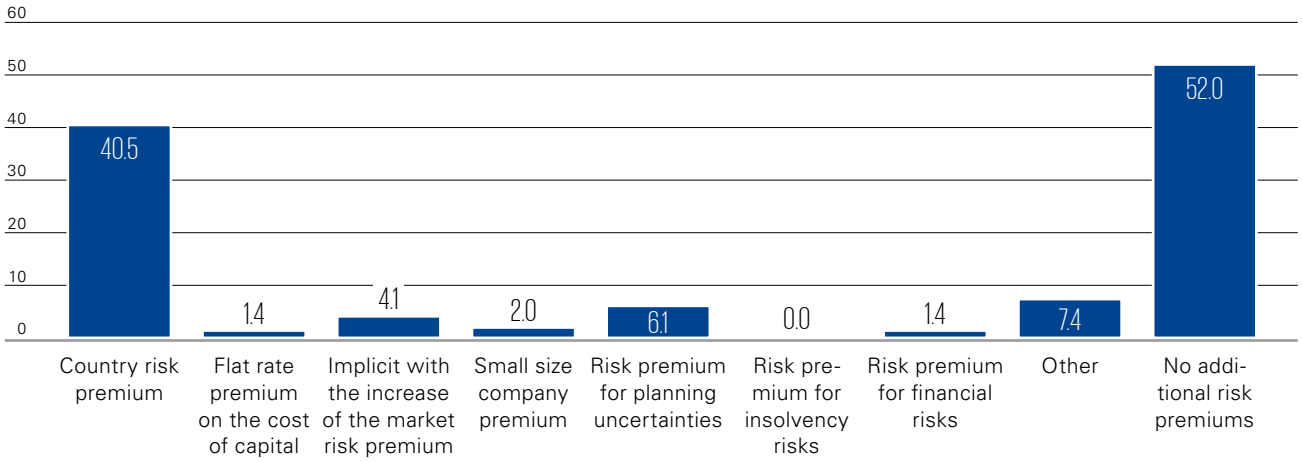
The application of other risk premiums continues to differ significantly from region to region. While in Germany 48.0 percent of the study participants apply other risk premiums (Figure 38), this portion was comparable for participants in Switzerland with 51.7 percent and significantly higher for the participants from Austria with 84.2 percent. The development in Austria is particularly noticeable. The percentage of Austrian participants that consider risk premiums increased by nearly 20 percentage points over the previous year (previous year: 64.7 percent). Especially the use of country risk premiums increased dramatically and was 68.4 percent in 2015/2016 (previous year: 47.1 percent). (Figure 39, page 38)

Regional differences exist not only in the general importance of other risk premiums, but also in the type of premiums applied. While the country risk premium was the primary premium in Germany (about 40 percent) and in Austria (nearly 70 percent), as in previous years, in Switzerland the small size company premium played an important role (2015/2016: 24.1 percent, previous year: 24.1 percent). (Figure 40, page 38)

"The increased uncertainty for companies and the high market volatilities have attributed to risk premiums tending to increase in Austria and now only few companies do not apply any other risk premiums when determining the cost of capital. Two-thirds of the companies surveyed reflect the increased risks by means of the country risk premium."

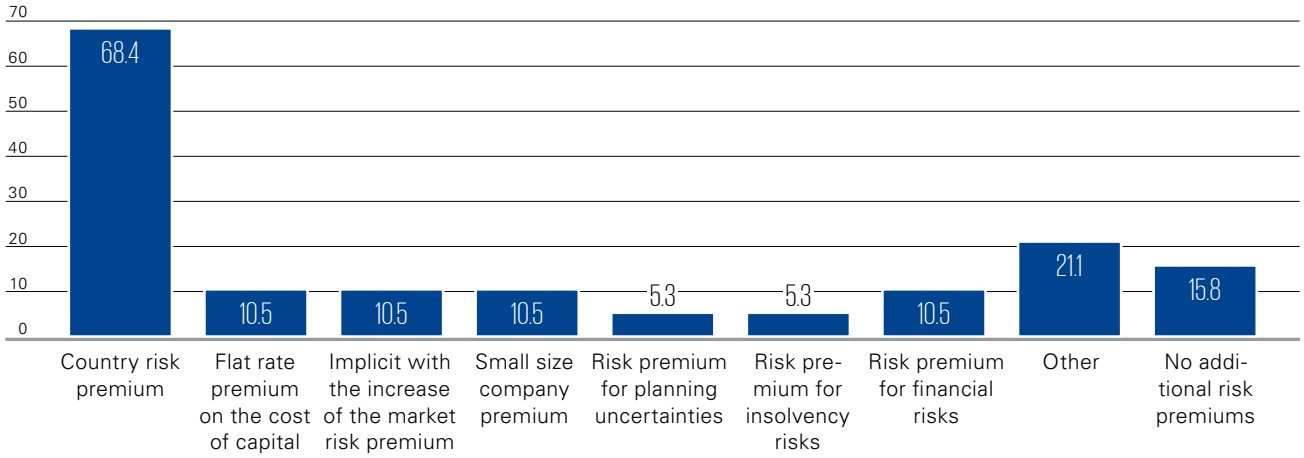
Dr. Klaus Mittermair
Partner, KPMG in Austria

38 **Additional risk premiums 2015/2016**
Germany (in percent, multiple choices possible)



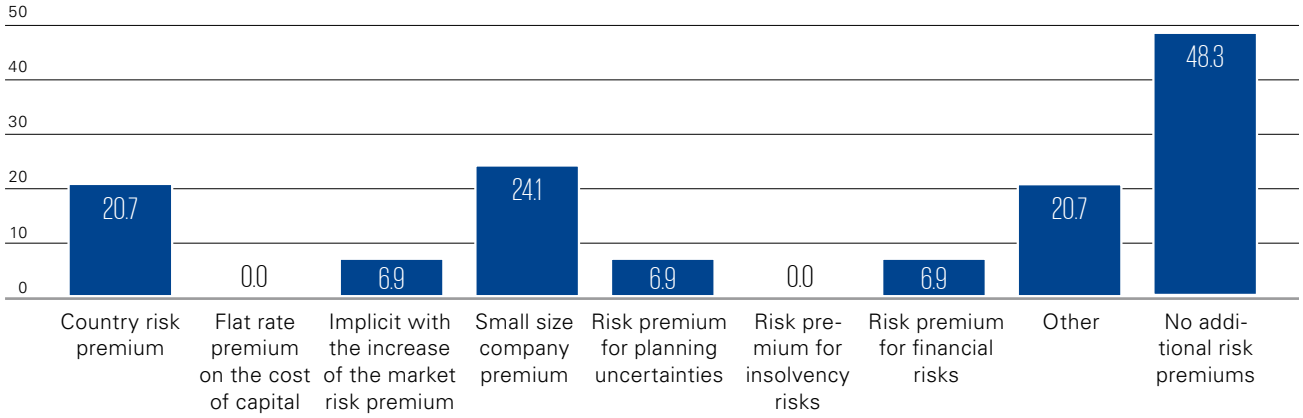
Source: KPMG, 2016

39 **Additional risk premiums 2015/2016**
Austria (in percent, multiple choices possible)



Source: KPMG, 2016

40 **Additional risk premiums 2015/2016**
Switzerland (in percent, multiple choices possible)



Source: KPMG, 2016

3.7 Cost of Debt and Debt Ratio

Cost of debt

Along with the cost of equity, the cost of debt represents the second determinant for the derivation of the weighted average cost of capital.

The main approaches applied in the practice of determining the capital structure and the cost of debt are shown in Figure 41. It should be noted that only the determination of the capital structure and the cost of debt from a peer group – analogous to the method for the beta factor – meets the required market perspective according to IFRS.

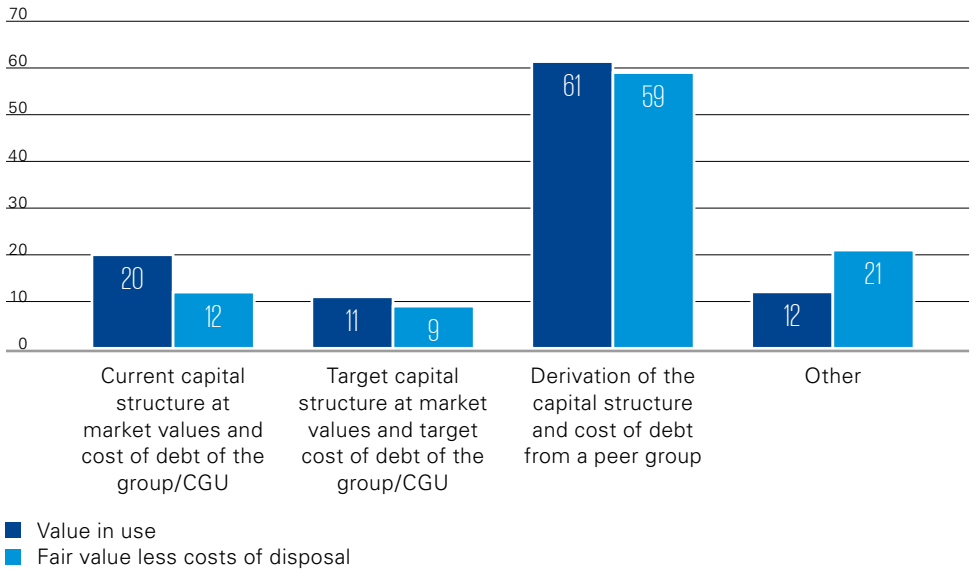
As in the previous year, the majority of the companies surveyed met this IFRS requirement. Nevertheless, while the vast majority of the study participants in the last year (81 percent) used the peer group parameter, especially in the calculation of the fair value less costs of disposal, significantly fewer of participating companies used this approach this year. (Figure 41, page 39)

The average cost of debt applied remained at a constant level of 3.4 percent despite the negative development of the risk-free rate. (Figure 42)

In Germany and Austria the changes in the cost of debt applied were only marginal. Overall, the average cost of debt applied was, at 3.4 percent and 3.3 percent respectively, only 0.1 percentage points below the figure of the previous year.

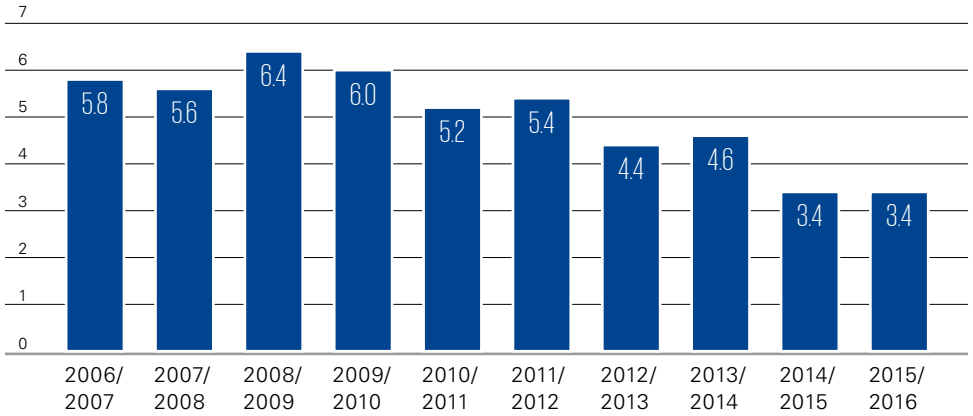
A significant change in the cost of debt was, by contrast, reported by the study participants from Switzerland. Here, the average cost of debt increased by 0.5 percentage points to 3.5 percent.

41 **Determination of capital structure and cost of debt**
Total (in percent, multiple choices possible)



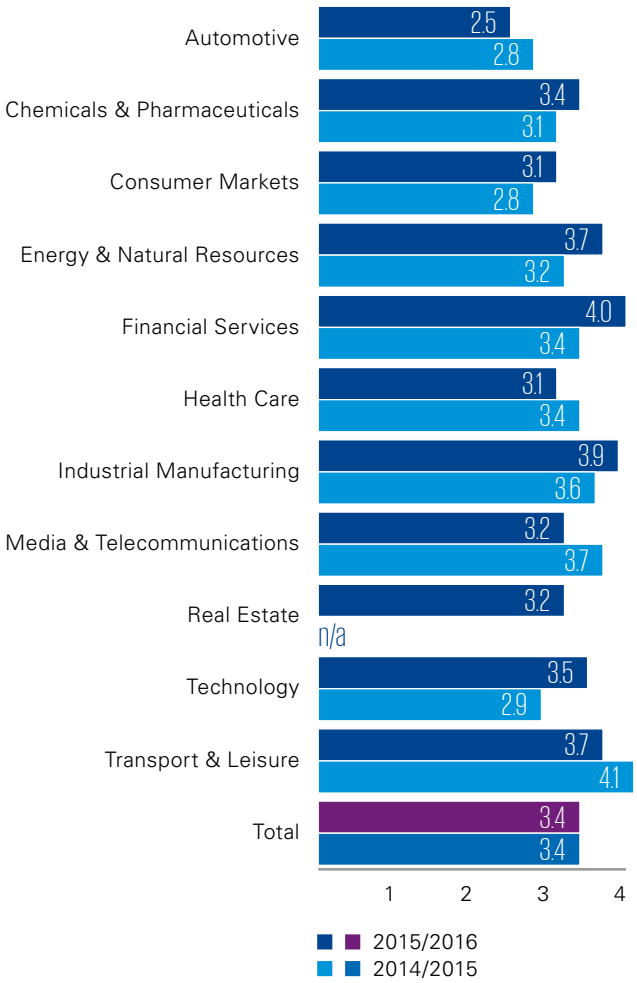
Source: KPMG, 2016

42 **Average cost of debt**
Total (in percent)



Source: KPMG, 2016

43 **Average cost of debt by industry**
(in percent)



Source: KPMG, 2016

With the development of the cost of debt, it is especially noticeable that the decrease of 0.1 percentage points each in the German and Austrian companies was much less than the decrease of the risk-free rate. For the Swiss study participants, the cost of debt even increased, although the risk-free rate decreased marginally by 0.1 percentage points. It can therefore be assumed that the average risk premiums (so-called credit spreads) required by the lenders increased in both Germany and Austria and even stronger in Switzerland.

While overall the average costs of debt remained constant, some material developments were to be observed within the sectors. The largest increases were in the financial services and technology sectors where the cost of debt increased in each by 0.6 percentage points to 4.0 percent and 3.5 percent, respectively. The largest reduction, by contrast, was to be found in the media & telecommunications sector, where these costs decreased by 0.5 percentage points to 3.2 percent. (Figure 43)

When considering the average cost of debt for all the surveyed companies and the individual industries, it should be noted that the data stems from companies from different countries, partially from different currencies and from varying points of time.

