



# Cost of Capital Study 2019

**The Calm Before the Storm –  
Rising Profits and Deflated Values?**

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

When considering the following analyses, it should be noted that the company data presented here stems from companies from different countries, partially with different currencies and at varying points in time. Furthermore, it should be noted that not all participants of the study have answered all questions.

# Preface

Dear Readers,

It is our pleasure to present you with the results of the fourteenth edition of our Cost of Capital Study. This year's number of participants increased to 312 (previous year: 276) and therefore attained, once again, a new record level. We would like to express our heartfelt gratitude to all those companies which took part. The large, annually increasing number of participants demonstrates once more that the study is a fixed component in your practical valuation work. We therefore hope that this year's study and the key topics contained therein will be of particular interest to you.

In the current issue, we examine the impact of regulatory interventions, scarcity of resources, digitalization as well as economic risks after a long-term upswing in financial forecasts and cost of capital.

Consequently, we have chosen the motto "The Calm Before the Storm – Rising Profits and Deflated Values?" for this year's Cost of Capital Study. Based on this theme, we focus on the following subjects:

- Changing markets and industries?!
- A changing landscape for the automotive industry
- Data driven omnichannel models
- Chemical industry and the challenge of climate change
- Finding the balance in industry 4.0

As a reference point, the collection of empirical data is based on the IFRS (International Financial Reporting Standards) impairment test, as this test itself and its related valuations are mandatory for all IFRS users.

Supplementary to the current study, we would like to direct you to the interactive opportunities for analysis of the data on our website at [www.kpmg.de/cost-of-capital](http://www.kpmg.de/cost-of-capital). There you can compile the parameters relevant for your company and/or industry and use them to perform your own, tailor-made assessment.

Furthermore, we collate the relevant cost of capital parameters in an interactive dashboard for you on a monthly basis. With KPMG Valuation Data Source ([www.kpmg.de/kpmg-valuation-data-source](http://www.kpmg.de/kpmg-valuation-data-source)) you have access to reliable parameters on the cost of capital for more than 150 countries – anywhere and anytime.

We hope that this year's Cost of Capital Study also meets your expectations and serves as interesting reading. We will gladly discuss the results with you within 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**  
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KPMG AG Wirtschaftsprüfungsgesellschaft



**Stefan Schöniger**  
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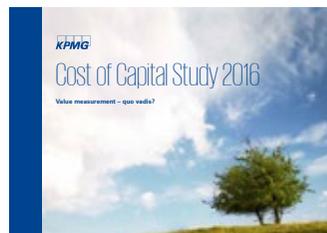
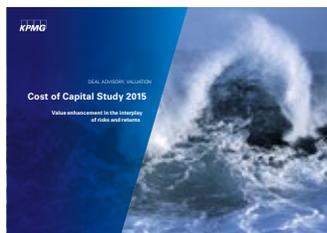
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# Editions of the Cost of Capital Study by KPMG



## Highlighted subjects of the study

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

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

- Macroeconomic uncertainties – part of financial forecasts
- Microeconomic change – predictability of disruptive business models
- Cost of capital – the challenges of low interest rates, populism, and new technologies
- Cost of capital – comparative measures in a world that increasingly defies comparison
- New valuation methods in disruptive times?

- Innovative business models – opportunity and risk at the same time
- Disruptive business models – one person’s joy, another’s suffering
- Internationalization of business models – opportunity and risk at the same time
- The optimal company portfolio – necessity of quantifying strategies

- Changing markets and industries?!
- A changing landscape for the automotive industry
- Data driven omnichannel models
- Chemical industry and the challenge of climate change
- Finding the balance in industry 4.0

# Summary of Findings

## Growth expectations

In the industries under consideration, different expected growth rates were forecasted for EBIT and sales. The highest EBIT growth is expected in the Chemicals & Pharmaceuticals and Technology sectors and the lowest EBIT growth in the Energy & Natural Resources sector.

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## Planning uncertainty

Planning uncertainty at the macroeconomic level continues to increase.

In addition to risks resulting from disruptive digitalization developments and innovative business models, political risks such as the ongoing trade war between USA and China are on the rise.

To date, economic risks and customer risks have been in particular given consideration in financial forecasts.

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## WACC

The average WACC across industries was at 6.9 percent and therefore on the same level as in the previous four years.

The highest WACCs were applied in the Automotive sector with 8.2 percent and in the Technology sector with 8.1 percent.

The lowest WACC was observed in the Energy & Natural Resources sector with 5.2 percent and in the Real Estate sector with 5.4 percent.

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## Risk-free rate

After last year's increase, the average risk-free rate remains nearly constant at 1.2 percent.

However, in recent months the risk-free rate declined significantly to 0.2 percent in the Euro zone and to -0.2 percent in Switzerland.

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## Market risk premium

The average market risk premium applied remained stable at 6.5 percent. By contrast, the market risk premium in Germany and Austria increased compared to the previous year.

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## Beta factors

The highest unlevered beta factors were applied by the Automotive and Technology sectors; the lowest for this survey period was measured in the Real Estate as well as in the Energy & Natural Resources sectors, followed by the Media & Telecommunications and Transport & Leisure sectors.

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## Cost of debt

The average cost of debt stayed almost constant with a slight increase of 0.1 percentage points to 2.9 percent. The implied average credit spread – defined as the difference between the cost of debt and the risk-free rate – amounts to 1.7 percent according to this year's study results.

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## Investment decision

Investment decisions continued to be made by the majority of participants based on both strategic as well as value-based objectives.

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## Monitoring

Most participants continued to consider value-based monitoring of investment decisions as important and observed in particular the change in performance more than the change in risk (cost of capital).

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## Capital market communication

The cost of capital was, as in the previous years, less relevant in capital market communication and was primarily used only for accounting and reporting purposes.

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# 1 Introduction



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## Study participants

With a total of 312 participating companies (previous year: 276) including 240 participants from Germany, 31 from Austria and 41 from Switzerland, this year's Cost of Capital Study once again achieved a new record number of participants.

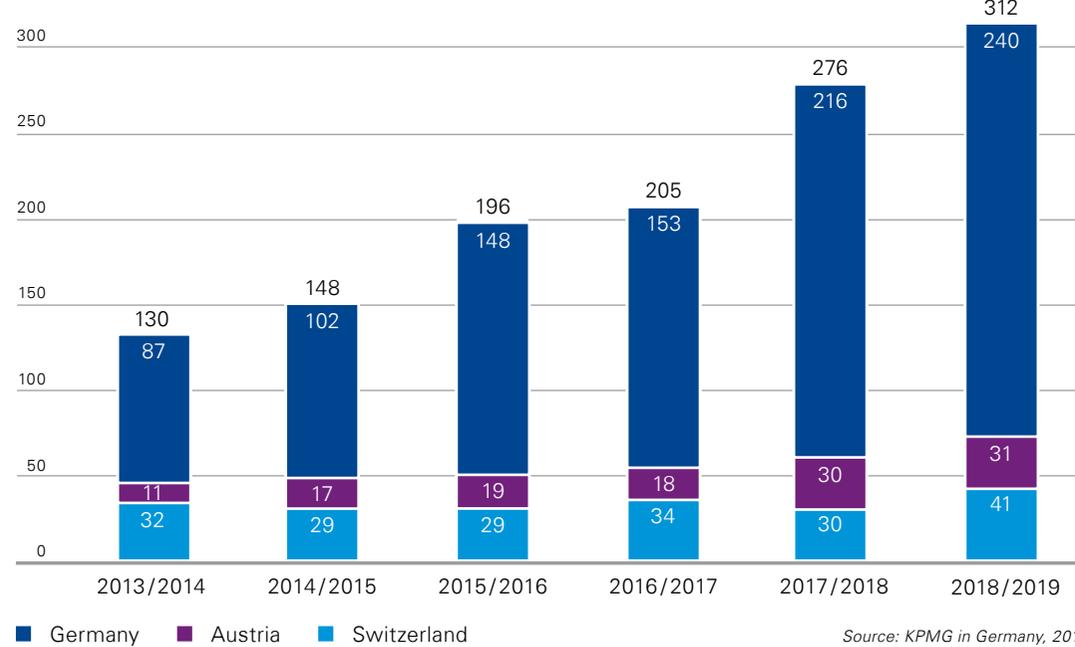
Compared to the preceding year, the number of DAX-30 companies taking part slightly declined to 25, resulting in a high response rate of 83 percent nevertheless. At 68 percent, the proportion of MDAX companies is considerably higher compared to the previous year's level of 62 percent.

In addition, companies from ATX and SMI participated with a total of 30 percent and 75 percent, respectively.

## Survey period

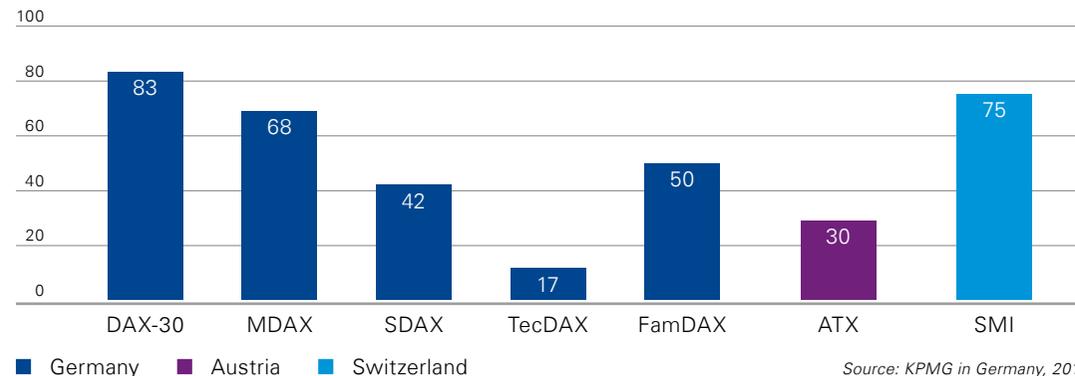
The survey of the companies occurred between March and July 2019. The reporting dates of the consolidated financial statements included in the study were between 28 February 2018 and 31 March 2019.

