

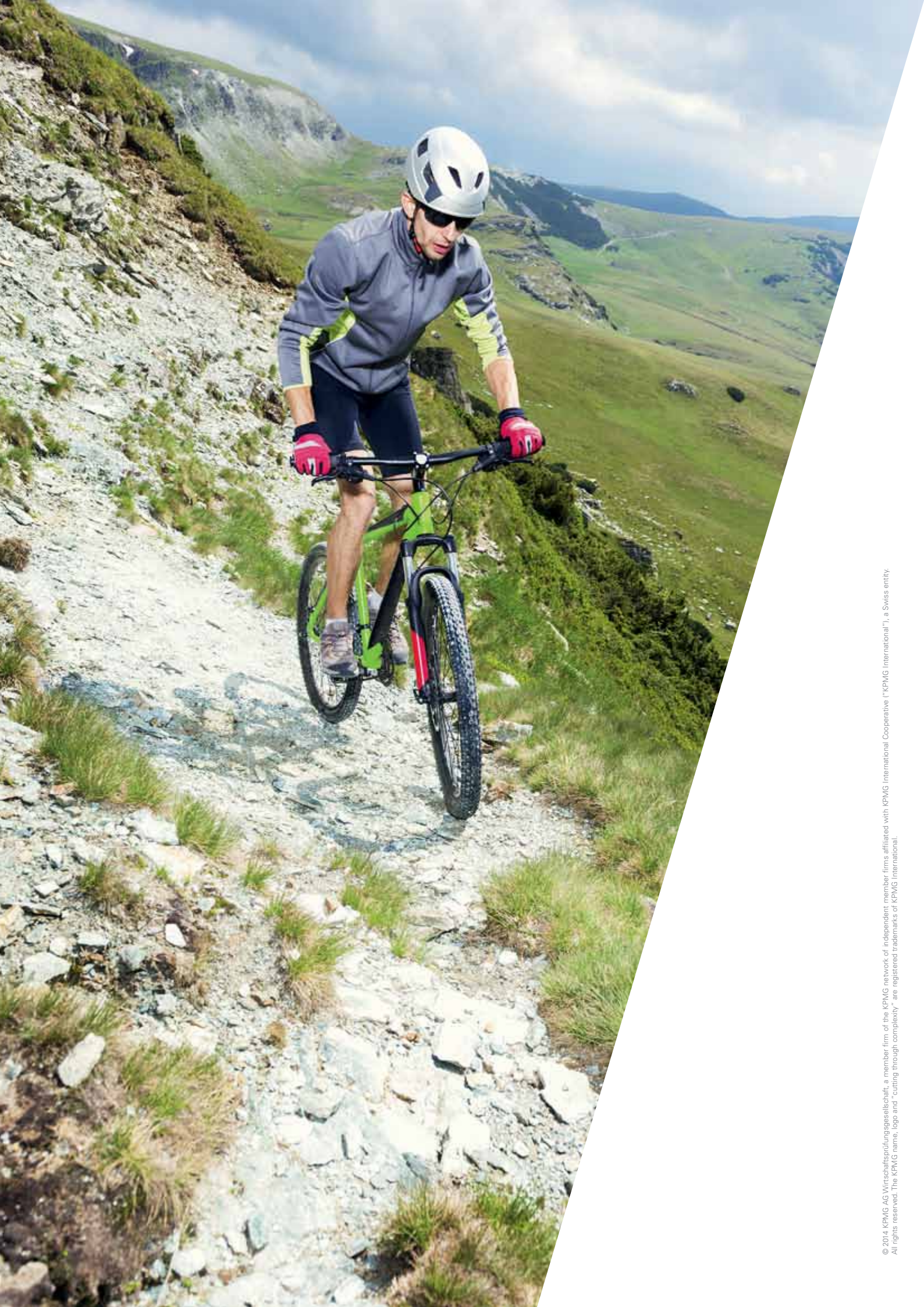
CORPORATE FINANCE

# Cost of Capital Study 2014

Consideration,  
equivalence and  
sharing of risk









# Table of Contents

<b>Preface</b>	<b>5</b>	<b>4 Impairment Test</b>	<b>42</b>
<b>Summary of Findings</b>	<b>6</b>	4.1 Foreword	42
<b>1 Introduction</b>	<b>10</b>	4.2 Trigger and Results	44
1.1 Objectives of the Study	10	4.3 Determination of the Recoverable Amount	45
1.2 Data Collection	11	4.4 Plausibility	46
<b>2 Derivation of Cash Flows</b>	<b>12</b>	<b>5 Outlook</b>	<b>48</b>
2.1 Foreword	12	5.1 Intended Transactions	48
2.2 Preparation of the Financial Forecasts	15	5.2 Scheduled Amortization of the Goodwill	49
2.3 Growth Expectations	16	<b>6 Industry Analyses</b>	<b>50</b>
2.4 Determination of the Expected Values	17	6.1 Automotive	50
2.5 Determination of the Sustainable Year	18	6.2 Chemicals & Pharmaceuticals	52
<b>3 Determination of the Cost of Capital Parameters</b>	<b>20</b>	6.3 Consumer Markets	53
3.1 Foreword	20	6.4 Energy & Natural Resources	54
3.2 WACC Overview	22	6.5 Financial Services	55
3.3 Presentation of the Parameters	24	6.6 Health Care	56
3.3.1 Risk-free Rate	24	6.7 Industrial Manufacturing	57
3.3.2 Market Risk Premium	26	6.8 Media & Telecommunications	58
3.3.3 Beta Factor	27	6.9 Technology	59
3.3.4 Other Risk Premiums	31	6.10 Transport & Leisure	60
3.3.5 Composite Risk Effects	33	<b>List of Abbreviations</b>	<b>61</b>
3.3.6 Cost of Equity	33	<b>Your Industry Specialists</b>	<b>62</b>
3.3.7 Cost of Debt and Capital Structure	34		
3.3.8 Sustainable Growth Rate	38		
3.3.9 Cost of Capital Outside Europe	40		

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 proper actions or interpretation of the requirements for impairment tests, other accounting-related questions or business valuations.



# Preface

Dear readers,

It is our pleasure to present you with the results of the ninth Cost of Capital Study. It is our goal to present the current developments in the derivation of the cost of capital and to describe in what manner they reflect economic changes and expectations.

The focus of our Cost of Capital Study this year is, once again, on the subjects:

- Determination of the cost of capital,
- Derivation of the corporate planning,
- Sustainable growth expectations,

for these are material components of any evaluation – for example, in the valuation of an acquisition, strategic value analysis or the testing of impairment.

The observable developmental trends of entire sectors or industries form an additional focus. The distinctions between industries are in flux, business models are changing and in some cases melding with one another. Consequently, companies from various sectors that previously operated alongside one another increasingly find themselves in direct competition with one another. Correspondingly, companies must review their strategies and business models and, if necessary, quickly implement the changes required.

Corporate decisions should, in such cases, be oriented on the specific risk/return profile of the actions being evaluated. The valuation calculus applied must reflect the cash flows and the associated risks. Obtaining all the relevant information and determining the interdependencies between the various business models and strategies represents a very material challenge for the sustainable success of the company.

The proper communication of the business decisions to the multitude of various stakeholders represents another important aspect of successful corporate leadership in an extremely dynamic competitive environment. Furthermore, the documentation of the basis for the business decisions (Business Judgment Rule) has taken on greater importance.

In light of this, we have compiled this year's Cost of Capital Study under the motto "Consideration, Equivalence and Sharing of Risk". The primary subjects of the current study also adhere to this motto:

- Consideration of risk in the derivation of cash flows
- Risk equivalence in determining the cost of capital
- Small cap premium – (attempted) risk equivalence in practice?
- Debt beta – sharing of risk between financiers?

The relevance of these subjects in practice was confirmed by the large number of participants in the study. A total of 130 companies took part in the study. Of the DAX 30, 22 companies participated.

As a result of the large number of participating companies, we also expanded the study with selected evaluations and analyses for all the industries. Should you be interested in more detailed analyses of these industries, we would be pleased to provide these to you.

We would like to express our utmost gratitude to all the participating companies and our individual contact persons. With your participation, you have contributed this year and in previous years to the increasing value of the results, amongst other things by allowing for greater analyses of the developments over time. Your participation and the positive feedback to the cost of capital studies in the previous years have contributed to the constantly growing importance of our study for the practice of valuation and accounting.

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, Corporate Finance  
KPMG AG Wirtschaftsprüfungsgesellschaft



**Stefan Schöninger**  
Partner, Corporate Finance  
KPMG AG Wirtschaftsprüfungsgesellschaft

# Summary of Findings

## Derivation of cash flows

### ■ Depth of financial forecast

The percentage of companies that compiled a complete financial forecast increased noticeably compared to that of the previous year. Here, the valuation-relevant cash flows were derived from the reconciliation of the expected values from the profit and loss statement, the balance sheet and the cash flow statement.

### ■ Planning period

In the period observed, planning periods were found to be shorter. While the percentage of companies with a planning period of five years decreased significantly to 42 percent (previous year: 52 percent), the number of participating companies with a planning of merely one budget year increased from 2 to 9 percent. A strategic planning that extended beyond the planning period of the impairment test was reported by 42 percent of the surveyed companies. In these companies the extended planning period averaged about six years.

### ■ Growth expectations

The expected average growth of sales in the planning period of about 6.1 percent annually was somewhat more positive than in the previous year (5.5 percent). With regard to the average EBIT growth in the planning period, with an expected growth of 10.2 percent annually, the companies are more optimistic than with sales. The highest expected growth for sales and EBIT is found in the sectors [technology](#) (7.8 percent and 14.1 percent, respectively) and [industrial manufacturing](#) (7.5 percent and 14.6 percent, respectively).

### ■ Forecasted cash flows

The vast majority of the study participants (86 percent) estimated the valuation-relevant cash flows directly on the basis of a single-value financial forecast. Only 14 percent derived their forecasts for valuation-relevant cash flows with the aid of simplified scenario analyses.

### ■ Determination of the sustainable year

As in the previous financial year, 83 percent of the surveyed companies used the last detailed planning year as the basis for the terminal value, whereby 39 percent of the participants performed supplementary top-down adjustments. Only 7 percent of the study participants applied an average of the planning years for the sustainable year.

## Cost of capital

### ■ Weighted average cost of capital

The weighted average cost of capital after corporate tax and before growth discount (WACC) was, at 7.8 percent in the current year, slightly above the level of the previous year (7.7 percent). With that, the WACC displayed an increase for the first time since 2009/2010 and at the moment is at the average level of the three preceding financial years.

### ■ Uniform application of the WACC

Of the surveyed companies, 67 percent reported having compared the cost of capital derived for the impairment test with the cost of capital derived for valuations in M&A transaction and investment decisions. The cost of capital in the framework of fiscal assessments was compared with that for the impairment test much less frequently (40 percent).

### ■ Risk-free rate

After the average risk-free rate applied in the framework of the impairment test had consistently fallen following the onset of the economic and financial crisis, this demonstrated an upward trend for the first time. This corresponds with the yields for government bonds in Germany, Austria and Switzerland. In the current financial year it was 2.6 percent. The increase in Germany and Austria (Eurozone) to 2.7 percent is, at 0.2 percentage points, lower than the increase in Switzerland which climbed by 0.6 percentage points to 1.9 percent.

### ■ Market risk premium

In the current financial year, the average market risk premium remained at 5.8 percent for all the surveyed companies. In Germany the companies, with an average market risk premium of 6.0 percent, clearly oriented themselves on the recommendation of the Technical Committee for Business Valuation and Economics (Fachausschuss für Unternehmensbewertung und Betriebswirtschaft – FAUB) of the Institute of Public Auditors in Germany, Incorporated Association (Institut der Wirtschaftsprüfer in Deutschland e. V. – IDW). This recommended a range between 5.5 and 7.0 percent.



## ■ Beta factor

- All of the participating companies based their determination of the cost of capital for 2013/2014 on an average levered beta factor of 0.99. In the past two financial years the companies applied an average levered beta factor of 1.05.
- The average unlevered beta factor applied decreased to 0.83 compared to the previous year (previous year: 0.89). Compared with the individual sectors, this was a heterogeneous situation. While the average unlevered beta factor in the [automotive](#) and [chemicals & pharmaceuticals industries](#) increased, it sank in the [consumer markets](#), [energy & natural resources](#), [financial services](#), [health care](#), [industrial manufacturing](#), [media & telecommunications](#) and [technology](#) sectors.

## ■ Other risk premiums

- With over two-thirds, significantly more of the participating companies forwent additional risk premiums in the determination of the cost of capital. By contrast, of the surveyed Swiss companies, the use of additional risk premiums is widespread – especially the small size premium.
- Conversely, the percentage of the participating companies that applied a country risk premium in the framework of the impairment test for the determination of the cost of capital increased significantly from 23.8 percent to 31.5 percent.

## ■ Cost of equity

- At 8.7 percent, the average levered cost of equity decreased again in financial year 2013/2014 (previous year: 8.9 percent).
- While the participating companies from Germany and Austria applied an average cost of equity of 8.7 percent, Swiss companies displayed a higher average cost of equity (8.8 percent) despite a lower risk-free rate and market risk premium.
- In the sector comparison it is apparent that the surveyed companies from the [automotive](#) industry, with 9.8 percent, applied the highest cost of equity. The lowest cost of equity, at an average of 8.1 percent, was applied by the companies in the sectors [consumer markets](#) and [transport & leisure](#).

## ■ Cost of debt and capital structure

- With the application of fair value less costs of disposal, the clear majority of the participating companies (84 percent compared to 72 percent in the previous year) derived the cost of debt and capital structure from a peer group. At 56 percent, with the value in use, the application of cost of debt and capital structure from a peer group was also employed by the majority.
- The average debt-equity ratio reported for the total sample demonstrated a slight increase for the first time since financial year 2007/2008 and reached an average of 41 percent. There were, however, significant differences amongst the sectors. While those surveyed from the [health care](#) industry reported the lowest debt-equity ratio with 23 percent, companies in the [energy & natural resources](#) industry averaged 70 percent.

## ■ Sustainable growth rate

- In the current financial year the sustainable growth rate oriented itself about equally on corporate-specific figures (41 percent) and general economic growth and inflation rates (43 percent).
- The sector analysis demonstrated that companies from the [financial services](#) sector apply the highest sustainable growth rate with 1.5 percent. Companies from the [automotive](#) industry, by contrast, calculate with the lowest growth rate of 1.0 percent.

## ■ Impairment test

### ■ Trigger and results

- The percentage of companies that performed an impairment in the preceding financial year has remained high since the beginning of the financial and economic crisis.
- In the consolidated financial statements reflected in the study, about 57 percent of the surveyed companies performed an impairment, whereby with 24 percent the largest percentage of the impairments were again attributed to individual assets (previous year: 31 percent). 21 percent performed both an impairment on the goodwill as well as on individual assets (previous year: 23 percent).
- With 57 percent, precisely as many participants reported this year as the previous year that an impairment test was performed as the result of a triggering event, for example, as a result of poorer long-term expectations and decreases in orders.

### ■ Valuation method for goodwill impairment test

- Similar to the previous year, only 17 percent of the companies determined the fair value less costs of disposal as well as the value in use (previous year: 19 percent). With 67 percent, the percentage of companies that determined the recoverable amount of their cash generating units (CGUs) and the assets only on the basis of value in use was at about the level of the previous year (64 percent). 16 percent determined only the fair value less costs of disposal (previous year: 17 percent).
- If both the value in use as well as the fair value less costs of disposal were determined, just about three-quarters of the surveyed companies based this on a uniform financial forecast (previous year: 89 percent).

### ■ Plausibility testing

- Just over 60 percent of the companies reported having performed a plausibility test on the values determined by means of multiples, market capitalization or the evaluations of analysts' reports. Most frequently the market capitalization was used for plausibility testing (25 percent).
- For more than half of the listed companies (53 percent) that determined a fair value less costs of disposal, the market capitalization was less than the total of the recoverable amounts. For an additional 36 percent of the listed companies the two values were approximately equal.
- For about one-third of the listed companies that applied the value in use as the valuation concept, the market capitalization was less than the total of the recoverable amounts (31 percent). For an additional 40 percent of them, the values were about equally high and for 29 percent the market capitalization was above the total of the calculated recoverable amounts per CGU.

## Outlook

### ■ Objectives of the study

- As in the previous year, the percentage of companies in the DAX 30 interested in transactions was, at 91 percent, well above the total and the German average (77 percent).
- If transactions were performed and/or intended, the majority of them were in Europe or are planned for Europe (49 percent). These are followed by Asia and North America with 20 percent and 18 percent, respectively.

### ■ Scheduled amortization of the goodwill

This year we asked the study participants for the first time which approach they would prefer in connection with the amortization of goodwill and certain intangible assets. The clear majority of the participating companies would – in cases of free choice – prefer scheduled amortization to the impairment only method foreseen by the IFRS.







# 1 Introduction

## 1.1 Objectives of the Study

Corporate planning, sustainable growth expectations and the cost of capital are three primary elements of any valuation – independent of the valuation object (company, segment or individual assets) or the reason for the evaluation (legal, fiscal, transaction- or accounting-based).

In times of economic uncertainty with decreasing industry cycles, volatile financial markets and a continued low interest level, the assessment of financial forecasts as well as the associated derivation of the appropriate cost of capital confronts every evaluator with special challenges – particularly due to the fact that the cost of capital is, in the end, required for any value-based business decision. This is a material parameter for every investment and transaction decision and therefore impacts implicitly on the future strategic orientation of a company. In addition, it is relevant for the impairment test as per IFRS/IAS and in accordance with HGB (German Commercial Code) as well as for any other accounting related or fiscal valuations.

In light of the blurring boundaries between industries and shifting business models, every company needs to occasionally review its strategies and business model and, if necessary, adjust it.

Every business decision should be oriented on the specific risk/return profile of the action being evaluated. For a proper assessment it is important that the cost of capital used in the valuation calculus is risk-equivalent to the cash flows reproduced in the financial forecasts. Management must assure that all the important information is appraised and that the interdependencies between the different business models and strategies are given consideration in the decision concerning an investment or a transaction.

At the same time, it is necessary to document the business decisions with all the influencing factors and consequences and therefore be able to prove to supervisory bodies and stakeholders that the decision was made carefully and properly on the basis of all the information available.

Therefore it is our intention with this year's issues

- Consideration of risk in the derivation of cash flow
- Risk equivalence in determining the cost of capital
- Small cap premium – (attempted) risk equivalence in practice?
- Debt beta – sharing of risk between financiers?

to focus on the material risk-oriented subjects – without forfeiting the familiar structure of the study.





## 1.2 Data Collection

**Participation rate:** This year we contacted 642 companies in Germany, Austria and Switzerland (compared to 685 companies in the previous year). A total of 130 companies participated this year (2013: 153). The participation rate was 20.2 percent and therefore remains at a high level.

With 73 percent, the participation of the DAX-30 companies remained very high. Of the M-DAX companies, 32 percent of all the companies participated.

With about 18 percent (11 of the Austrian companies contacted), the response rate in Austria was approximately equivalent to that of Germany. In Switzerland, the participation rate even reached 35 percent, the equivalent of 32 participating companies. (Figure 1)

The survey of the companies was conducted between May and September 2014. The reporting dates of the consolidated financial statements included in the study were between 30 June 2013 and 31 March 2014.

Figure 1

### Breakdown of participants by country

Source: KPMG

Country	Number of companies contacted	Number of responses	Response rate
Germany	488	87	17.8 %
Austria	63	11	17.5 %
Switzerland	91	32	35.2 %
<b>Total</b>	<b>642</b>	<b>130</b>	<b>20.2 %</b>

**Industry analysis:** Just as in the previous year, we made it possible to assign companies to more than one industry. For industries with a response from at least five participants, we performed separate analyses. Some companies, however, did not respond to every question. As usual, we performed the industry-specific analyses especially with regard to the cost of capital parameters. The industry analysis section has been supplemented by selected, specific results from the survey for all the industries in which more than five participants were categorized. The results are displayed in section 6 of the study.

**Regional analysis:** To be able to provide international players a differentiated data collection instead of "mixed sets" and therefore to increase the significance of the study, this year we have broken down the data collection of the cost of capital parameters and the WACC according to regions again. For the parameters in which this resulted in significant deviations from the average values, we have supplemented these with appropriate analyses.

## 2 Derivation of Cash Flows

### 2.1 Foreword

#### Consideration of risk in the derivation of the cash flow

The focus of the Cost of Capital Study in the past years has been on the strategic planning challenges confronting companies in an environment that is becoming ever more complex. As the causes for these new challenges, we identified the rapidly changing markets and industries as well as increasing, crisis-related, temporary market disruptions. As a result of the accompanying, snowballing dynamics of the economic environment, these have led to a significant rise in the materially important business decisions. These market-based challenges are progressively being attended by stakeholders' demands for the documentation and hedging of business decisions. In light of this, we have recommended that integrated and flexible financial forecasts be systematically compiled to reflect the increasing complexity of the corporate world. These forecasts would take into account the material, recognizable risks and opportunities resulting from uncertainties arising from influencing factors (value and risk drivers), therefore allowing higher quality planning scenarios to be compiled. Along with the classical profit and earnings parameters, the ensuing results will make it possible to transparently present and quantify the corporate risks, which in the past may

have been insufficiently considered, in the form of risk profiles and distributions.

The challenges of the market for companies will continue to expand in the future. The KPMG study "Survival of the Smartest"<sup>1</sup> demonstrated that, for instance, companies from the information technology sector intend to become active in the automobile industry or provide retail logistics services. The operative business models of the specific sectors vary considerably especially, however, with regard to their risk structures. Consequently, cross-sector transactions will lead to a mixture of risks and therefore completely new risk profiles for the affected companies. Not only will the absolute business results change, but their quality with regard to the underlying corporate risks will change as well. Many companies have already taken note of the need for action and intend to increasingly invest in strategic planning systems by 2016 according to the latest management consulting study by Prof. Dietmar Fink.

Knowledge of the own company's risk structure and future cash flows are of exceptional importance for any business decision. The frequently quoted principle regarding corporate valuation voiced by the renowned Adolf Moxter, "Valuation means comparison!" is just as appropriate today, especially in view of the more and more volatile business environment.

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*"The market clearly shows that companies must react to the constantly growing uncertainties and, in the framework of their strategic planning, increasingly apply targeted planning tools that meet the greater demands being placed upon them. One primary success factor will be to obtain transparent and comprehensible conclusions from complex models."*

Dr. Marc Castedello  
Partner

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The comparison of alternative investment opportunities required for valuations must – so as to avoid comparing apples with oranges – take into consideration the appropriate principles of equivalence. In this case, the focus is on the principle of equivalent risk. Despite the basic knowledge of this important principle, it is frequently not given sufficient consideration. The consequence is erroneous valuations resulting in suboptimal business decisions or even obvious mistakes.

For a proper corporate valuation, the future cash flows of the object of valuation must contain the same risks as the cash flows of the future alternative investment from which the cost of capital is derived. This requires, on the one hand, an identical risk interpretation and, on the other hand, a

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<sup>1</sup> [www.kpmg.com/DE/de/Bibliothek/2013/Seiten/survival-of-the-smartest.aspx](http://www.kpmg.com/DE/de/Bibliothek/2013/Seiten/survival-of-the-smartest.aspx)





corresponding quantification of the measure of risk applied. Despite the frequent, and in many cases rightly, preferred capital-market oriented risk method – according to which the risk of a cash flow is described as its contribution to the risk of the entire market – in the practice of valuation a uniform understanding of risk often prevails. In practice, the premise frequently holds (implicitly) that the single-value financial forecasts correspond to expected values. Equally, it is often assumed – without consideration – that the risks of the object being valued are equivalent to the risks of the peer group (see section 3.1). To what extent the requirements for the risk equivalence are actually fulfilled cannot, in the strictest sense of the word, be assessed without a detailed analysis and quantification.