"The development of the risk-free rate, cost of equity and cost of debt show that the low-interest policy of the central banks was offset by higher risk premiums for both the cost of equity and the cost of debt and thus the cost of capital remained the same for the companies."

Stefan Schöniger
Partner, KPMG in Germany

Debt ratio

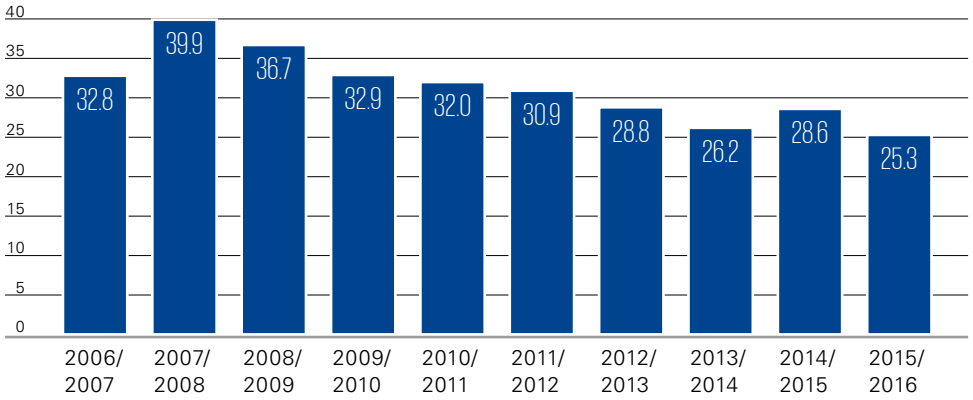
Determing the WACC requires a weighting of the cost of equity with the equity ratio (at market values) and the cost of debt with the debt ratio (at market values). The debt ratio is calculated from the ratio of market value of the debt to the market value of the total capital.

The average debt ratio declined compared to the previous year. This year it was, at 25.3 percent, even below the figure for 2013/2014 and therefore represents an historical low. (Figure 44)

The (absolute) change was largest in the study participants from Switzerland. Here, the average debt ratio decreased significantly to 22.2 percent (previous year: 27.2 percent). The decreases to 24.7 percent in Germany (previous year: 27.5 percent) and 34.2 percent in Austria (previous year: 36.7 percent) were, by contrast, more moderate. With these developments, the general downward trend of the debt ratio of the previous years continues.

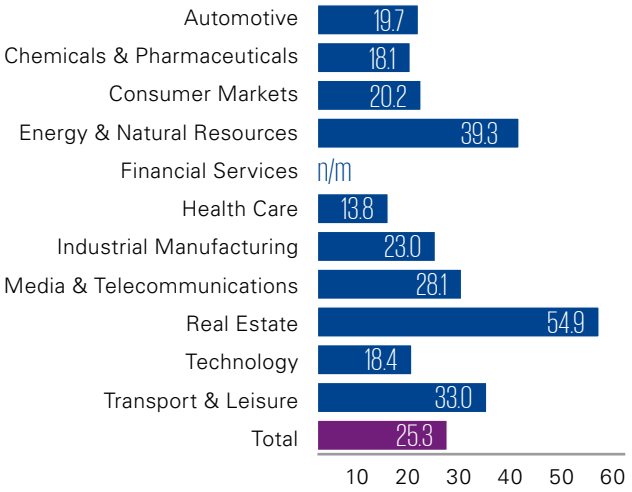
The highest debt ratios were in the energy & natural resources and real estate sectors, the lowest ratio in the health care industry. (Figure 45)

44 **Average debt ratio**
Total (in percent)



Source: KPMG, 2016

45 **Average debt ratio by industry**
(in percent)



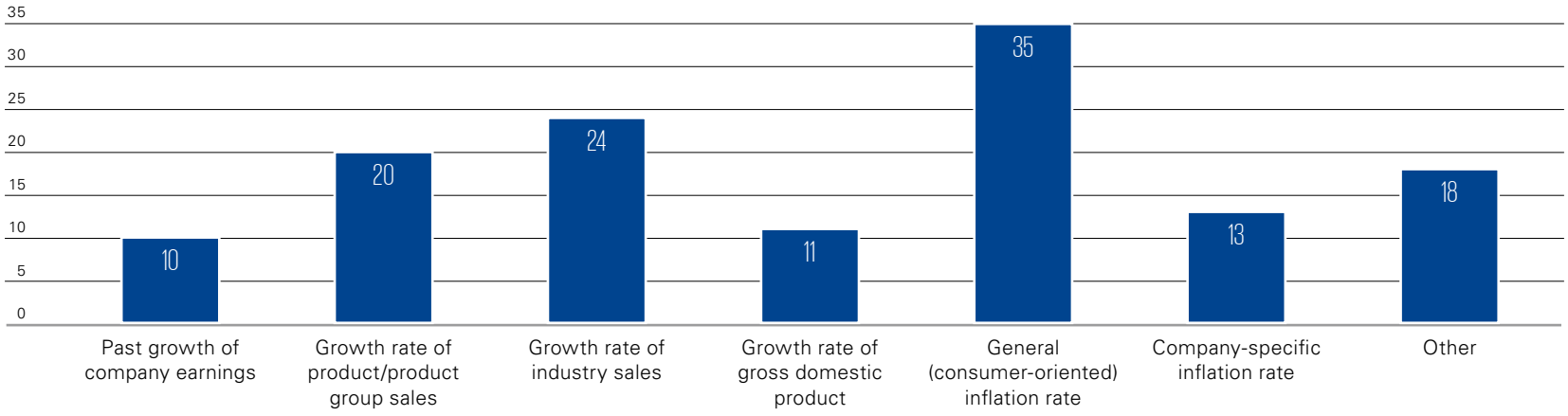
Source: KPMG, 2016

3.8 Sustainable Growth Rate

About 54 percent of the study participants applied sales and earnings growth rates from the past or detailed planning to determine the sustainable growth rate. This method may disguise conceptual weaknesses with regard to the equivalence between the cash flow and growth rates applied, due to the fact that it is only correct if the cash flow actually used for the valuation is reduced by corresponding profit retentions. Due to the fact that the growth rates derived from sales and earnings growth rates are, however, frequently within the range of the company's historical inflation rate, in practice they generally match the normally established distributable cash flows. The equivalence therefore appears to exist in general, despite the conceptual weakness. (Figure 46)

About 46 percent of the participants applied general economic growth and inflation rates for determining the sustainable growth rate. Only 13 percent of the participating companies applied company-specific inflation rates. Due to the fact that only company-specific inflation rates can properly reflect the individual sales and procurement markets as well as any potential increase in efficiency, they are preferred in the measurement of the sustainable growth rate to general (consumer-oriented) inflation rates.

46 **Measurement of the sustainable growth rate**
Total (in percent, multiple choices possible)

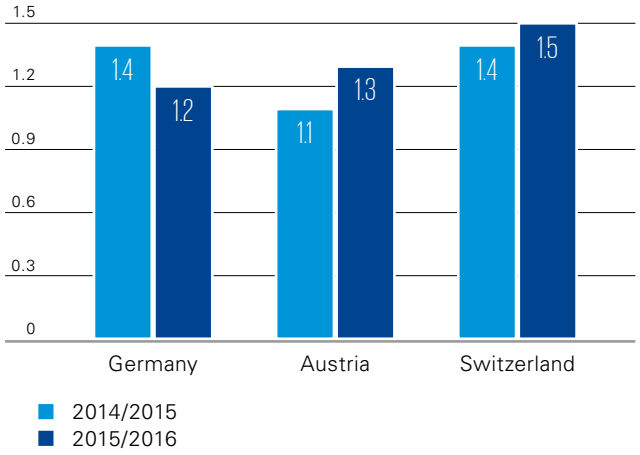


Source: KPMG, 2016

Compared to the previous year, the sustainable growth rate developed slightly negatively and the overall average this year was 1.3 percent (previous year: 1.4 percent). It is to be noted that the aggregate effect stems from opposing developments in the individual countries. While the average growth rate in Germany decreased from 1.4 percent in the previous year to 1.2 percent, in Austria and Switzerland there was an increase of 0.2 percentage points and 0.1 percentage points, to 1.3 percent and 1.5 percent, respectively. (Figure 47)

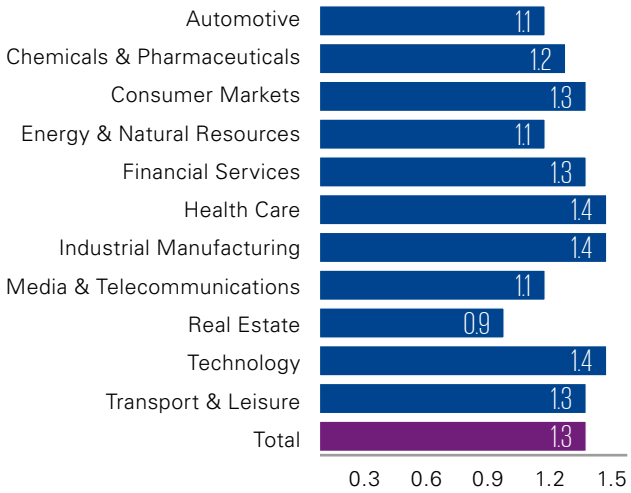
The growth rate applied within the industries changed greatly. While in the previous year the companies in the fields of financial services and industrial manufacturing applied the highest rates, this year the companies in the sectors health care, industrial manufacturing and technology used the highest growth rates. Only in the field of real estate was a growth rate of less than 1 percent expected. (Figure 48)

47 **Sustainable growth rate**
Germany versus Austria versus Switzerland
(in percent)



Source: KPMG, 2016

48 **Sustainable growth rate by industry**
(in percent)



Source: KPMG, 2016

4
Impairment Test

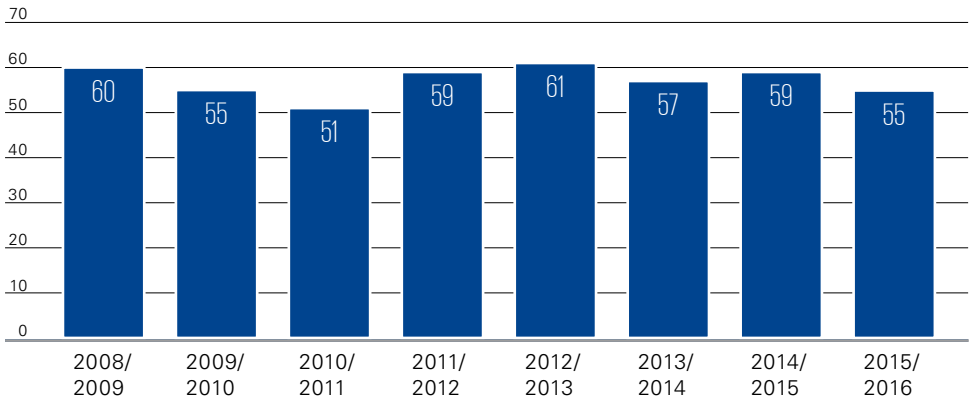
4.1 Trigger and Results

The percentage of the study participants that recognized an impairment on goodwill or assets in the group financial statements was, at 55 percent, slightly below the level of the previous years. (Figure 49)

The participants most frequently recognized an impairment on the individual assets (2015/2016: 32 percent; previous year: 33 percent). The percentage of the companies that recognized both an asset impairment as well as a goodwill impairment decreased from 19 percent in the previous year to 15 percent. Only 8 percent of the companies recognized an impairment exclusively on goodwill (previous year: 7 percent). (Figure 50)

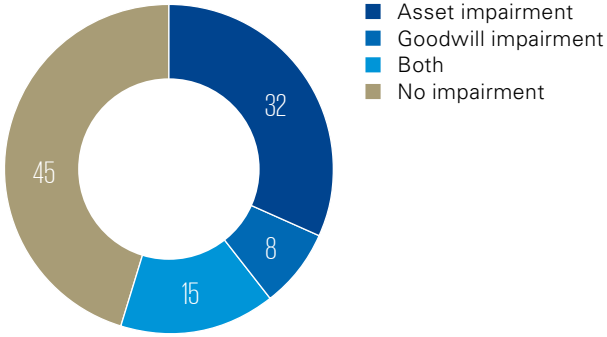
The amount of the impairment developed differently compared to the previous year. With the asset impairments the average write-down increased slightly to 102 million euros (previous year: 100 million euros). With goodwill the average impairment decreased to 69 million euros this year (previous year: 89 million euros).

49 **Recognition of an impairment**
Total (in percent)



Source: KPMG, 2016

50 **Recognition of an impairment**
Total (in percent)

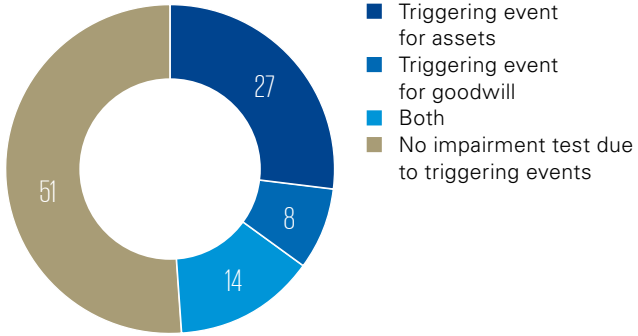


Source: KPMG, 2016

This year about half of the participating companies performed an unscheduled impairment test as a result of a so-called triggering event, which is an indicator of an impairment of value (2015/2016: 49 percent; previous year: 53 percent). (Figure 51)

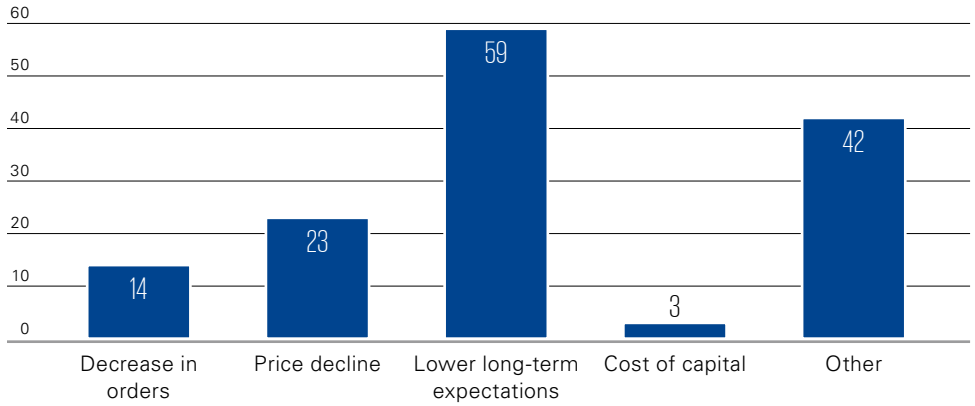
As in the previous year, in the cases in which a triggering event initiated the impairment test, the most frequent reason was, with 59 percent, a change in the estimate of the future development (poorer long-term expectations). Only 3 percent of the study participants reported the cost of capital as the triggering event for an impairment. An additional 42 percent reported "Other triggering events", which were not present in the previous year. (Figure 52)

51 **Triggering event**
Total (in percent)



Source: KPMG, 2016

52 **Cause of the triggering event**
Total (in percent, multiple choices possible)



Source: KPMG, 2016

4.2 Determination of the Recoverable Amount

The recoverable amount is calculated as per IAS 36.6 and IAS 36.18 as the higher of the two following sums: Fair value less costs of disposal and value in use.