### 01 Study participations by region



### 02 Participation rates by index

(in percent)



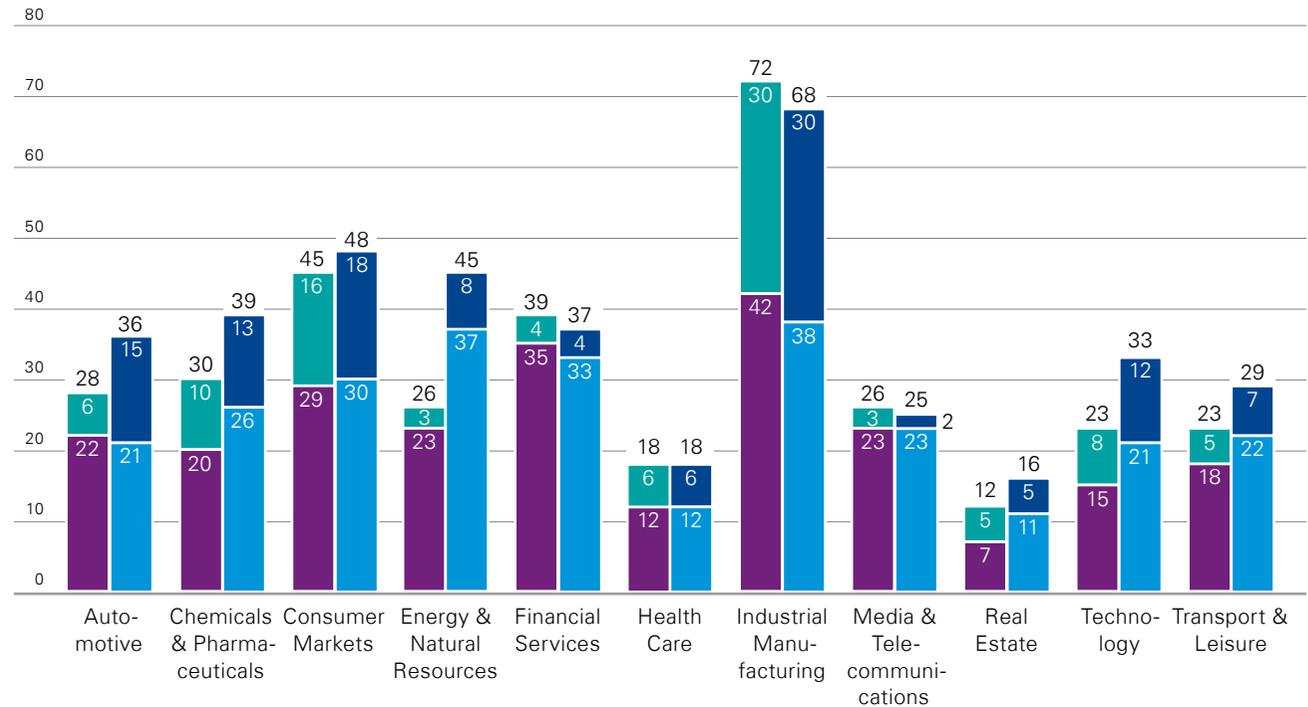
## Analyses

As in all previous studies, the participating companies were requested to assign themselves to industries in accordance with their business activities. The current study therefore contains overviews of all the material financial forecast parameters and cost of capital parameters according to industries.

Compared to the previous year, especially the sectors Energy & Natural Resources, Technology, Chemicals & Pharmaceuticals as well as the Automotive sector showed a significant increase in participating companies.

### 03 Study participations by industry

Total (multiple choices possible)



2017/2018:

■ Family-owned companies  
■ Non-family-owned companies

2018/2019:

■ Family-owned companies  
■ Non-family-owned companies

Source: KPMG in Germany, 2019

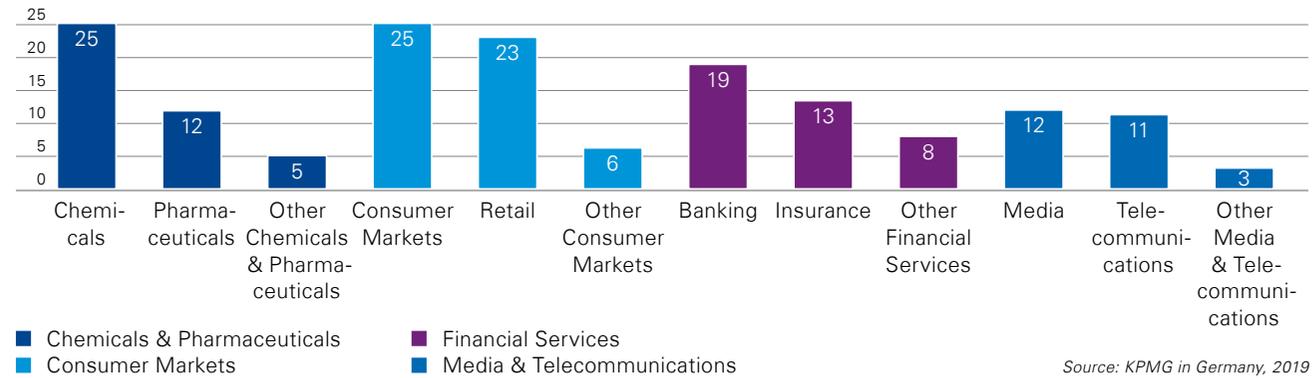
## Online industry analyses

At <https://hub.kpmg.de/cost-of-capital-study-2019> you will find the financial forecast and the cost of capital parameters from the current study as well as the results of the Cost of Capital Studies from previous years in a clear, self-explanatory presentation. These include figures for all industries as well as for the sub-sectors of Consumer Markets, Chemicals & Pharmaceuticals, Media & Telecommunications and Financial Services.

In addition, we provide you with an individual and interactive data analysis of the study results there. Using your own search criteria, you can generate the data relevant for you and therefore better grasp the values and developments of the cost of capital parameters essential to your situation.

As in previous years, you will also find additional insights regarding the performance of impairment tests.

### 04 Study participants by sub-sectors Total (multiple choices possible)



Source: KPMG in Germany, 2019

# 2

## Derivation of the Cash Flows

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2.1 Preparation of the Financial Forecasts

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2.2 Growth Expectations

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2.3 Determination of Expected Values

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2.4 Consideration of Risks

## 2.1 Preparation of the Financial Forecasts

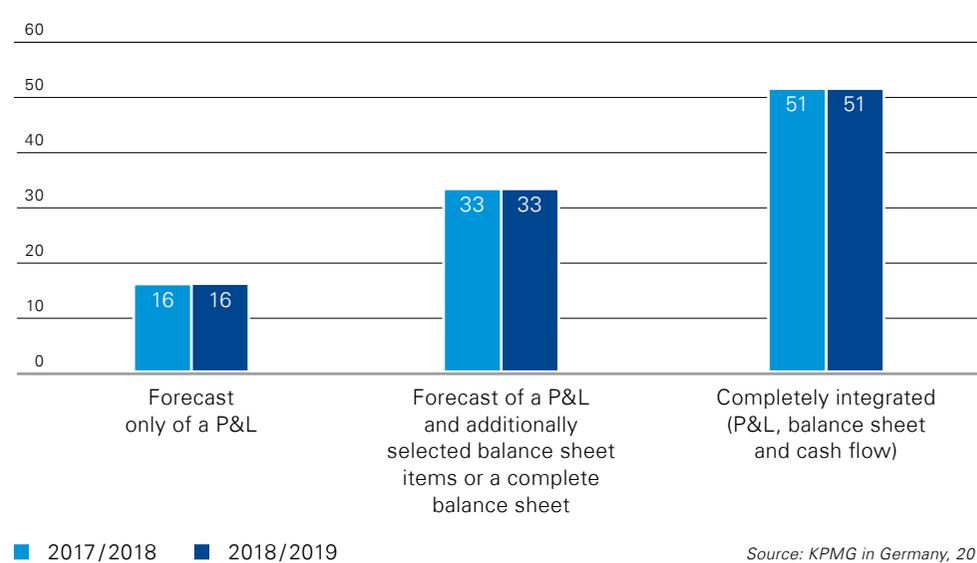
Financial forecasts inherit a high degree of economical unpredictability and thus a lack of planning certainty.

Therefore, the financial forecast has to properly reflect the expected development of the underlying operating performance and risk drivers. For this purpose, financial forecasts should be integrated and prepared in a sufficiently detailed manner.