Prerequisite for a proper derivation of the expected values of the planned parameters are, on the one hand, an integrated and flexible planning model for the systematic collection of the relevant value and risk drivers and, on the other hand, other multi-value strategic planning scenarios. For the purpose of plausibility testing and analysis of multi-value financial forecasts, KPMG regularly applies Monte-Carlo simulations as well as additional methods developed by KPMG for the consistent recording and analysis of risk. In an initial stage, the value and risk drivers are analyzed with regard to their relevance and the possible scope of their properties. Tornado diagrams show the relevance series, the distribution function, the volatility and the expected value of the value and risk drivers. (Figures 2 and 3, page 14)

*“The to date often only implicitly established assumption that corporate planning reflects expected values of the forecasted figures, frequently cannot be maintained after a comprehensive, simulation-based analysis has been performed. The subsequent violation of the principle of risk equivalence may result in valuation errors and suboptimal business decisions.”*

Dr. Andreas Tschöpel  
Director

Figure 2  
**Tornado diagram**

Source: KPMG

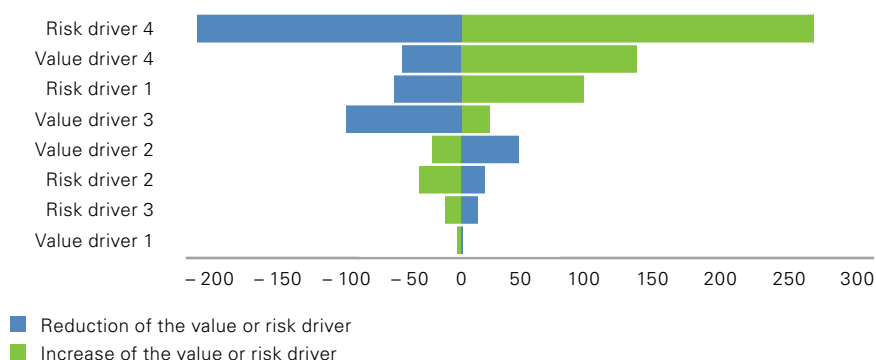
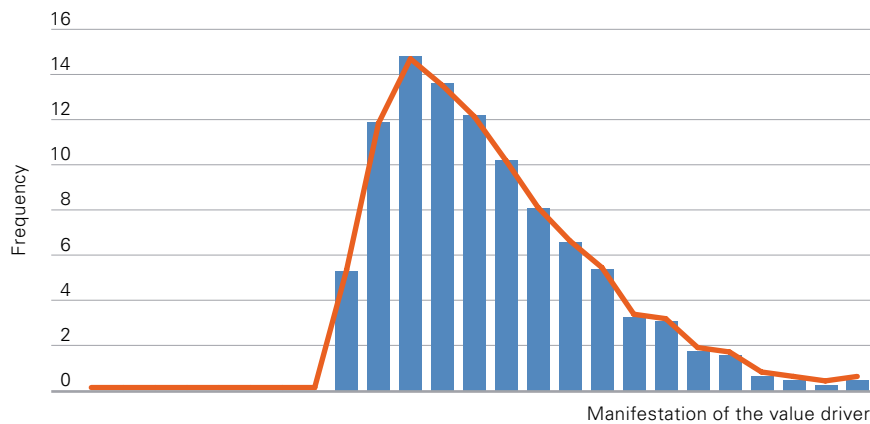


Figure 3  
**Distribution function of a value driver**  
(in percent)

Source: KPMG



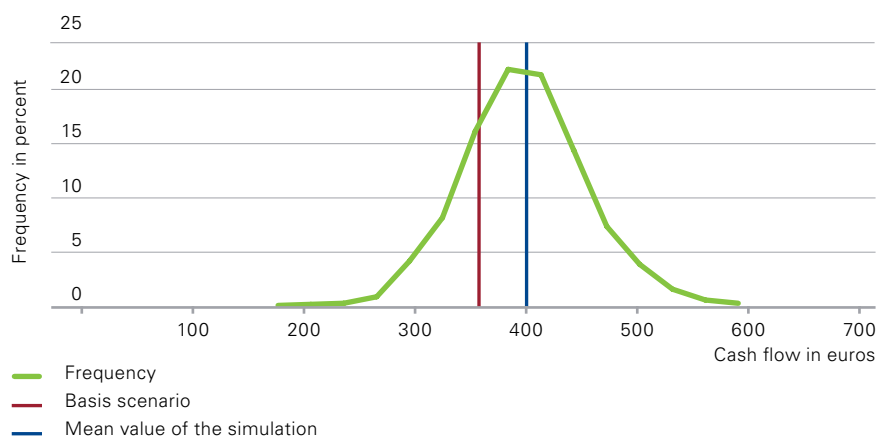
On the basis of a number of conceivable scenarios, the expected value of the planned figures can be explicitly quantified in the result. This may then be compared with the values of a single-value basic planning and supported with estimates regarding the level of the risk of the financial forecast.

Along with the expected value of the forecasted figures, the breadth and course of the distribution function (volatility) provide additional, quantifiable information on the risk of the forecasted figures. (Figure 4)

Risk profiles derived from distribution functions allow for conclusions to be drawn about the scenario-dependent risk/return combinations. (Figure 5)

Figure 4  
**Distribution of the cash flow**

Source: KPMG

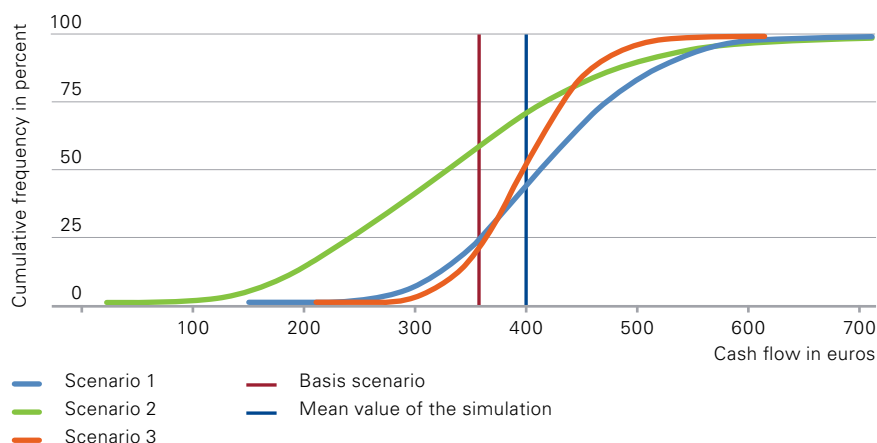


More detailed methods and analyses may determine possible interdependencies with the total market, business limitations in terms of potential probabilities of default or diversification effects between the individual business units. Subsequently, transformations of risk profiles resulting from increasing market volatilities as well as the rapidly changing business models may be transparently derived, implications for the cost of capital revealed (see section 3.1) and therefore an appropriate and direct comparison in terms of the required risk equivalence assured.

Future changes in returns as well as adjustments in the risk profile must be given equal consideration in every business decision. For value will only be added if the returns are increased while the risks remain constant or the risk is reduced while returns remain constant. For instance, the simple "acquisition of sales" to obtain a strategic growth target may actually reduce value as a result of risks that were ignored.

Figure 5  
**Risk profile**

Source: KPMG





*“Even the risk-oriented methods developed by KPMG based on integrated and flexible planning models in connection with Monte-Carlo analyses cannot guarantee an increase in value. Based on a uniform and consistent value-oriented approach, they do, however, provide transparency of value effects, both on the returns as well as the risk side. Consequently, they do establish the basis for optimal business decisions and controls. In the end, it is the right decision that leads to an increase in value.”*

Dr. Marc Castedello  
Partner

## 2.2 Preparation of the Financial Forecasts

A completely integrated financial forecast for the systematic collection of the material, recognizable risks and opportunities is prerequisite for a proper derivation of the expected values of the planned figures.

With 41 percent as compared to 34 percent in the previous year, significantly more study participants followed our recommendation of basing the financial forecast on a very high degree of detail (completely integrated financial forecast). A completely integrated financial forecast means that the valuation-relevant cash flows consistently result from the harmonized interaction of the budget figures, the profit and loss statement, the balance sheet and the cash flow statement.

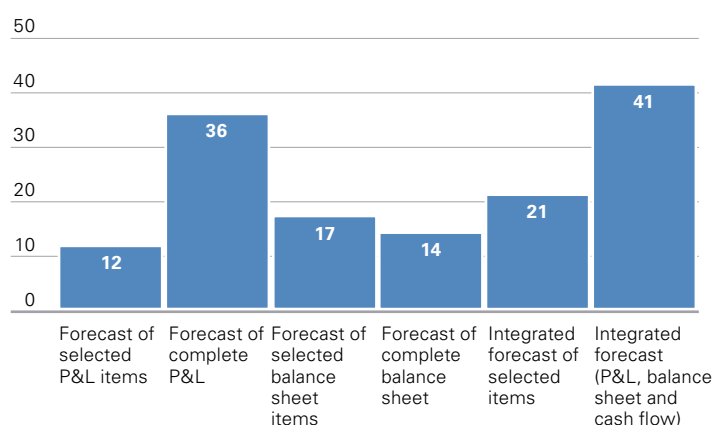
Another 21 percent of the companies applied an integrated planning with selected items. This means that this year a total of just over two-thirds of the companies based their derivation of cash flows on a planning structure that in our opinion was suitable (previous year: 70 percent). (Figure 6)

The choice of the duration of the planning period ranges, with a longer planning period providing greater planning uncertainty. A (very) short planning period, on the other hand, results in investment and project cycles not being completely reproduced in the planning and, as a result of erroneous valuations, may cause poor decisions to be made. Furthermore, more detailed considerations are required to derive a terminal value.

In the course of an impairment test, it is necessary to adhere to the regulations of the IAS 36.33 (b) – at least when applying the value in use concept. These regulations require that an observation period of more than five planning years should not be exceeded for financial forecasts or that longer planning periods must be justified, for instance, due to production or investment cycles.

Figure 6  
**Degree of detail of the financial forecasts**  
Total (in percent)

Source: KPMG



The planning period was five years in 42 percent of the participating companies (previous year: 53 percent). An additional 32 percent (previous year: 34 percent) of the study participants planned for a period of three years. With 9 percent of the participating companies, more companies than in the previous year worked with a planning period of only one budget year (previous year: 2 percent). The 18 percent of the companies that applied a different planning period than those options provided in the questionnaire (one, three or five years) had an average planning period of about six years (previous year: ten years). For the most part these were in the sectors **industrial manufacturing** and **media & telecommunications**. Companies therefore tended to shorter planning periods this year.

A strategic planning that exceeded the planning period exists in 42 percent of the participating companies. On average, these companies reported a strategic planning period of about an additional six years.

## 2.3 Growth Expectations

Other primary parameters in the preparation of the financial forecasts are the assumptions regarding the expected growth in sales as well as the earnings such as EBITDA (earnings before interest, taxes, depreciation and amortization) or EBIT (earnings before interest and taxes) attainable in the future.

Following the last negative growth forecasts for the gross domestic product in 2009 the economic forecasts have assumed, for the most part, a stable, positive growth in Germany, Austria and Switzerland. (Figure 7)

The expected average increase in sales in the planning period was about 6.1 percent annually and therefore somewhat more positive than in the previous year (5.5 percent). (Figure 8)

Figure 7

### 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, data as of 21 October 2014

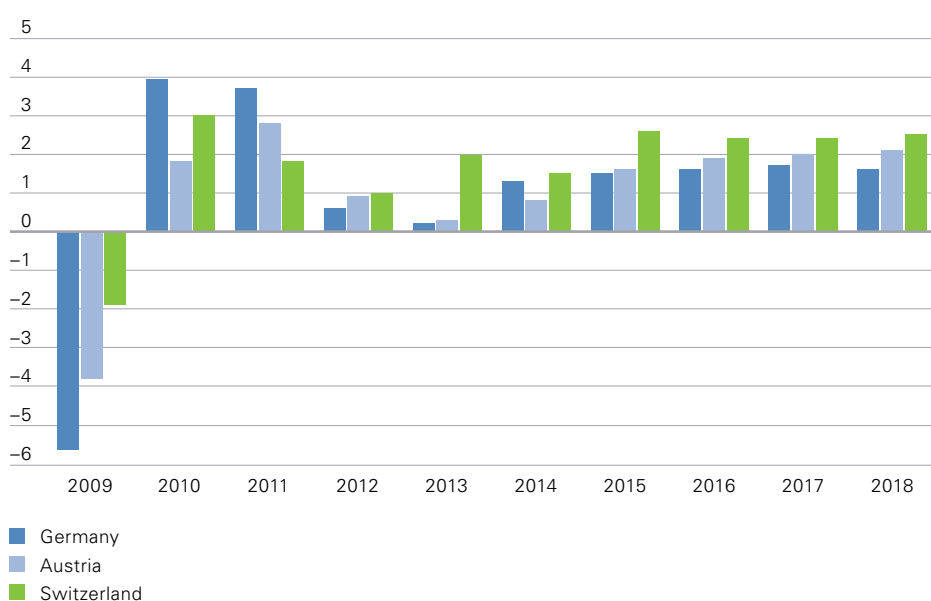
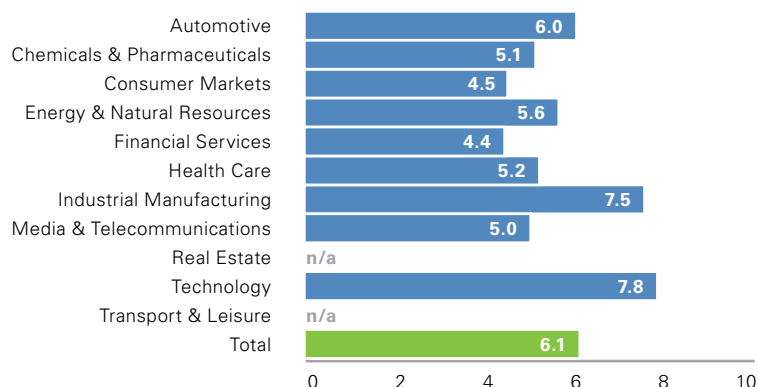


Figure 8

### Forecasted sales growth by industry

(in percent)

Source: KPMG



With regard to the expected average growth of the EBIT in the planning period of 12.2 percent per year, the companies are more optimistic than with the growth of sales. Compared to the previous year, the expected values have changed only marginally (previous year: 10.4 percent). To that extent the participating companies continue to assume relatively high growth rates, these being based especially on significantly higher expected growth outside of Europe. (Figure 9)

## 2.4 Determination of Expected Values

The expected values of the valuation relevant cash flow can generally be derived with the aid of various methods.

As in the previous year, with 86 percent, the vast majority of the study participants conducted a single-value estimate of the cash flows in accordance with the financial forecast. Only 14 percent performed a simple scenario ("best", "normal", "worst") and weighted the scenarios. None of the participating companies performed complex scenario analyses. (Figure 10)

Figure 10  
**Measurement of the expected values**  
Total (in percent)

Source: KPMG

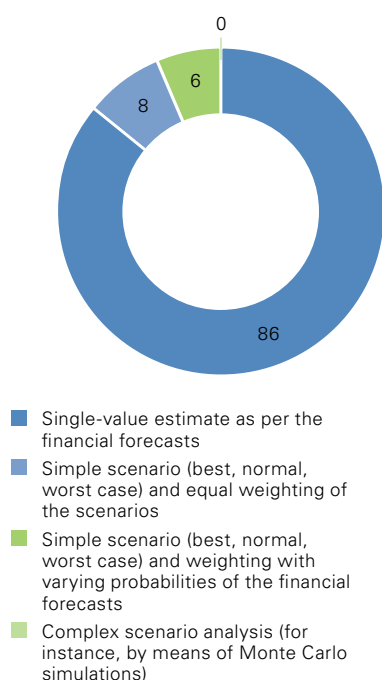
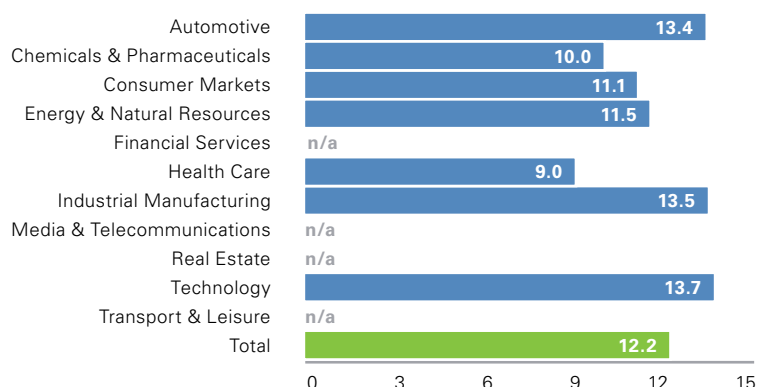


Figure 9  
**Forecasted growth of EBIT by industry**  
(in percent)

Source: KPMG



In the past the determination of the expected cash flows from single-value estimates was, in view of a relatively stable economic environment and on the basis of many years of business experience, generally sufficient and acceptable. In view of the increasing challenges in planning that companies are facing as described in section 2.1 – the ever more complex business environment as well as greater demands for documentation and hedging on the part of the stakeholders – companies should quickly adapt new methods. These methods should serve to compile the increasing complexity of the business world and the associated risks and opportunities systematically on the basis of relevant value and risk drivers in integrated and flexible financial forecasts. These financial forecasts lay the foundation for multi-value strategic planning scenarios, on the basis of which decisions can be quantified.

Although many companies have, according to the management consulting study conducted by Prof. Dietmar Fink, recognized the necessity of expanding their strategic planning systems and intend to invest in this important steering function by 2016, the current Cost of Capital Study clearly demonstrates that the implementation processes required to accomplish this are still in the early stages. This may be due to the fact that integrated and flexible planning models as well as transparent and practical tools for the consistent derivation and consideration of the relevant value and risk drivers are not yet sufficiently available to the companies.

For the purpose of plausibility testing and analysis of multi-value financial forecasts, KPMG regularly applies Monte-Carlo simulations as well as additional methods developed by KPMG for the consistent recording and analysis of risk.



## 2.5 Determination of the Sustainable Year

Another important issue in determining the value of a corporation is the terminal value. In principle, the company should have attained the so-called “steady state” for the initial basis when determining the terminal value. Depending on the development of the cash flows in the detailed planning phase, various assumptions will be made based on the company’s business model. For purposes of simplification, for instance, the last projected year or the average for the forecast period – possibly applying a reduction with a very large increase of the cash flows in the detailed planning phase – may be used. It is also possible to use a general planning phase for the transition to a steady state. (Figure 11)

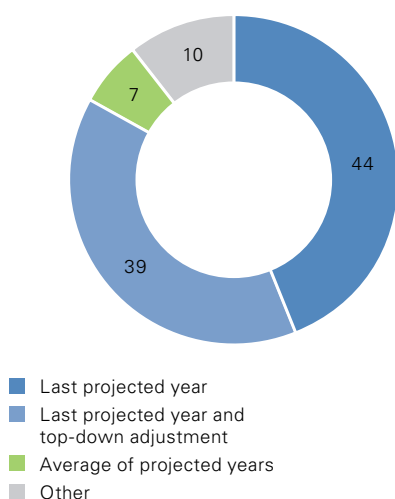
As in the previous financial year, 83 percent of the participating companies applied the last projected year as the basis for the terminal value. Supplementary top-down adjustments were considered by 39 percent of the companies. Only 7 percent of the study participants used an average of the planning years as the basis for the sustainable year.

It can therefore be seen that the majority of the companies involved derive the terminal value on the basis of simplified methods. In light of a certain need for standardization in the frequently large number of impairment tests being performed, such a simplified approach with the aim of reducing complexity may be in principle justified. We do, however, recommend a dedicated analysis and derivation of the terminal value, especially for material issues.

In particular, the simulation-based methods for determining valuation-relevant expected values of the sustainable cash flows as described in section 2.1 and the methods for guaranteeing the required risk equivalence between the cash flows and the cost of capital described in section 3.1 aid in avoiding systematic valuation errors as well as “superfluous” impairments.

Figure 11  
**Determination of the terminal value**  
Total (in percent)

Source: KPMG





# 3 Determination of the Cost of Capital Parameters

## 3.1 Foreword

### Risk equivalence in the determination of the cost of capital

As already discussed in section 2.1, for a proper valuation the future cash flows of a valuation object must be risk equivalent compared to the future cash flows of an alternative investment. To assess to what extent there is risk equivalence between the valuation object and the alternative investment, it must be assumed that there is a uniform interpretation of risk. On the other hand, it must be possible to compare the determinants of the selected risk metric, i.e. they must be measurable.

In the practice of valuations, capital-market oriented corporate valuation is almost universally accepted. Here, corporate shares are priced and traded on the capital market as possible alternative investments. Here, too, risk equivalence can generally be provided in that the numerator and denominator of the valuation calculus either reflect parameters with uncertainties or equally reliable parameters are used. (Figures 12 and 13)

In practice a risk premium method is generally applied.

The capital asset pricing model (CAPM) is regularly applied to determine the cost of capital – also due to a lack of other practically applicable theoretical models. According to CAPM, the return required by investors consists of a secure basic interest for the capital and a risk premium for the assumption of the business risk. The

Figure 12  
Risk premium method

$$EV = \frac{E[CF]}{(r_f + \beta \cdot MRP)} \rightarrow \frac{\text{uncertain}}{\text{uncertain}}$$

Figure 13  
Certainty equivalence method

$$EV = \frac{CE[CF]}{r_f} \rightarrow \frac{\text{certain}}{\text{certain}}$$

EV	Enterprise value
E[.]	Expected value
CF	Cash flow
$r_f$	Risk-free rate
$\beta$	Beta factor
MRP	Market risk premium
CE	Certainty equivalent

risk premium itself is based on a corporate-specific risk metric – the beta factor – and the general market risk premium. From the application of the CAPM follows the basic risk interpretation as well as the risk determinants to be considered and therefore the risk definition of the CAPM. In accordance with this, risk is not interpreted only negatively in terms of a possible loss, but rather more as the possibility of a positive or negative deviation from the expectation, taking into consideration the interdependencies with the capital market. The return/cash flow spreads and correlations to the overall capital market are applied as risk determinants.

The practice of valuation regularly faces immense challenges in the assessment of the necessary risk equivalence. The abstract concept of risk in CAPM for valuation objects and alternative investments must be fulfilled to the same degree and the specific risk determinants have to be appropriately quantified so as to make them comparable. Due to a lack of available and functional methods, a more pragmatic approach is generally preferred in the practice of valuation; namely, a peer group is established to determine the corporate-specific beta factors.

To do so, the peer group is generally delineated on the basis of more qualitative attributes such as sector, operational business units, regional orientation or coverage of the value chain. Behind this approach is the (consciously or unconsciously chosen) assumption that the qualitative attributes from the corporate reality are distinctive for the specific, abstract risk determinants of the basic capi-

*“In light of this, risk equivalence exists precisely there where the valuation object and the alternative investment display identical risk profiles and therefore an equivalence of the specific risk determinants exists.”*

Stefan Schöniger  
Partner





tal market model. An actual comparison between the valuation object and the peer group on the basis of quantifiable risk parameters does not generally occur in practice. The “desired risk equivalence” is in effect replaced by an “assumed risk equivalence”. Erroneous valuations may result from an insufficient consideration of risk.

Even today, companies that are in the same – albeit defined in very broad strokes – sector and on the basis of purely qualitative attributes can only be compared to one another to a limited degree. Companies in the same sector, for instance, attempt to gain a competitive advantage by means of regional and/or horizontal or vertical integration. Along with the earnings-based synergies, this also results in differing risk profiles that make comparability for assessing the risk equivalence more difficult.

*“In the practice of valuation, the estimation of the risk equivalence provided is based solely on the assumption that companies with comparable qualitative attributes display a similar risk structure. This assumption can and should be supported by a complete risk assessment with quantification of the specific risk drivers.”*

Stefan Schöniger  
Partner

The expectation described in the KPMG study “Survival of the Smartest”<sup>2</sup> of a stronger focus of companies in other sectors in the future (diagonal or lateral integration) will make comparability of business models and the evaluation of the associated risks on the basis of purely qualitative attributes even more difficult, if not impossible. The predicted strategic repositioning of companies, however, only represents the necessary economic reaction to the increasing dynamics of the business environment. The management decisions that need to be made will be characterized by ever more complexity.

The methods of establishing the basis for a specific decision will have to take these increasing demands into account so as to reduce the risk of poor decisions. This holds for the determination of the future cash flows of the valuation object (see section 2.1) as well as for the equivalent cost of capital to be derived. In this manner the relevant value and risk drivers of the peer group and the valuation object can be compared individually as well as in their entirety, thus allowing for indications of the degree of comparability between the peer group and the valuation object. (Figure 14)

Figure 14

#### Comparability between valuation object and peer group

Source: KPMG



In view of this, along with the previous, more qualitative decision-making bases for assessing the risk-equivalent cost of capital, future expanded methods for risk measurement and transparency should be developed. These should guarantee a quantitatively sound and transparent derivation and documentation of the risk-equivalent cost of capital.