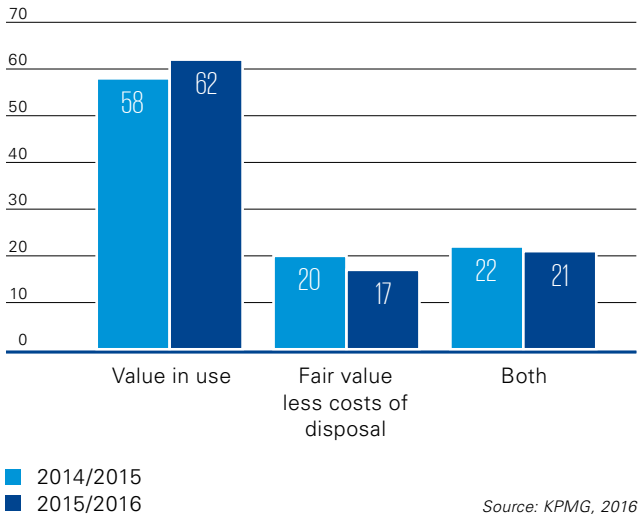
The number of companies that determined only a value in use increased slightly in the course of the year to 62 percent (previous year: 58 percent). Only 17 percent (previous year: 20 percent) of the companies determined exclusively a fair value less costs of disposal. The percentage of companies that used both valuation concepts remained roughly unchanged compared to the previous year. (Figure 53)

As in the previous years, regional differences could again be found in the determination of the recoverable amount. A comparison of the total with the individual results from Switzerland shows that the trend of the previous years continued and the companies located in Switzerland applied the value in use method, with 79 percent, more frequently than the other areas surveyed. In contrast to the previous year, a greater percentage of the study participants in Austria also applied only the value in use approach this year (72 percent; previous year: 53 percent).

The number of companies that based a uniform financial forecast on the application of both value methods of determining the recoverable amount decreased to 78 percent (previous year: 86 percent). This development is welcome, especially in view of the varying regulations for the consideration of the restructuring measures and expansion investments in the financial forecast, even if the number of companies continues to appear very high.

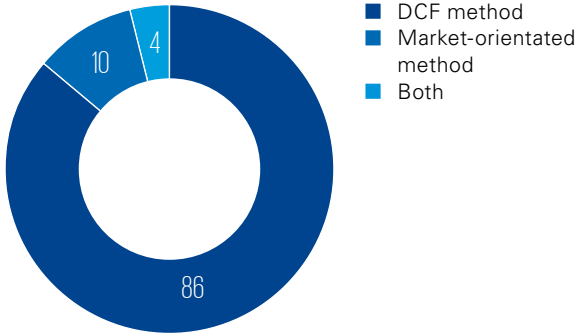
Furthermore, the DCF method, with 86 percent, remained the dominant valuation method for determining the fair value less costs of disposal (previous year: 74 percent). The reason for this is that in most cases no market data is available for comparison to the individual CGUs. Only 10 percent of the study participants applied market-oriented methods and 4 percent both methods. (Figure 54)

53 **Method for determining the recoverable amount**
Total (in percent)



Source: KPMG, 2016

54 **Valuation method for the determination of the fair value less costs of disposal**
Total (in percent)



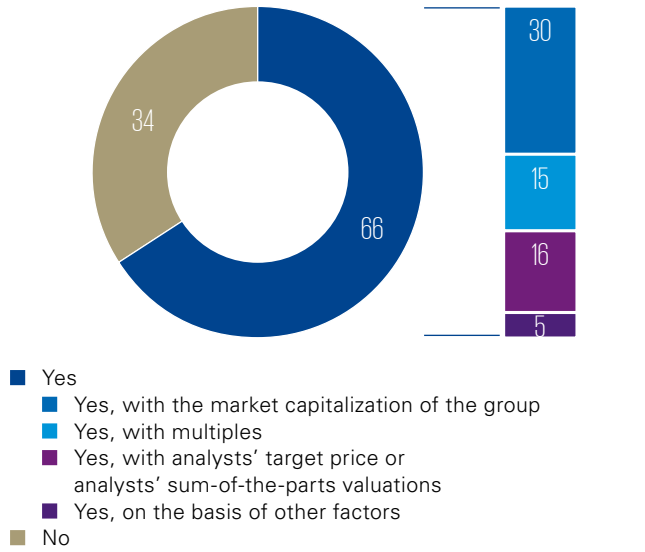
Source: KPMG, 2016

4.3 Plausibility

Due to the fact that the fair value less costs of disposal concept is a matter of the exit price and, therefore, primarily a matter of the estimate by the potential purchasers, the IFRS, especially for this concept, foresees a plausibility test of the main parameters with the expected values of the market participants. To assure the risk equivalence of the cost of capital, we recommend also performing a comparison with the market expectations when calculating the value in use. This allows for divergences between the market and management expectations to be scrutinized and, if necessary, for adjustments to be made in the cost of capital.

In the last year, a total of 66 percent of the listed study participants performed a plausibility test of the valuation results using market expectations (previous year: 72 percent). It is noticeable that the percentage of companies that performed the plausibility test on the basis of the group's market capitalization increased to 30 percent (previous year: 21 percent), while the portion that performed a plausibility test on the basis of multipliers or analysts' target prices decreased (previous year: 30 percent and 17 percent, respectively). The plausibility test based on market capitalization is especially well suited with regard to enabling the comparison of the total of all CGUs with the market capitalization of the group. (Figure 55)

55 **Plausibility of valuation results**
Listed companies
Total (in percent, multiple choices possible)

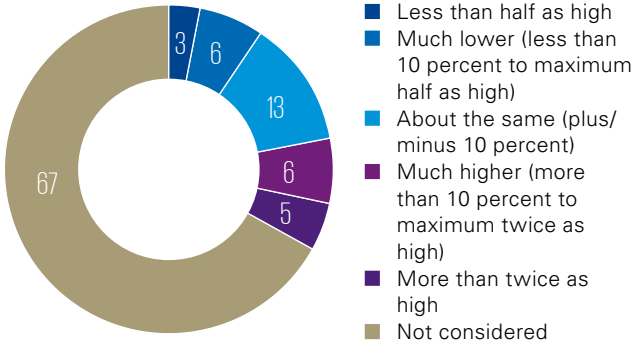


Source: KPMG, 2016

Due to the fact that the market capitalization frequently only reflects to a limited degree the shares traded that generally hold the control or a relevant influence on the company, it may be recommendable within the reconciliation to consider a control premium. Furthermore, in a comparison of the figures obtained according to the value in use method with the market capitalization, the valuation perspective and the information available to the capital market could play a role. Therefore, along with the market capitalization of the group, the industry and analysts' reports as well as multiples should always be used for the plausibility test.

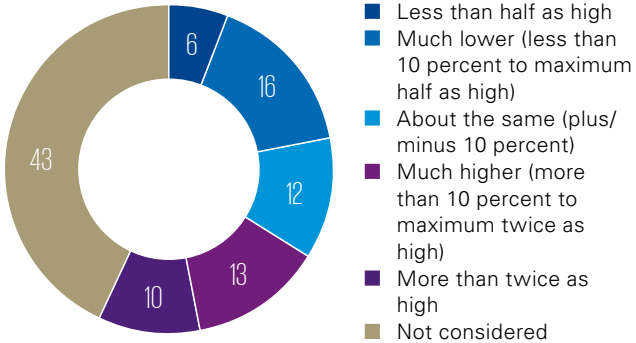
In the DAX 30, the majority of the participating companies performed a plausibility check of the values derived, whereby the percentage decreased by 14 percentage points compared to last year (2015/2016: 83 percent; previous year: 97 percent). In the framework of the plausibility test, the participants primarily depended on the market capitalization of the group (32 percent). But the multiples were also used by 20 percent and analysts' target prices or analysts' sum-of-the-parts valuations by 22 percent.

56 **Comparison of market capitalization to fair value less costs of disposal**
Listed companies (in percent)



Source: KPMG, 2016

57 **Comparison of market capitalization to value in use**
Listed companies (in percent)



Source: KPMG, 2016

Of the one-third of the listed corporations participating that determined the market capitalization in relation to the calculated fair value less costs of disposal, in 9 percent of the companies the market capitalization was at least 10 percent below the fair value determined and in 11 percent at least 10 percent above. With value in use, the market capitalization was at least 10 percent lower (higher) in 22 percent (23 percent) of those surveyed. (Figures 56 and 57)

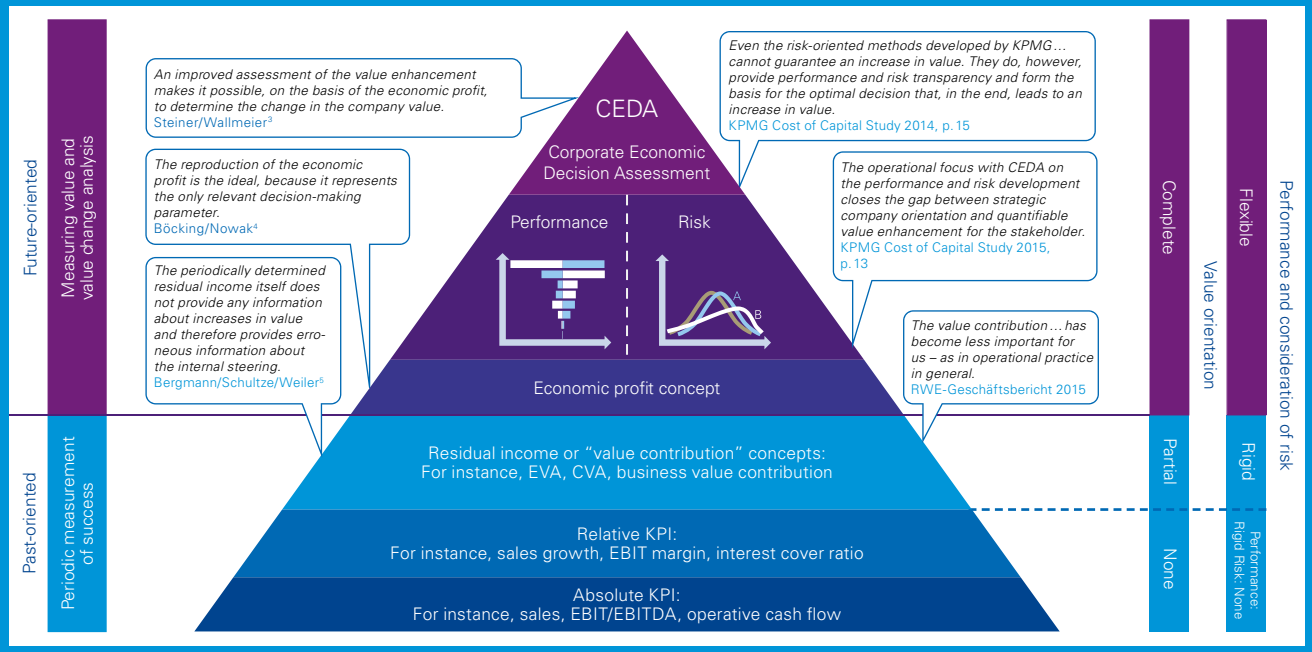
5 Relevance of Value and Enhancement of Value

Value-based Management Systems 2.0

Corporate decisions should always be oriented on their impact on value. For business leaders, the "price tags of the individual options" which quantify the value form the assessment and decision-making benchmark at the corporate level. With these, shareholders obtain knowledge about the potential increase of their invested capital. In practice, however, it has been demonstrated time and again that there are differences between the value expectations of business leaders and shareholders, differences that as a rule can be attributed to varying information about the performance to be expected and the risk of an option associated with this. In the framework of corporate communication, value-based management systems should make a contribution to closing this gap and assist in answering the question as to how the development of the shareholder value for a certain period should be properly measured and how this can be communicated in a transparent manner.

In corporate practice there are numerous methods for company steering that have evolved over time from very simple comparisons of absolute and relative parameters (such as EBIT and EBIT margin) to so-called residual profit or value contribution concepts (such as Economic Value Added, EVA, or Cash Value Added, CVA). Despite the numerous, justified criticisms in literature that these procedures are unsuited for a proper measurement of value and therefore may lead to improper steering, they have been dominant in practice – as a result of their simple application and a lack of practical alternatives. That is at least true for reporting to the capital market. This does not mean that it is therefore possible to make any statements about to what extent these concepts are actually being "lived" by the companies. There does, however, seem to currently be a change in thinking in the framework of value-based management, not least of all as a result of the dynamic and volatile market developments. One annual report noted: "Value added has long been our central control parameter, but for us it has become less important, as in business in general."[2] In view of the conceptual weaknesses, the loss of importance observed or the admission of the insignificance of the established methods as value-based management systems is not a surprise. In particular, the increasing expectations and demands of the management and the shareholders in the current and future expected market environment are the reasons for this. After all, one impor-

58 **Development of (value-based) management systems**



Source: KPMG, 2016

2 RWE-Geschäftsbericht 2015, p. 53
3 See Finanz-Betrieb, 5/1999, p. 1–10
4 See Finanz-Betrieb, 10/1999, p. 281–288
5 See Controlling, 10/2012, p. 554–560

tant disadvantage of these methods is that as a rule they depend on historical data and their possibilities for compiling and processing the relevant value determinants – performance and risk – are regularly limited. The information they provided was possibly sufficient in the previous, primarily stable market environment. For the current and future demands, however, they are only suited to a very limited degree. (Figure 58, page 51)

In addition, to date the performance-oriented analyses dominated the as-is situation. Future-oriented statements generally occurred only qualitatively. The actual risk profile of the company and its change were frequently not made transparent or even blocked out. That holds the danger of a high performance possibly being misinterpreted if it is contrasted with a non-transparent future risk. This is one significant disadvantage of the residual income methods – as also with its improper and very simplified reference to balance sheet items for deriving the value contribution. After all, for the measurement of the change in value, it is not the share of the company's book value that is relevant for the shareholder, but rather it is based on the capital he/she invested to acquire the share at the time of the value measurement. The determination of the specific costs of capital as the minimum return, is frequently determined uniformly for the company and regularly without the concrete, corresponding consideration of the specific risk profile of the company or the option.