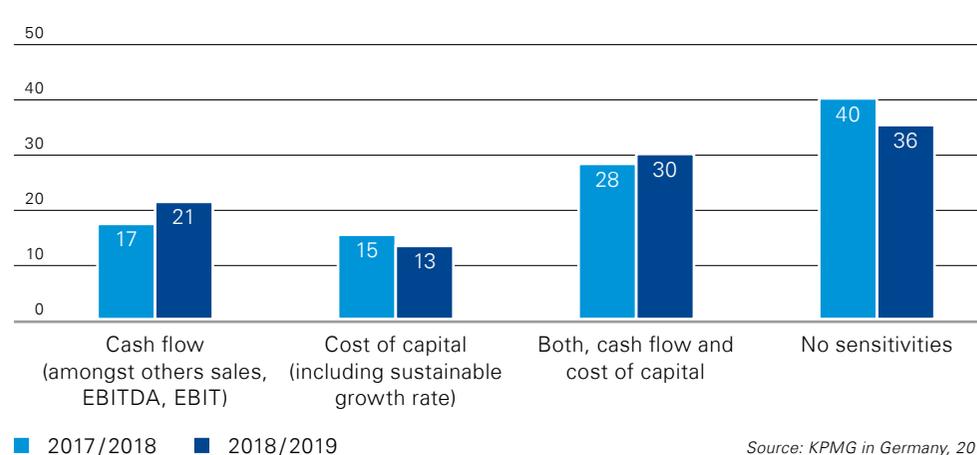
Sensitivity and scenario analyses are able to capture future fluctuations in the company's performance and therefore provide a framework to account for uncertainty in enterprise valuations.

Furthermore, the proper accounting for cash flow sensitivity requires a simultaneous risk equivalent adjustment of the cost of capital. Otherwise, the risk equivalence between numerator and denominator is not given and the valuation results are biased.

### 05 Degree of detail of the financial forecasts



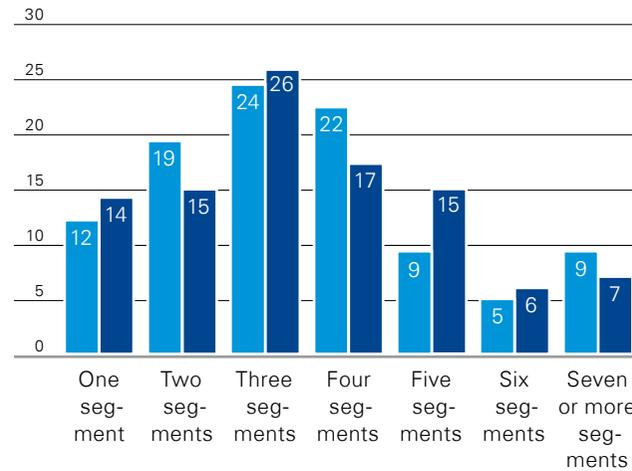
### 06 Consideration of sensitivities



The choice of the planning period remains a matter of some incongruity. Although a longer planning horizon is accompanied by growing planning uncertainty, a (too) short planning horizon means that investments, product life cycles as well as long-term industry developments are not properly reflected in the financial forecast. This leads to erroneous company valuations and may then result in inappropriate decisions.

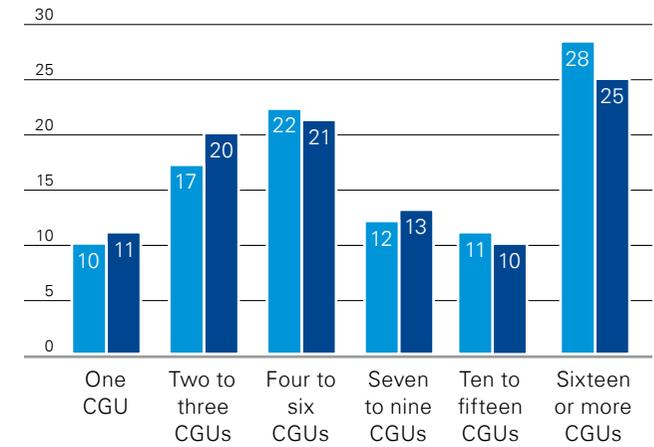
According to the regulation of the International Accounting Standard (IAS) 36.33 (b), the financial forecasts in case of the value-in-use concept should in principle not exceed a planning horizon of five years. Given plausible product and investment cycles, a longer planning horizon can be justified.

### 07 Number of segments Total (in percent)



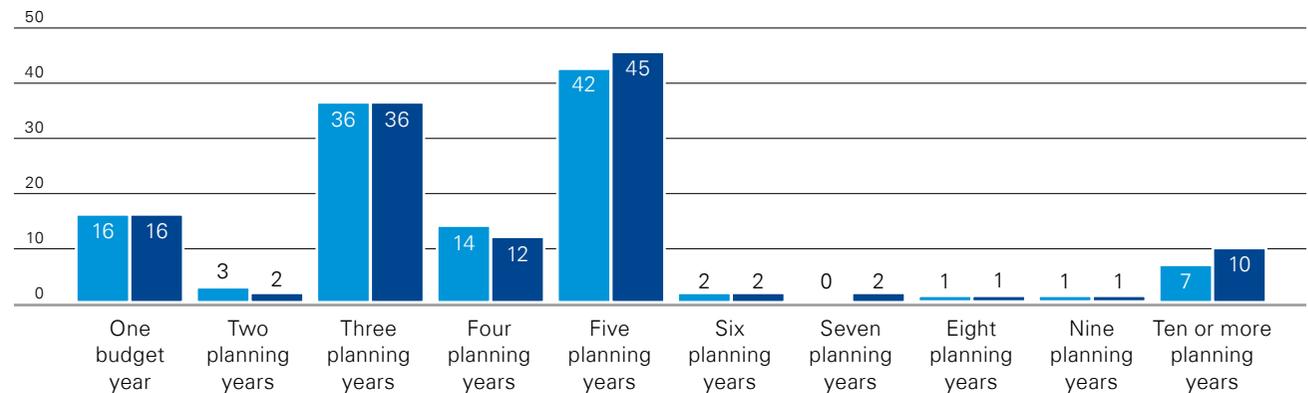
■ 2017/2018 ■ 2018/2019 Source: KPMG in Germany, 2019

### 08 Number of cash generating units (CGUs) Total (in percent)



■ 2017/2018 ■ 2018/2019 Source: KPMG in Germany, 2019

### 09 Planning horizon Total (in percent, multiple choices possible)



■ 2017/2018 ■ 2018/2019

Source: KPMG in Germany, 2019

## 2.2 Growth Expectations

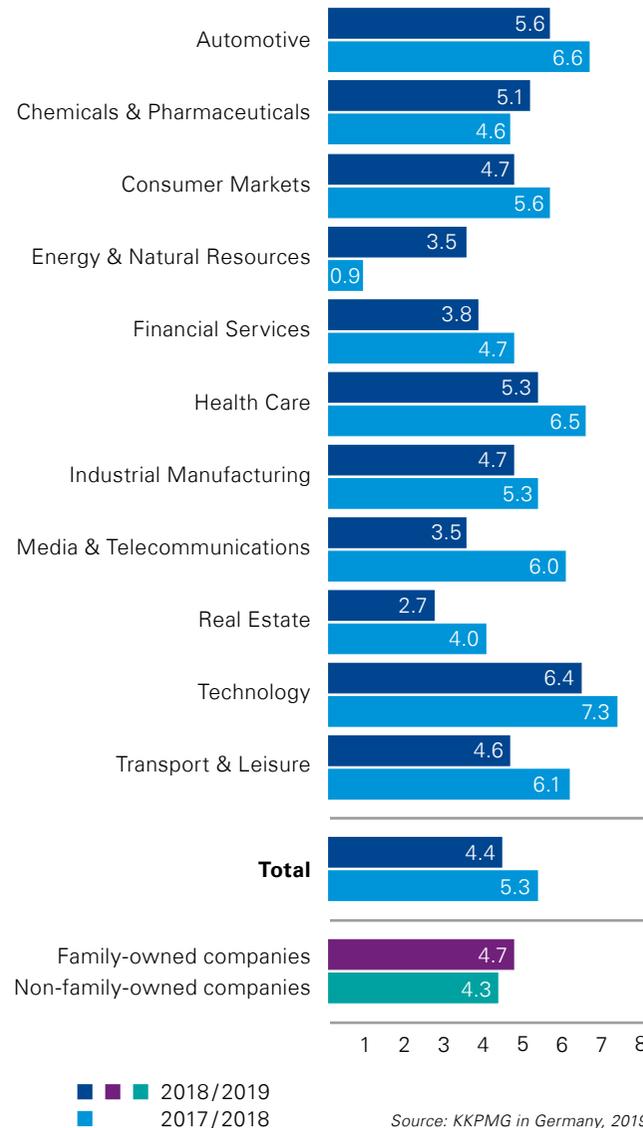
The primary premises for preparing the financial forecast are assumptions regarding the expected growth of several items of the profit and loss statement (P&L). In particular, the growth expectation of sales as well as achievable results in the future, such as earnings before interest, taxes, depreciation and amortization (EBITDA) and earnings before interest and taxes (EBIT), are of primary interest. All financial forecasts are influenced by developments on the company level as well as by future general macroeconomic developments.

Today's growth expectations are affected not only by the looming Brexit, but also by the emerging US-China trade war, scarcity of resources as well as the still ongoing digitalization with its future-altering technologies.