*“The valuation practice is increasingly being faced with the challenge of finding suitable peer groups and companies with equivalent risk profiles to that of the valuation object. The methods for risk-equivalent determination of the cost of capital developed by KPMG are founded on qualitative analyses and based on the practice-oriented development of the accepted methods from theory. This therefore assures that the risk equivalence provided can be transparently tested.”*

Dr. Andreas Tschöpel  
Director

### 3.2 WACC Overview

The average WACC figure provided by the participants of 7.8 percent for the current year was slightly above the level of the previous year. This represents the first time since 2009/2010 that the WACC increased slightly and attained the average level of the combined previous three financial years. The reason for this was primarily the increase of the risk-free rate. (Figure 15)

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

The lowest average WACC in the sector comparison was demonstrated by the industries of [consumer markets](#)

and [energy & natural resources](#), while the highest average WACC was applied by the sectors [automotive](#) and [industrial manufacturing](#). (Figure 16, page 23)

In the individual sectors, the average WACC remained, for the most part, unchanged compared to the previous year. Only in [chemicals & pharmaceuticals](#) was a significant increase from 7.2 to 8.0 percent to be observed.

According to our experience, companies frequently use different costs of capital for different valuations. For that reason, we once again posed the question to the study participants if the cost of capital derived for the purposes of the impairment test was also applied for other purposes such as valuations in connection with transactions or for fiscal purposes or investment decisions.

Figure 15  
**WACC (after corporate taxes)**  
Total (in percent)

Source: KPMG

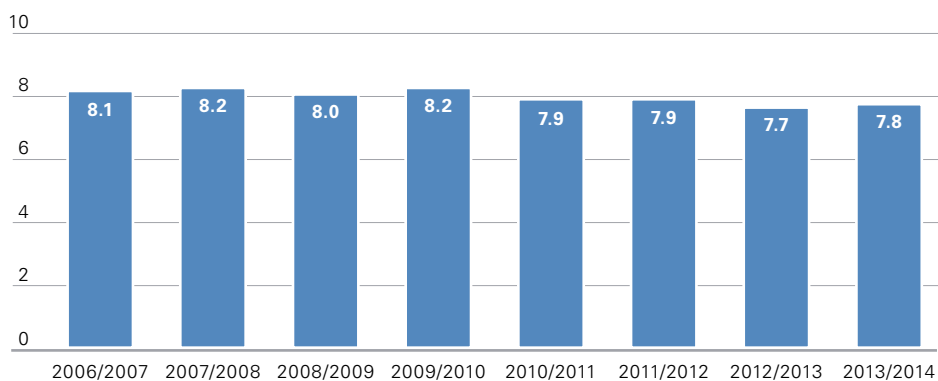
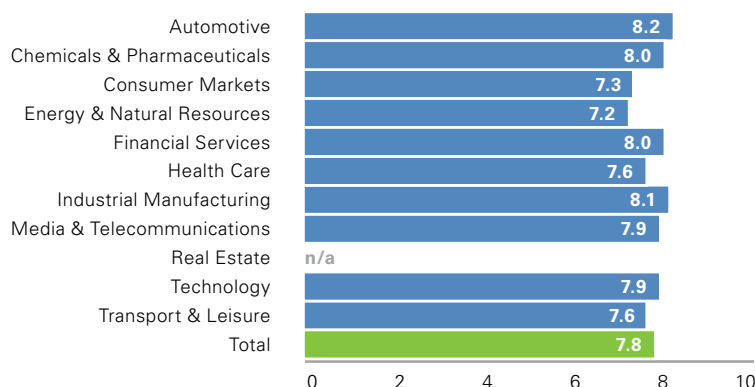




Figure 16  
**WACC by industry**  
(in percent)

Source: KPMG

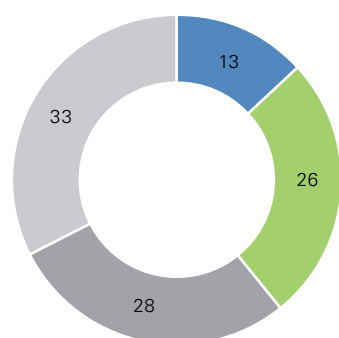


Of the surveyed companies, 67 percent reported comparing the cost of capital derived for the purposes of the impairment test with the cost of capital in the framework of M&A transactions and investment decisions. In 28 percent of the cases no deviations were observed. To the extent that differences were found, the cost of capital from valuations for the impairment test was generally lower than the cost of capital applied for transactions and investment decisions. (Figure 17)

In companies that applied lower costs of capital for the impairment test than for transactions, there is a higher value for an acquisition object in the impairment test than in the course of the considerations for the transaction – under the premise of unchanged forecast expectations – solely as a result of lower cost of capital.

Figure 17  
**Deviation of cost of capital in M&A transactions and investment decisions**  
Total (in percent)

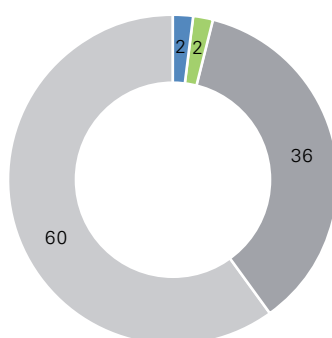
Source: KPMG



- Higher cost of capital for impairment test
- Lower cost of capital for impairment test
- No difference
- Not compared

Figure 18  
**Deviation of cost of capital in fiscal assessments**  
Total (in percent)

Source: KPMG



- Higher cost of capital for impairment test
- Lower cost of capital for impairment test
- No difference
- Not compared

The costs of capital determined for fiscal purposes are compared much less frequently (40 percent) with those for the impairment test. Should a reconciliation have been performed, as in the previous year deviations were the exception. (Figure 18)

In general it should be pointed out that the cost of capital for the specific valuations should at least be based on consistent concepts and only in isolated cases – if at all – should there be modifications in the parameters.

### 3.3 Presentation of the Parameters

More detailed information on the possibilities of determining the various parameters as well as current data can be found at our Cost of Capital website:  
[www.kpmg.de/kapitalkosten](http://www.kpmg.de/kapitalkosten)

#### 3.3.1 Risk-free Rate

In determining the risk-free rate, around half of all the surveyed companies in Germany and Austria (Euro-zone) applied government bonds and yield curves with a term of 30 years or more. An additional 38 percent used government bonds/yield curves with a term of more than 10 years and less than 30 years. Only 15 percent of the companies in the Eurozone derived the risk-free rate from government bonds/yield curves with a maximum term of ten years. (Figure 19)

Of the Swiss companies by contrast – similar to the previous year – 72 percent of the participants applied government bonds/yield curves with a maximum term of ten years to determine the risk-free rate (previous year: 71 percent), while 28 percent of the Swiss study participants used government bonds/yield curves of more than ten and less than 30 years. (Figure 20)

To illustrate the effects that result from the application of ten-year bonds compared to thirty-year bonds, we have compared the average differences of returns on German government bonds and those of Switzerland. (Figure 21)

In view of the – as a rule – existing premises of the continuation of the company and the resulting infinite timeline of a corporate valuation, it is preferable to apply the longest-term risk-free rate to guarantee the term equivalence and therefore the application of long-term yield curves.

Figure 19  
**Determination of risk-free rate**  
 Germany and Austria  
 (in percent)

Source: KPMG

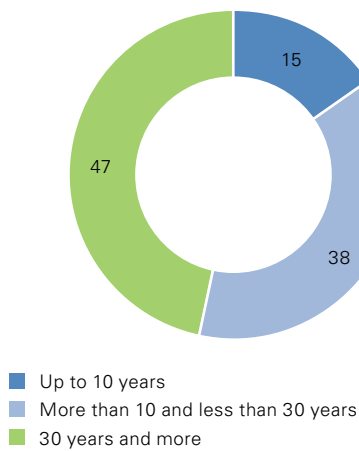


Figure 20  
**Determination of the risk-free rate**  
 Switzerland  
 (in percent)

Source: KPMG

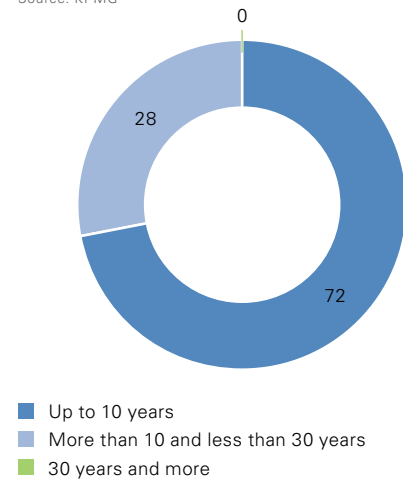


Figure 21  
**10-year versus 30-year bonds**  
 Germany versus Switzerland  
 (in percent)

Sources: KPMG analyses on the basis of data from the German Bundesbank and the Swiss Nationalbank

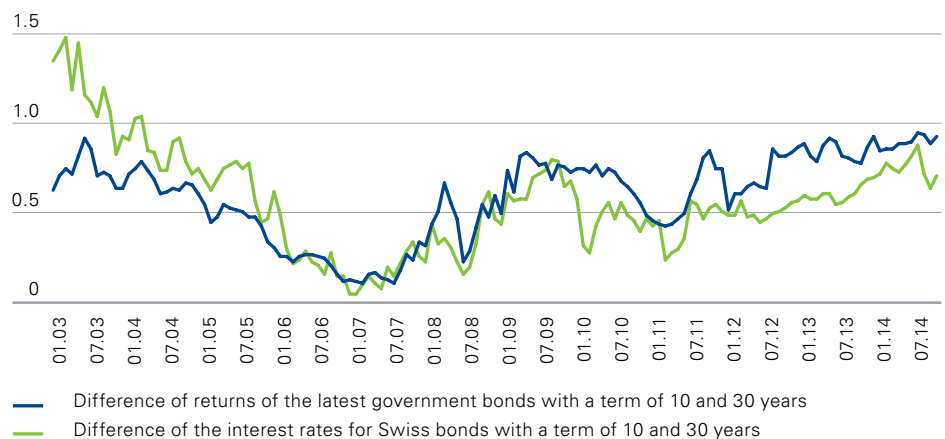


Figure 22  
**Average risk-free rate applied**  
 Total (in percent)

Source: KPMG

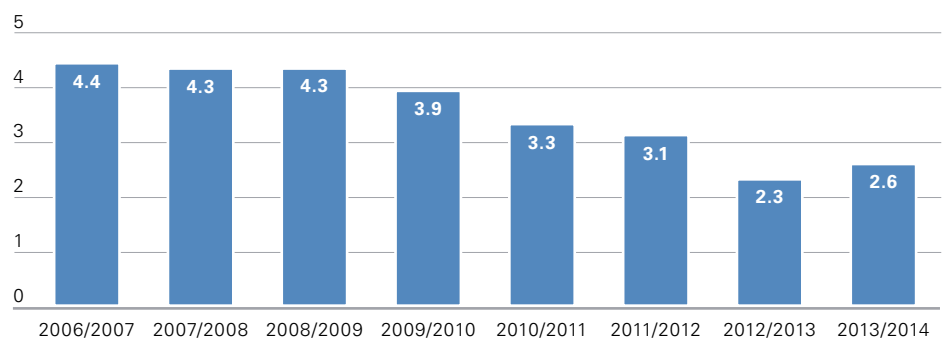
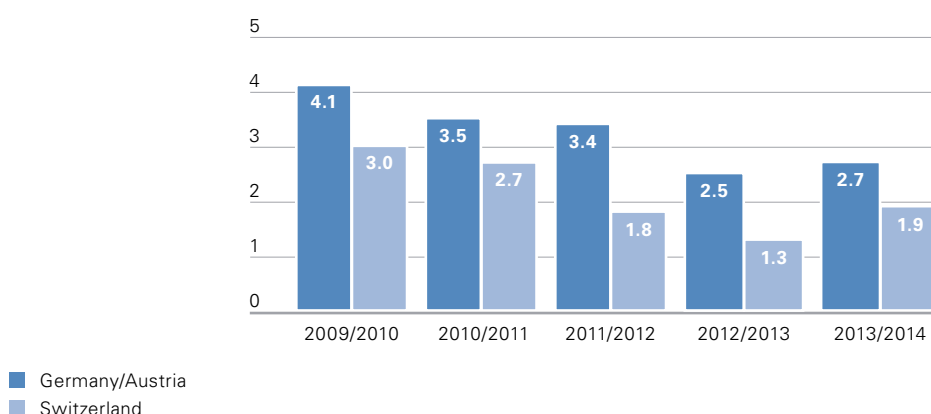




Figure 23

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

Source: KPMG



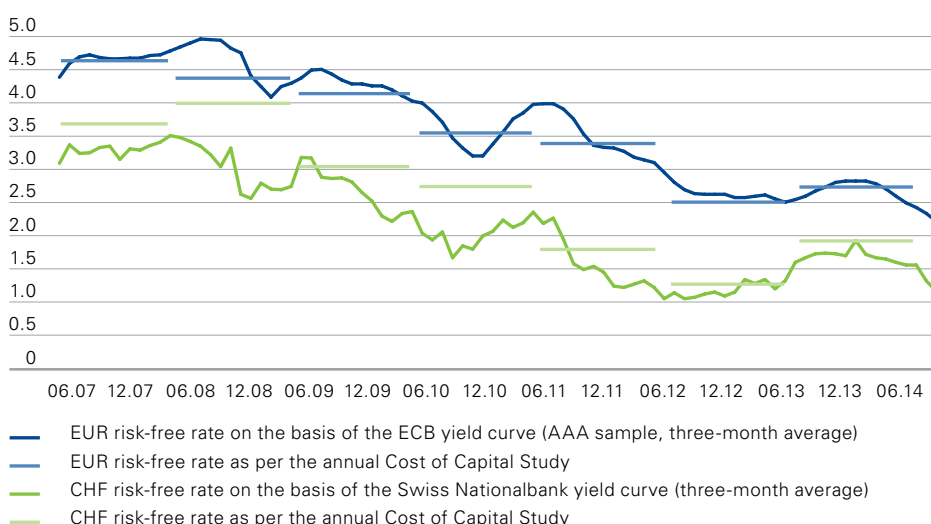
The average risk-free rate applied for all the surveyed companies has increased slightly in accordance with the development of the returns on bonds from Germany, Austria and Switzerland. After this had constantly decreased in the framework of the impairment tests since the beginning of the economic and financial crisis, it showed an increasing trend for the first time and was 2.6 percent in the current year. (Figure 22, page 24)

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 francs) and from different reporting dates. (Figure 23)

Figure 24

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

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

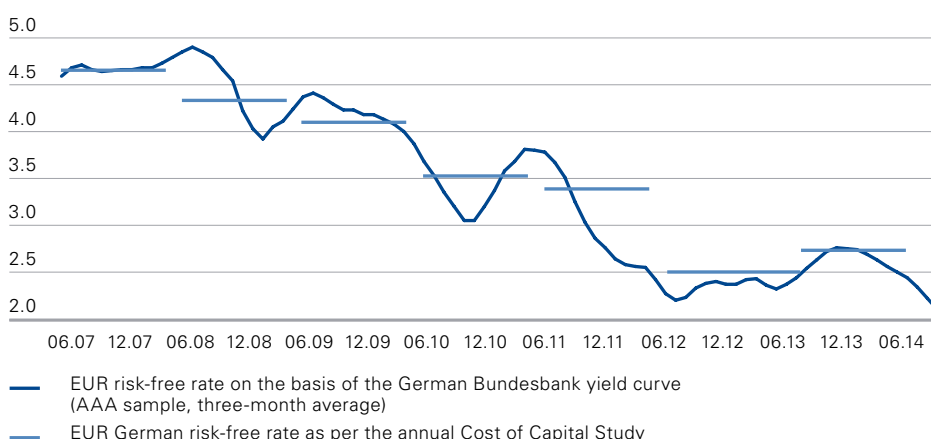


The average risk-free rate increased in both currency zones. The increase in Germany and Austria to 2.7 percent was 0.2 percentage points below that of increase in Switzerland which increased by 0.6 percentage points to 1.9 percent. Nevertheless, the risk-free rate in Switzerland is still well below the level of the risk-free rate in the Eurozone. (Figures 24 and 25)

Figure 25

**Development of German Bundesbank risk-free rate**  
(in percent)

Sources: KPMG analyses on the basis of data from the German Bundesbank



### 3.3.2 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. (Figure 26)

While the average market risk premium remained very stable in the period from 2007/2008 to 2011/2012, in financial year 2012/2013, it increased markedly from 5.2 percent to 5.8 percent and persisted at this level throughout the period under observation.

The marked increase in the last financial year is primarily attributable to the surveyed companies from Germany that had still applied a market risk premium of 5.2 percent in financial year 2011/2012 and in the last financial year required a market risk premium averaging 6.0 percent. In the current financial year, the participating Germany companies once again applied an average market risk premium of 6.0 percent.

The participating companies from Austria applied a market risk premium of 5.0 percent in financial year 2011/2012, in the past year and the current year they have been requiring an average of 6.0 percent.

By contrast, for the participating Swiss companies no mentionable change in the market risk premium has occurred in the past two financial years. Here, the market risk premium of 5.0 percent in the previous year climbed to an average of 5.3 percent after it had previously sunk by 0.1 percent. (Figure 27)

The clear increase of the market risk premium in Germany is due to the crisis-related, elevated risk aversion, which is reflected in the recommendation of the FAUB (IDW). The FAUB cur-

Figure 26  
**Average market risk premium**  
Total (in percent)

Source: KPMG

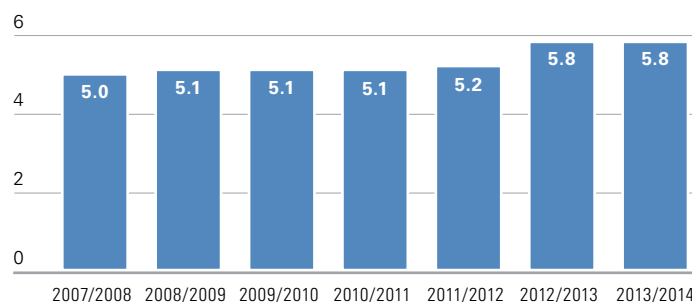
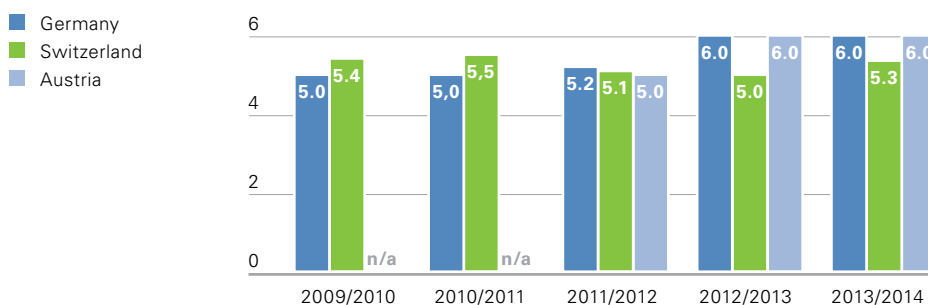


Figure 27  
**Average market risk premium**  
Germany versus Switzerland versus Austria  
(in percent)

Source: KPMG



rently recommends that when assessing the market risk premium, a range of 5.5 percent to 7.0 percent (before personal taxes) be employed. The FAUB therefore not only increased the previous 4.5 percent to 5.5 percent range by one and one-and-a-half percentage points, but it also increased its range. The reason for the adjustment is that while increased risk premiums have been observed, the expectation with regard to the total returns requirements has remained constant, which could also be confirmed by the examination of implicit demands for returns.

The recommendation was formulated in the resolution dated 19 September 2012 titled "Comments of the FAUB regarding the consideration of the financial market crisis for the determination of the discount rate in the valuation of companies" so that the corresponding effects were first noticeable in the last financial year. It has been observed in the current financial year as well that the participating German companies have followed the recommendation of the FAUB and applied a market risk premium averaging 6.0 percent.

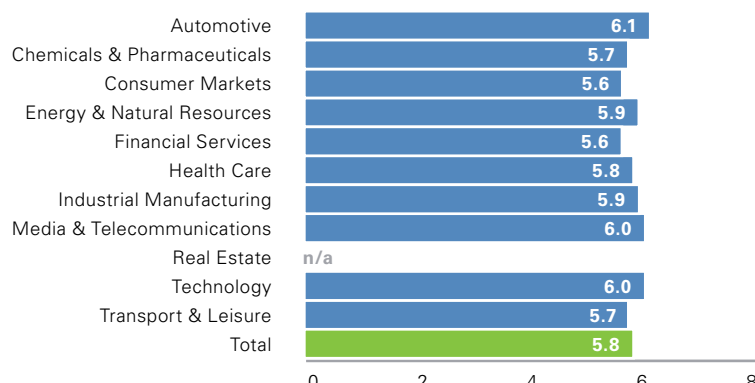
Based on the recommendation of the FAUB, the valuer is explicitly required to make considerations about setting the value within the recommended range.

To further specify the market risk premium, KPMG therefore conducts its own analyses. The basis for this is the assumption of a long-term, stable real expectation of returns. Assuming a long-term required (minimum) real interest of 2 percent for (quasi) secure long-term government bonds, the current expected inflation of circa 1.75 percent and a long-term required market premium averaging 5 percent (before personal taxes) results in a current required total expected return of 8.75 percent. Taking a current risk-free rate of 2.0 percent (30 September 2014) into consideration results in a current required market risk premium of 6.75 percent. More detailed analyses for the implicit market risk premium on the basis of current capital market parameters confirm the height of the currently required market risk premium.

Considering the use of the market risk premium in the individual sectors, one should not initially expect any material differences due to the fact that the market risk premium is not a sector-dependent parameter. This expectation is for the most part also confirmed in the result. The cross-sector market risk premiums required range to only a relative small extent between 5.6 and 6.1 percent. The lowest market risk premiums are applied by the participating companies from the **financial services sector**, while the highest market risk premiums are required in the **automotive, media & telecommunications** and **technology** sectors. The different number of companies from Germany, Austria and Switzerland in the individual sectors is also reflected in this range. (Figure 28)

Figure 28  
**Average market risk premium by industry**  
(in percent)

Source: KPMG



### 3.3.3 Beta Factor

The beta factor is a decisive factor in determining the cost of equity. It expresses the degree to which the company-specific risk is comparable to the risk of the market portfolio.

The difficulty in forecasting the beta factor consists of two aspects. On the one hand, only historical beta factors can be observed. On the other hand, there are already various hurdles in determining the historical beta factors – for instance, the fact that cash generating units (CGUs), as units to be valued in the framework of the impairment test, are in principle not listed on the stock market. Subsequently, no beta factors are readable. In practice comparable, listed peer groups that best reproduce the operative risk of the CGUs are regularly employed as an aid.

By selecting suitable peer group companies, there is the possibility to consider the risk profile of the CGUs to be valued in a standardized manner. In addition, by means of forming an average, the impact of random fluctuations of specific returns on stocks can be reduced. In addition, it must be taken into consideration that the IFRS regulations for the determination of the recoverable amount implicitly foresee the determination of the beta factor from a peer group so as to take the market perspective into account.

The use of beta factors of the group/company compiling the balance sheet is only correct if, on the one hand, the operative risk of the CGUs coincides with that of the group and, on the other hand, the share price is not subject to significant fluctuations that are not associated with the company's risk profile.



The practical challenges described in section 3.1 – even companies in the same sector and on the basis of purely qualitative attributes are frequently only comparable to one another to a limited degree – can only be properly dealt with to some extent. KPMG therefore applies methods it has developed itself, along with the known approaches and methods based on multi-value financial forecasts. These own methods allow the consistent derivation of future-oriented beta factors in accordance with the risks reflected in the planned cash flows. (Figure 29)

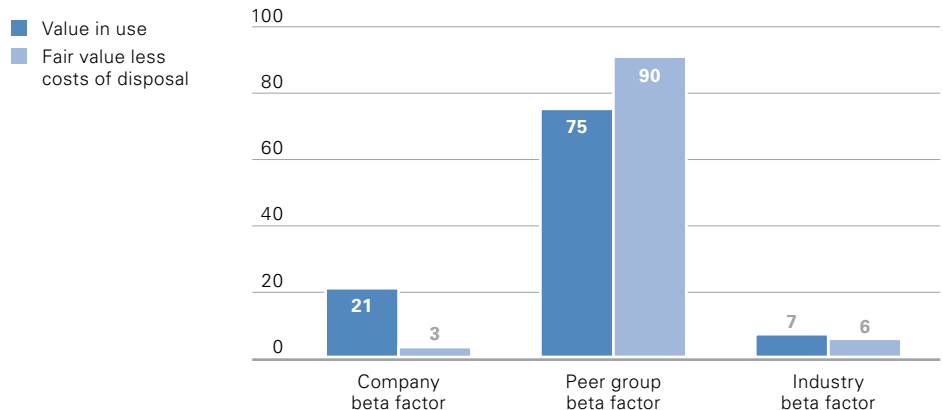
According to the results of the study, 75 percent of the participating companies applied a peer group beta factor to determine the value in use, significantly more than in the previous year (65 percent). With the determination of the fair value less costs of disposal, the number of companies applying the peer group data factor also increased – from 83 percent in the previous year to 90 percent in the current financial year.