Consequently, business managers might orient themselves on improper benchmarks and shareholders perform precautionary discounts so as to take into account growing uncertainties and the lack of understanding of the company's future performance and risk development. The requirements for the "value-based management systems 2.0" are derived from this difference in expectations. Along with an exclusive forward-looking approach, the increase or decrease in value actually achieved is relevant. Their determination is achieved – unlike with the past and accounting-oriented residual income methods – on the basis of established valuation methods that allow a practicable determination of the so-called "economic profit" as the proper benchmark for the required increase in value. The determination of the actual value contribution alone is, however, an absolutely necessary, but insufficient step toward a value-oriented capital market communication. After all, the value contribution alone does not say on what it is based. For a proper decision-making process, the performance and risk components that determine the value must be consistently broken down so as to allocate them to and communicate their specific measures and drivers. Only in this way can a transparent linking of company decisions by the management with the resulting expected changes in value for the shareholders be made. Only the complete and flexible consideration of the value drivers enables a truly value-based management.

With CEDA, KPMG applies a value-oriented decision and steering method that fulfills the requirements of company steering systems in the current and future environment and is superior to other methods. It not only consistently and unambiguously determines the actual value potential of a business option, but also provides a valuable contribution to the capital market communication and to the reduction of so-called expectation gaps by means of a transparent representation of the relevant performance and risk contributions.

"Due to conceptual weaknesses, numerous steering systems on the market are only suited to a limited degree for a transparent and consistent value-oriented management. Frequently, they are missing the necessary future orientation as well as a complete and flexible reflection of the value-relevant performance and risk relation. Their importance for a capital market communication in the current market environment is becoming increasingly limited. CEDA avoids these weaknesses and represents a quick and unambiguous decision-making process and the transparent communication of it."

Dr. Andreas Tschöpel
Partner, KPMG in Germany

5.1 Criteria for Investment Decisions

The correct assessment of investment decisions represents a major challenge in the current market environment where there is a high degree of volatility and uncertainty. In addition, there is the danger that as a result of inexpensive and readily available financing, the risks of an investment may be underestimated or not sufficiently considered.

To be able to make sustainable, successful decisions, it is therefore necessary to perform the most comprehensive analysis of the investment object possible, applying previously stipulated decision-making criteria. In practice, however, investment decisions are frequently only made on the basis of strategically qualitative (for instance, regional coverage) and/or quantitative (for instance, sales or margin) objectives.

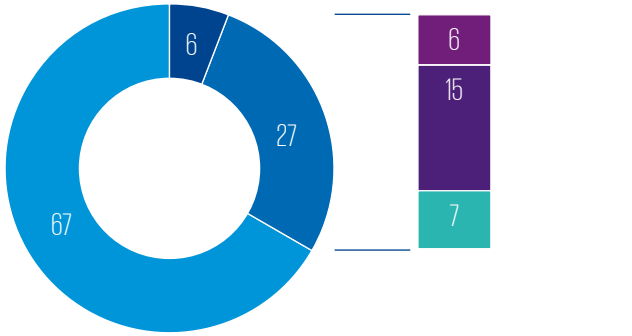
Beyond that, companies also make investment decisions on the basis of alleged value-oriented objectives, such as the economic value added (EVA) or the return on capital employed (ROCE), that also attempt to take the investors' return requirements into account.

Therefore, more than two-thirds of this year's study participants (67 percent) reported making their investment decisions equally on the basis of strategic and value-oriented objectives (previous year: 59 percent). While 6 percent of the companies primarily considered value-oriented objectives, the remaining 27 percent applied quantitative or qualitative strategic objectives as the primary decision-making criteria. (Figure 59)

Special attention should be given to the consideration of expected economic value added within the framework of assessing investment alternatives. As shown above, these simplifying classical procedures may only to a limited degree meet the challenges and expectations of a modern decision-making criterion in the current and future market environment.

Particular attention should be given to the fact that more static models such as EVA and ROCE generally compile valuation-relevant information of a company only partially and that not even consistently. Their strong reliance on the past, the orientation on bookkeeping parameters as well as the lack or very limited equivalent consideration of risk may also restrict the information provided by these methods. We therefore recommend modern approaches that are based on multi-value financial forecasts including simulation and scenario analyses and consistently compile performance and risk effects and consider these in the valuation calculation. Value and risk drivers of an investment project can then be presented transparently at an early date and considered appropriately in the decision-making process.

59 **Criteria in investment decisions**
Total (in percent)



Source: KPMG, 2016

5.2 Monitoring the Enhancement of Value

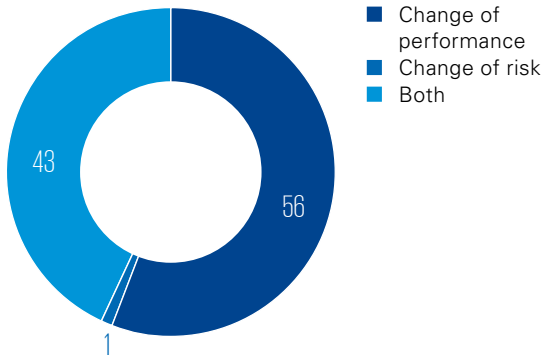
Investment decisions concluded must be continually monitored with regard to their actual value enhancement so as to be able to react to changes in the market environment quickly and in a targeted manner. Changes in value can only be transparently attributed to their causes, if the value drivers identified in the framework of the decision-making process are continuously monitored with regard to their impact on the company performance and the company risk.

In this manner it is possible to detect poor developments at an early stage and to take appropriate counter-measures. Furthermore, the knowledge gained can be transferred to future projects and investments and therefore improve the decision-making basis as well as the corporate communication.

As in the previous year, the results of our study show the growing importance of the monitoring of value enhancement for the companies surveyed. For the overwhelming majority (82 percent), a value-oriented monitoring represents an important aspect, especially for decision-making and steering purposes (previous year: 74 percent). For the remaining 18 percent of the participants, monitoring of the value enhancement either plays a less important role or none at all (previous year: 26 percent); these companies still focus primarily on the purely qualitative and strategic objectives in their investment decisions and do not transfer them into measurable value parameters.

> "In principle, the increasing orientation of companies on the concrete changes in value – in terms of shareholder value – associated with their decisions is a welcome sight. In our opinion, however, there is a need for an adjustment in the concept of the instruments applied, due to the fact that the majority of the "classical" methods used to date either do not completely consider, or do not consider at all, the necessary influences on the performance and risks for a true determination of value. The consequence may be poor decisions."
>
> Karen Ferdinand
> Partner, KPMG in Germany

60 **Monitoring of the value enhancement**
Total (in percent)



Source: KPMG, 2016

In addition, we asked this year's participants what they primarily orient themselves on when monitoring. When monitoring, a total of about 56 percent of the participating companies focus only on the change of performance and here on simple KPIs such as sales, EBITDA, EBIT or ROCE. Less than half of the surveyed companies (43 percent) attempt to also consider the necessary change in risk and the key risk indicators (KRIs). The focus here, however, appears frequently to be only on the change of general market risks such as how these are reflected in the market risk premium. (Figure 60)

Company-specific changes in the risk profile that could serve to transparently reveal company options and the risks associated with them are almost never quantified. One reason for this could be that current methods fail to allow for a simultaneous performance and risk-oriented perspective in the framework of the decision-making process. For that, the further developed approaches presented above can be considered. In the capital market communication as well, the costs of capital and the possibilities to impact on them obviously play a minor role (see section 5.3) – even if they should be a significant component of every valuation calculation and therefore every decision-making process. The reasons for this are also to be found in the lack of understandable and reliable information about changes in performance and risk associated with investments and their alternatives.

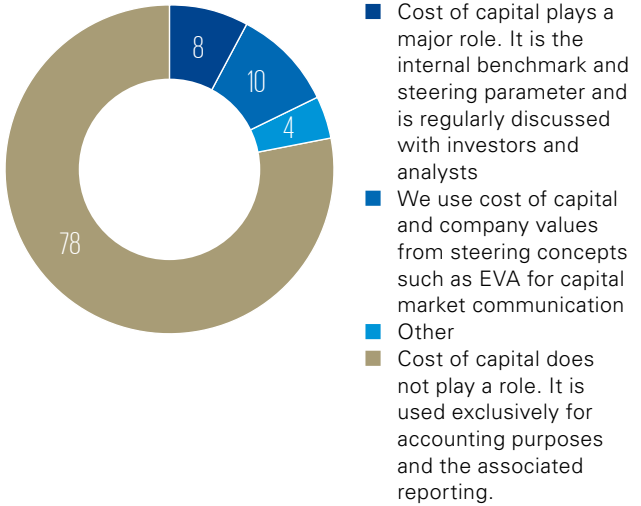
5.3 The Role of the Cost of Capital in the Capital Market Communication

For the vast majority of the study participants, the cost of capital and company value and its development do not play a role in the capital market communication. For instance, the values determined in the framework of the impairment test are used exclusively for accounting purposes and with the associated reporting. A small percentage of the surveyed companies, however, use the cost of capital determined in the framework of the impairment test as an internal benchmark and steering parameter and also discuss them with investors and analysts on a regular basis. (2015/2016: 8 percent; previous year: 10 percent).

In this manner, these companies increase their transparency for their investors and, with the regular discussion of the parameters, obtain insights into the divergences between management and market perspectives. This is, on the one hand, necessary to fulfill the partial market perspective required by IFRS and, on the other hand, contributes to including investor expectations in the observations right from the start.

Similar to the previous year, 10 percent of the study participants reported using cost of capital and company value from value-based management concepts (for instance, EVA) in the framework of the market communication (previous year: 11 percent). (Figure 61)

61 **Communication and use of the cost of capital**
Total (in percent)



Source: KPMG, 2016

6 Industry Analyses

In this year's study, we once again examined the values compiled according to the individual industries. As a consequence of particularities of the financial services industry, we have selected an adjusted form of presentation so as to better emphasize the material specifics of the industry.

In this year as well, the industrial manufacturing industry was the sector with the greatest number of participants. A total of 38 of the participating companies classified themselves as such (previous year: 37 companies). The participants of this sector act in various industrial areas and primarily manufacture industrial semi-finished products.

The largest growth compared to the previous year was in the study participants from consumer markets, financial services and technology. (Figure 62)

For the first time, the real estate sector has an independent industry analysis.

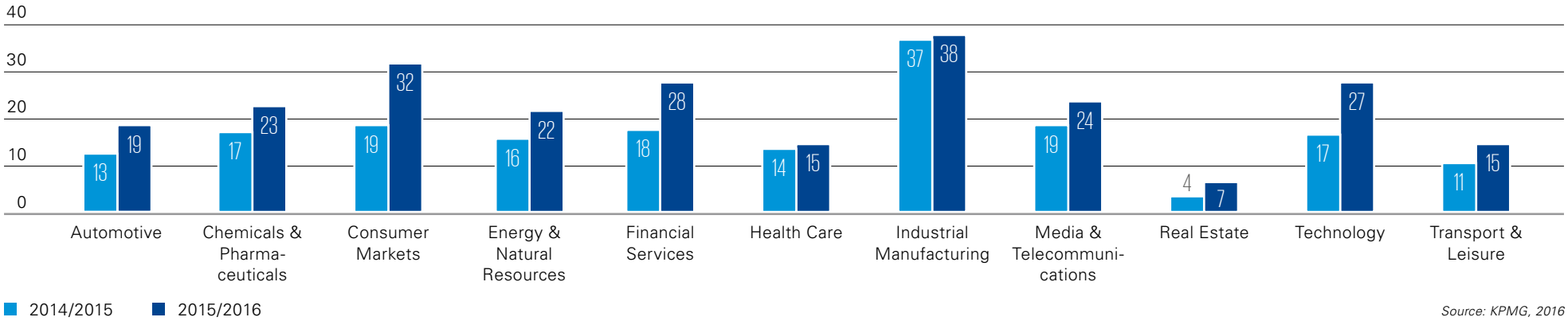
In the following, we present an overview over time of the most important figures for the individual industries. In addition, our industry specialists provide insights into the current trends in their sectors and an outlook for the expected developments.

Should you be interested in more detailed information on the specific sectors we would be pleased to provide it to you individually. Furthermore, our industry specialists are readily available for any questions or comments you may have.

More detailed analyses on the sectors can be found on our Cost of Capital website:
www.kpmg.de/cost-of-capital

Please note that to the extent that the following analyses contain data for the periods 2012/2013, 2013/2014, 2014/2015 and 2015/2016, the data relates only to the surveys from those years. Therefore, it cannot be excluded that the following values are based on data from different companies and a different number of companies, therefore restricting the comparability to some degree.

62 **Study participants by industry**



Source: KPMG, 2016

6.1 Automotive

"On average slightly decreasing weighted average cost of capital were observed in the automotive environment. This development is especially attributable to two factors: On the one hand, to the continuing historically low risk-free rate, and, on the other hand, to the somewhat lower beta factor. For that reason, one could suspect that the long-term expected returns in the automobile industry have slightly decreased. Conversely this means that – in contrast to the previous year – the risk premium in the automobile industry has not continued to rise.

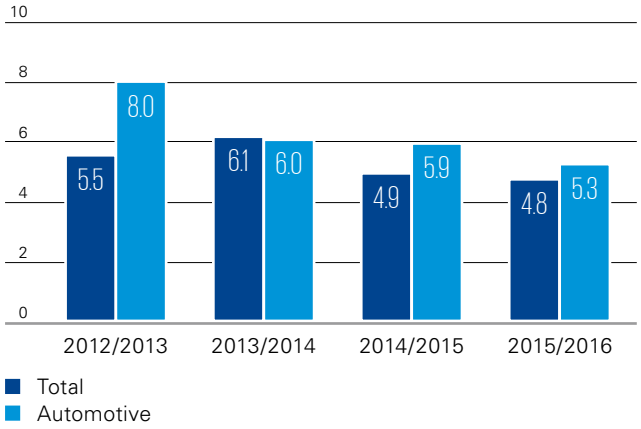
This is of particular interest in view of the mega trends of digitalization and electrification in the automobile industry, because they threaten the current business models. Along with the strong focus on products and technology, the future business models of automobile companies will deal with data and service-driven solutions along the entire customer lifecycle, which may contribute to a diversification of business risks.

The investments required for this, however, will have to be financed from the cash flow from the existing business model, which will at least increase the current investment and financing risks.

It remains to be seen how these diversification effects will impact on the long-term costs of capital."