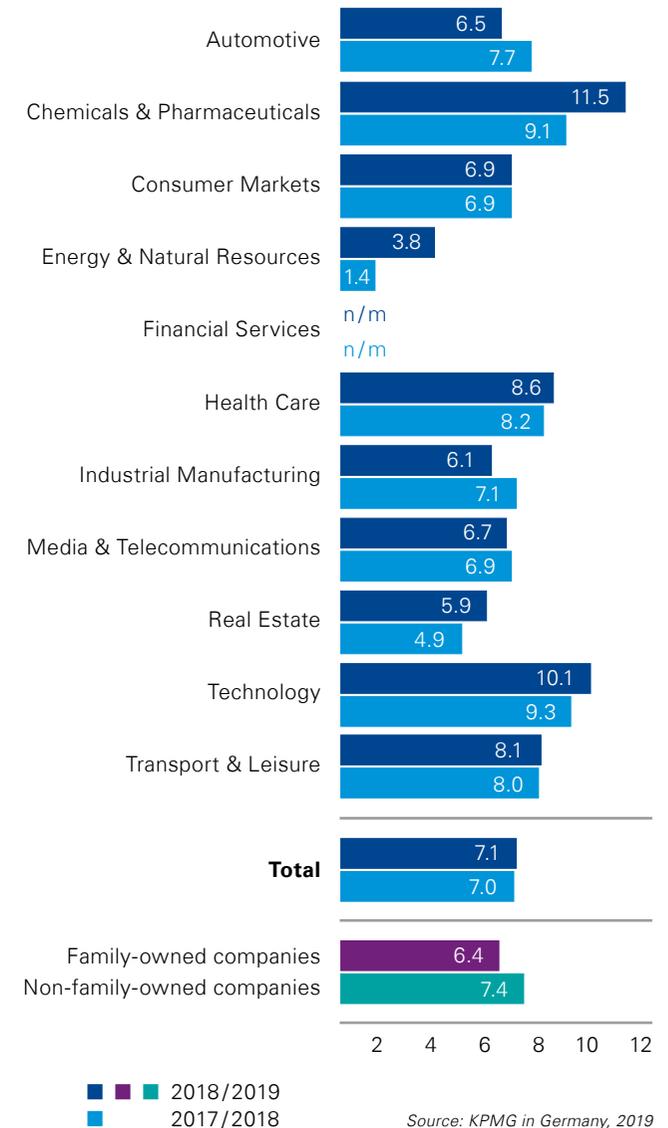
All these factors as well as new business models have had significant impacts and will continue to affect corporate developments in future.

The above mentioned challenges might be reflected in the decreased forecasted sales growth rate. While the average forecasted sales growth rate decreased by 0.9 percentage points the average forecasted EBIT growth rate remained stable. The connection of these forecasts might indicate expected lower cost ratios in the future or results from the future manifestation of positive economies of scale.

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



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



# Changing Markets and Industries?! (1/2)

## Thesis 1: In the future, economic cycles will be increasingly overlaid by individual effects

Economic developments in recent years have been strongly influenced by disruptive effects on existing business models. Along with the uncertainties associated with these disruptions at the more microeconomic level, uncertainties have been arising at the macroeconomic level.

Here, too, it now appears that the former “certainty with regard to uncertainty” – which has to date been reflected in steady economic cycles – will in future be exposed to increasingly complex individual issues.<sup>1</sup>

There is some controversy, for instance, about the extent to which the “America First” politics of the current US President, the ongoing Brexit process, or the newly aligning, regionally varying lack of resources such as human capital, land and capital, but also of raw materials and certain intellectual property for future key technologies can weaken or magnify the global economic cycles, or that completely different regional impacts may occur.

In addition, protectionist tendencies by some nations as active attempts to “counteract” as well as the possible exhaustion of monetary policy measures in advance of expected downturns are having an unsettling effect.

<sup>1</sup> See Global Trends – Paradox of Progress (2017 Report of the National Intelligence Council), p. 9ff.

<sup>2</sup> Cf. European Central Bank, Economic Report Issue 2/2019, p. 3ff.

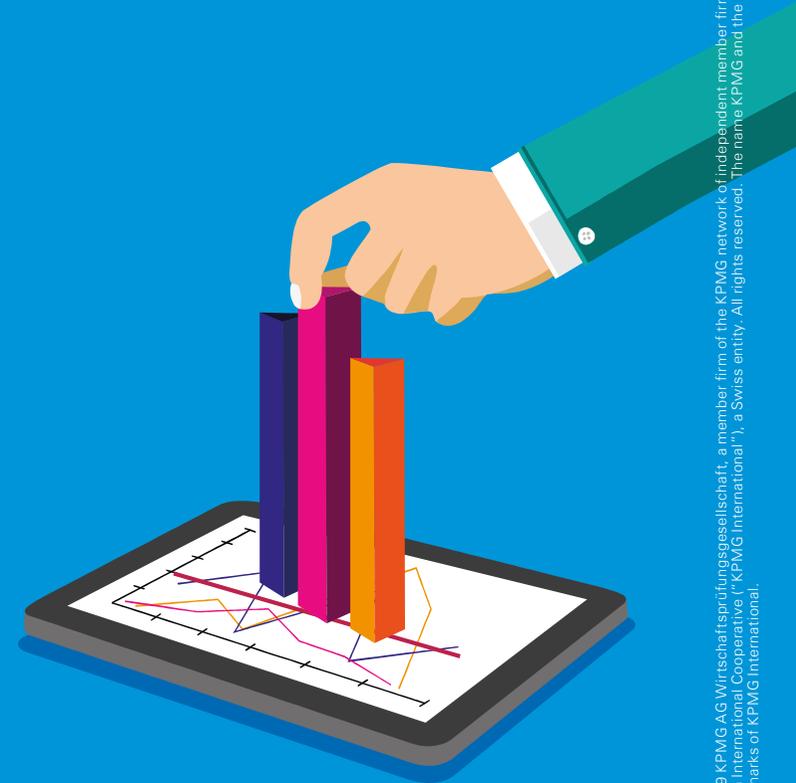
Overall, it can be assumed that – following rather bidirectional expectations with regard to the future (downturn or upswing) – expectations will be much more multidirectional in the future.



## Thesis 2: A downturn need not necessarily follow the upswing

We are currently in a longer than average phase of an ascending cycle on the capital markets, beginning with the last lows on the European stock markets in 2012. There is some debate as to the extent to which the price declines of the recent past have already led to the corrections – which in the past were necessary due to the system and could be observed at regular cyclical intervals – of the current economic phase or not. A look at the macroeconomic indicators does not show a uniform trend.

For the European economic region in particular, the ECB’s phase of prolonged low interest rates is unprecedented; European and American interest rates have thus developed unevenly for some time. The voices of alarm regarding an approaching downturn and even recession expectations are currently on the rise, and only on the stock markets do these warnings still not seem to be playing a significant role.<sup>2</sup> The picture is dominated by numerous special effects, both positive and negative.



# Changing Markets and Industries?! (2/2)

## Thesis 3: Overvalued unicorns indicate overvalued markets

The so-called Internet or dot.com bubble burst in March 2000. This was preceded by unrealistically high profit expectations on the part of investors in new technology companies, which had become a symbol of numerous new technological developments and triggered a “pioneering mood” in connection with digital business models. Innumerable start-ups found their way onto the stock markets.

Investors willingly subscribed to new issues in the hope of above-average earnings expectations. This led to a broad overvaluation of such companies, the correction of which subsequently affected the markets as a whole. Even at present there is no agreement at all on the valuation levels of today’s start-ups. Current studies indicate high overvaluations – according to these, overvaluations of up to 50 percent exist, and half of the unicorns would lose this status<sup>3</sup>.

What is common to the market situation today and back then is that fundamental company data only justifies a small part of the high valuations. It remains to be seen to what extent the high expectations of investors in the new innovative business models will be met this time.

<sup>3</sup> See Gornall, William, and Ilya A. Strebulaev. Squaring venture capital valuations with reality. No. w23895. National Bureau of Economic Research, 2017

<sup>4</sup> KPMG in Germany, Whitepaper “Geschäftsmodelle im digitalen Wandel”, 2018 (<https://home.kpmg/de/de/home/themen/2018/10/geschaeftsmodelle-im-digitalen-wandel.html>)

<sup>5</sup> See current industry developments in this Cost of Capital Study on pages 21, 29, 33 and 38f.



## Thesis 4: Economic and sector development decoupled

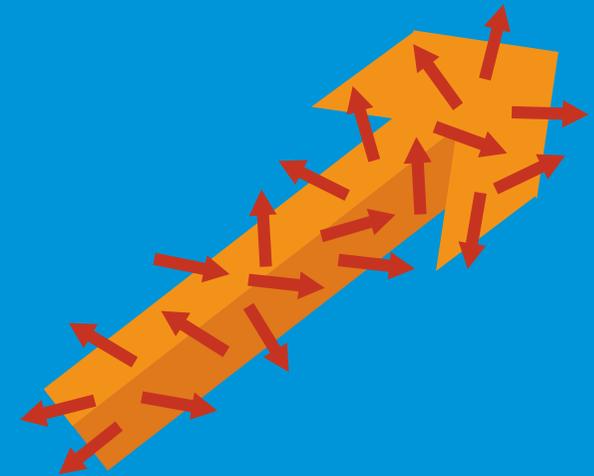
Currently, there is hardly an industry that does not see itself exposed to so-called disruptive developments. The causes of these disruptions are manifold. Technological change is leading to a horizontal and vertical readjustment of value chains. Platform strategies form the basis for completely new business models in retail, for example. Data could become the raw material of the future.<sup>4</sup>

Regional differences in demographic developments – not only from a global perspective, but also within leading industrial nations such as Germany – pose major challenges for the service sector. But regulatory changes, such as climate-related requirements for the Energy & Natural Resources and Automotive sectors, also lead to transformation processes on a large scale.