The use of an own beta factor was performed much less often as in the previous year. The number of participating companies that applied an own beta factor of the company compiling the balance sheet fell from 30 percent to 21 percent for value in use and even from 11 percent to 3 percent with the application of the fair value less costs of disposal.

Sector beta factors also became less important for the two application methods compared to the previous year. In the derivation of the beta factor in the framework of the value in use they served as a basis for only 7 percent of the participating companies (previous year: 14 percent) and in the derivation of the fair value less costs of disposal 6 percent (previous year: 11 percent). Given the fact that sector beta factors generally reflect the individual particularities of the specific valuation object least, this development should be applauded.

Figure 29  
**Basis of the beta factor**  
Total (in percent)

Source: KPMG



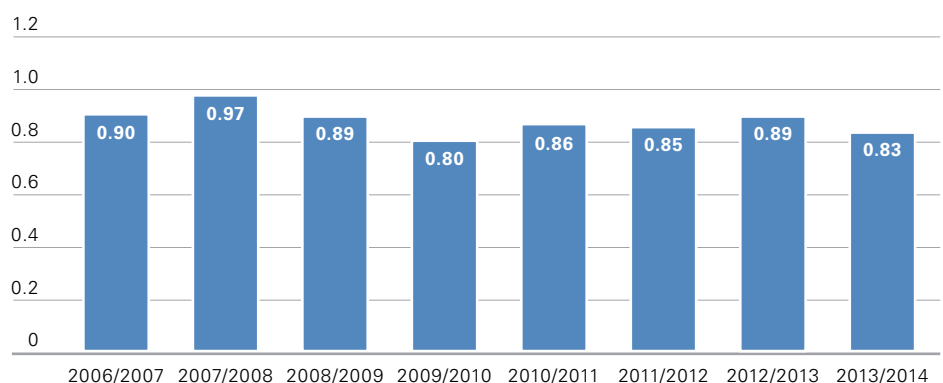
### Unlevered beta factors

The average unlevered beta factors applied decreased significantly to 0.83 compared to the previous year (0.89). They are in the lower part of the range of 0.80 to 0.89 in the years 2008/2009 to 2012/2013. (Figure 30)

Here the average applied unlevered beta factors in the sectors [consumer markets](#) and [health care](#) with 0.75 each and [media & telecommunications](#) with 0.76 were the lowest and with 1.16 the highest in the automotive industry. (Figure 31, page 29)

Figure 30  
**Average unlevered beta factors**  
Total (in percent)

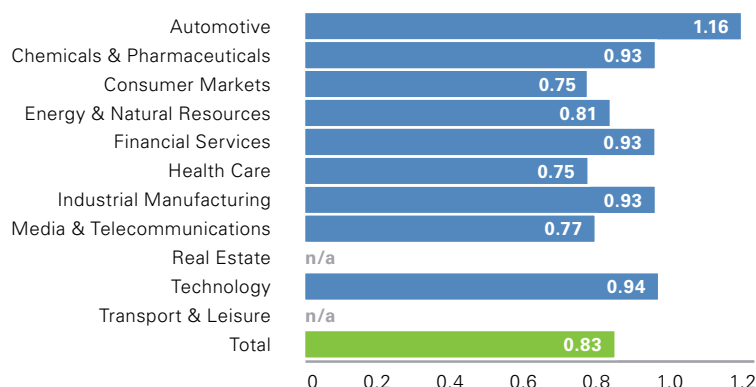
Source: KPMG



A more heterogeneous pattern could be seen in the specific industries compared to the previous year. While the average unlevered beta factor in the sectors **automotive** and **chemicals & pharmaceuticals** increased, it sank in the sectors **consumer markets**, **energy & natural resources**, **financial services**, **health care**, **industrial manufacturing**, **media & telecommunications** and **technology**.

Figure 31  
**Average unlevered beta factors by industry**  
(in percent)

Source: KPMG



### Debt-equity ratio

The average debt-equity ratio applied by the entire random sample demonstrated a slight increase for the first time since financial year 2007/2008. The surveyed companies displayed a debt-equity ratio averaging 41 percent in this financial year (previous year: 36 percent). (Figure 32)

The average debt-equity ratios of the sectors varied noticeably. While the surveyed companies from the **health care** industry held the lowest debt-equity ratio of 23 percent, the companies in the sector **energy & natural resources** reported an average of 70 percent. (Figure 33)

Figure 32  
**Debt-equity ratio**  
Total (in percent)

Source: KPMG

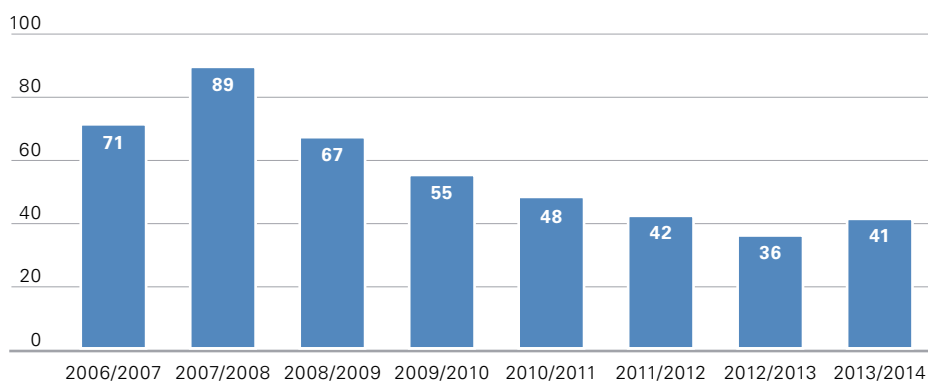
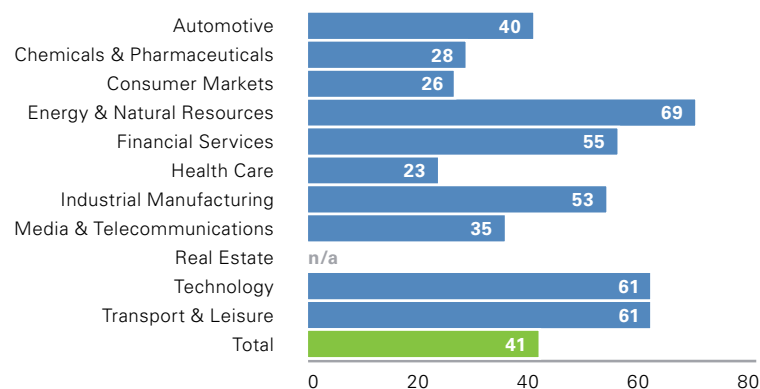


Figure 33  
**Debt-equity ratio by industry**  
(in percent)

Source: KPMG



### Levered beta factor

The height of the levered beta factor of under 1.0 for the first time based on the entirety of the surveyed companies appears plausible, despite the decrease from the previous year. The definition of the beta factor as a relative risk measure dictates that the average of all levered beta factors of the market result in 1.0. In light of this, the figure attained is in principle appropriate for the companies' calculations overall and confirms the representative nature of the participating companies in relation to the entire market. In general, therefore, the average in the impairment test demonstrates there is no systematic over- or under-estimation of the beta factor and therefore of the systematic risk. (Figure 34)

Figure 35 illustrates the average applied levered beta factors by industry. (Figure 35)

The highest beta factors were applied by the companies in the **automotive** sector with 1.21, the lowest in the **health care** sector with 0.90.

The levered beta factors follow the changes of the unlevered beta factors and the debt-equity ratio. Major changes in the levered beta factors compared to the previous year occurred in the **automotive** (+0.05), **media & telecommunications** (–0.09) and **transport & leisure** (–0.13) sectors.

Figure 34  
**Average levered beta factors**  
Total (in percent)

Source: KPMG

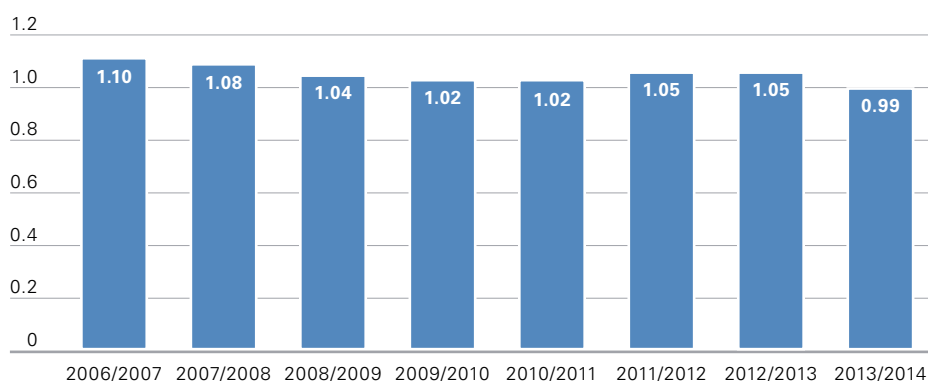
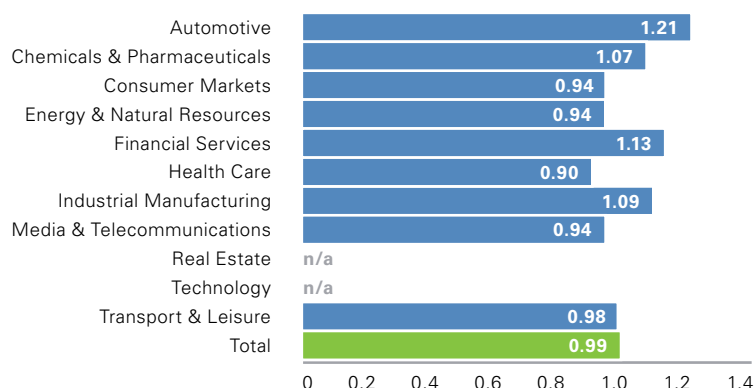


Figure 35  
**Average levered beta factors by industry**  
(in percent)

Source: KPMG





### 3.3.4 Other Risk Premiums

#### Small cap premium – (attempted) risk equivalence in practice?

Along with the accepted model parameters of the CAPM, other premiums for the cost of capital can be found in the practice of valuations.

The most popular is the so-called small cap or size premium. This premium takes into consideration that capital investors frequently have greater expectations of returns from smaller companies than from larger companies. The question of whether a company is to be considered small or large is frequently determined on the basis of the company's market capitalization.

The explanation for the higher expectations of returns from smaller companies compared to larger companies is, amongst other things, the generally greater operative risks, a lower liquidity of the shares and/or poorer information. The empirical proof of higher returns from smaller companies is disputed and depends on the period analyzed as well as the stock market on which the analysis is based. It is not our intention to go into greater detail on the appraisal of the various empirical results here. More importantly is the basic question of whether it is correct to consider such "non-CAPM" premiums, e.g. the so-called fungibility premiums in a valuation.

An expert assessor will stipulate right from the start of his/her activities and in consideration of the purpose of the valuation, if his/her task is to determine a value or a price. Here, this value represents the cash value of the estimated net income (financial benefit) for the shareholders. The price, by contrast, is the sum for which an actual transaction will be performed or could have been performed. In case of an organized, active market such as the stock market, the price is the amount that leads to the largest possible trading volume. If there are few offers and little demand – as is the case with the sale of a majority holding – the price is the amount that the parties have specifically agreed to within the scope of the negotiations. Based on the impairment test in accordance with IFRS, for instance, the value in use is a value, while the fair value represents a price, despite the word "value" in the name.

As a rule, value and price differ at various points in time and to some extent are characterized by various factors. If basic values of corporations and company prices are compared with one another, it must be kept in mind that empirical prices on real capital markets in the long term circulate around the basic value of the company depending on the specific economic cycle as well as other corporate-specific and unspecific factors.

The other premiums and discounts for the cost of capital regularly represent attempts to make a transition from value to price and vice-versa. Even if the determination of a value as the starting point of a derivation or, better, estimation of a price is quite reasonable, it should not induce one to confuse the terms price and value with one another. Warren Buffett's witticism "Price is what you pay, value is what you get" therefore represents the fundamental truth for a practicing assessor.

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*"When determining values (and not prices), other flat rate premiums and discounts for the cost of capital – especially for illiquidity and size of company – should be avoided. It is preferable to assure that there is an equivalence of cash flow on the one hand and the cost of capital on the other hand."*

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Ingo Bertram  
Senior Manager

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The IDW in a memorandum on the particularities of determining an objective company value for small and medium-sized enterprises (SMEs) clearly rejected approaches that can be found in practice that apply flat rate premiums to the capitalization interest rate so as to reproduce a supposedly higher return or a supposedly higher risk of SMEs (size premiums) or a lower fungibility of the shares in SMEs. The justification for the rejection of such premiums is the idea that two cash flows with an identical sum, term and the same risk content must result in the same enterprise value, regardless of whether they stem from a large company or an SME.

In the determination of possible price ranges, by contrast, adjustments for company-specific pricing issues are better reflected by transparent premiums and discounts from the initial value as with increases or reductions of the cost of capital. Here, however, the following prerequisites must be met: The issues such as a lack of fungibility of the shares, a lack of information or majority holding must be considered to be necessary and not reproducible in the framework of the planning of the cash flows. A quantification of such premiums or discounts should be based on the specific case. A lack of fungibility of the shares, for instance, generally only justifies a price reduction in cases of a (compulsory) sale where real limitations on the sale of shares exist. A majority holding may only economically lead to price reductions if future value-increasing measures can only be performed by obtaining the majority holding.

*“A single-case quantification of premiums and discounts based on company figures for the determination of a price is frequently superior to that of flat rate premiums and discounts of costs of capital, not least of all for reasons of transparency.”*

Ingo Bertram  
Senior Manager

The results of this year's study demonstrate that the importance of the small cap premium declined slightly. The other separate risk premiums – with the exception of the country risk premium – also became significantly less important compared to the previous year. Of the participating companies, 61.2 percent did not consider any additional risk premiums in the determination of the cost of capital in the current financial year (previous year: 44.3 percent).

There was a marked decrease compared to the previous year in the application of a flat rate premium on the costs of capital and the separate consideration of a premium implicit in the market risk premium.

By contrast, the percentage of companies that applied a country risk premium in the framework of the impairment test in determining the costs of capital increased significantly from 23.8 percent to 31.5 percent. (Figure 36)

Swiss companies presented a different picture due to the fact that in Switzerland risk adjustments in the determination of the costs of capital are of major importance. Nevertheless, the number of Swiss companies that did not consider any further risk premiums increased noticeably in this financial year to 44.4 percent (previous year: 25.0 percent). The application of a small cap premium decreased only slightly compared to the previous year.

Figure 36  
**Risk premiums 2014 versus 2013**  
Total (in percent)

Source: KPMG

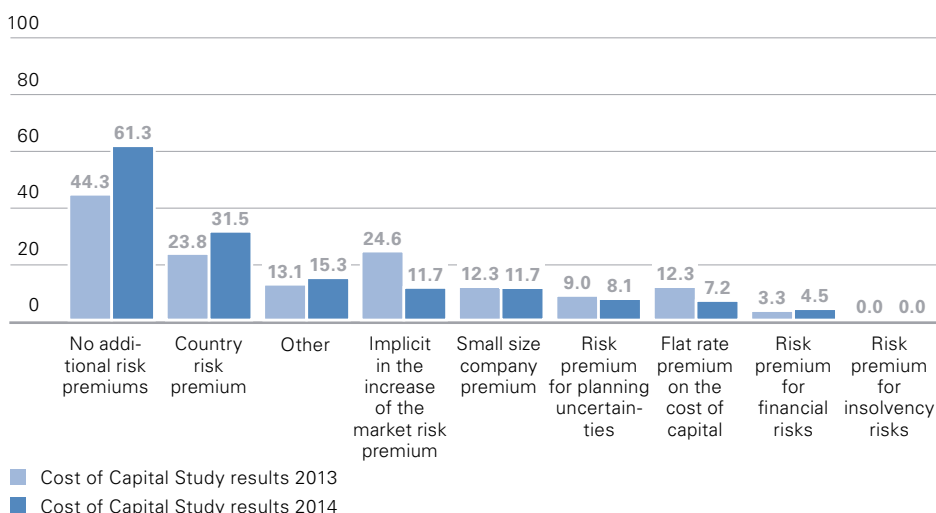
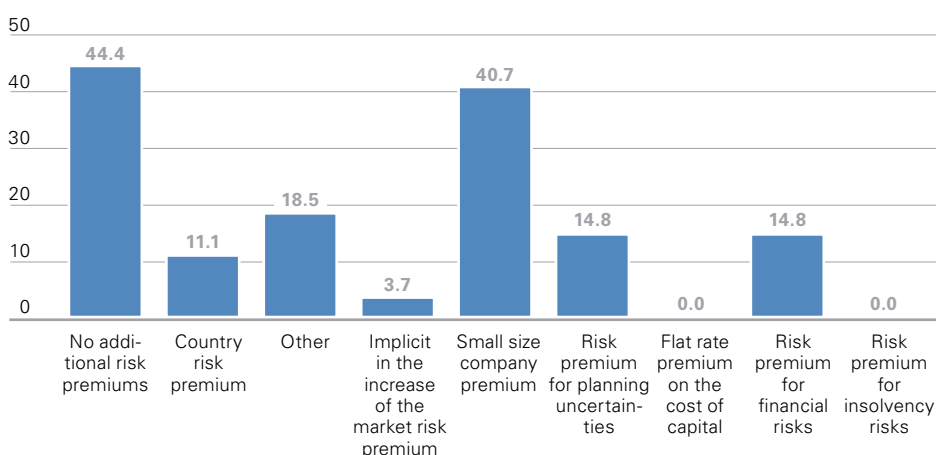


Figure 37  
**Risk premiums**  
Switzerland  
(in percent)

Source: KPMG



Of the Swiss companies, 40.7 percent applied such a premium in the determination of the cost of capital in the current financial year (previous year: 45.8 percent). (Figure 37, page 32)

The use of country risk premiums, by contrast, increased significantly compared to the previous year. Just about one-third of the participating companies considered country risks by means of a separate country risk premium in the derivation of the cost of capital. Here, we make reference to the focus of our last year's Cost of Capital Study and the KPMG country risk model presented there.

### 3.3.5 Composite Risk Effects

This year, for the first time, we asked the study participants if they – to the extent that they determine their beta factor with the aid of a peer group – perform a differentiation of the peer group for the individual CGUs. Of the participating companies, 46 percent reported that this was the case. The remaining 54 percent did not differentiate amongst the peer group for the individual CGUs.

We also asked for the first time if composite risk effects between CGUs (separate) were considered. The response to this question was very clear. Only 5 percent of the companies considered composite risk effects, while 95 percent of the study participants did not include composite risk effects.

This finding may be explained by the fact that the companies do not have any transparent and practical tools available for the consistent derivation and consideration of these composite risk effects.

### 3.3.6 Cost of Equity

The levered cost of equity resulted in accordance with the CAPM from the risk-free rate, market risk premium and levered beta factor.

Compared to the previous year, in financial year 2013/2014 the average levered cost of equity applied by all

the participants continued to sink from 8.9 percent to 8.7 percent. With that it reached a new record low. This figure does, however, almost correspond to the expected returns of the equity investors described in section 3.3.2 that accompanied the KPMG model for determining the market risk premium. (Figure 38)

Figure 38  
**Average cost of equity**  
Total (in percent)

Source: KPMG

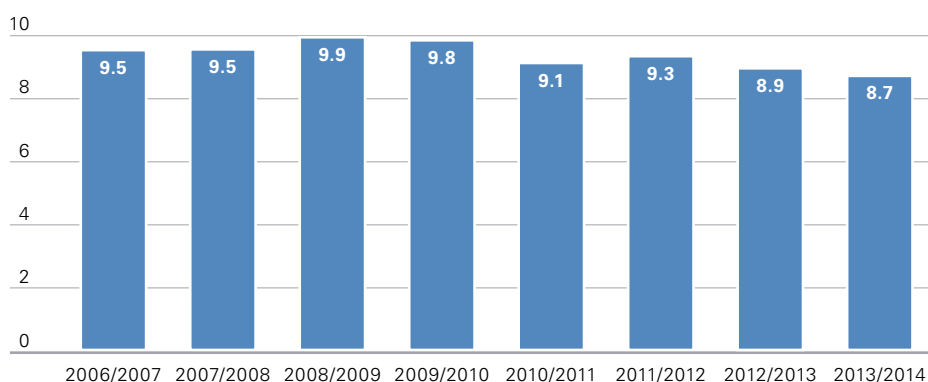


Figure 39  
**Average cost of equity**  
Germany/Austria versus Switzerland  
(in percent)

Source: KPMG

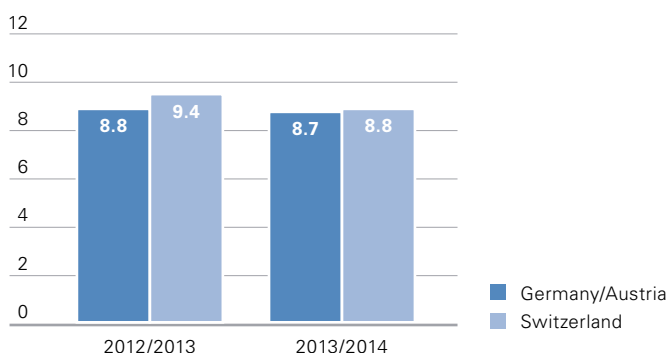
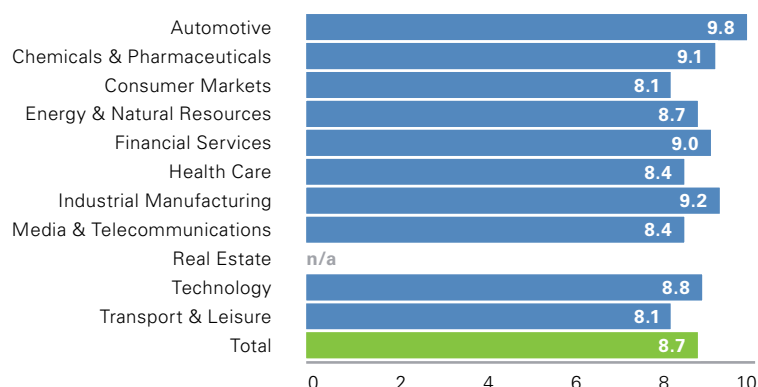


Figure 40  
**Average cost of equity by industry**  
(in percent)

Source: KPMG





In appraising the average cost of equity applied by all the participating companies as well as the individual sectors, it should be noted that the data from the companies stems from different countries, partially from different currency zones and from differing points in time.

While the participating companies from Germany and Austria (Eurozone) applied an average cost of equity of 8.7 percent (previous year: 8.8 percent), the surveyed Swiss companies applied – despite the lower risk-free rate and lower market risk premium – a similarly high cost of equity of 8.8 percent (previous year: 9.4 percent). The reason for this is the intensive use of other risk premiums – in particular the small size premium – in Switzerland (see section 3.3.4). (Figure 39, page 33)

In the direct industry comparison it is clear that – as in the previous year – the surveyed companies from the [automotive](#) sector applied, with 9.8 percent, the highest cost of equity (previous year: 10.0 percent). The lowest cost of equity was applied by the companies in the [consumer markets](#) and [transport & leisure](#) sectors averaging both 8.1 percent. (Figure 40, page 33)

Major changes in the levered cost of equity compared to the previous year can be found in the [technology](#) (+0.9 percentage points) as well as the [transport & leisure](#) (–1.8 percentage points) sectors. In the other industries the levered cost of equity remained comparable to that of the previous year.

### 3.3.7 Cost of Debt and Capital Structure

#### Debt beta – risk sharing between investors?

##### Independence of the operative risk from financing

With an investment in a company, all the financiers initially jointly bear the so-called operative risks, if the financing of the investment remains initially unconsidered by the various financiers (equity holders and lenders). These operative risks also include the possibility of a (total) default on payments.

The risks of the operative cash flow must also be appropriately considered in the cost of capital with regard to the risk equivalence provided (see sections 2.1 and 3.1). The financing of the investment is irrelevant for the reproduction of the operative risk in the cost of capital, because the financiers' costs of capital for a completely unlevered company are equivalent to the weighted cost of capital of all financiers in a levered company.<sup>3</sup> Both the financiers of a completely unlevered company (equity investors) as well as the group of financiers in a levered company (equity holders and lenders) equally compensate the operative risk of the operative cash flow (proportionally to their individual equity ratio and the ranking of the service of claims). Consequently, the investors and the lenders share the compensation for the operative risk independently of the financing.