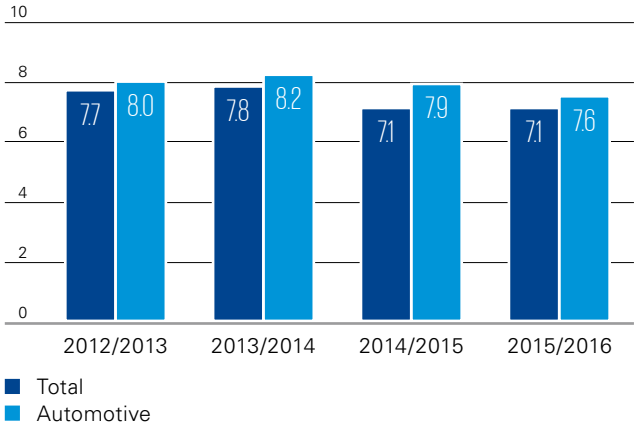
Olaf Thein
Partner, KPMG in Germany

63 **Average sales growth**
Total versus Automotive
(in percent)



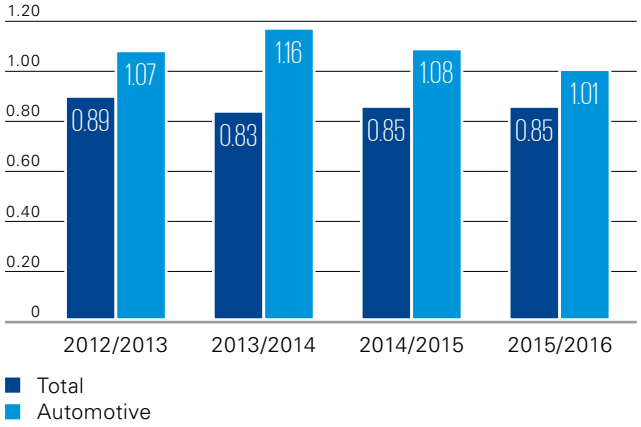
Source: KPMG, 2016

64 **Average WACC applied**
Total versus Automotive
(in percent)



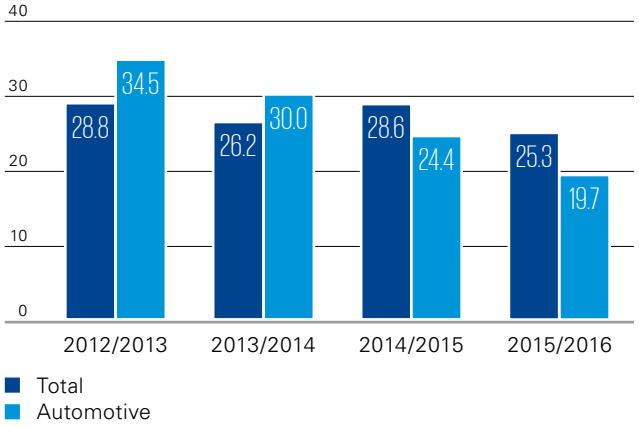
Source: KPMG, 2016

65 **Average unlevered beta factor applied**
Total versus Automotive



Source: KPMG, 2016

66 **Average debt ratio applied**
Total versus Automotive
(in percent)



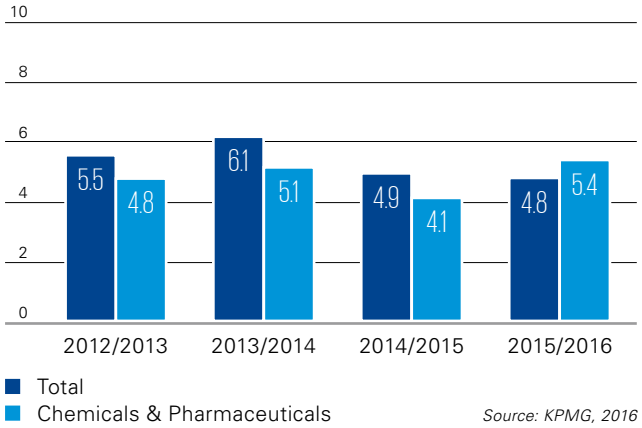
Source: KPMG, 2016

6.2 Chemicals & Pharmaceuticals

"The global trends in the chemical industry in the last few years will continue to serve as the primary stimulation of growth and as the key issues for the financial forecasts. While population growth and the associated demand for everyday products will increase in the emerging markets, drivers such as energy efficiency, environmental protection and regenerative energies are gaining importance in the industrialized countries. In the industrialized countries there will be a shift in demand to high-value and innovative chemicals. Furthermore, the chemical companies will with time profit from the increasing chemical intensity in the end-products of many customer sectors. The government austerity measures in the health care system, the frequently much cheaper generics compared to the original preparations and the cost-intensive and risky development of new, high-revenue medications are slowing the growth expectations of the pharmaceutical companies. Almost every manufacturer is struggling with expiring patents and the subsequent loss in sales and earnings. The companies are meeting these challenges with portfolio optimizations and, consequently, focusing on strategic indication areas. To strengthen their pipelines in strategically important indication areas, pharmaceutical companies are increasingly making acquisitions or trading entire businesses amongst each other."

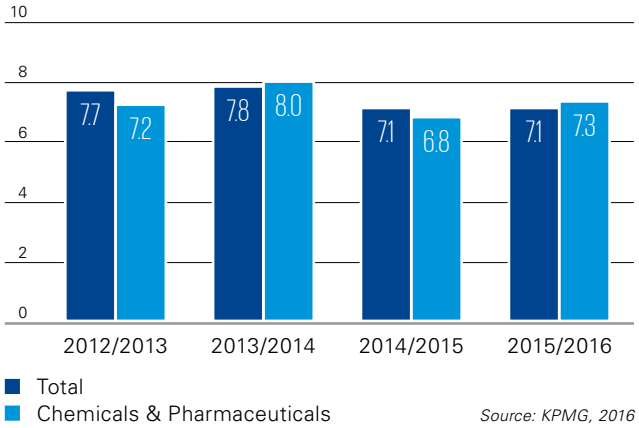
Christian Klingbeil
Partner, KPMG in Germany

67 **Average sales growth**
Total versus Chemicals & Pharmaceuticals
(in percent)



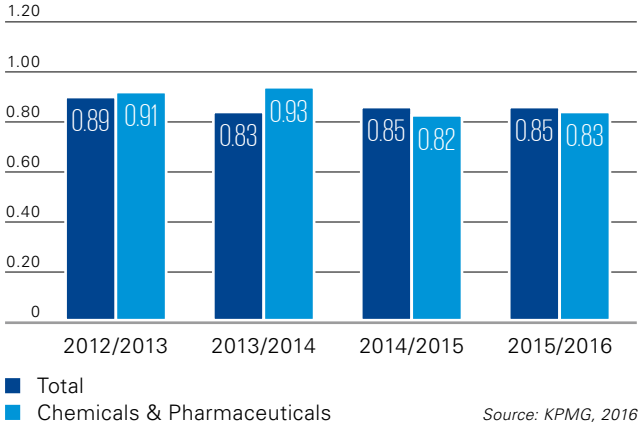
Source: KPMG, 2016

68 **Average WACC applied**
Total versus Chemicals & Pharmaceuticals
(in percent)



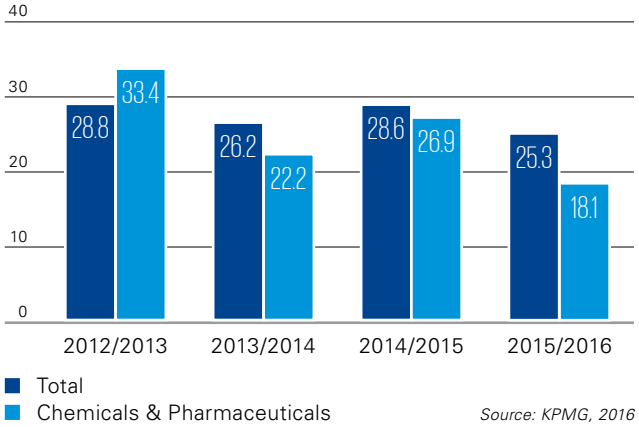
Source: KPMG, 2016

69 **Average unlevered beta factor applied**
Total versus Chemicals & Pharmaceuticals



Source: KPMG, 2016

70 **Average debt ratio applied**
Total versus Chemicals & Pharmaceuticals
(in percent)



Source: KPMG, 2016

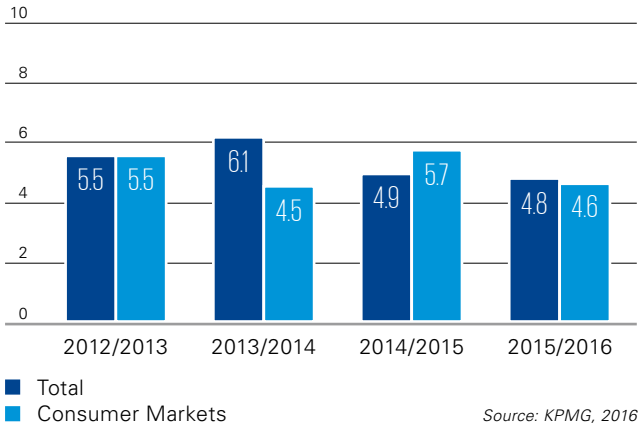
6.3 Consumer Markets

"Retail is undergoing a fundamental change. With new technologies, above all the smartphone, the consumer is in a position to better live out his/her personal behavioral and consumer patterns across every sales channel. At the same time, the new technologies are attracting new competitors to the market at a rate that has never been seen before. The result of these developments is a so-called 'mobile consumption rate', which has climbed up to 50 percent in some product groups in the German non-food sector. Mobile purchasing and payment will successively penetrate other product groups – including groceries. In the end, it will not be a matter of primarily offering goods in retail, but rather of knowing the needs structure of the customer and to be able to satisfy these as quickly and flexibly as possible. This development will continue to intensify over the next few years as will the paradigm shift to customer-centered business models. The upcoming years will be exciting, with strong new brands developing and others fading. At the moment, it appears that customers are increasingly placing their trust in holistic offers and the corresponding technical platforms."

Karen Ferdinand
Partner, KPMG in Germany

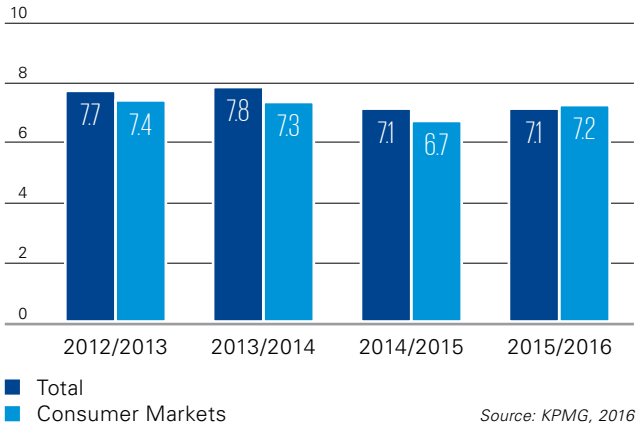
Stephan Fetsch
Partner, KPMG in Germany

71 **Average sales growth**
Total versus Consumer Markets
(in percent)



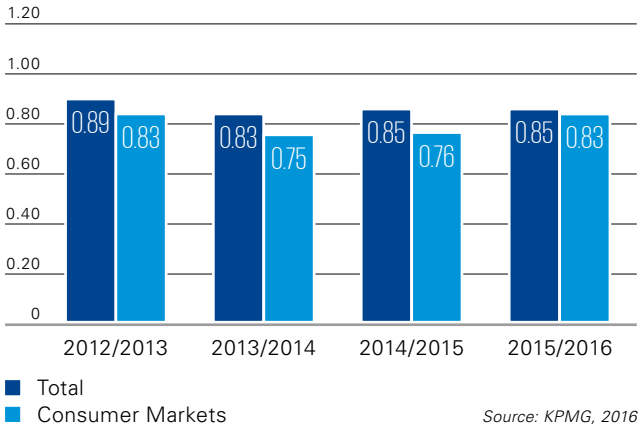
Source: KPMG, 2016

72 **Average WACC applied**
Total versus Consumer Markets
(in percent)



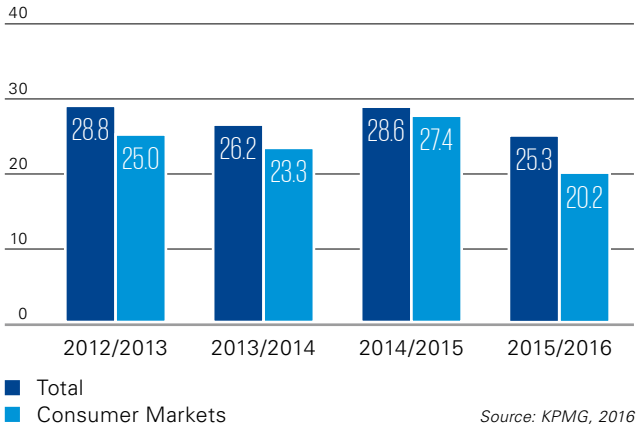
Source: KPMG, 2016

73 **Average unlevered beta factor applied**
Total versus Consumer Markets



Source: KPMG, 2016

74 **Average debt ratio applied**
Total versus Consumer Markets
(in percent)



Source: KPMG, 2016

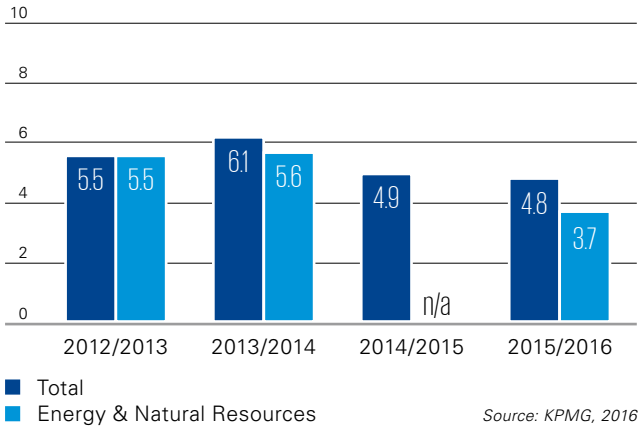
KPMG

6.4 Energy & Natural Resources

"The majority of the listed energy providers represent an integrated generation and provider business that up to several months ago could be described as state of the art. But the energy supply companies' value-added chain will undergo rapid change. New business strategies have to be defined – changes in the corporate structure will follow. They will also change the risk profile. At the same time, the prospects for the conventional generation business and the trade with commodity products are weak. Returns on network operations have dropped and in Germany expansion corridors as well as market mechanisms for renewable energies have been introduced. Depending on how quickly the energy system transformation occurs, companies will (have to) adapt very quickly to a more fragmented business. At the same time, the sales business will change as a result of digitalization. Nevertheless, energy supply will remain a stable business for the most part; this is demonstrated by the comparatively long-term consistency of the cost of capital compared to the overall economy. The reduction of the beta factor is significant; it can fundamentally be attributed to the revocation of growth premises. However, peer groups are already partially changing, because new participants are entering the market, amongst other things as a result of digitalization."