Whether for technological, demographic or regulatory reasons, the resulting positive and negative effects have now assumed orders of magnitude, gained increasing influence on the overall economic development of entire economies and decoupled from the general economic cycles in terms of time.

This poses major challenges<sup>5</sup> not only for the companies and entire sectors concerned, but also for the monetary and fiscal policy institutions that set the framework. Companies with the greatest resilience will cope best with the increase in local and global uncertainties, structural breaks and disruptions.

This includes rapid adaptation to changing environmental conditions, financial stability, active error management, the establishment of new forms of cooperation and the ability to take action at any time.



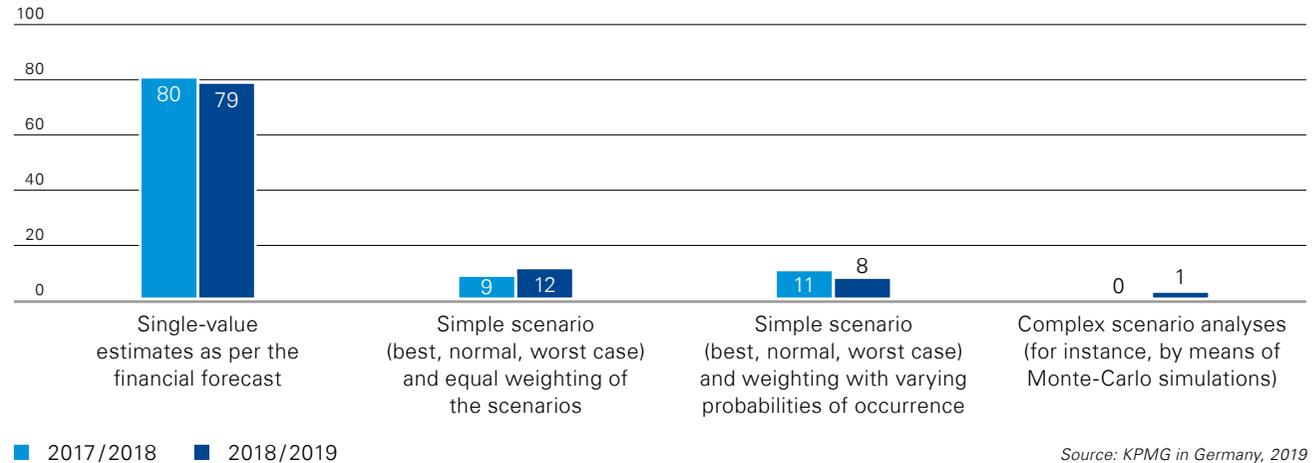
## 2.3 Determination of Expected Values

The relatively stable economic situation in connection with a long company history made single-valued estimations of future cash flows a generally sufficient and reasonable forecasting tool in the past.

However, in the current economic environment full of uncertainty, the performance and risk drivers can only be systematically and transparently compiled with a scenario- and simulation-based multi-valued financial forecast. Hence, taking the increasingly unpredictable macroeconomic developments as well as the digitalization effects on business models into account, the expected value sought for valuation purposes can no longer be simply determined on the basis of only single-valued planning estimates.

As in the previous year, the major proportion of participating companies applied the single-value estimate for determining future cash flows. This shows that alternative scenarios and thus future performance and risk changes of the prevailing business model are not adequately taken into account in the expected value's derivation.

12 **Measurement of expected value**  
Total (in percent)



Source: KPMG in Germany, 2019

## 2.4 Consideration of Risks

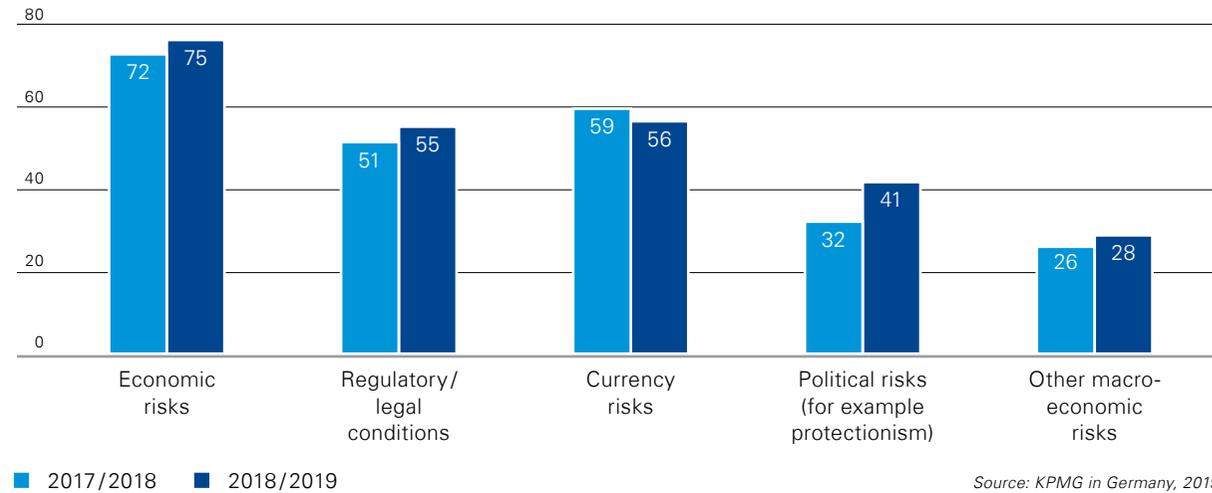
The derivation of future cash flows is characterized by uncertainty and they therefore must be reflected with their expected values.

As a consequence, to derive an accurate expected value, all opportunities and risks of the operating business – regardless of their micro- and macroeconomic nature – must be taken into account in the financial forecast.

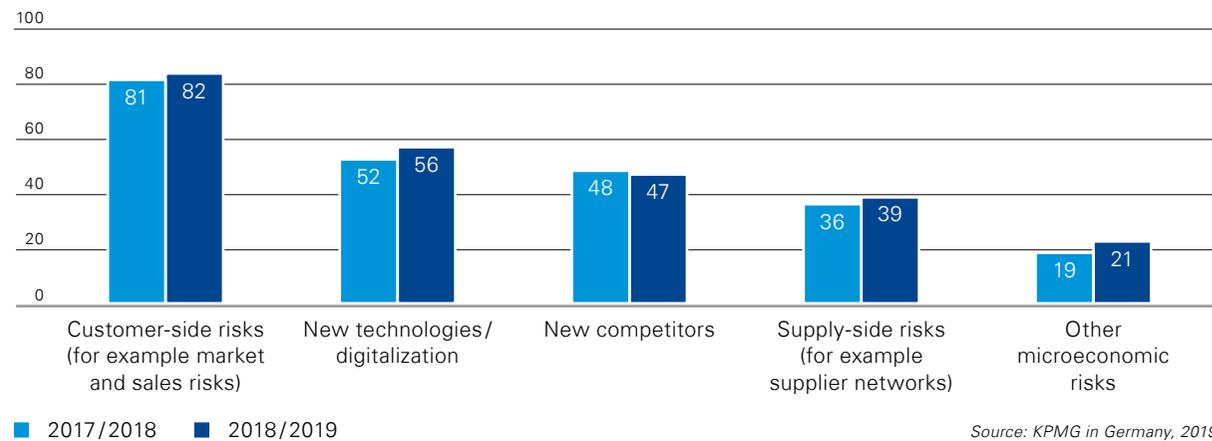
Taking current economic abnormalities such as the trade war between the USA and China, the threat of an economic downturn and the long-lasting impacts of innovative technologies into consideration, new challenges are constantly being created at the corporate management level.

In particular, these developments were acknowledged at the micro- and macroeconomic level by the increased number of types of risk considered within the financial forecasts. Especially, political risks have become more relevant compared to the previous year.

**13 Consideration of risks in the financial forecast – macroeconomic risks**  
Total (in percent, multiple choices possible)



**14 Consideration of risks in the financial forecast – microeconomic risks**  
Total (in percent, multiple choices possible)



# 3 Determination of the Cost of Capital Parameters

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3.1 WACC Overview

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3.2 Risk-free Rate

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3.3 Market Risk Premium

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3.4 Beta Factor

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3.5 Cost of Equity

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3.6 Other Risk Premiums

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3.7 Cost of Debt and Debt Ratio

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3.8 Sustainable Growth Rate

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## 3.1 WACC Overview

The most common discounted cash flow (DCF) method to derive an enterprise value is the so-called WACC approach.