*“Under the aspects of risk, there is no difference between the costs of capital of an unlevered company and the weighted costs of capital of a levered company. Both required returns reflect the price for the temporary provision of capital – namely in the risk-free rate – and a premium for the assumption of operative risks – in the risk premium.”*

Dr. Andreas Tschöpel  
Director

#### Operative risk and risk premiums

Due to the fact that the returns for the equity holders as well as for the lenders are fed from the operative cash flows, both capital investor groups require a risk premium for the assumption of the operative risk. Subsequently, the ranking of the financiers in the payment of their cash flow claims may result in differing amounts for the required risk premiums. It can therefore be seen that lenders whose share of the total value of the company, and therefore on the operative cash flow, is very small, generally demand a relatively low risk premium. For the case that the lenders in effect are the owners of the company, due to their share of the total value of the company, their required returns will approximate that of an investor in an unlevered company – as will their required risk premium.

<sup>3</sup> From the risk-oriented perspective, the financiers' weighted required returns are applied in the WACC without consideration of tax benefits from loans. The tax benefits are already included in the discounted figures (so-called total cash flow method).

In accordance with the CAPM, the risk premium consists of a company-specific risk metric (beta factor) and the market risk premium. This holds equally for unsecured equity as well as for loans. Analogous to the risk premium for equity, the risk premium required by the lenders (spread) for the assumption of operative risk consists of a beta factor, the so-called debt beta, and the market risk premium. The direct result of this is that a negligence of the debt beta implicitly assumes the assumption of risk-free debt, because the loan spread is zero in this case and the cost of debt then corresponds to the risk-free rate. This assumption can, however, almost never be met in reality.

### Sharing of the operative risk amongst the financiers

The errors that occur as a result of disregarding the debt beta can be seen on the basis of the general formula for levered costs of capital:

$$r_E^l = r_E^u + (r_E^u - r_D) \frac{D}{E}$$

$r_E^l$	Cost of equity of a levered company
$r_E^u$	Cost of equity of an unlevered company
$r_D$	Effective cost of debt, total of risk-free rate and spread
D	Debt value
E	Equity value

If a company is financed through loans the operative risk, reproduced in the unlevered cost of equity, is accompanied by the financial risk of indebtedness. The investors now only participate in the remaining operative cash flow after the repayment of lenders. As a result of the additional financial risks assumed, the investors' expected returns increase as a consequence of the leverage effect.

But how does disregarding the debt beta impact on the levered cost of equity? If the debt beta is not considered, the risk-free rate must be applied for the cost of debt, because the loan spread is implicitly zero. This, however, has the immediate consequence that the levered cost of equity increases compared to the use of a debt beta due to the fact that the leverage premium increases to the unlevered cost of equity.

$$(r_E^u - r_D) \frac{D}{E}$$

How is this effect to be interpreted economically? Strictly speaking, the leverage premium on the unlevered cost of capital reflects on the one hand the risk premium for the additional assumption of the financial risk by the equity holders. Figure 41a shows (assuming that the cost of debt equals the risk-free rate) the leverage effect on the levered cost of equity with increasing indebtedness.

On the other hand, the leverage effect shown in Figure 41 a decreases if the lenders are also compensated for the assumption of operative risk by means of a premium on the risk-free return (cost of debt then results from the risk-free rate plus spread). (Figure 41 b, page 36)

The reason for this is that the market does not compensate the assumption of operative risk more than once. If the lenders assume a part of the operative risk and are compensated for this assumption of risk by means of the spread, the operative risk is reduced for the equity holders and their leverage premium is correspondingly reduced. This becomes larger if the lenders' expected returns are close to the risk-free rate and correspondingly smaller the greater the lenders' spread is.

Figure 41 a  
**Cost of debt equals risk-free rate**  
(in percent)

Source: KPMG

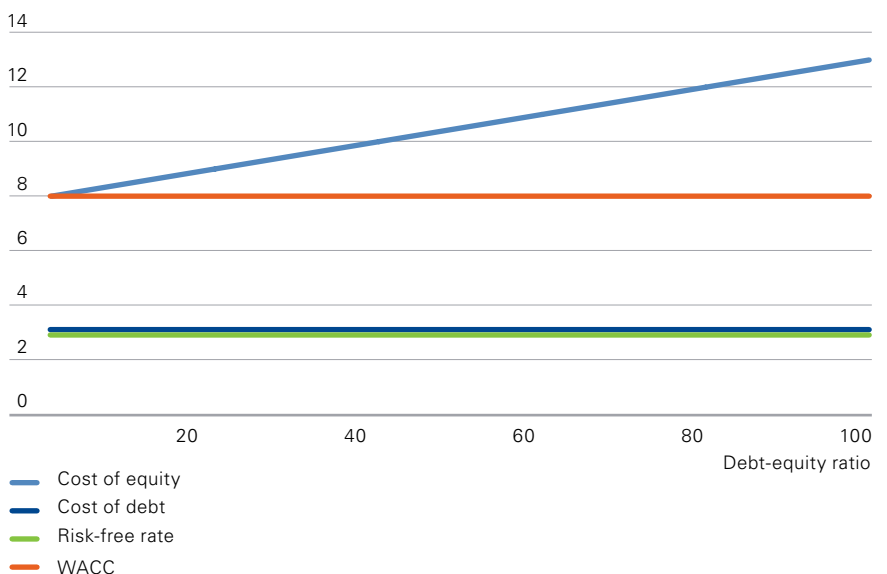
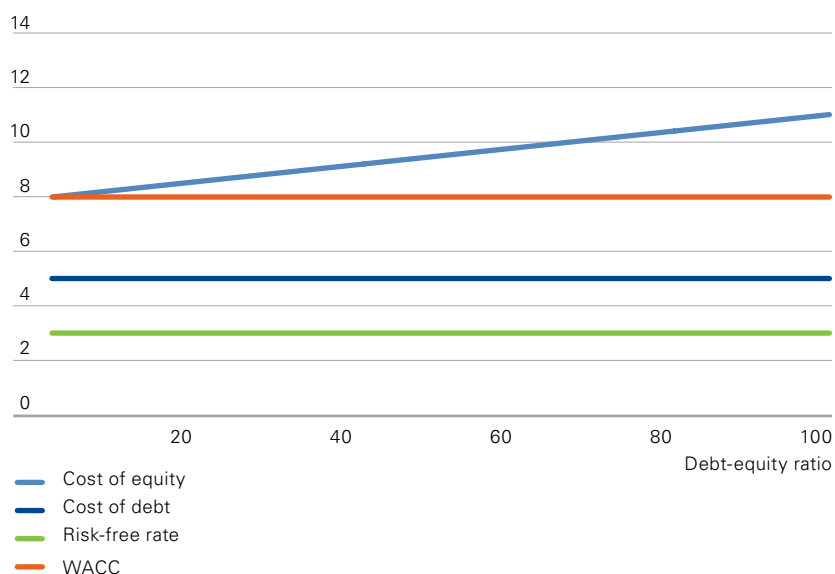


Figure 41 b  
**Cost of debt including spread**  
 (in percent)

Source: KPMG



*“The assumption of the operative risk for an unsecured cash flow independent of the financing is remunerated on the capital market by guaranteeing a yield on the secure risk-free rate. Due to the fact that this risk is generally only remunerated once, several financiers share the yield depending on the assumption of the operative risk and orient their requirements for the cost of capital accordingly.”*

Dr. Andreas Tschöpel  
 Director

### Debt beta as necessary component of the proper determination of the costs of capital

In principal the valuation of a company would be possible on the basis of the equation above and therefore solely through the acknowledgement of the unlevered costs of equity and debt as well as the debt-equity ratio. In the practice of valuation, however, the frequently applied CAPM has proven itself to be a popular alternative for the derivation of the risk-equivalent costs of capital as well as the associated empirical derivation of

capital market parameters. The levered costs of equity are therefore determined as follows, applying a levered beta factor:

$$r_E^l = r_f + \beta_E^l \text{MRP}$$

$r_E^l$	Cost of equity of a levered company
$r_f$	Risk-free rate
$\beta_E^l$	Levered beta
MRP	Market risk premium

In the practice of valuations so-called textbook equations are frequently applied to determine the levered beta factor. Although valuation theory has developed various formulas for conversions depending on the valuation assumptions for the assumption of operative risks by lenders or the risk content of tax benefits for the deductibility of interest on borrowed capital, in practice inconsistent conversions are frequently applied for the valuation assumptions. The consequence may be errors in valuation resulting from improperly determined costs of capital. In the case of lenders' required returns that deviate

from a risk-free interest (as well as the assumption of uncertain tax benefits) it can also be analytically demonstrated that the above-mentioned economic issues are only completely compiled in the derivation of the levered beta factor if the debt beta is considered directly.

$$\beta_E^l = \beta_E^u + (\beta_E^u - \beta^{\text{Debt}}) \frac{D}{E}$$

$\beta_E^l$	Levered beta
$\beta_E^u$	Unlevered beta
$\beta^{\text{Debt}}$	Debt beta
D	Debt value
E	Equity value

For even with the determination of the levered cost of equity by means of a levered beta factor, the resultant cost of equity is too high and therefore ceteris paribus too low market values of equity to the extent that the debt beta is simply ignored (intentionally or unintentionally).

*“Consideration of the debt beta is not a matter of free choice on the part of the assessor! To the extent that the cost of debt is not the equivalent of the secure risk-free rate, which is generally the case in practice, the debt beta must be taken into consideration in the conversion of levered and unlevered beta factors. Ignoring the debt beta in this constellation inevitably results in valuation errors.”*

Dr. Andreas Tschöpel  
 Director



## Cost of debt

Beside the cost of equity, the cost of debt represents the second determinant for the derivation of the weighted cost of capital (WACC).

In addition, within the framework of determining the WACC, the capital structure (debt value to equity value) determined forms the basis for the weighting of the costs of equity and debt.

In practice there are basically three methods applied to determine both the cost of debt as well as the capital structure of the group or the CGU:

- The actual costs of debt for the company and the current capital structure are applied at market values.
- The company's planned costs of debt, the so-called target cost of debt and the target capital structure at market values are applied.

These methods do not, however, reflect the market perspective required in IFRS for the derivation of the costs of capital. For that reason there is the third option:

- Derivation of the costs of debt and the capital structure – analogous to the method for the beta factor – from a peer group. According to this third method, the parameters are compiled using capital market data on the specific reporting date.

Due to the fact that the method for determining the cost of debt and the capital structure is often answered depending on the individual valuation concept, we have once again broken down our analyses of the responses. (Figure 42)

Figure 42  
**Determination of capital structure and cost of debt**  
Total (in percent)

Source: KPMG

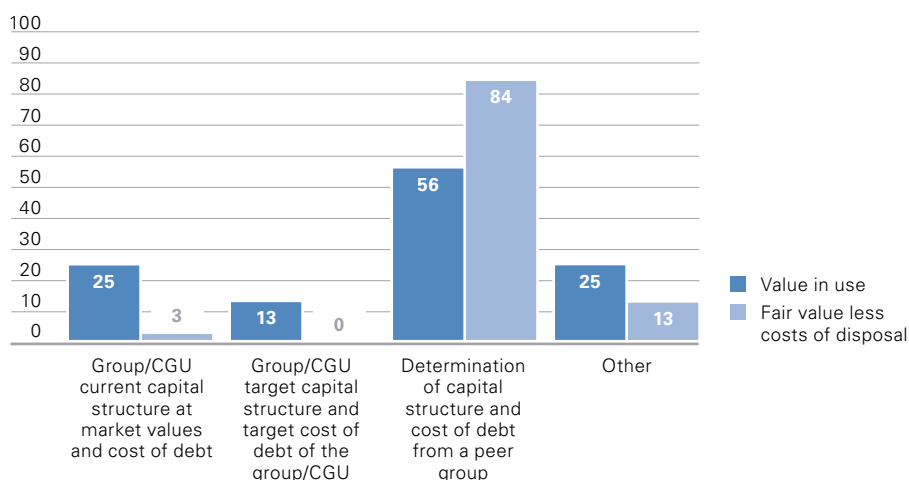


Figure 43  
**Average cost of debt**  
Total (in percent)

Source: KPMG

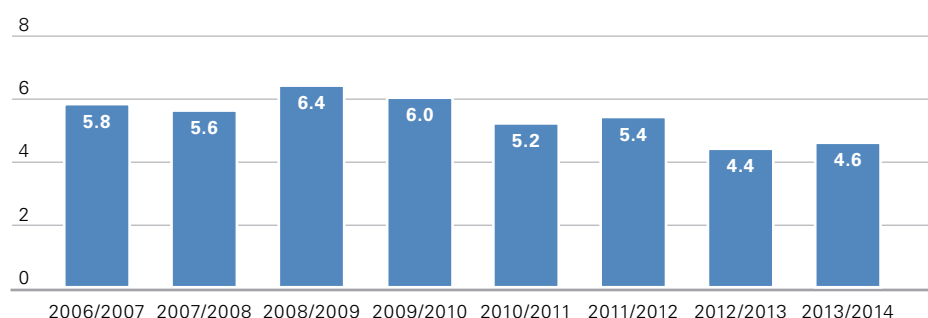
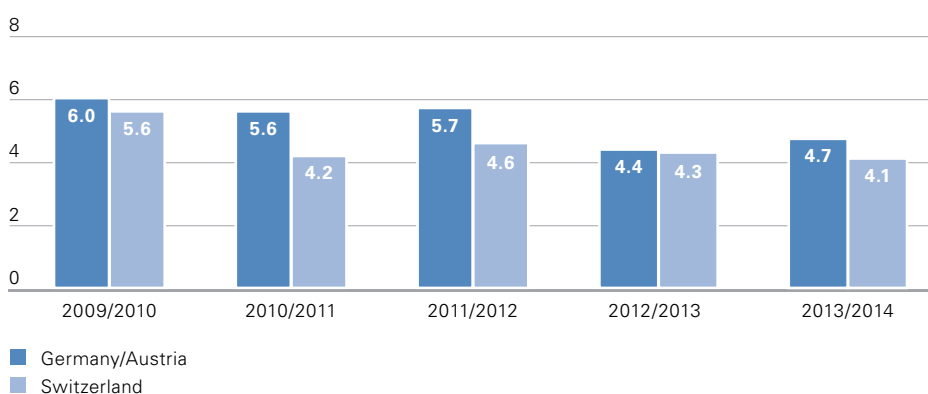


Figure 44  
**Average cost of debt**  
Germany/Austria versus Switzerland  
(in percent)

Source: KPMG



When applying the fair value less costs of disposal, the clear majority of the companies (84 percent) derived the costs of debt and the capital structure from a peer group, i.e. the current market data on the specific reporting date.

While at 25 percent the individual parameters of the valuation object are very important in value in use, here too, at 56 percent, the majority used the costs of debt and capital structure of the peer group. (Figure 43, page 37)

After the costs of debt for all the surveyed companies reached a historic low in the previous year, they increased slightly to 4.6 percent in the current financial year – analogous to the development of the risk-free rate.

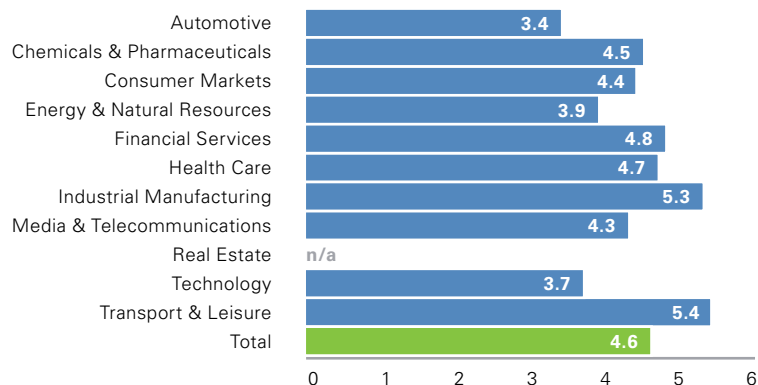
In the appraisal of the average cost of debt applied for all the surveyed companies as well as the individual industries, it should be noted that the data stems from companies in different countries, partially from differing currency zones and from differing points in time.

As was observed in the previous years, in this financial year as well, some of the surveyed companies from Switzerland applied significantly lower costs of capital than the participants from Germany and Austria (Eurozone). While the cost of debt in the Eurozone was 4.7 percent, the figure in Switzerland was 4.1 percent. (Figure 44, page 37)

In the industry comparison it is clear that the companies from the [automotive](#) sector had the lowest cost of debt with 3.4 percent, while [industrial manufacturing](#) at 5.3 percent and [transport & leisure](#) with 5.4 percent had by far the highest values. (Figure 45)

Figure 45  
**Average cost of debt applied by industry**  
(in percent)

Source: KPMG



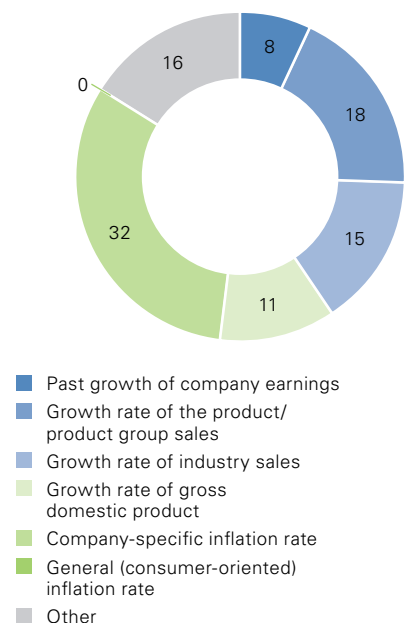
### 3.3.8 Sustainable Growth Rate

In the consolidated financial statements reflected in this study, the sustainable growth rate of the companies is based about equally on company-specific parameters (past growth of earnings, growth rate of sales for products/product groups, growth rate of sector sales) with 41 percent (previous year: 54 percent) and the general economic growth rates or inflation rates (growth rate of the gross domestic product, company-specific inflation rate, general consumer inflation rate) at 43 percent (previous year: 29 percent). The remaining 16 percent of the companies measured their sustainable growth rate on the basis of other criteria. (Figure 46)

Once again this year's analysis confirms the necessity of dealing with the valuation-relevant sources of growth in the practice of valuation, as we did in detail in our special section of the Cost of Capital Study 2013.

Figure 46  
**Measurement of the sustainable growth rate**  
Total (in percent)

Source: KPMG



Although in this year as well a very high – even if a much smaller – portion of the surveyed companies derived the growth rate from sales and earnings growth rates (this is only correct if the equivalent distributable cash flow is reduced by the corresponding retained earnings), these companies as well applied growth rates that tend to be within the range of the historical, inflation-based, company-specific growth rates. Conversely, these tend to fit with the distributable cash flow (without consideration of the retention of profits) that according to our experience is frequently applied in practice.

It therefore appears that – despite weaknesses in the selected methods – there is indeed an equivalence between the applied cash flows and growth rates.

It is remarkable that, with 32 percent, the companies apparently oriented themselves to a greater degree this year compared with 12 percent in the previous year on the general (consumer-oriented) inflation rate in determining the sustainable growth rate. While the above-mentioned weaknesses with regard to the equivalence between the applied cash flows and growth rates can thus be avoided on the one hand, the orientation on the general (consumer-oriented) inflation rate generates new weaknesses on the other hand.

Such an approach – albeit one frequently observed in practice – that is based on purely empirical observations as the initial approximation for the growth rate of about half the general (consumer-oriented) inflation rate, can therefore only provide a starting point for the derivation of the sustainable growth rate, and that only in the framework of plausibilities.

There is, after all, no direct connection between the general (consumer-oriented) inflation rate and the sustainable growth rate for valuation purposes. For that reason companies, as a result of the lack of relevance for the company's specific business model, do not usually focus on the application of the general (consumer-oriented) inflation rate. To determine the sustainable growth rate it is much more important to focus analyses on estimating the impact of the company's

price increases on the procurement and sales markets as well as possible increases in efficiency. Such analyses continue to form the core problem in the forecasting of the forecasted cash flow and require analyses both of the market and environmental developments as well as the performance and financial developments of the company.

From the comparison of the growth rates used in Germany, Austria and Switzerland it is clear that the Swiss study participants – as in the previous financial year – applied the highest growth by far (previous year: 1.8 percent). (Figure 47)

Figure 47

#### Sustainable growth rate

Germany versus Austria versus Switzerland  
(in percent)

Source: KPMG

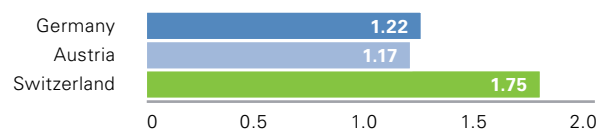
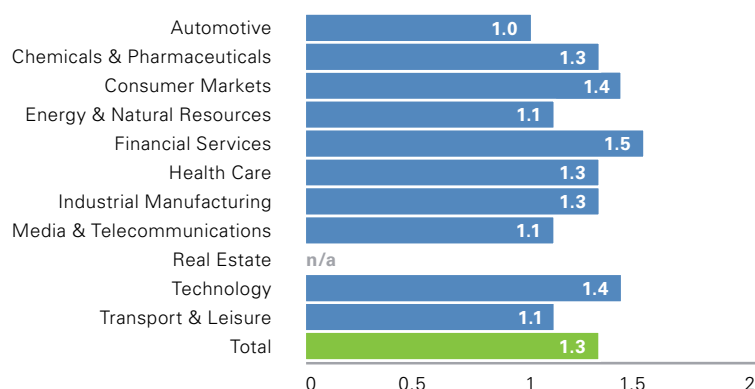


Figure 48

#### Sustainable growth rate by industry

(in percent)

Source: KPMG



The industry analysis demonstrated that companies from the **financial services** sector applied, with 1.5 percent, the highest sustainable growth rate in the current financial year. By contrast, the **automotive** companies, with an average of 1.0 percent, applied the lowest growth rate. (Figure 48)

An analysis of the growth rates applied depending on the length of the planning period shows that the average growth rate in companies with a planning period of four and five years is higher than companies with a planning period of one to three years.

### 3.3.9 Cost of Capital Outside Europe

With increasing internationality, the requirements for the risk-adequate determination of the costs of capital increase for all valuations – and especially with the impairment test.

As a consequence of the discussions we have conducted with study participants in previous years and the users of KPMG's country risk model, this year's questionnaire once again provided the opportunity to report the individual cost of capital parameters according to separate regions (Europe, North America, South America and Asia).

Because the cost of capital parameters presented in sections 3.3.1 to 3.3.7 – with the exception of the risk premiums – relate only to Europe, this section presents the results of the survey for other regions. Only those cost of capital parameters are presented where differences between the regions are to an unusual degree. Should you be interested, it would be our pleasure to provide you with more detailed evaluations and analyses for the various regions.

As expected, the weighted average cost of capital applied – after corporate taxes, but prior to growth discount – differed significantly between the regions. While Europe and North America applied an average WACC of 7.8 percent, the Asian region used 8.8 percent and in South America it was even 11.6 percent. These results correspond to those of the previous years. (Figure 49)

The higher costs of capital in Asia and South America are equally the result of the higher costs of equity and debt in these geographic regions.