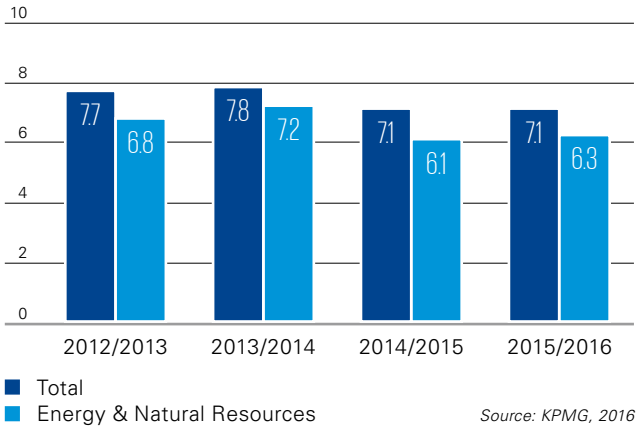
Michael Salcher
Partner, KPMG in Germany

75 **Average sales growth**
Total versus Energy & Natural Resources
(in percent)



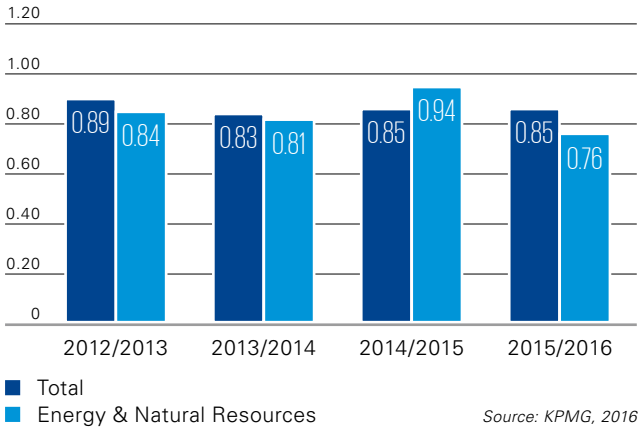
Source: KPMG, 2016

76 **Average WACC applied**
Total versus Energy & Natural Resources
(in percent)



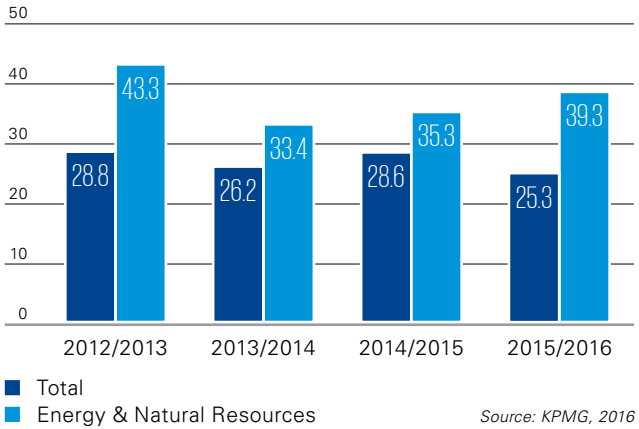
Source: KPMG, 2016

77 **Average unlevered beta factor applied**
Total versus Energy & Natural Resources



Source: KPMG, 2016

78 **Average debt ratio applied**
Total versus Energy & Natural Resources
(in percent)



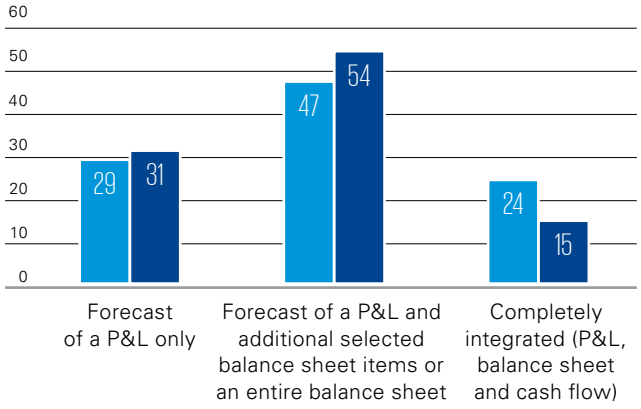
Source: KPMG, 2016

6.5 Financial Services

"The financial services sector was characterized in 2016 by continuing weak earnings as a result of the low-interest phase, increasing capital requirements and the search for sustainable business models. The major challenge for all financial service companies remains achieving a sustainable level of return that is above the cost of capital.
In the banking sector, many market participants are, along with the consistent optimization of costs in the traditional fields of business, focusing on digitalization, in particular the expansion of the digital sales channels. Financial technology as well as large Internet companies are increasingly going into competition with the banks.
In the insurance sector, the focus has, as a result of the increasing capital requirements from Solvency II, primarily been on the development of innovative and capital-efficient products. In view of this, run-off solutions for capital-intensive business will increasingly become a topic.
In the mid-term, additional consolidation should be expected in both the banking and the insurance sector. What impacts the Brexit decision will have on the financial centers in Germany, Austria and Switzerland cannot yet be determined and continues to remain exciting."

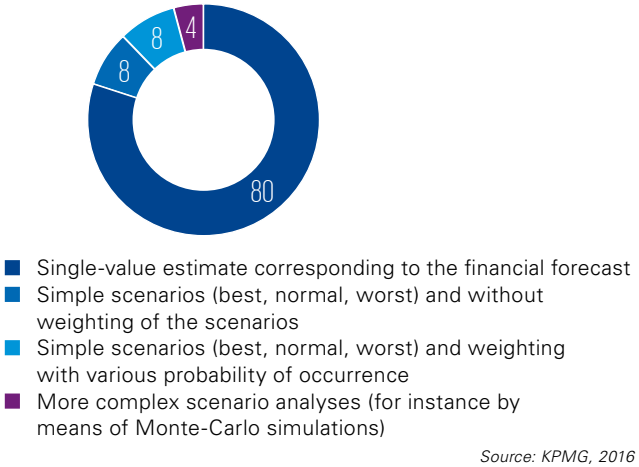
Gudrun Hoppenburg
Director, KPMG in Germany

79 **Degree of detail planning**
Financial Services
(in percent)



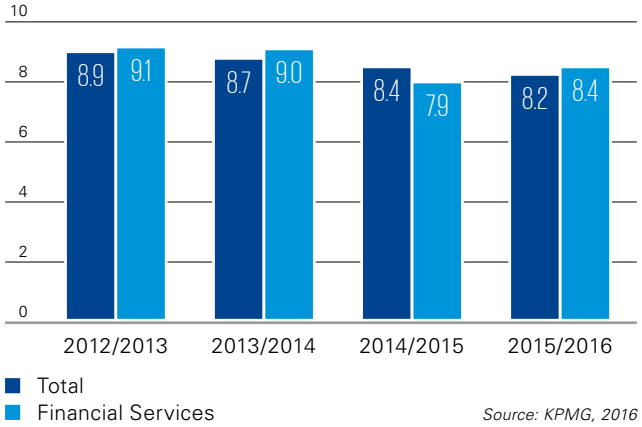
Source: KPMG, 2016

80 **Measurement of the expected value**
Financial Services
(in percent)



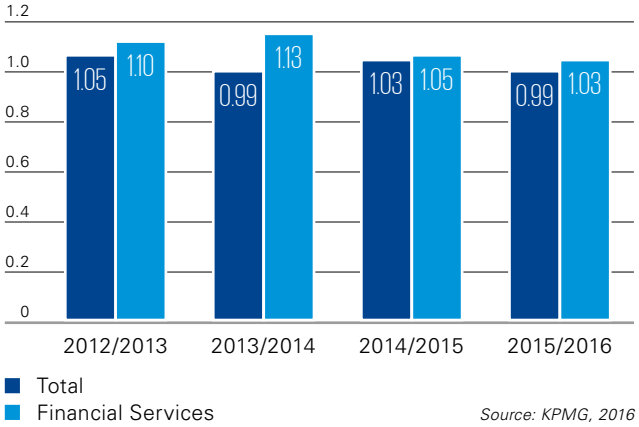
Source: KPMG, 2016

81 **Average cost of equity**
Total versus Financial Services
(in percent)



Source: KPMG, 2016

82 **Average levered beta factor**
Total versus Financial Services



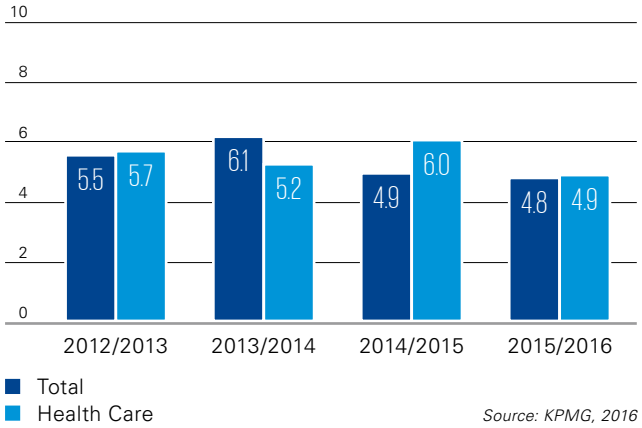
Source: KPMG, 2016

6.6 Health Care

"The digitalization of the health care market will become increasingly important in the future. Although this market offers extensive possibilities for application and will become more multifaceted and individualized with the development of innovative solutions, health care is well behind other markets in embracing digitalization. The e-health trend covers the entire spectrum of care from the diagnosis to the follow-up and offers the participants in the health care market numerous opportunities, which in turn are reflected in the corresponding company's financial planning.
Clinics and other health-care institutions can, for instance, optimize their processes with digital documentation systems and therefore combat the cost pressure. The increasing use of operational robots or wearables are offering medical technology companies opportunities for growth while trading companies can take advantage of improved logistic solutions or the connection to digital office hours.
Overall, the development is also creating a change in the market participants. Recently, a number of startups have been founded that could represent interesting cooperation partners or acquisition targets for the established market participants."

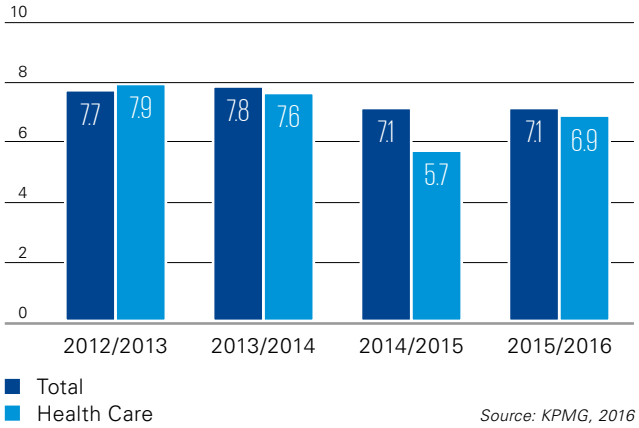
Patrick Klingshirn
Director, KPMG in Germany

83 **Average sales growth**
Total versus Health Care
(in percent)



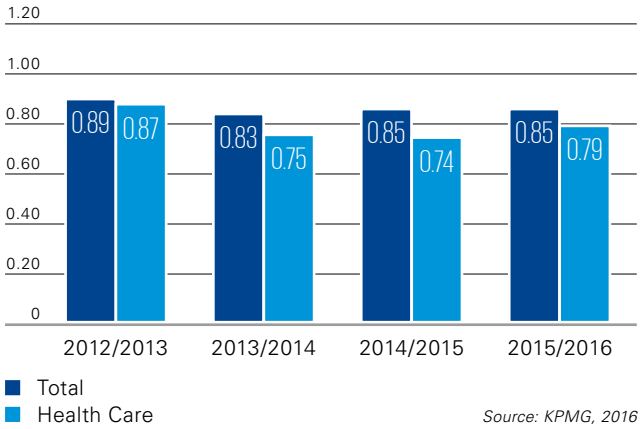
Source: KPMG, 2016

84 **Average WACC applied**
Total versus Health Care
(in percent)



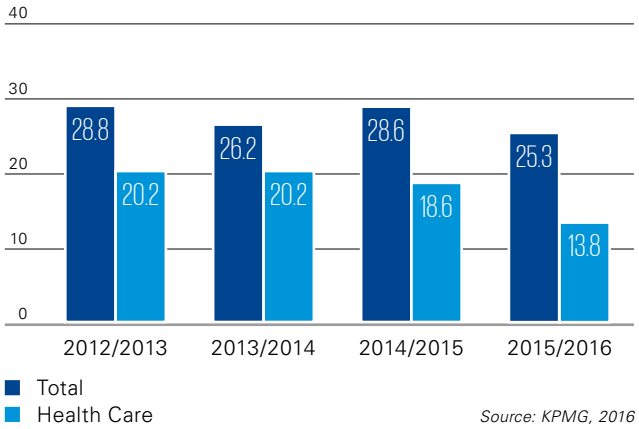
Source: KPMG, 2016

85 **Average unlevered beta factor applied**
Total versus Health Care



Source: KPMG, 2016

86 **Average debt ratio applied**
Total versus Health Care
(in percent)



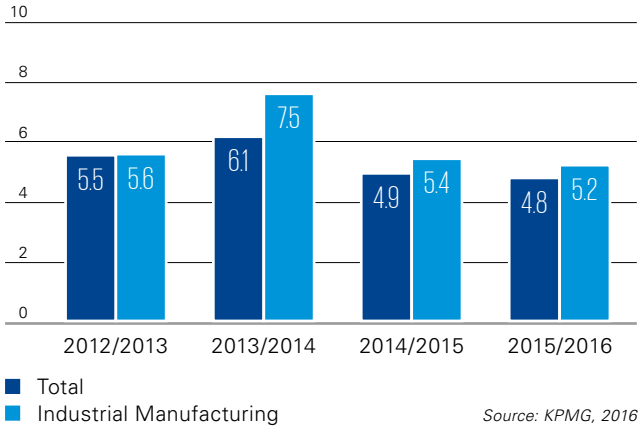
Source: KPMG, 2016

6.7 Industrial Manufacturing

"According to the KPMG study 'Global Manufacturing Outlook', growth targets hold a high or very high priority for a majority of the manufacturing companies surveyed. Especially Asian companies confirmed in the study an 'aggressive growth strategy' that can be seen, amongst other things, in the numerous international corporate acquisitions – in particular by Chinese companies. The growth should, according to the information of the companies surveyed, primarily be realized by expanding the product and service portfolio, the entry into new geographical markets and by new business areas.
Significant profitable growth – especially with limited market growth in the industrialized countries – is reserved for only a part of the companies. That will primarily be the companies that adapt their business model flexibly and with short reaction times to the volatile, dynamic and customer-driven markets and combine technologies, know-how and sales strategies from various sectors into new solutions. At the same time, flexible, resource-efficient value-added chains that exploit the possibilities of digitalization, automation and linkage will be decisive for profitable growth."