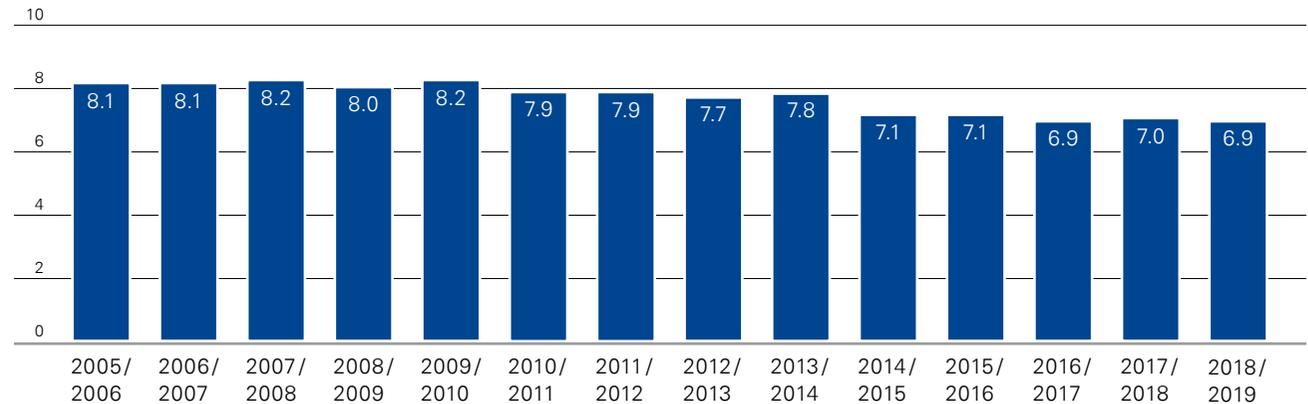
With this approach, the weighted average cost of capital (WACC) is used to discount the company's future cash flows. It is calculated as the firm's cost of capital in which both cost of equity and cost of debt are weighted by the respective shares of the market value of equity and the market value of debt to the total entity value.

In the last five years, the WACC has remained almost constant as an average across all companies.

While consistent principles should be applied in the derivation of the cost of capital and should also be applied even among different projects, nearly half of our participants do not compare the costs of capital applied in M&A transactions and investment decisions.

The decisive factor here is not consistency on a value basis of the cost of capital, but rather its methodological consistency across the various occasions for valuation.

### 15 WACC (after corporate taxes) Total (in percent)



Source: KPMG in Germany, 2019



#### Relevant cost of capital parameters at a glance

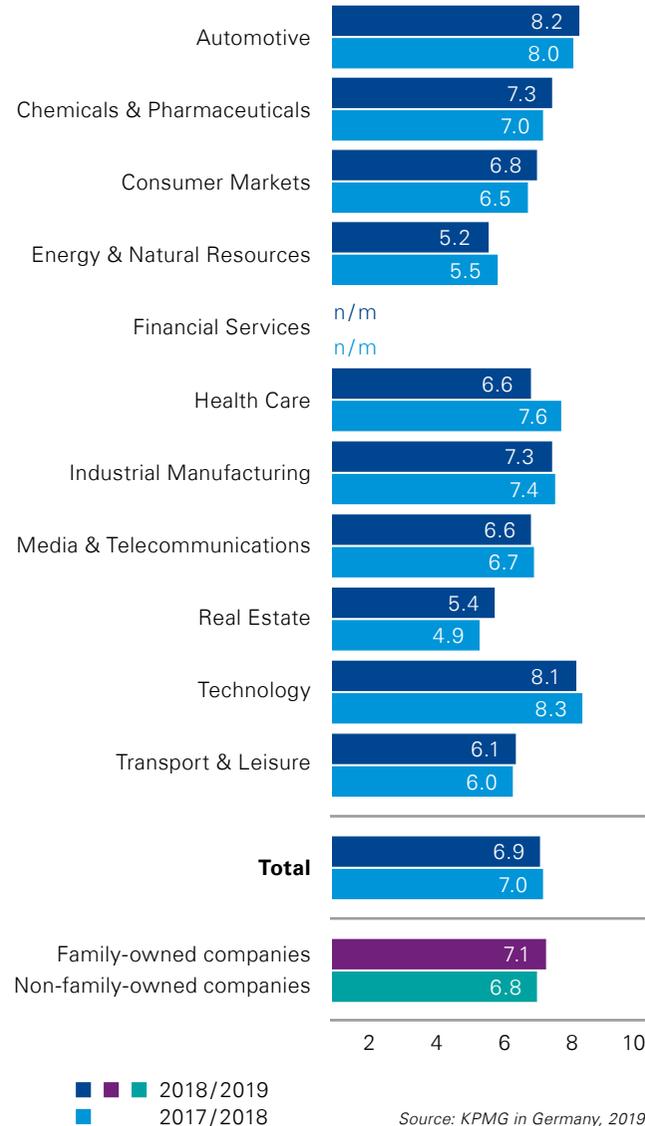
In times of uncertainty, it is more important than ever for companies to keep an eye on cost of capital parameters in order to be prepared for changing market conditions and protect your company against losses. How can companies keep track of the most important capital market data? The KPMG Valuation Data Source collates relevant KPMG cost of capital parameters, for example the market risk premium, the risk-free interest rate and inflation differential, in an interactive dashboard on a monthly basis. It grants access to relevant and reliable cost of capital parameters for more than 150 countries anywhere and anytime. Historical cut-off dates are available from 2012 until today.

For further information see [www.kpmg.de/kpmg-valuation-data-source](http://www.kpmg.de/kpmg-valuation-data-source).

The overall average WACC and its unchanged level of this year's survey is also reflected in the heterogeneous development of the individual sectors. While one half of the industries reported a decline in the WACC, the other half showed an increase.

The highest increase compared to the previous year was observed in the Real Estate sector, the largest decrease in the Health Care sector.

## 16 WACC (after corporate taxes) by industry (in percent)



Source: KPMG in Germany, 2019

### Consumer Markets

The heterogeneous development is also reflected within the Consumer Markets sector. While the WACC for the sub-sector Consumer Markets increased from 6.5 percent in the previous year to 7.3 percent, the WACC declined from 6.6 percent to 6.2 percent in the Retail sub-sector. Therefore, the gap between the two sub-sectors increased from 0.1 percentage points in the previous year to 0.9 percentage points.

### Media & Telecommunications

Within the Media & Telecommunications sector, the gap between the sub-sectors decreased compared to the previous year. The WACC declined by 0.4 percentage points to 6.7 percent in the Media sub-sector and increased by 0.4 percentage points to 6.3 percent in the Telecommunications sub-sector.

# A Changing Landscape for the Automotive Industry

Irrespective of economic developments, the automotive industry will be confronted with the challenge of numerous trends occurring at the same time in the coming years. These trends essentially include vehicle connectivity and digitization, changes in the powertrain towards emission-free drives, new mobility concepts and autonomous driving. These challenges will lead to a decoupling of industry and economic development.

Each trend in itself requires significant investment, especially as there is no one global solution for the aforementioned trends, but there will be country-specific, regional or even local answers to the challenges associated with them. These range from regulatory issues (e.g. approval of autonomous driving, emission regulations) to the availability of raw materials (e.g. for battery cell components) and changing customer behavior.

Depending on the financial capabilities of a automotive company, investment budgets may have to be allocated to selected solutions. However, in order to cover the widest possible range of trends, and business models as well, cooperation and joint ventures will be an instrument for sharing economic risks and achieving economies of scale. These cooperations will take place with direct competitors as well as with companies from industries that converge with their products in the automotive industry (e.g. information, communications & technology (ICT) companies).

The long-term goal will be mobility ecosystems in which customers receive simple and seamlessly integrated transport and services.

These ecosystems will have both economically attractive and less attractive business models. In order to achieve the required return on investment (RoI), the strategic allocation of investment budgets needs to be analyzed. This will provide transparency on the value contributions of different business models in the mobility ecosystem. Approaches like CEDA, the simulation and management model developed by KPMG, can be used to support the company in risk versus return considerations regarding possible business models.

Frequently, the development of new business models or the expansion of the existing value chain can only be managed through acquisitions. A further risk factor for automotive companies comes into play here. In technology-related transactions, the automotive industry and in particular automotive suppliers are often confronted with overpowering technology companies. The market value of the top 15 technology companies alone is almost five times as high as that of the top 50 automotive manufacturers and suppliers. This is also reflected in the large cash positions available in the technology sector.

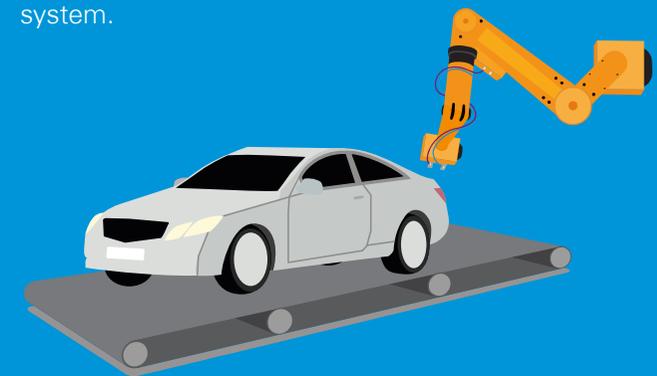
However, the financial possibilities are only one side of the coin. On the other side of the ecosystem is the data generation, data sovereignty and data security associated with vehicle connectivity and digitization, autonomous driving and mobility services.

Customers will use services from those companies that best meet their need for data security. This applies in particular to comprehensive mobility ecosystems in which a large amount of personal data, vehicle data and other information is disclosed.

According to the KPMG Automotive Executive Survey 2019 ([automotive-institute.kpmg.de](http://automotive-institute.kpmg.de)), the automotive industry is ahead of ICT companies in this regard.

The imminent shift in the automotive industry from product focus to customer focus will very likely lead to dematerialization at the level of automotive users. In other words, customers will most likely shift from owning vehicles towards the use of mobility services instead. In the medium term, this will lead to an increase in the role of financial service providers – especially those owned by automobile manufacturers – who finance the vehicle fleets of mobility service providers. The balance sheets of the automotive companies will therefore show more and more borrowed capital and the increasing risk from the swelling financing structure will be reflected in the cost of capital.