At 12.5 percent, the costs of equity in South America were markedly higher than the level in Europe and North America. The higher values resulted primarily from the significantly higher risk-free rate of 5.7 percent (by comparison: Europe 2.6 percent, North

Figure 49  
**Average WACCs by region**  
(in percent)

Source: KPMG

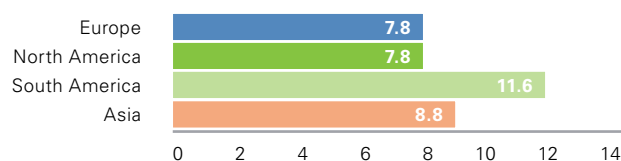


Figure 50  
**Average cost of equity by regions**  
(in percent)

Source: KPMG

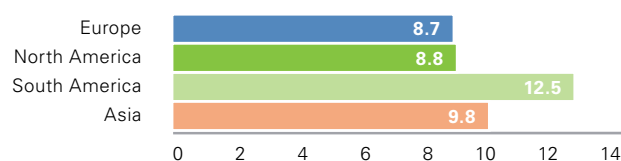


Figure 51  
**Average cost of debt by regions**  
(in percent)

Source: KPMG

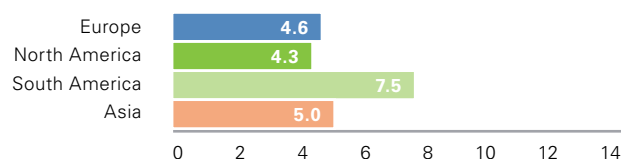
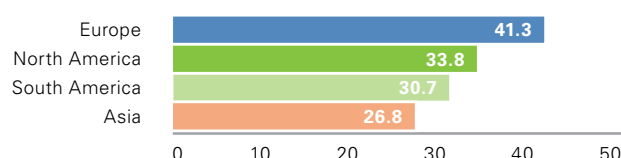


Figure 52  
**Average debt-equity ratio by regions**  
(in percent)

Source: KPMG



America 2.9 percent, Asia 3.7 percent), as a consequence of the relatively poor economic situation and the political instability in some instances as well as from the subsequently poor country ratings. (Figure 50)

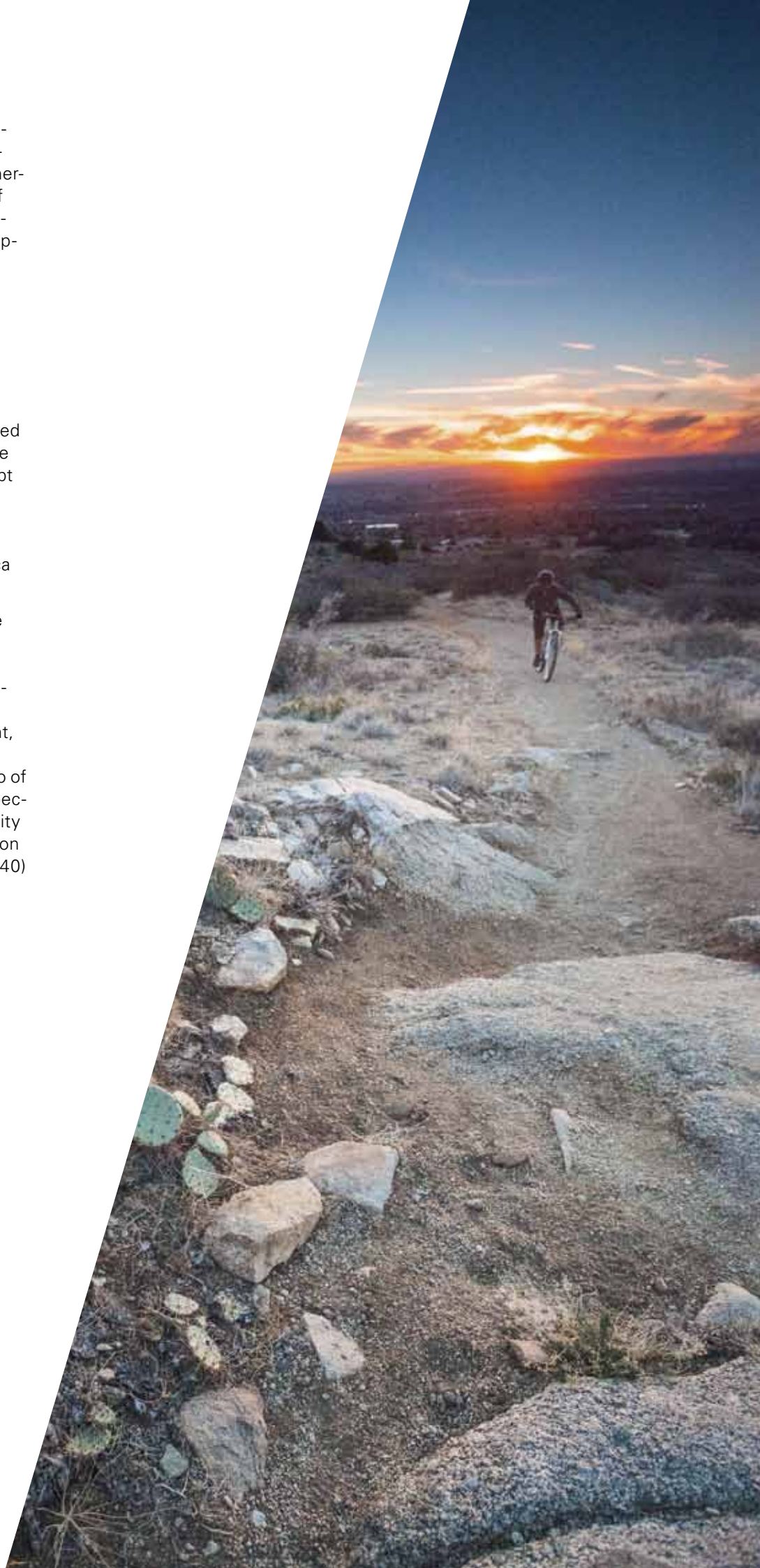
South America's largest economy, Brazil, for instance, received a "BBB" rating from Standard & Poor's, Argentina was even rated "CCC+" by the same agency. In the end, the actual risk-free rate already takes into account the country risks to a large degree.



The costs of debt show a similar picture. While the participating companies for the European and North American regions applied costs of debt of 4.6 percent and 4.3 percent, respectively, to determine their costs of capital, the values in Asia were much higher at 5.0 percent and in South America even higher still at 7.5 percent. (Figure 51, page 40)

The costs of debt in Asia and South America therefore reflect the difference between the average risk-free rate applied in Europe and that applied in these regions. The spreads, as the difference between the costs of debt and the risk-free rate, at 2.0 percent in Europe and 1.8 percent in South America, were much higher than in Asia (1.3 percent) and North America (1.5 percent). (Figure 51, page 40)

In addition, there were considerable differences with regard to the debt-equity ratio in the various regions. Despite the by comparison traditionally low debt-equity ratio in Europe, this region displayed, at 41.3 percent, the highest figure. North and South America reported a debt-equity ratio of 33.8 percent and 30.7 percent, respectively. The lowest average debt-equity ratio was reported by the Asian region with 26.8 percent. (Figure 52, page 40)



# 4 Impairment Test



## 4.1 Foreword

In the last Cost of Capital Study we presented the impacts on the impairment test resulting from the IFRS 13 – Fair Value Measurement introduced on 1 January 2013. The IDW also published a memorandum entitled “Klärung von Einzelfragen zur Ermittlung des Fair Value nach IFRS 13” (IDW RS HFA 47 – Clarification of Specific Issues for the Determination of the Fair Value as per IFRS 13).

This year the IDW drafted a memorandum dealing with “Einzelfragen zu Wertminderungen von Vermögenswerten nach IAS 36” (IDW ERS HFA 40 – “Specific Issues for the Adjustment of Assets as per IAS 36”). For the most part this contains clarifications on the definitions contained in IAS 36.6 ff. as well as with regard to the differentiations in determining value in use and fair value less costs of disposal.

With regard to the identification of assets (IAS 36.7 ff.) that could be adjusted it points out that if the book value of a company’s net assets exceeds the market capitalization, the market may suggest a need for depreciation and amortization, but that a write-off is not absolutely necessary. More important is to appraise

if, and to what extent, other causes may explain the low market capitalization. Examples mentioned in this connection are asymmetrical information and factors related to the capital market, such as a general drop in the share price as a result of an economic or financial crisis, illiquidity of the market, subjective preferences from analysts as well as the focus on short-term developments or negative company news.

The presence of one or more of these factors does not, however, automatically relieve the company from the impairment test. More importantly, the company should be able to explain the reasons for a market capitalization that lie below the recoverable amount – even if no quantitative connection between market capitalization, fair value and value in use is required – due to the fact that this may indicate a systematic overestimation of the expected accruals by the management.

With regard to the determination of the recoverable amount, it has been demonstrated that with the application of the value in use method, a discounted cash flow (DCF) must be applied. While it is also frequently applied with the fair value method for

the valuation of CGUs due to a lack of market prices and other level 1 input factors named in IFRS 13, the question is answered whether the applied costs of capital distinguish between the value in use and the fair value with regard to the measurement of the risk premium. If the cash flows deviate positively from the market expectations (fair value less costs of disposal) as a result of management expectations (value in use) that are too optimistic, this must also be reflected in a higher risk premium in the WACC for the value in use derivation due to the principle of equivalence.

As for the value in use concept (IAS 36.30 ff.), the IDW once more points out that while the forecasts for the cash flows are based on “reasonable and justifiable” assumptions by the management and therefore in principle reflect the company’s internal view, great import is placed on external evidence.

Financial forecasts are generally made for a maximum period of five years, unless a longer period is justifiable. If the financial forecasts extend beyond this period, the company must prove that the future inflow and outflow of funds can be sufficiently estimated for a longer period of time.





*“Companies such as start-ups, project companies or companies undergoing restructuring, companies that do not have a stable business model or none at all, face a considerable challenge with the regulation regarding the limited forecast period of maximum five years. These companies must reproduce the transition of their mid-term planning into a steady state within the prescribed period of five years – a daunting task especially when there is no sufficient history to make an analysis of the required adherence to planning possible.”*

Karen Ferdinand  
Partner

For some assets the forecasting period for the cash flows must be based on the remaining useful life. For assets or CGUs that consist of several components, the forecasting period is generally oriented on those components with the longest useful life within the specific CGU. The substitution of components with shorter useful lives serves as an assumption of the retention of the potential benefit of the unit (IAS 36.49). Should there, however, be a “leading asset” within the specific CGU, the useful life of this asset is material – even if it has been classified as endless.

In addition, it has been explicitly pointed out that changes in the market conditions that occur between the management’s approved planning and the valuation date must be accounted for by means of planning adjustments. Impacts resulting from business policy decisions made after the balance date are, by contrast, not to be considered.

The IDW ERS HFA 40 also stipulates for the value in use that valuation-relevant cash flows must, on the one hand, also include payment-relevant overhead costs, if necessary through a keying of central functions. On the other hand, restructuring expenses are to be considered, but only if the company is obligated to undergo restructuring in accordance with IAS 37.

Future investments for expansion – and the resulting effects thereof – are only to be included in the value in use if they are already being implemented and payment obligations have been initiated. Investments made for security and environmental protection that do not result in an increase of the economic benefit and major inspections are not to be considered as investments for expansion. These are to be reproduced as replacement investments in the forecast calculations.

Cash flows from financing and for income taxes as well as effects from tax losses carried forward are not to be considered either. Correspondingly, assets and debts in connection

with income tax and losses carried forward as well as interest-bearing receivables and payables are not to be included in the carrying amount.

The IDW ERS HFA 40 also clarifies what is to be considered in the retirement of an asset. It explicitly states that the estimated proceeds from the divestiture or sale must correspond to normal market conditions between qualified, willing and independent contractual partners taking into consideration the estimated costs of separation and the, generally, short period of time remaining till the retirement.

With regard to the discount rate, the IDW ERS HFA 40 also stresses the relevance of the market perspective for the value in use. The market-based discount rate (IAS 36.A17) should take into consideration how the market assesses the specific risks of the estimated cash flows.

Along with the term equivalence provided and the determination of individual discount rates for the individual CGUs or assets, care should also be taken that cash flows that were planned in foreign currencies must be discounted with an appropriate interest rate for the currency (IAS 36.54). Furthermore, the market risk premium must be checked to determine to what extent specific systemic country risks are considered by the country risks of the country where the cash flows are generated.

Furthermore, the costs of capital for the value in use should not be based on the actual capital structure of the company or CGU either, but rather on typical market participants (on the basis of a peer group analysis) (IAS 36.A19). This applies for the cost of debt (consisting of the risk-free rate and the spread) that is to be derived independently of the concrete refinancing costs or historical financing conditions for existing liabilities of the valuation object (IAS 36.55 ff.). For the implementation in the practice of valuations to date please refer to the explanation in section 3.3.6.

Further clarifications of the standard deal with the identification of the CGU that includes an asset (IAS 36.66 ff.) as well as the smallest identifiable group of assets that generate cash inflows that are for the most part independent from cash inflows from other (groups of) assets.

## 4.2 Trigger and Results

The triggers and results of the impairment tests conducted this year are as follows:

The percentage of companies that performed an impairment test in the consolidated financial statements shown in the study remained high. Nevertheless, a decline was observed for the first time since the financial year 2010/2011. (Figure 53)

In the last year, about 57 percent of the surveyed companies performed an impairment. As in the previous years, with 24 percent, the largest portion of the impairments were performed on individual assets (previous year: 31 percent). 21 percent of the companies performed an impairment on the goodwill as well as on individual assets (previous year: 23 percent). (Figure 54, page 45)

The companies that performed an impairment on goodwill did so to an average of 100 million euros. The amount of the impairment on assets averaged 173 million euros in the companies that performed such an impairment.

The question of whether an impairment test was performed on the basis of a triggering event was, at 57 percent, answered affirmatively by just as many companies as in the previous year. (Figure 55, page 45)

The primary triggering events mentioned were lower long-term expectations (68 percent, previous year: 64 percent) and decrease in orders (18 percent, previous year: 24 percent). At 14 percent, a similar portion of companies to the previous year complained of decline in prices (previous year: 12 percent). (Figure 56, page 45)

Figure 53  
**Performance of an impairment**  
Total (in percent)

Source: KPMG

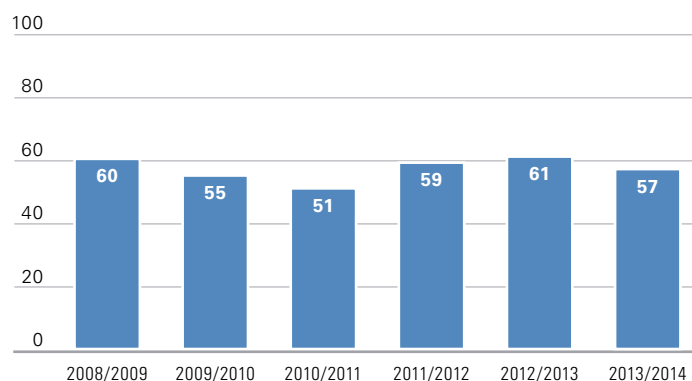




Figure 54  
**Performance of an impairment**  
Total (in percent)

Source: KPMG

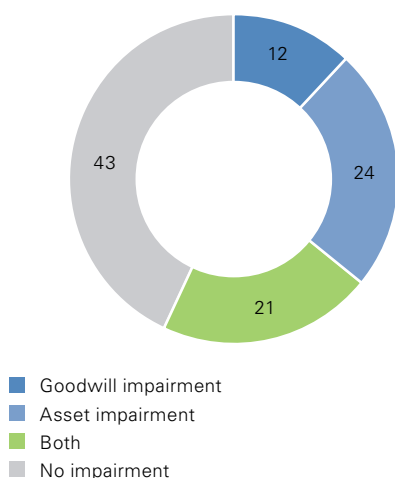


Figure 55  
**Triggering event**  
Total (in percent)

Source: KPMG

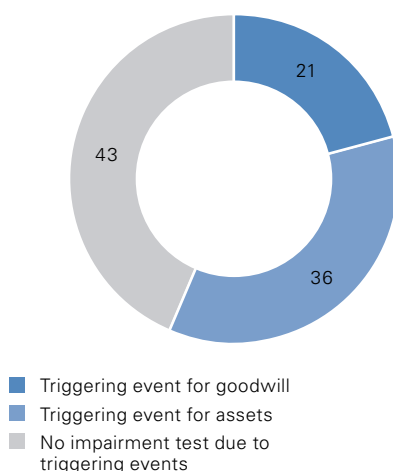
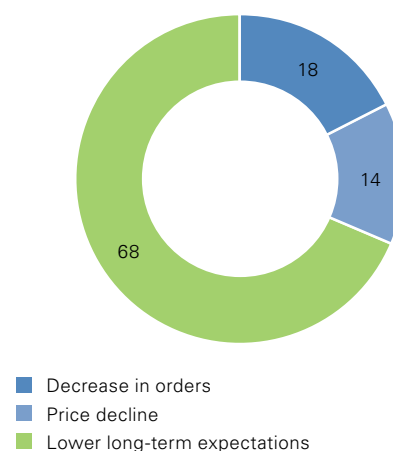


Figure 56  
**Specification of the triggering event**  
Total (in percent)

Source: KPMG



### 4.3 Determination of the Recoverable Amount

Similar to the previous year, only 17 percent of the companies determined both the fair value less costs of disposal as well as the value in use (previous year: 19 percent). With 67 percent, the percentage of companies that determined the recoverable amount of their CGUs and assets only on the basis of the value in use was about the same figure as in the previous year (64 percent). Only the fair value less costs of disposal was determined by 16 percent of the study participants (previous year: 17 percent).

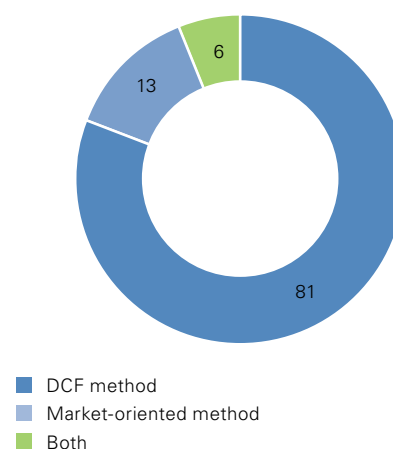
In this year as well there was again a clearly regional difference in the value metrics applied depending on the headquarters of the company. While in Germany the percentage of companies that determined only value in use was 61 percent (previous year: 58 percent), Switzerland and Austria had significantly higher rates of 77 percent (previous year: 75 percent) and 82 percent (previous year: 73 percent), respectively.

If both the value in use as well as the fair value less costs of disposal were determined, almost three-quarters (74 percent) of the surveyed companies applied a uniform financial forecast (previous year: 89 percent), despite the differing concepts.

Due to a lack of market data comparable to that of the CGUs, the derivation of the value by the companies that applied a fair value less costs of disposal was generally based on discounted cash flow (DCF) methods (81 percent). (Figure 57)

Figure 57  
**Valuation method for the determination of the fair value less costs of disposal**  
Total (in percent)

Source: KPMG



## 4.4 Plausibility

IFRS 13.62 foresees a comparison of the primary forecasting parameters with the market participants' expectations for the determination of the fair value less costs of disposal. This results from the conception of the sales price as depending primarily on the potential buyer's estimate. However, such a comparison is also recommendable for the determination with value in use. While this concept explicitly relies on the management expectations, the cash flows determined in this manner are to be discounted with the risk-equivalent cost of capital. If management clearly overestimates the future development and therefore does not match the market expectations, the corresponding premiums are to be added to the cost of capital derived from the market to take into account the greater risk of the cash flows. The market capitalization should

serve as the sample for listed companies. In addition, industry and analysts' reports or multipliers should serve as the basis for plausibility for every company. In those cases where listed companies apply the fair value less costs of disposal on the basis of the DCF method, it is also recommended that a sampling of the total of the fair values of all CGUs is performed with the market capitalization.

With the transfer it may be necessary to consider a control premium of the market capitalization due to the fact that the stock price only reflects the price for the individual share and does not assume a share ownership that determines control or a controlling influence. Depending on the results of the plausibility, the financial forecasts of the CGUs might also need to be adjusted to assure that they actually reflect the current market estimates.

This year almost 60 percent (previous year: 53 percent) of the companies reported performing a plausibility test with the aid of multipliers, the own market capitalization or on the basis of assessments from analysts' reports (multiple responses were possible). The market capitalization of the group was most frequently applied for purposes of plausibility (25 percent). (Figure 58)

Just as in the previous year, the DAX-30 companies frequently reported having performed a plausibility test (96 percent). Of these, 38 percent of the DAX-30 companies used the group's market capitalization, 32 percent assessments from analysts' reports and another 21 percent multipliers.

In more than half of the listed companies (55 percent) that performed a fair value less costs of disposal, the mar-

Figure 58  
**Plausibility of the valuation results**  
Total (in percent)

Source: KPMG

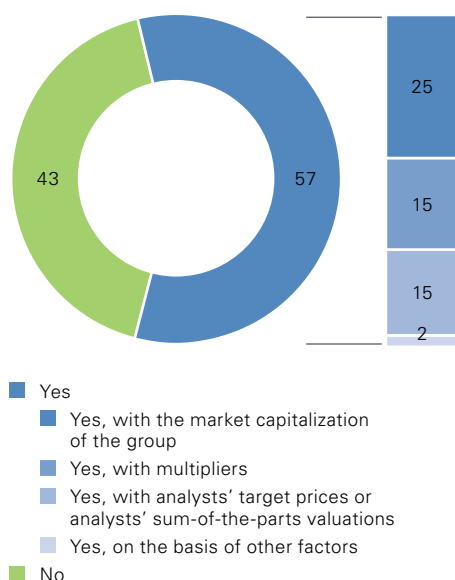


Figure 59  
**Comparison of market capitalization to fair value less costs of disposal**  
Listed companies (in percent)

Source: KPMG

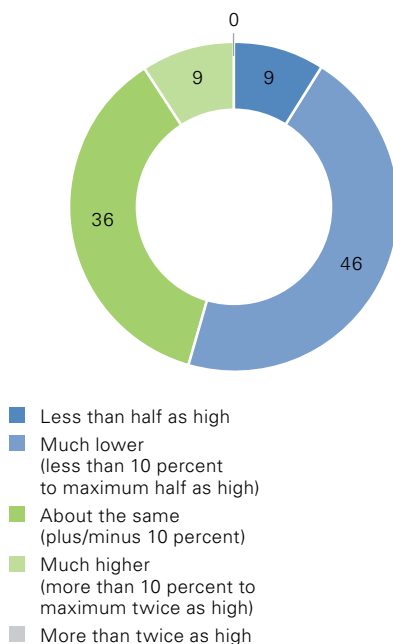
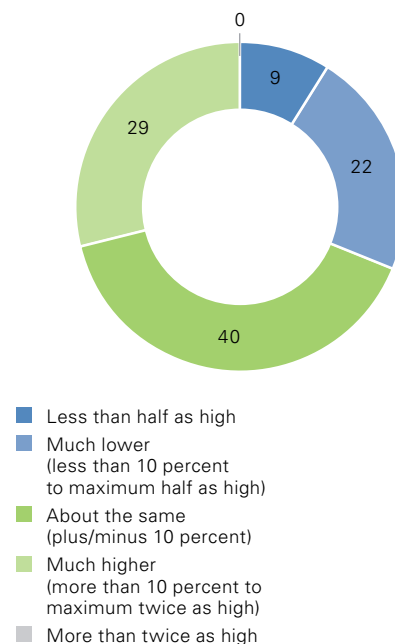


Figure 60  
**Comparison of market capitalization to value in use**  
Listed companies (in percent)

Source: KPMG



ket capitalization was lower than the total of the recoverable amount. In an additional 36 percent of the listed companies the two values were about equal. Only in 9 percent of the study participants that derived a fair value less costs of disposal was the market capitalization higher than the total of the calculated recoverable amount per CGU. (Figure 59, page 46)

In the listed companies that applied the value in use valuation concept, almost one-third of the companies had a market capitalization lower than the total of the recoverable amounts (31 percent), in an additional 40 percent it was about the same and in 29 percent the market capitalization was higher than the total of the calculated recoverable amounts per CGU. (Figure 60, page 46)





# 5 Outlook



## 5.1 Intended Transactions

The companies' tendency to invest is an important indicator of their expectations with regard to opportunities and risks in an increasingly internationalized environment. For that reason, we not only asked our study participants if transactions were performed or planned for the year, but on which continents their acquisition intentions were focused.

*"Numerous mega-transactions have put wind in the sails of the German M&A market in recent months. Many corporations with a broad business portfolio are restructuring strategically, selling off peripherals and investing in new business sectors and technologies. This allows in particular transactions between strategic investors. The courage to pursue inorganic growth has returned, promoted by the business results of the last few years, the currently low costs of interest and opportunities as well as high levels of liquidity. Internationally acting European and American corporations are currently the focus of attention. At the same time, the IPO market is providing additional exit options."*

Leif Zierz  
Partner

*"The volume of M&A activity indicated by the Swiss participants in the last year became noticeable. The M&A market developed very positively in the first three-quarters of 2014 with more than 230 transactions involving Swiss companies. The volume of transactions was 160 billion Swiss francs compared with about 20 billion Swiss francs in the first three-quarters of 2013. Driving factors for the vitality of the M&A market were, amongst other things, the optimism of the investors, the high liquidity of the companies and the utilization of synergies."*

Johannes Post  
Partner, Switzerland

*"The great willingness to merge ranges across many industrial sectors and at the same time is exceeding the expectations of the previous years. Increasing economic growth and low interest rates are contributing positively to the corporate transactions. Transactions are to be expected above all in the industries of financial services, industrial manufacturing and real estate."*

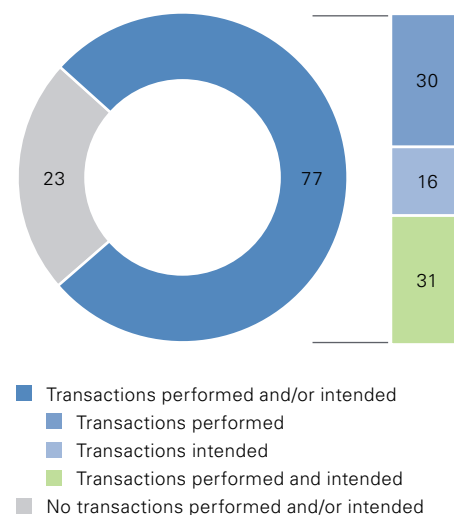
Dr. Klaus Mittermair  
Partner, Austria

In this study, 77 percent (previous year: 74 percent) of the surveyed companies reported already having performed transactions in the current financial year or to be planning such.