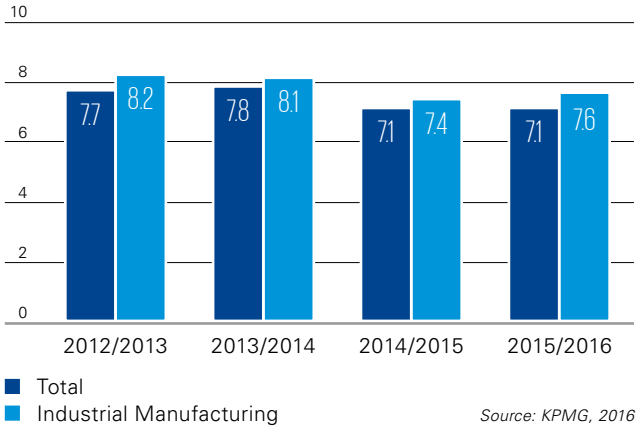
Dr. Jakob Schröder
Partner, KPMG in Germany

87 **Average sales growth**
Total versus Industrial Manufacturing
(in percent)



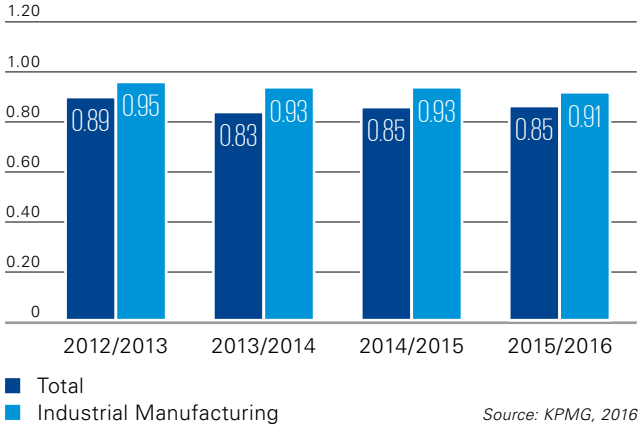
Source: KPMG, 2016

88 **Average WACC applied**
Total versus Industrial Manufacturing
(in percent)



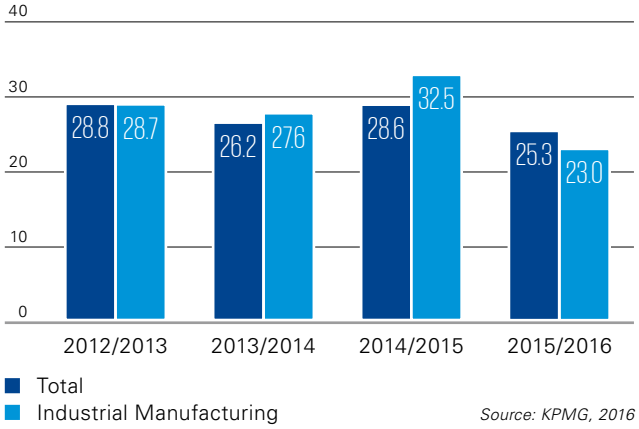
Source: KPMG, 2016

89 **Average unlevered beta factor applied**
Total versus Industrial Manufacturing



Source: KPMG, 2016

90 **Average debt ratio applied**
Total versus Industrial Manufacturing
(in percent)



Source: KPMG, 2016

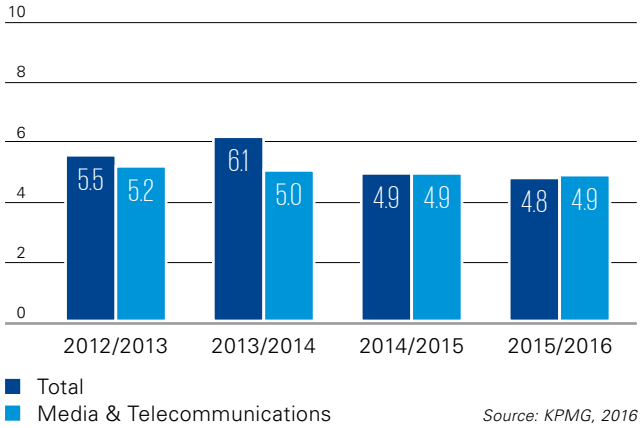
6.8 Media & Telecommunications

"The digital transformation continues to progress in the media & telecommunications sector. The drop in circulation numbers in the traditional newspaper and magazine business could be compensated by some media organizations by investments in digital, sometimes complementary, business models. Media companies are following different strategies; for instance, investments in educational, music or trading activities. With the differing expansion strategies, the media companies are frequently no longer completely competing with one another. The digital transformation in the media sector is therefore also resulting in the boundaries to other industries blurring.
This trend holds for companies in the telecommunications industry as well – here, too, the strategies in the context of digitalization form the primary challenge for the future. The linkage of companies and consumers requires investments in the expansion of an IP network infrastructure. Here, telecommunications companies are confronted with the task of combining the growing dynamics in the core business with the cross-sector cooperation solutions so as to obtain a satisfactory return. Consequently, further consolidations are to be expected in the telecommunications industry."

Dr. Vera-Carina Elter
Partner, KPMG in Germany

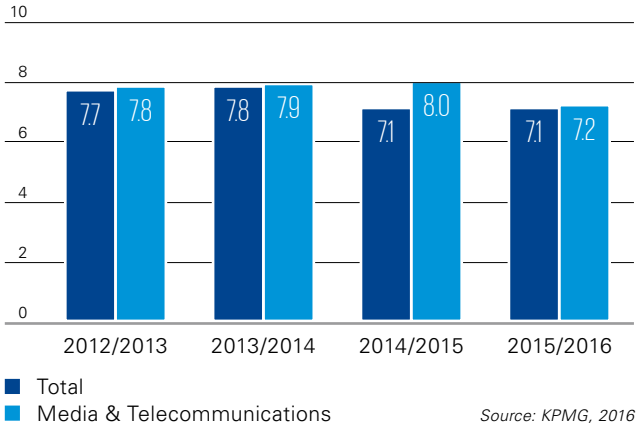
Stefan Schöniger
Partner, KPMG in Germany

91 **Average sales growth**
Total versus Media & Telecommunications
(in percent)



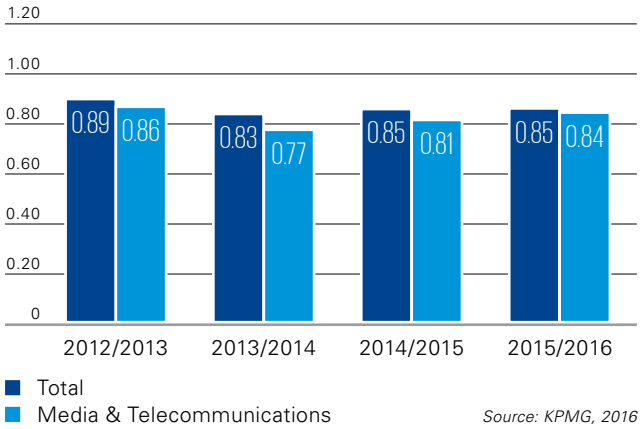
Source: KPMG, 2016

92 **Average WACC applied**
Total versus Media & Telecommunications
(in percent)



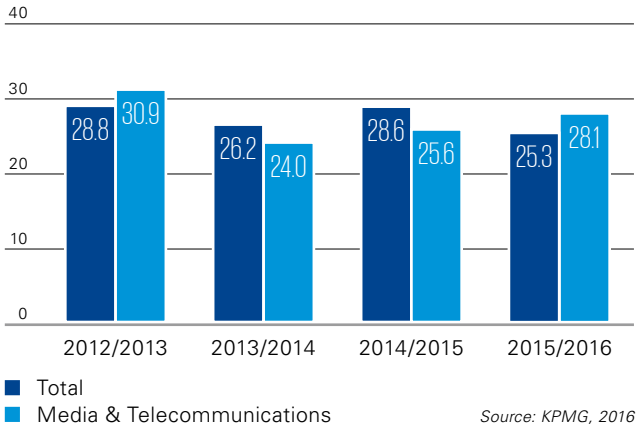
Source: KPMG, 2016

93 **Average unlevered beta factor applied**
Total versus Media & Telecommunications



Source: KPMG, 2016

94 **Average debt ratio applied**
Total versus Media & Telecommunications
(in percent)



Source: KPMG, 2016

6.9 Real Estate

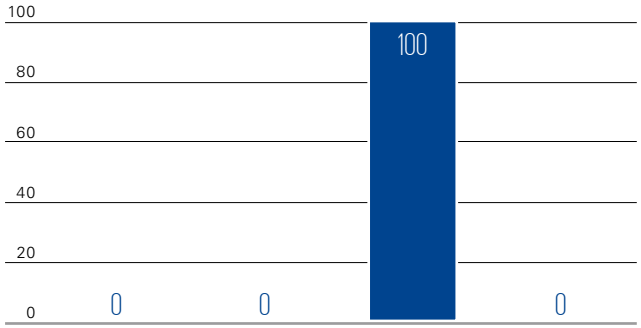
"The economic growth and the low interest rate level are benefiting the national real estate market. Germany is considered a safe 'real estate haven'. The volume of transactions in 2015 was, with 56 billion euros, the second highest of all time. In the meantime, the percentage of foreign and German investors in the transaction market has become equal again. The demand will probably be similarly high in 2016 as well – however, with a comparatively lower supply.

Increasing rents can be observed across the entire range of asset classes, from office space to retail to apartments. The low interest level is favorable for new investment projects. A price increase in urban areas can be seen as a result of the investors' decreasing expectations on returns. So-called B and C cities are gaining greater attention due to the lack of alternatives. To what extent Brexit will impact on the market for commercial real estate in the German metropolises has yet to be seen.

In the mid to long term the challenges for residential real estate will be, on the one hand, the provision of affordable housing in major cities and, on the other hand, the decreasing populations in the rural areas. Office real estate concepts have to provide an answer to the increasing flexibility of the working world and the markets for retail and logistics real estate depend very much on the development of the online trading."

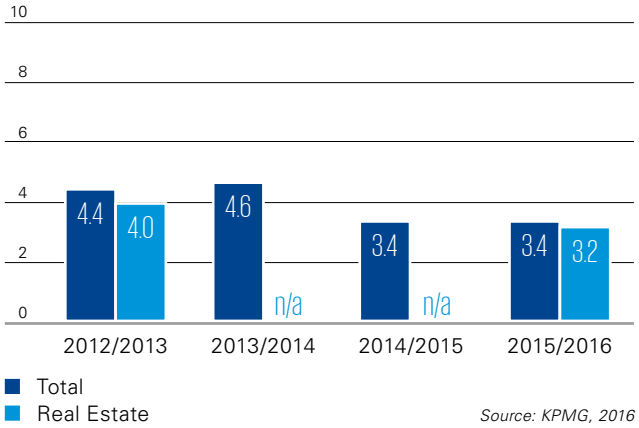
Gunther Liermann
Partner, KPMG in Germany

95 **Planning horizon**
Real Estate
(in percent)



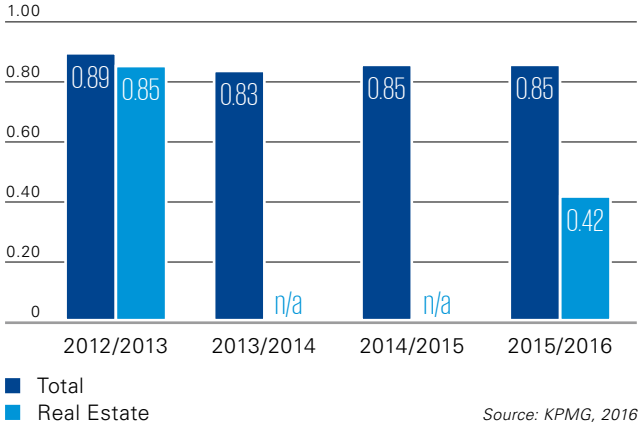
Source: KPMG, 2016

96 **Average cost of debt applied**
Total versus Real Estate
(in percent)



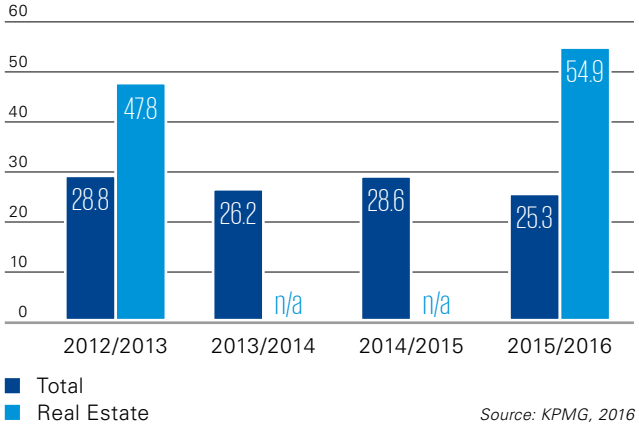
Source: KPMG, 2016

97 **Average unlevered beta factor applied**
Total versus Real Estate



Source: KPMG, 2016

98 **Average debt ratio applied**
Total versus Real Estate
(in percent)



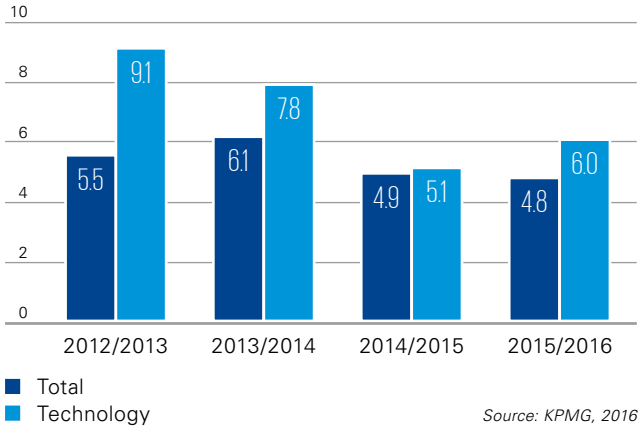
Source: KPMG, 2016

6.10 Technology

"Digitalization as the mega-trend continues to determine the strategies of companies in the technology sector. The high rate of change is the primary characteristic. This dynamic means that technology companies must continuously create a competitive advantage with constant innovations. Of utmost importance in this regard will be the expansion of the company's field of competence by means of acquisitions and cooperations and, on the other hand, investments with a startup character. Data analytics and industry 4.0 solutions are opening new process innovations that are not limited to the technology sector, but might also stimulate new business models in other sectors. As a result, many traditional sectors will expand their technology competences through acquisitions and cooperations and enter into competition with purely technology companies."