Overall, it is therefore not yet possible to predict who will emerge from these developments as the winner and who the loser. The only certainty is that there will be significant changes or shifts in the existing value system.



## 3.2 Risk-free Rate

According to the Capital Asset Pricing Model (CAPM), the cost of equity can be divided into the risk-free rate and a premium for taken risks with regard to the asset invested in.

To ensure equivalence in the maturity, the risk-free rate applied should be determined taking into account the current term structure of interest rates of the relevant central banks.

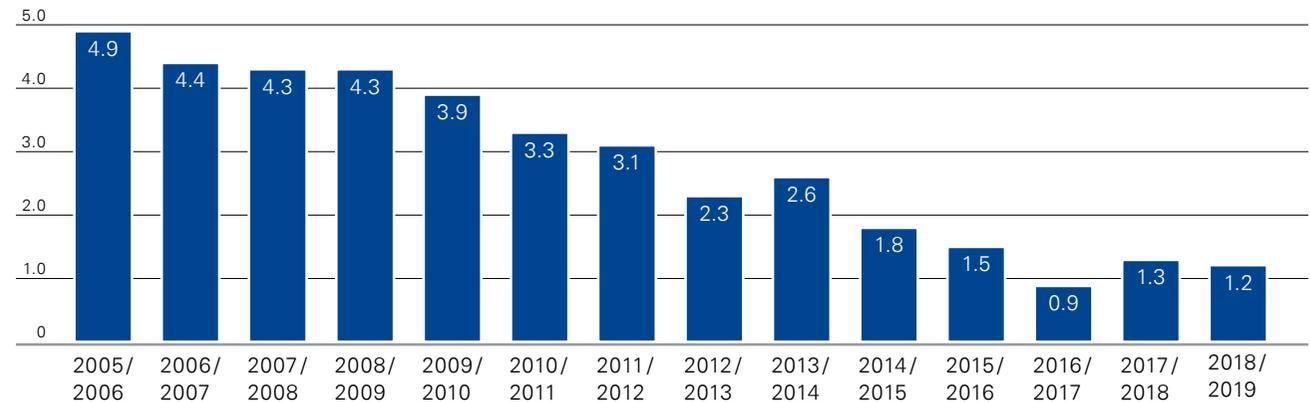
In order to smooth out abnormal market fluctuations in deriving the risk-free rate, an average of the three months preceding the valuation date should be calculated.

While the risk-free rate applied by the participating companies increased last year, it dropped slightly in this year's Cost of Capital Study.

A cross-country comparison shows a heterogeneous development. In Switzerland, the risk-free rate increased – however, a decline was observed in Germany and Austria.

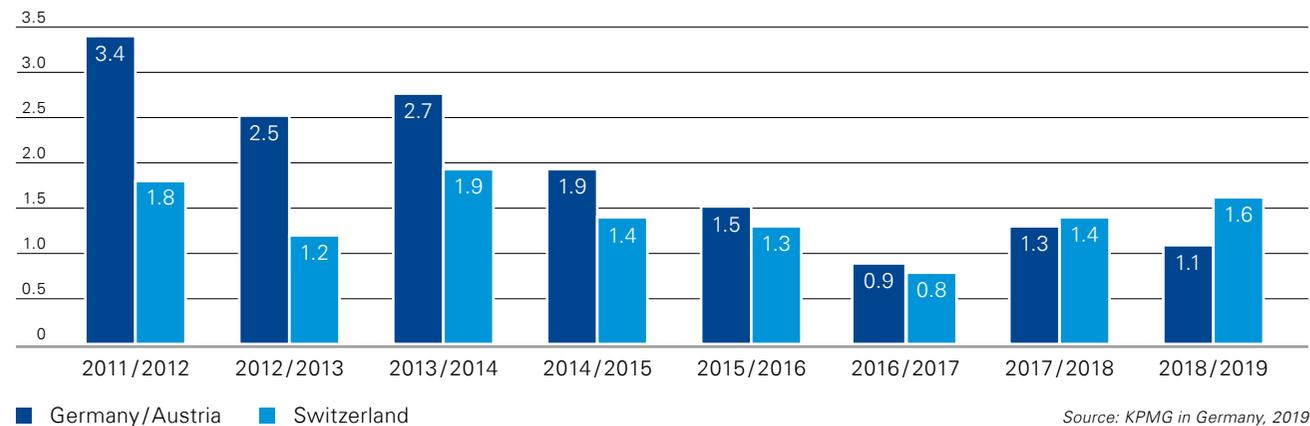
In the recent months, the risk-free rate declined significantly. As of August 2019, the risk-free rate declined to 0.2 percent in the Euro zone and to -0.2 percent in Switzerland.

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



Source: KPMG in Germany, 2019

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



Source: KPMG in Germany, 2019

### 3.3 Market Risk Premium

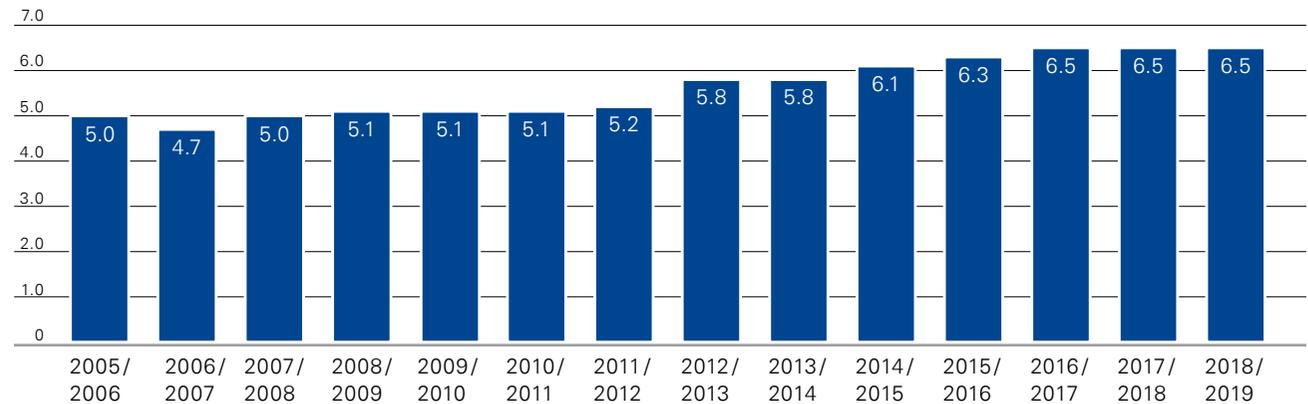
As a parameter not directly observable in the capital market, the market risk premium is derived by subtracting the risk-free rate from the market return.

In October 2019, the Technical Committee for Business Valuation and Economics (FAUB, Fachausschuss für Unternehmensbewertung) of the Institute of Public Auditors in Germany (IDW, Institut der Wirtschaftsprüfer) published an adjustment of the recommended bandwidth of an appropriate market risk premium due to the current developments in the capital markets and monetary policy of the European Central Bank. Consequently, the new recommended bandwidth for the market risk premium in Germany ranges between 6.0 and 8.0 percent (previously 5.5 to 7.0 percent).

The Council of Experts for Business Administration (KFS/BW, Fachsenat für Betriebswirtschaft) of the Chamber for Tax Advisors and Auditors in Austria (KSW, Kammer der Steuerberater und Wirtschaftsprüfer) recommended a nominal market return of 7.5 to 9.0 percent at the end of 2017. Less the current risk-free rate, this results in an approximate market risk premium between 6.0 and 7.5 percent.

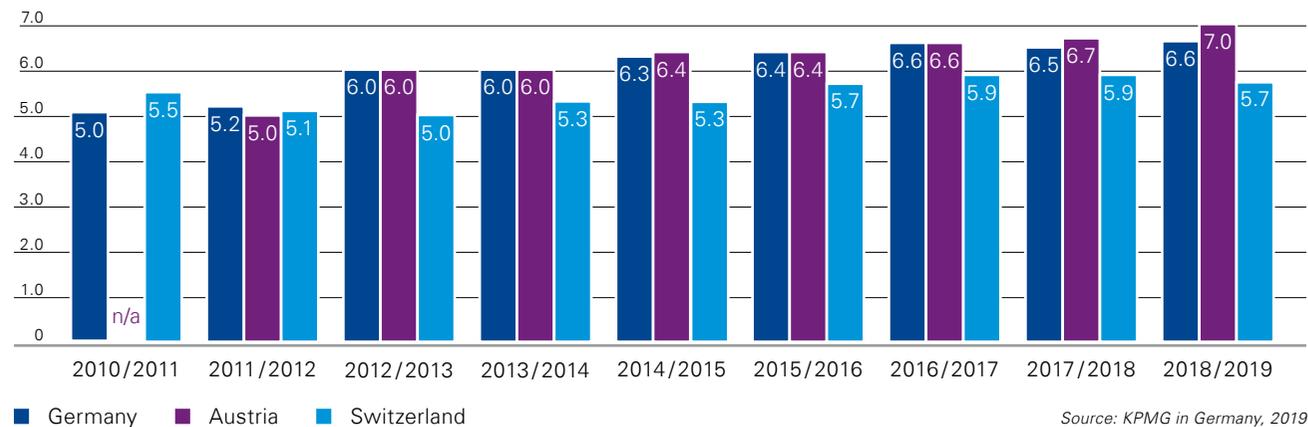
Individual analyses to determine the market risk premium should always be performed based on the aforementioned ranges recommended by the standard setters.