In Germany, the percentage of the companies that had either performed or intended to perform a transaction was, at 73 percent (previous year: 69 percent), somewhat lower than in Switzerland and Austria. However, the percentage of the DAX 30 companies interested in transactions was, at 91 percent, as in the previous year (96 percent) significantly above the total and the German average.

Figure 61  
**Intended transactions**  
Total (in percent)

Source: KPMG





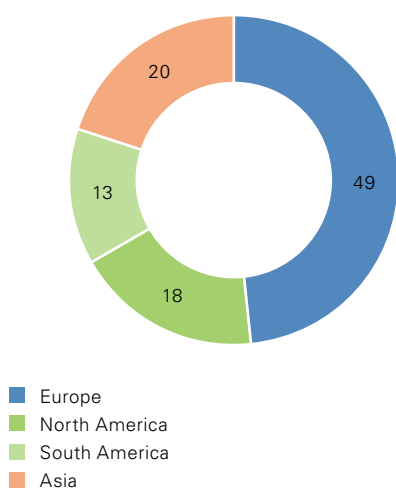
The interest in transactions in Switzerland remains high. Here, 83 percent (previous year: 88 percent) of the study participants reported performing or planning transactions.

In Austria it was even 91 percent of the study participants that had performed or planned to perform transactions.

To the extent that transactions were performed and/or planned, the majority of them were in Europe or were planned for Europe (49 percent, previous year: 53 percent). Asia and North America followed with 20 percent and 18 percent, respectively. South America, with 13 percent, was of less importance. (Figure 62)

Figure 62  
**Transactions by regions**  
Total (in percent)

Source: KPMG



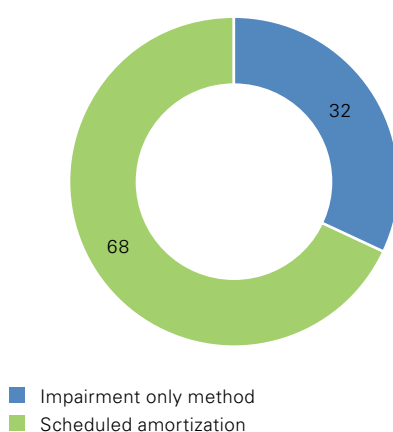
## 5.2 Scheduled Amortization of Goodwill

This year, for the first time, we asked which method the study participants would prefer for amortization of goodwill and certain intangible assets given a free choice. The clear majority of the participating companies would favor a scheduled amortization if given a choice. Only one-third preferred an impairment only approach. (Figure 63)

This result also confirms another study that KPMG performed on goodwill impairment. One result of our survey of international companies to be found in the brochure "Who cares about goodwill impairment? A collection of stakeholder views" from April 2014 is that internationally a return to the method of freedom of choice in the scheduled amortization of the goodwill is preferred.

Figure 63  
**Preferred method for amortization with freedom of choice**  
Total (in percent)

Source: KPMG



# 6 Industry Analyses

In this year's study we have – unlike in the previous year in which we focused on certain sectors – performed a differentiated view for all the sectors. Only for the [real estate](#) industry, which had a limited number of study participants, was it not possible to perform a separate assessment.

As in the previous years, the number of participants was highest in the [industrial manufacturing](#) sector (32 companies). This sector combines all the companies acting in the various industrial areas as well as companies that primarily manufacture industrial semi-finished products. (Figure 64)

The following provides additional assessments and analyses for every one of our sectors (with the exception of [real estate](#)). Our industry experts provide an introduction to each one of the sectors, briefly describing the current developments and trends.

Please note that to the extent that the following analyses contain data for the periods 2011/2012 and 2012/2013, this data relates only to those companies that participated in this year's study. Subsequently, there may be deviations from the presentations and analyses in the previous sections due to the fact that the data there represented all the companies participating in the particular year of the study.

More detailed information on the sectors can be found on our Cost of Capital website:

[www.kpmg.de/kapitalkosten](http://www.kpmg.de/kapitalkosten)

We would be pleased to provide you with more detailed analyses on these sectors. Our industry specialists are also available for any questions or comments you may have.

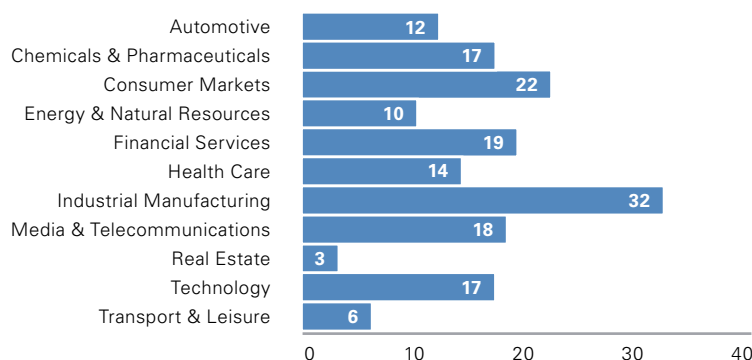
## 6.1 Automotive

*"We noticed that in the presence of historically low prime rates the cost of capital in the automobile sector climbs slightly over time. This is, on the one hand, attributable to the long-term investment cycles in the automobile industry and, on the other hand, to the even greater shift of the focus of growth in the direction of Asia. In addition, the pressure is increasing on existing business models that have high investment and development needs. In particular the development of new drive technologies and new driver support systems hide an increased economic risk for global-acting automotive companies due to the heterogeneous market and customer demands. These trends have also been reflected in the development of the cost of capital in recent years."*

Olaf Thein  
Partner

Figure 64  
**Study participants by industry**

Source: KPMG





The WACC – after corporate taxes, but prior to the growth discount – increased in the companies participating in this study analogously to the WACC for the overall total. The WACC for the automotive industry is therefore still well above that for the overall total. This is above all due to the sector's beta factor, which is above that of all other industries. (Figure 65)

Compared to the previous year, the sustainable growth rate was, at 41 percent, measured much less frequently (previous year: 81 percent) on company-specific earnings parameters (past growth of company earnings, growth rate of product/product group sales, growth rate of industry sales) and with 51 percent correspondingly more frequently (previous year: 9 percent) on general economic growth rates or inflation rates (growth rate of gross domestic product, company-specific inflation rate, general, consumer-oriented inflation rate). (Figure 66)

A total of 67 percent of the study participants from the automotive industry reported having performed an impairment. That is significantly more than that of the previous year (41 percent). Compared to the previous year, the percentage of companies that performed an impairment on individual assets increased significantly (previous year: 23 percent). At 59 percent, this figure is also significantly higher than the overall total (24 percent). (Figure 67)

Figure 65  
**WACC applied**  
Total versus Automotive  
(in percent)

Source: KPMG

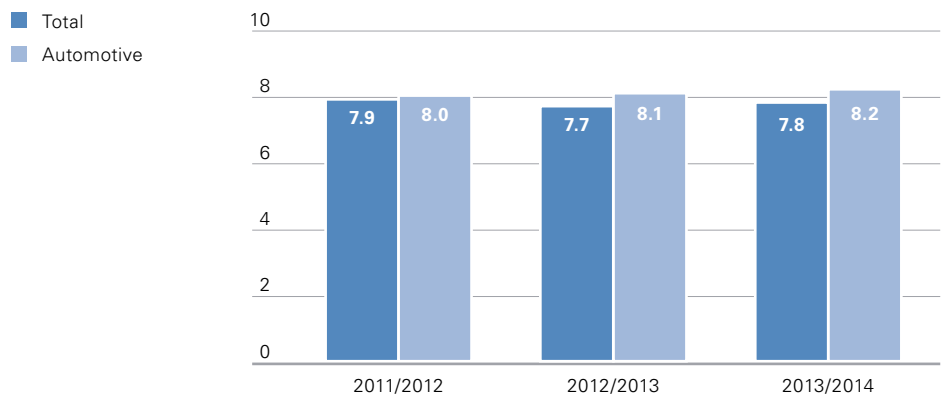


Figure 66  
**Measurement of the sustainable growth rate**  
Automotive  
(in percent)

Source: KPMG

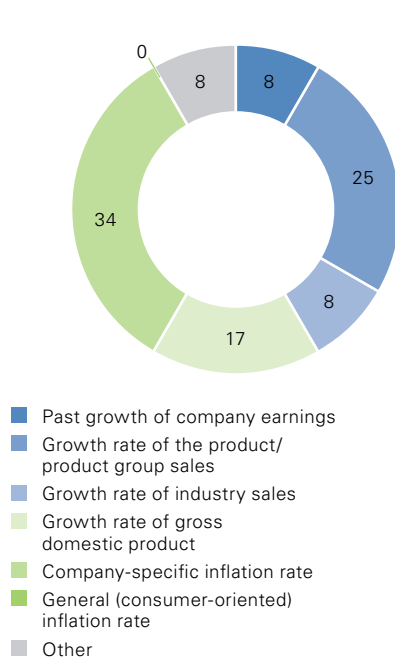
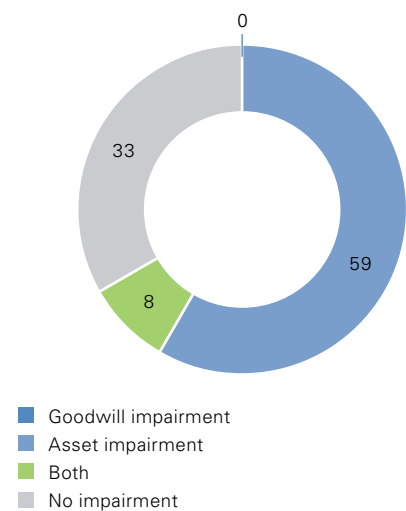


Figure 67  
**Performance of an impairment**  
Automotive  
(in percent)

Source: KPMG



## 6.2 Chemicals & Pharmaceuticals

*“The global economic recession slowed the development of European chemical companies noticeably. In addition, the companies currently have to deal with the challenges of high raw material inventories, high energy costs, regulatory impacts, overcapacity and greater competition from the USA and Asia, although the chemical industry is in the process of recovery. By contrast, the growth of the world’s pharmaceutical market picked up in the second half of 2013. After having suffered in the last few years under the expiration of patents for blockbuster products and the increasing competition from generic products and regulatory pricing limitations, double-digit growth rates in developing countries and the increasing number of FDA approvals with blockbuster potential have made for positive growth stimulation.”*

Christian Klingbeil  
Partner

The WACC – after corporate taxes, but prior to the growth discount – increased disproportionately for the companies participating in the study compared to the WACC of the overall total. As in the previous years the WACC of the sector was above the overall total. (Figure 68)

The sustainable growth rate was measured by the participating companies from the chemicals & pharmaceuticals sectors at 28 percent, less often than the overall total (43 percent)

on general economic growth rates or inflation rates (growth rate of the gross domestic product, company-specific inflation rate, general, consumer-oriented inflation rate). Instead, 50 percent of the participating companies based their figures on company-specific earnings parameters (past growth of company earnings, growth rate of product/product group sales, growth rate of industry sales). (Figure 69)

Of the participating companies from the chemicals & pharmaceuticals sector, a total of 76 percent performed an impairment this year. This value is above that of the previous year (50 percent) as well as that of the overall total (57 percent). At 41 percent, the number of companies that performed an impairment on individual assets increased especially significantly (previous year: 28 percent). (Figure 70)

Figure 68  
**WACC applied**

Total versus Chemicals & Pharmaceuticals  
(in percent)

Source: KPMG

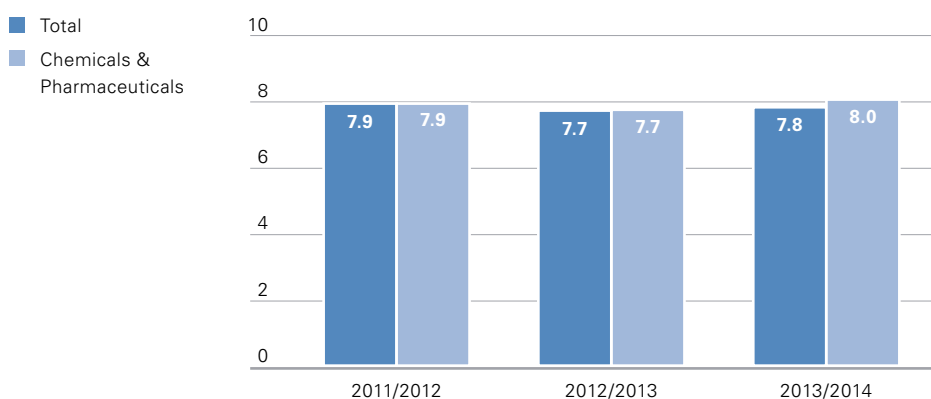
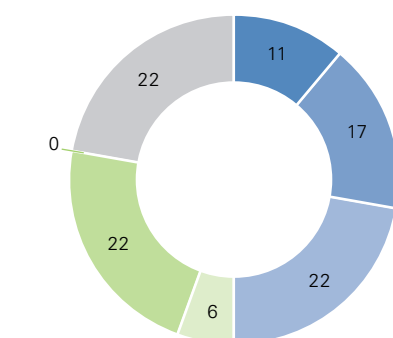


Figure 69  
**Measurement of the sustainable growth rate**

Chemicals & Pharmaceuticals  
(in percent)

Source: KPMG

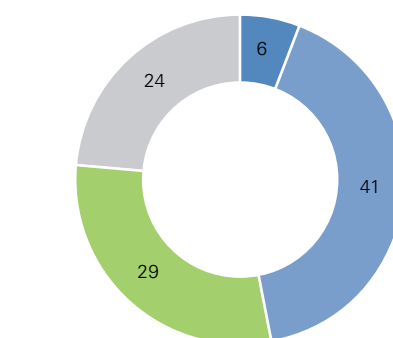


- Past growth of company earnings
- Growth rate of the product/product group sales
- Growth rate of industry sales
- Growth rate of gross domestic product
- Company-specific inflation rate
- General (consumer-oriented) inflation rate
- Other

Figure 70  
**Performance of an impairment**

Chemicals & Pharmaceuticals  
(in percent)

Source: KPMG



- Goodwill impairment
- Asset impairment
- Both
- No impairment



## 6.3 Consumer Markets

*“The past year clearly demonstrated that there is no way to avoid the mobile and digital forms of trade – even if the various retail segments have been very differently impacted. The technical prerequisites are now universally in place, the security requirements have been fulfilled so that more and more dealers have increased their online offers. In the future the customer will increasingly accept the mixture of online and stationary trade and act completely mobile and digitally, shopping multichannel, i.e. using online offers and stores, to obtain the maximum benefit. It will be interesting to see how the classical retailers react to this in the coming years and how they implement multichannel marketing to their benefit.”*

Stephan Fetsch  
Partner

The WACC for the consumer markets – after corporate taxes, but prior to the growth discount – increased more in the companies participating in this study than the WACC of the overall total, but still lies well below the average WACC across all industries. This is primarily due to the low average cost of equity for the sector. (Figure 71)

Compared to the previous year, at 40 percent, significantly fewer companies (previous year: 66 percent) in the sector measured sustainable growth using company-specific earnings parameters (past growth of company earnings, growth rate of product/product group sales, growth rate of industry sales). Almost half of the participating companies based the value on a general consumer-oriented inflation rate. (Figure 72)

Figure 71  
**WACC applied**  
Total versus Consumer Markets  
(in percent)

Source: KPMG

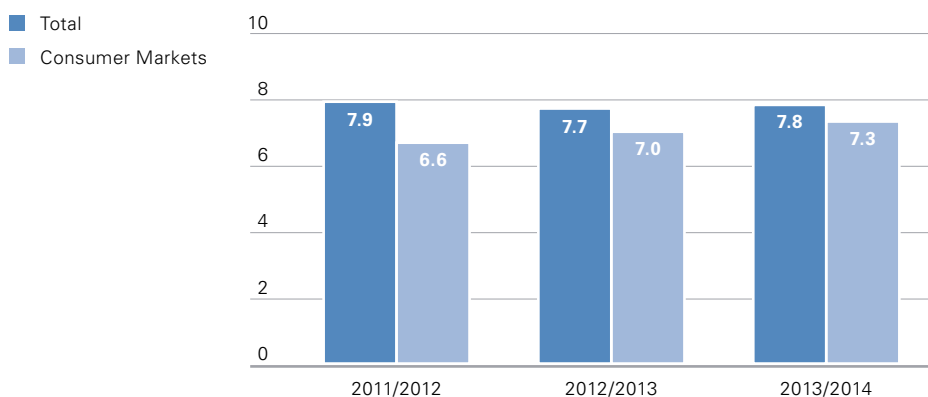
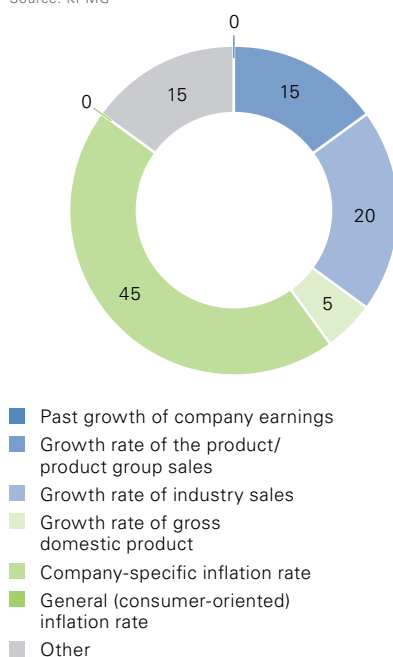


Figure 72  
**Measurement of the sustainable growth rate**  
Consumer Markets  
(in percent)

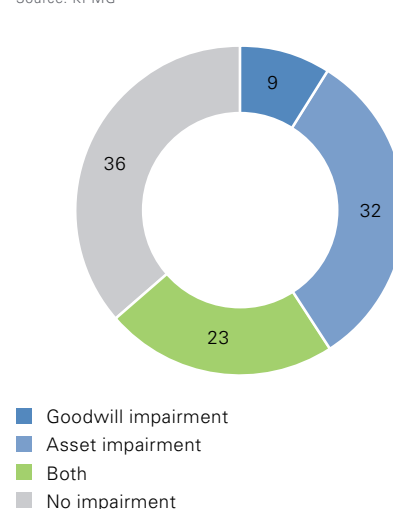
Source: KPMG



Similar to the previous year, a total of 64 percent of the companies in the consumer markets sector reported having performed an impairment (previous year: 66 percent). At 23 percent, fewer companies than in the previous year performed both an impairment on goodwill as well as on the individual assets (previous year: 31 percent). (Figure 73)

Figure 73  
**Performance of an impairment**  
Consumer Markets  
(in percent)

Source: KPMG



## 6.4 Energy & Natural Resources

*“As a consequence of the market developments of the last few years, the conventional generation segment – national and international – has in particular been the object of impairment tests. This illustrates the structural problem of this sector. In light of the continued low margins for coal and gas power plants, extensive considerations are being made about capacity markets and this is impacting on corporate planning. The companies of the energy sector are increasingly facing additional challenges worldwide resulting from political and regulatory risks.”*

Michael Salcher  
Partner

The WACC for the energy & natural resources sector – after corporate taxes, but prior to the growth discount – increased in the companies participating in this study analogously to the WACC for the overall total. Overall the sector demonstrated a below-average WACC. Amongst other things this is attributable to a relatively low beta factor as well as low cost of debt. (Figure 74)

The sustainable growth rate for half of the participating companies in the sector was determined using the general (consumer-oriented) inflation rate. In the previous year this figure was at only 20 percent. Company-specific earnings parameters (past growth of company earnings, growth rate of product/product group sales, growth rate of industry sales) were applied by 40 percent of the study participants for purposes of determining the sustainable growth rate. (Figure 75)

Figure 74  
**WACC applied**  
Total versus Energy & Natural Resources  
(in percent)

Source: KPMG

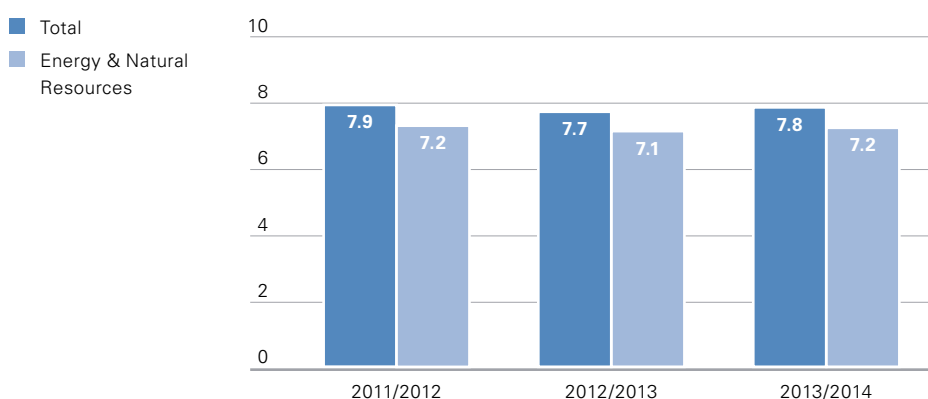
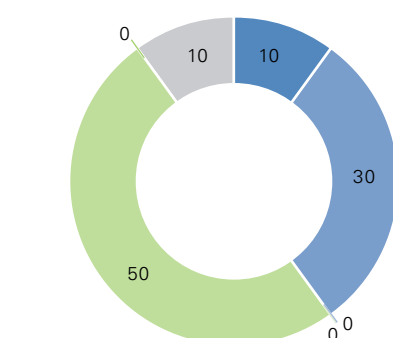


Figure 75  
**Measurement of the sustainable growth rate**  
Energy & Natural Resources  
(in percent)

Source: KPMG

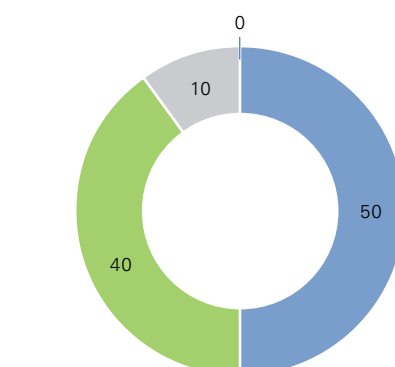


- Past growth of company earnings
- Growth rate of the product/product group sales
- Growth rate of industry sales
- Growth rate of gross domestic product
- Company-specific inflation rate
- General (consumer-oriented) inflation rate
- Other

Of the participating companies from the energy & natural resources sector, 90 percent performed an impairment. This percentage is higher than any other sector. The reason for this is primarily the poor long-term prospects and/or a decline in prices. In cases of impairment it was always a matter of impairments of assets. Of the participating companies, none of them performed an impairment exclusively on goodwill. (Figure 76)

Figure 76  
**Performance of an impairment**  
Energy & Natural Resources  
(in percent)

Source: KPMG



- Goodwill impairment
- Asset impairment
- Both
- No impairment

## 6.5 Financial Services

*"In 2014 as well the financial services were marked by the supervisory developments such as stress tests, asset quality review or Solvency II and the increasing challenges of profitability in light of the continuing low interest level. In addition, banks and insurance companies have to find the right distribution mix for their business: Purely online offers, video consulting, stationary consulting and sales concepts, brokers and sales representatives are not accepted equally by every customer. First movers set the direction and we will have to wait and see which paths of the multichannel method in financial services sector promise long-term success."*

Timo Schuck  
Partner

The WACC of the financial services industry – after corporate taxes, but prior to the growth discount – increased only marginally in the companies participating in the study compared to the previous year, but continues to be above the WACC of the overall total. (Figure 77)

In about 60 percent of the participating companies the sustainable growth rate was based on general economic growth rates or inflation rates (growth rate of the gross domestic product, company-specific inflation rate, general, consumer-oriented inflation rate). The general (consumer-oriented) inflation rate was most frequently applied (35 percent). (Figure 78)

With regard to the percentage of companies that performed an impairment, the financial services sector presented an almost identical picture to that of the overall total, namely 58 percent. There were hardly any changes in comparison to the previous year either. Only the number of companies that performed an impairment of goodwill as well as on individual assets decreased slightly from 26 percent to 21 percent. (Figure 79)

Figure 77  
**WACC applied**  
Total versus Financial Services  
(in percent)