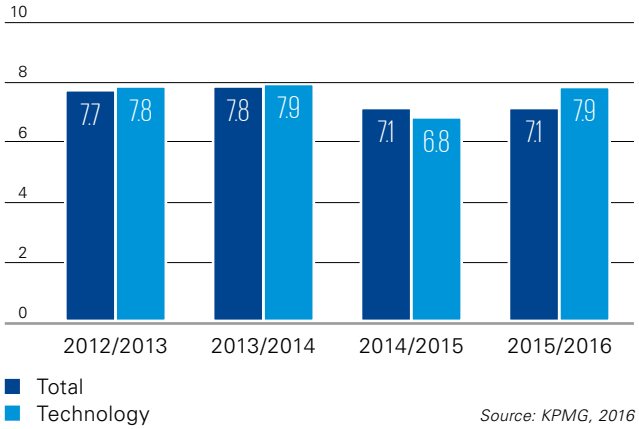
Dr. Gunner Langer
Director, KPMG in Germany

99 **Average sales growth**
Total versus Technology
(in percent)



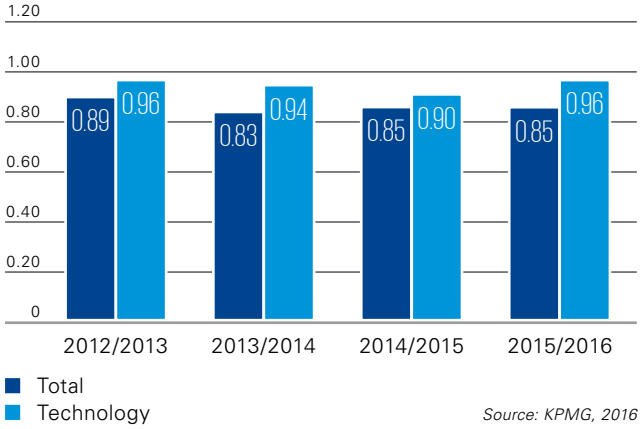
Source: KPMG, 2016

100 **Average WACC applied**
Total versus Technology
(in percent)



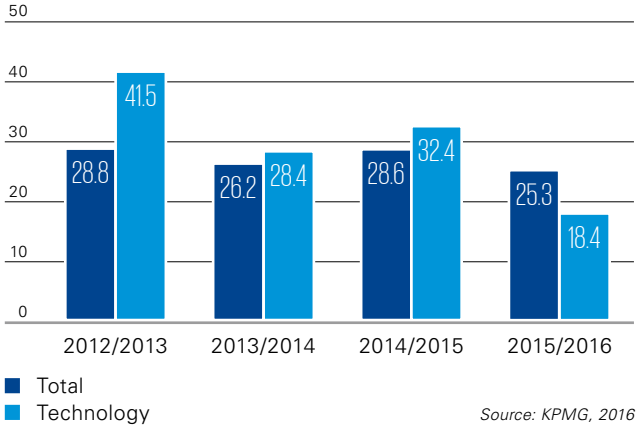
Source: KPMG, 2016

101 **Average unlevered beta factor applied**
Total versus Technology



Source: KPMG, 2016

102 **Average debt ratio applied**
Total versus Technology
(in percent)



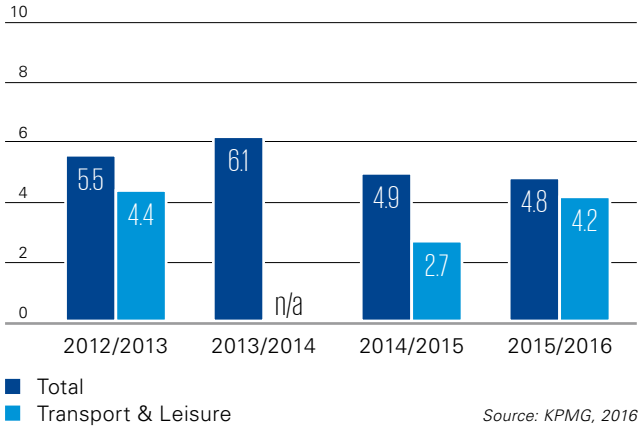
Source: KPMG, 2016

6.11 Transport & Leisure

"The transport sector is faced with fundamental changes. It will not be possible to meet the challenge of increasing demand for the transportation of goods and persons by simply expanding the capacities. For the transportation companies, it will be a matter of improving the utilization of their means of transportation. Linkage is the key here. Through linkage, the various means of transportation will not only be better connected with one another, but they will be especially efficiently attuned to one another. The basis for this will be live data recording and analysis of transportation streams and volumes. The analysis of passenger numbers and travel patterns from public transportation can be used to reliably predict peak travel periods, while additional parameters such as weather data can serve to predict potential disruptions at an early time. In the transportation of goods, data can be used to predict bottlenecks and for the planning of capacities. Networked vehicles, drones for areas that are difficult to access and 3D printers that produce spare parts directly on site represent the future for companies in the transportation sector."

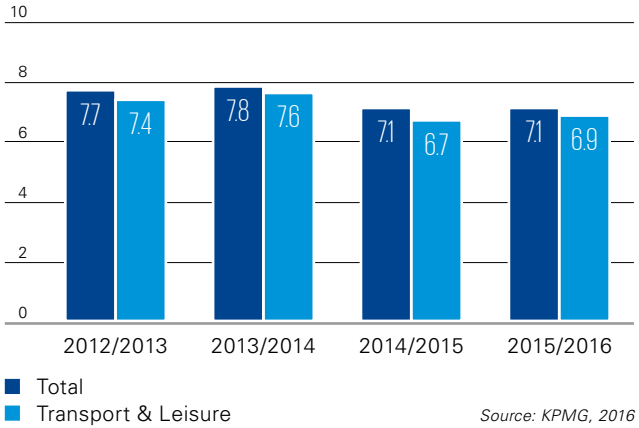
Dr. Andreas Tschöpel
Partner, KPMG in Germany

103 Average sales growth
Total versus Transport & Leisure
(in percent)



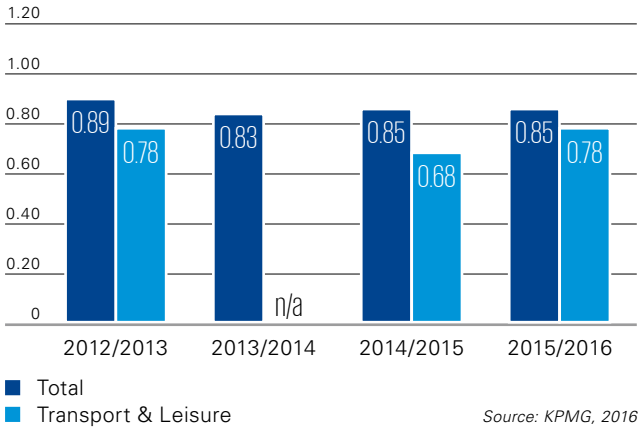
Source: KPMG, 2016

104 Average WACC applied
Total versus Transport & Leisure
(in percent)



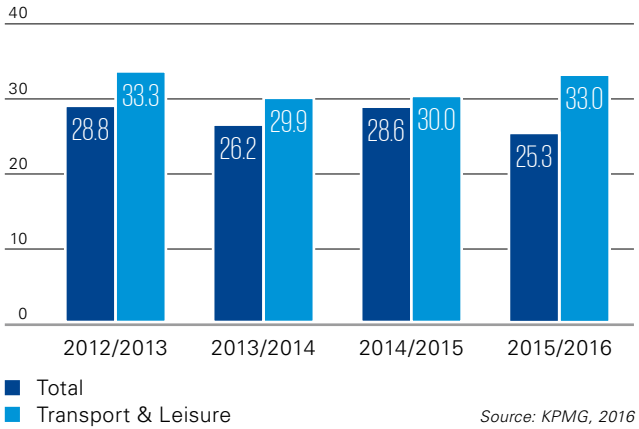
Source: KPMG, 2016

105 Average unlevered beta factor applied
Total versus Transport & Leisure



Source: KPMG, 2016

106 Average debt ratio applied
Total versus Transport & Leisure
(in percent)



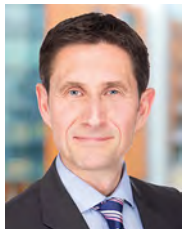
Source: KPMG, 2016

List of Abbreviations

CAPM	Capital Asset Pricing Model
CEDA	Corporate Economic Decision Assessment
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CGU	Cash Generating Unit
CVA	Cash Value Added
DAX	Main German Stock Index
DAX-30	The 30 largest blue chips on the main German stock exchange
DCF	Discounted Cash Flow
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EVA	Economic Value Added
FamDAX	DAXplus Family 30 Index, consists of the 30 largest and most liquid family owned businesses (founding family holds at least 25 percent of the voting rights or seat in the management board of advisory board and 5 percent of the voting rights) in the Prime Standard of the German Stock Exchange
FAUB	"Fachausschuss für Unternehmensbewertung und Betriebswirtschaft des IDW": Technical Committee for Business Valuation and Economics of the IDW
IAS	International Accounting Standards
IDW	"Institut der Wirtschaftsprüfer in Deutschland e. V.": Institute of Public Auditors in Germany, Incorporated Association
IFRS	International Financial Reporting Standards
KPI	Key Performance Indicator
KRI	Key Risk Indicator
M&A	Mergers & Acquisitions
MDAX	German (Mid-Cap) Stock Index
n/a	Not available
n/m	Not meaningful
P&L	Profit & Loss Statement
ROCE	Return on Capital Employed
SDAX	Small Caps, the companies following the MDAX with market capitalization and exchange turnover
SFAS	Statement of Financial Accounting Standards
SMEs	Small and medium-size enterprises
TecDAX	The 30 largest technology companies on the German Stock Index
US-GAAP	United States Generally Accepted Accounting Principles
WACC	Weighted Average Cost of Capital

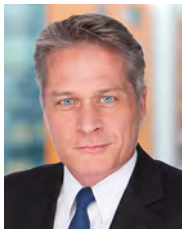
Your Industry Specialists

KPMG in Germany



Automotive
Dr. Marc Castedello
Partner
Deal Advisory,
Head of Valuation Germany
T +49 89 9282-1145
mcastedello@kpmg.com

Retail
Consumer Markets
Stephan Fetsch
Partner
T +49 221 2073-5534
stephanfetsch@kpmg.com



Chemicals & Pharmaceuticals
Health Care
Christian Klingbeil
Partner
T +49 89 9282-1284
cklingbeil@kpmg.com

Media
Energy & Natural Resources
Prof. Dr. Vera-Carina Elter
Partner
T +49 211 475-7505
veraelter@kpmg.com

Building & Construction
Michael Hahn
Director
T +49 711 9060-41163
michaelhahn@kpmg.com

Chemicals & Pharmaceuticals
Health Care
Patrick Klingshirn
Director
T +49 89 9282-4594
pklingshirn@kpmg.com

Energy & Natural Resources
Industrial Manufacturing
Andreas Emmert
Director
T +49 911 5973-3933
aemmert@kpmg.com

Financial Services
Gudrun Hoppenburg
Director
T +49 69 9587-2640
ghoppenburg@kpmg.com

Technology
Media & Telecommunications
Dr. Gunner Langer
Director
T +49 69 9587-2830
glanger@kpmg.com

Consumer Markets
Retail
Karen Ferdinand
Partner
T +49 69 9587-6500
kferdinand@kpmg.com

Energy & Natural Resources
Michael Killisch
Director
T +49 211 475-6325
mkillisch@kpmg.com

Real Estate
Gunther Liermann
Partner
T +49 69 9587-4023
gliermann@kpmg.com

KPMG

Real Estate
Andreas Lohner
Director
T +49 89 9282-4926
alohner@kpmg.com

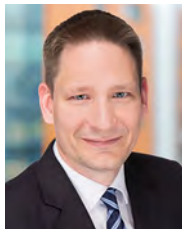
Financial Services
Rudolf Maurer
Director
T +49 89 9282-1348
rudolfmaurer@kpmg.com

Energy & Natural Resources
Michael Salcher
Partner
T +49 89 9282-1239
msalcher@kpmg.com

Consumer Markets
Telecommunications
Stefan Schöniger
Partner
T +49 40 32015-5690
sschoeniger@kpmg.com

Industrial Manufacturing
Dr. Jakob Schröder
Partner
T +49 211 475-8200
jakobschroeder@kpmg.com

Financial Services
Timo Schuck
Partner
T +49 69 9587-1699
tschuck@kpmg.com



Automotive
Olaf Thein
Partner
T +49 89 9282-1579
othein@kpmg.com

Transport & Leisure
Health Care
Dr. Andreas Tschöpel
Partner
T +49 30 2068-1488
atschoepel@kpmg.com

Automotive
Industrial Manufacturing
Ralf Weimer
Director
T +49 89 9282-1150
rweimer@kpmg.com

KPMG in Austria

Dr. Klaus Mittermair
Partner
Head of Deal Advisory Austria
T +43 732 6938-2151
kmittermair@kpmg.at

KPMG in Switzerland

Johannes Post
Partner
Deal Advisory,
EMA Head of Valuation
T +41 58 249-3592
jpost@kpmg.com

Contact

Germany

Overall responsibility
Stefan Schöniger
Deal Advisory, Valuation
Partner
KPMG AG
Wirtschaftsprüfungsgesellschaft
Ludwig-Erhard-Strasse 11–17
20459 Hamburg
T +49 40 32015-5690
sschoeniger@kpmg.com

Technical coordination
Dr. Marc Castedello
Deal Advisory, Head of Valuation Germany
Partner
KPMG AG
Wirtschaftsprüfungsgesellschaft
Ganghoferstrasse 29
80339 Munich
T +49 89 9282-1145
mcastedello@kpmg.com

Austria

Dr. Klaus Mittermair
Head of Deal Advisory Austria
Partner
KPMG Alpen-Treuhand GmbH
Kudlichstrasse 41
4020 Linz
T +43 732 6938-2151
kmittermair@kpmg.at

Switzerland

Johannes Post
Deal Advisory, EMA Head of Valuation
Partner
KPMG Holding AG
Badenerstrasse 172
8026 Zurich
T +41 58 249-3592
jpost@kpmg.com

www.kpmg.de

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