Source: KPMG

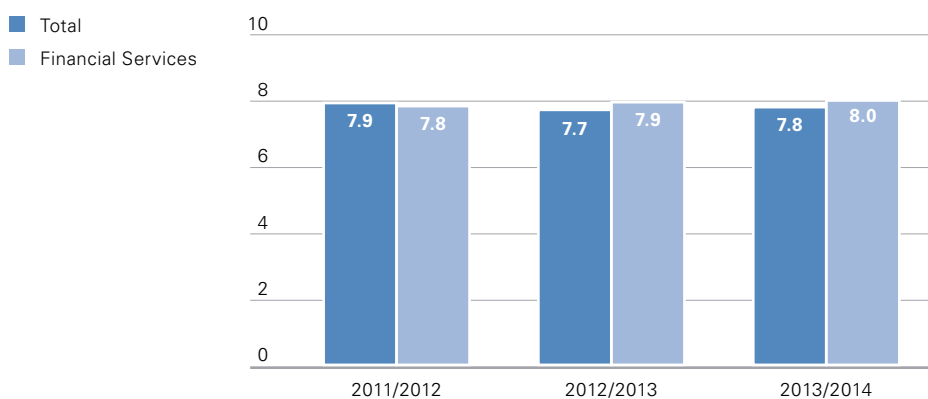


Figure 78  
**Measurement of the sustainable growth rate**  
Financial Services  
(in percent)

Source: KPMG

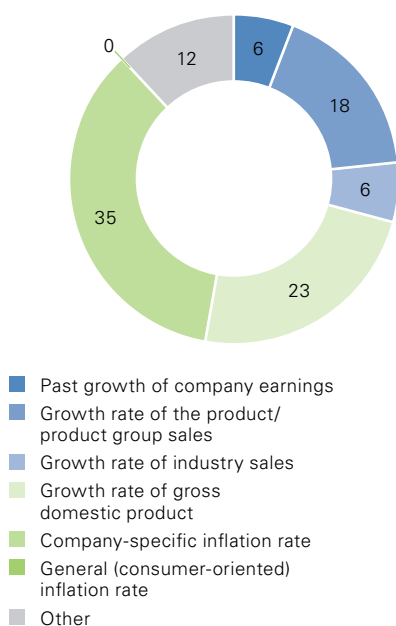
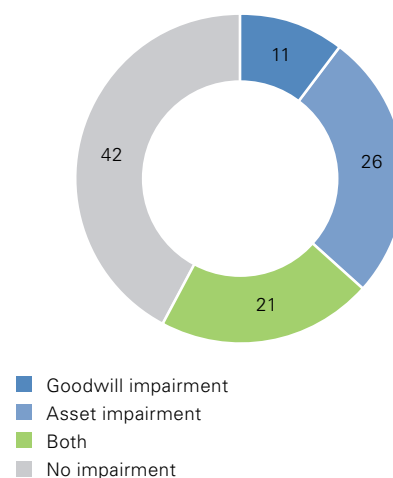


Figure 79  
**Performance of an impairment**  
Financial Services  
(in percent)

Source: KPMG



## 6.6 Health Care

*“The pharmaceutical companies have apparently succeeded in overcoming the threatening patent expirations. A combination of cost-reduction programs, efficiency increases, a growing number of takeovers as well as improved innovation processes in research are providing companies with attractive margin levels. These factors are being accompanied by an increasing demand for substances in the developing countries. The positive earning prospects are, of course, being reflected in the companies’ financial forecasts and therefore in the results of the impairment tests.”*

Christian Klingbeil  
Partner

The WACC of the health care sector – after corporate taxes, but prior to the growth discount – has increased markedly since 2012 in the companies participating in this study. While the WACC for the sector was significantly below the overall total in the past year, it came much closer to the average value in 2014. (Figure 80)

Almost three-quarters of the study participants from the health care sector measured the sustainable growth rate on the basis of company-specific earnings parameters (past growth of company earnings, growth rate of product/product group sales, growth rate of industry sales). This is higher than in any other sector. The growth rate of the product/product group sales was applied especially often (43 percent). (Figure 81)

Figure 80  
**WACC applied**  
Total versus Health Care  
(in percent)

Source: KPMG

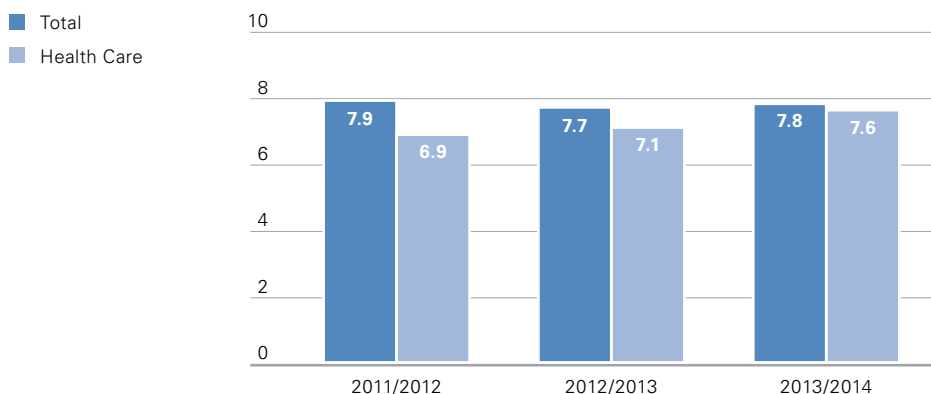
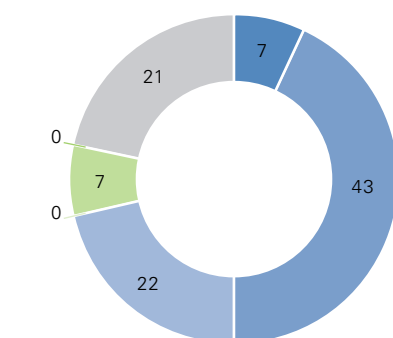


Figure 81  
**Measurement of the sustainable growth rate**  
Health Care  
(in percent)

Source: KPMG

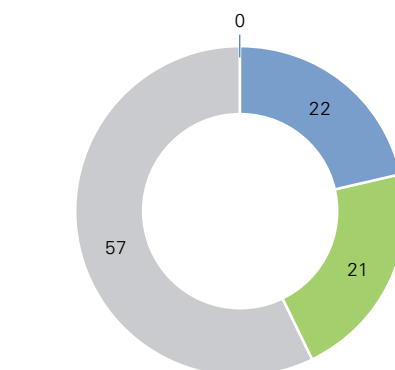


- Past growth of company earnings
- Growth rate of the product/product group sales
- Growth rate of industry sales
- Growth rate of gross domestic product
- Company-specific inflation rate
- General (consumer-oriented) inflation rate
- Other

Of the participating companies in the health care sector, at 43 percent, fewer companies performed an impairment than in the previous year (55 percent). At 21 percent, the percentage of companies that performed an impairment on both goodwill as well as individual assets was almost halved (previous year: 40 percent). As in the previous year, none of the companies in the sector performed an impairment exclusively on goodwill. (Figure 82)

Figure 82  
**Performance of an impairment**  
Health Care  
(in percent)

Source: KPMG



- Goodwill impairment
- Asset impairment
- Both
- No impairment



## 6.7 Industrial Manufacturing

*“The challenges manufacturing companies face are more diverse than ever. Overcapacity and increasing energy costs reduce the margins, markets are shifting to Asia and require local research and development, production as well as adjustments in products and distribution structures. At the same time, technology cycles are becoming increasingly shorter. Only companies that are able to simultaneously adjust the business model to changing markets, implement quick product and process innovations and continuously adapt the value chain more efficiently and automatically will grow in the future and therefore be able to increase the corporate value.”*

Dr. Jakob Schröder  
Partner

The WACC – after corporate taxes, but prior to the growth discount – for the companies participating in the study increased disproportionately to the WACC of the overall total and, at 8.1 percent, was well above the overall average. This is attributable to the above-average cost of debt for the sector (5.3 percent to 4.6 percent). (Figure 83)

Of the participating companies in this sector, 41 percent measured the sustainable growth rate based on the general (consumer-oriented) growth rate. This is significantly more than in the previous year in which 25 percent based the sustainable growth rate on all the categories of general economic growth rates or inflation rates (growth rate of the gross domestic product, company-specific inflation rate, general, consumer-oriented inflation rate). (Figure 84)

Figure 83  
**WACC applied**  
Total versus Industrial Manufacturing  
(in percent)

Source: KPMG

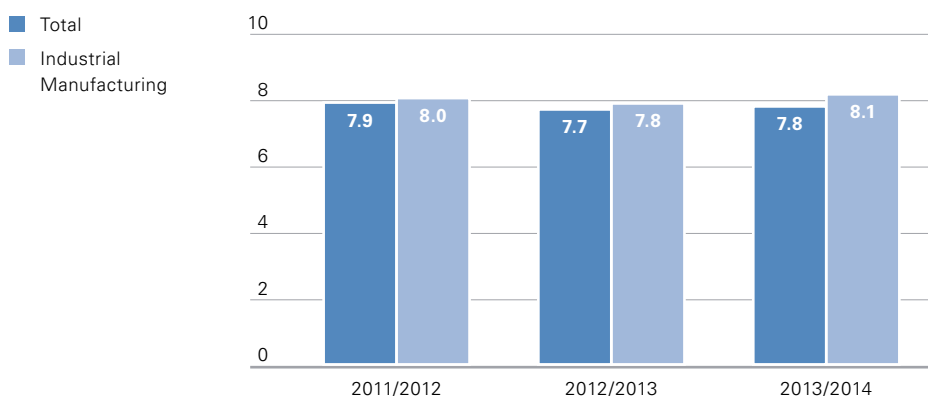
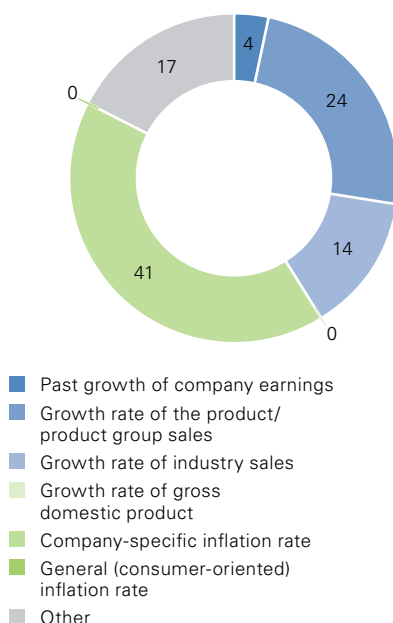


Figure 84  
**Measurement of the sustainable growth rate**  
Industrial Manufacturing  
(in percent)

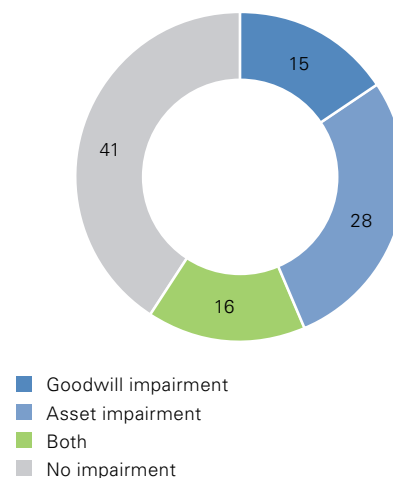
Source: KPMG



Of the participating companies from the industrial manufacturing sector, about 60 percent – similar to the previous year – reported performing an impairment. This figure almost corresponds to the overall total. With 15 percent, more companies performed an impairment on goodwill than in the previous year (9 percent). (Figure 85)

Figure 85  
**Performance of an impairment**  
Industrial Manufacturing  
(in percent)

Source: KPMG



## 6.8 Media & Telecommunications

*“The digitalization of the media sector is moving ahead at a pace. Publishers are attempting to combat the loss of traditional subscribers with various payment barriers, to raise cost advantages across the entire group, and cooperations/ joint ventures in certain value chain steps, for instance marketing and print. Television, on the other, hand is betting on the digital media so that audiences can increasingly actively participate in the broadcasts.”*

Prof. Dr. Vera-Carina Elter  
Partner

*“For telecommunications companies saturated markets, the transformation to integrated all-IP networks and new driving forces in the regulatory environment represent the primary industry trends. The networking of technologies opens up the traditional structures for the entry of outside competitors. In the end, the strategic challenges telecommunications companies face are changing radically and the continuous identification of strategic growth options takes on a fundamental importance.”*

Stefan Schöninger  
Partner

While the WACC for the companies in the media & telecommunications sector participating in the study – after corporate taxes, but prior to the growth discount – had been under the overall total WACC in the previous years, it was slightly above the average WACC this year. (Figure 86)

The sustainable growth rate was based on company-specific earnings parameters (past growth of company earnings, growth rate of product/ product group sales, growth rate of industry sales) in fewer participating companies (55 percent compared to 62 percent in the previous year). While last year 31 percent of the companies based the growth rate on product/ product group sales, only 15 percent of the companies did so this year. (Figure 87)

Figure 86  
**WACC applied**  
Total versus Media & Telecommunications  
(in percent)

Source: KPMG

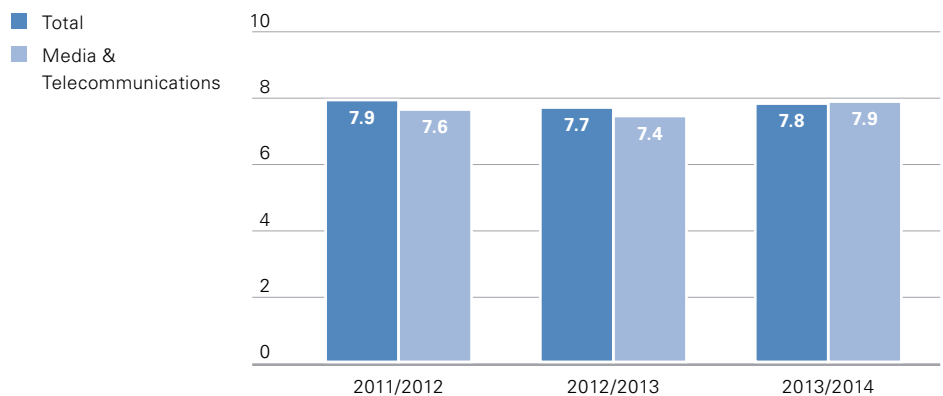
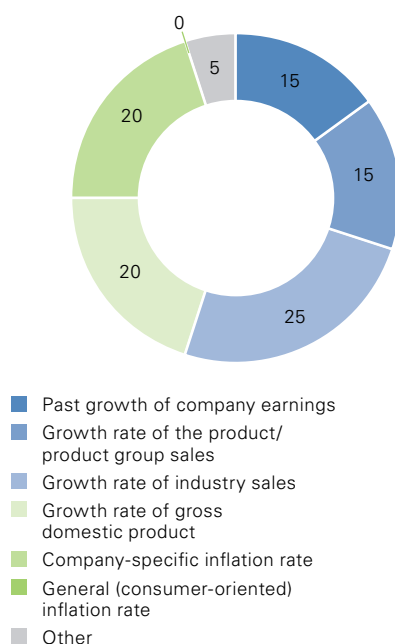


Figure 87  
**Measurement of the sustainable growth rate**  
Media & Telecommunications  
(in percent)

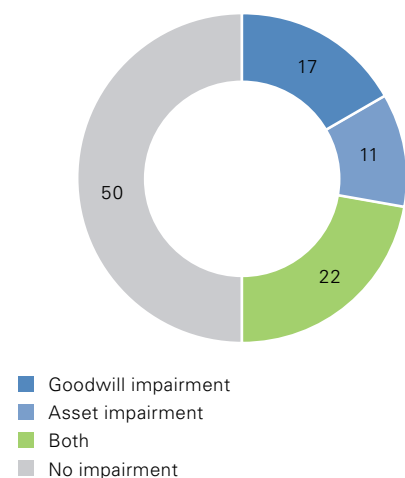
Source: KPMG



Half of the participating companies performed an impairment this year. In the previous year this figure was 7 percent higher. Compared to the overall total, at 11 percent, significantly fewer companies performed an impairment on individual assets (overall total: 24 percent). (Figure 88)

Figure 88  
**Performance of an impairment**  
Media & Telecommunications  
(in percent)

Source: KPMG



## 6.9 Technology

*"In the transformation phase to a networked world, industry 4.0 and the networking of technologies represent the main trends for companies in the technology sector. These issues are leading to an upheaval in the organization and steering of the value chain and the product life cycles at technology companies. Subsequently, the established structures and borders of markets and activities are breaking down. In addition, the continuous adjustment of the product portfolio as well as the competition for cooperation partners confronts the technology companies with strategic challenges in the continuous search for future growth opportunities in a context of increased dynamics and disruptive developments in the market and competitive environment."*

Karen Ferdinand  
Partner

While the WACC of the overall total – after corporate taxes, but prior to the growth discount – increased compared to the previous year, the WACC of the participating companies in the technology sector decreased significantly and came close to that of the overall average. The reason for this is the significantly increased cost of equity. (Figure 89)

The sustainable growth rate was measured on the basis of the general, consumer-oriented inflation rate in more than half of the participating companies from the technology sector. This percentage is higher than in any other sector. In the previous year the figure for the technology sector was only 11 percent. (Figure 90)

Of the participating companies in the technology sector, almost 60 percent of the companies reported an impairment. Significantly more companies than in the previous year – and with 47 percent the largest portion – performed an impairment on individual assets (previous year: 25 percent). (Figure 91)

Figure 89  
**WACC applied**  
Total versus Technology  
(in percent)

Source: KPMG

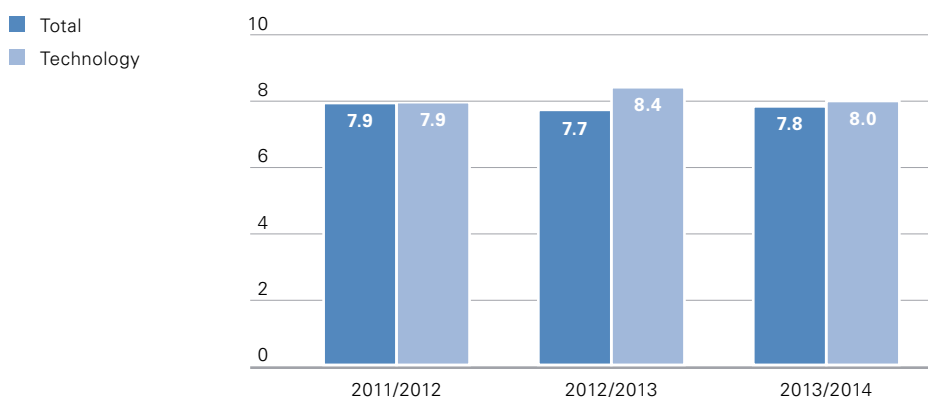


Figure 90  
**Measurement of the sustainable growth rate**  
Technology  
(in percent)

Source: KPMG

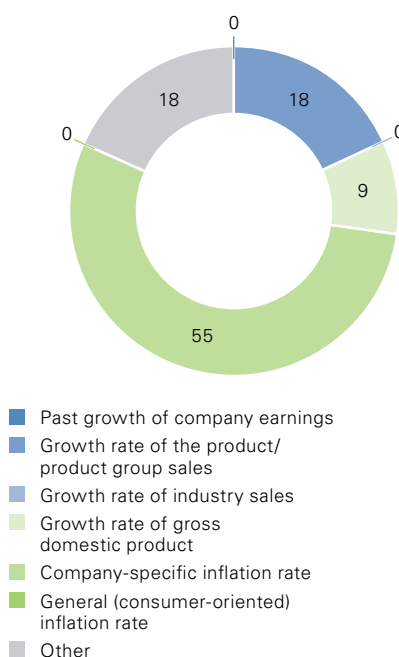
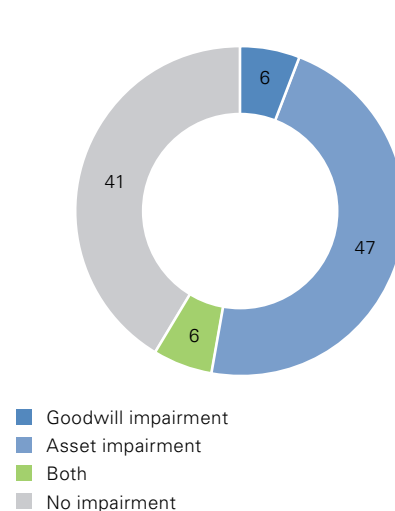


Figure 91  
**Performance of an impairment**  
Technology  
(in percent)

Source: KPMG



## 6.10 Transport & Leisure

*“Despite large-scale mergers and acquisitions in the past, the market structure still remains very fragmented, which results in low margins with high costs and investments. The greatest current strategic challenge is the digitalization of the business models. With the fast-growing online trade, B2B activities are quickly being replaced by B2C activities, which will result in process adjustments being necessary. Opportunities are being offered by big data and real-time data. These will allow for capacities and transportation networks to be optimally planned and utilized in the future.”*

Dr. Andreas Tschöpel  
Director

While the WACC of the overall total – after corporate taxes, but prior to the growth discount – increased compared to the previous year, the WACC of the participating companies in the transport & leisure sector decreased slightly. The WACC for the sector is therefore slightly below that of the overall total. (Figure 92)

Half of the companies in the transport & leisure sector measured the sustainable growth rate on the growth rate of the product/product group sales. This portion was not as high in any other sector. Compared to the previous year the percentage of companies that based their growth rate on the general (consumer-oriented) growth rate also increased significantly. It is now 33 percent (previous year: 22 percent). (Figure 93)

Figure 92  
**WACC applied**  
Total versus Transport & Leisure  
(in percent)

Source: KPMG

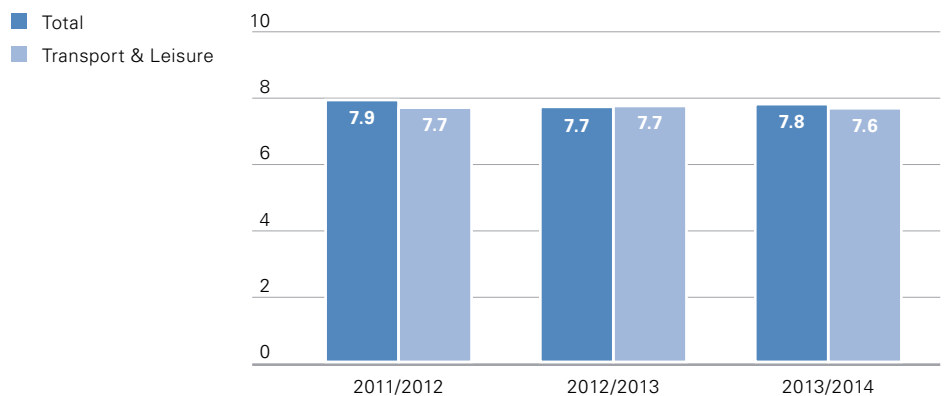
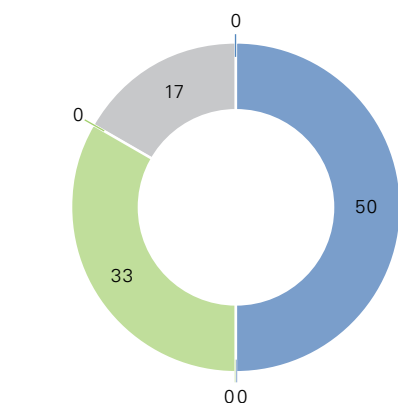


Figure 93  
**Measurement of the sustainable growth rate**  
Transport & Leisure  
(in percent)

Source: KPMG

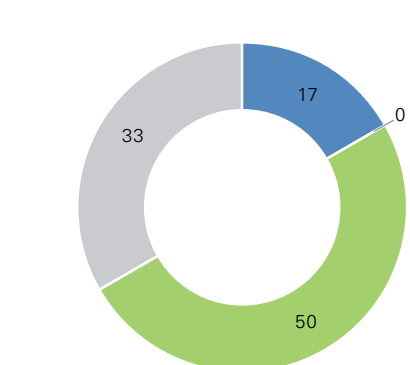


- Past growth of company earnings
- Growth rate of the product/product group sales
- Growth rate of industry sales
- Growth rate of gross domestic product
- Company-specific inflation rate
- General (consumer-oriented) inflation rate
- Other

The participating companies from the transport & leisure sector, at 67 percent, reported more frequently than the average to have performed an impairment (overall total: 57 percent). Nevertheless, this percentage is a decrease compared to the previous year (78 percent). (Figure 94)

Figure 94  
**Performance of an impairment**  
Transport & Leisure  
(in percent)

Source: KPMG



- Goodwill impairment
- Asset impairment
- Both
- No impairment



# List of Abbreviations

CAPM	Capital Asset Pricing Model
CGU	Cash Generating Unit
DAX	Main German Stock Index
DCF	Discounted Cash Flow
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
ERS	IDW Draft Accounting Standard
ECB	European Central Bank
FAUB	“Fachausschuss für Unternehmensbewertung und Betriebswirtschaft”: Technical Committee for Business Valuation and Economics of the IDW
FDA	Food and Drug Administration (USA)
HFA	IDW’s Main Committee of Experts
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
RS	IDW Accounting Standard
WACC	Weighted Average Cost of Capital

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