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



Source: KPMG in Germany, 2019

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

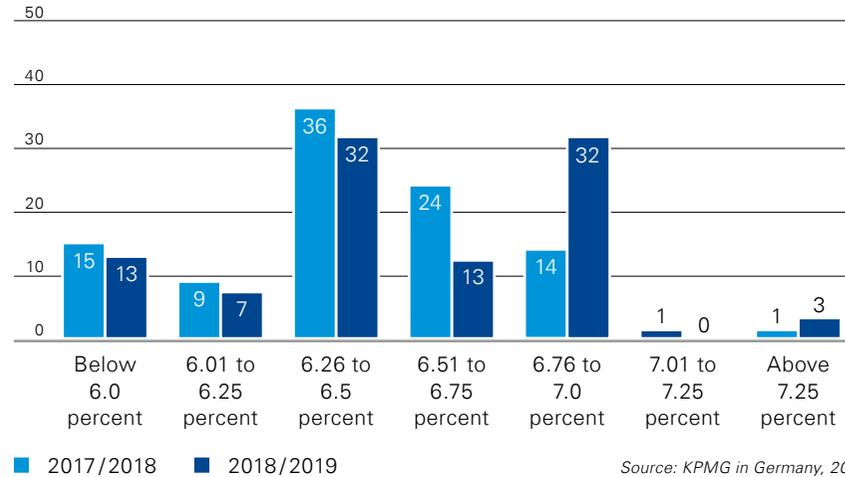


Source: KPMG in Germany, 2019

As in the previous year, the majority of the study participants from Germany applied a market risk premium between 6.0 and 7.0 percent with a significant increase in the category 6.76 to 7.0 percent.

By definition, the market risk premium is an industry-independent parameter. Accordingly, the market risk premiums applied by the study participants were in a narrow range without any significant differences between specific industries.

## 21 Distribution of the market risk premiums of German companies (in percent)



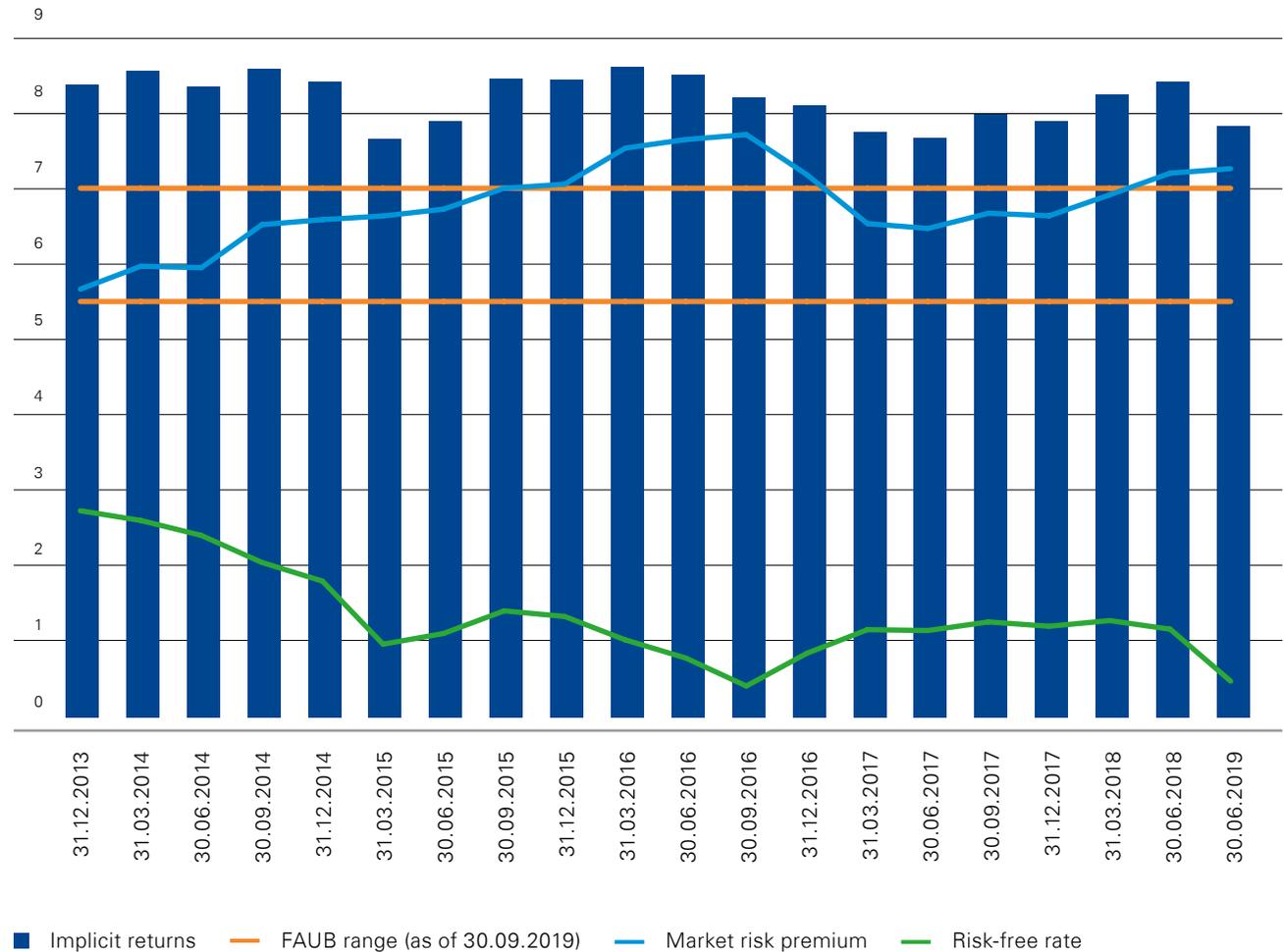
Source: KPMG in Germany, 2019

Analyses on the historical returns have frequently served as the basis for determining market returns and consequently the market risk premiums. If an average historical risk-free rate is deducted from such an average historical market return, it is implicitly assumed that the risk premium remains constant over time. On the other hand, if the risk premium is calculated as the difference between the market return and the risk-free rate for different points in time in the past, the risk premium would fluctuate over time.

Aside from that, researchers have been applying models for deriving implicit returns for some time and in valuation practice these have become relevant more recently. They enable a future-oriented derivation of returns based on current capital market information. This also takes into account risk premiums that may change over time, which more realistically reflects actual circumstances in the capital markets.

In the last two years, the market risk premium resulting from implicit returns in Germany, has been above the range recommended by FAUB.

## 22 Change in expected returns in Germany (in percent)



Source: KPMG analysis on the basis of data from S&P Capital IQ

### 3.4 Beta Factor

As a relative risk measure, the beta factor quantifies the operational risk of a company by measuring the volatility of the return of an individual asset in comparison to the market's return as a whole.

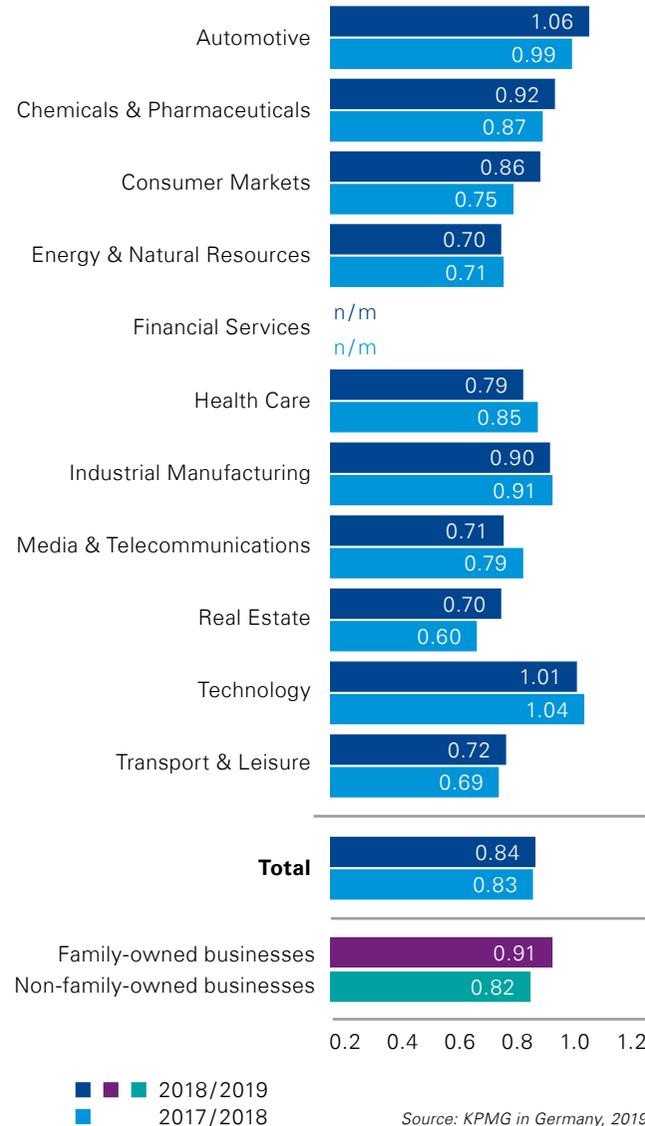
Even though the beta factor is typically applied to capture the company's future risk in relation to the general market risk, it is usually determined based on historical data and serves as an estimator for the future.

While the concept of a peer group is still the dominant way to determine a beta factor, new business models sometimes do not have a peer group consisting of a number of listed companies. Thus, there might be a need for new concepts in the future.

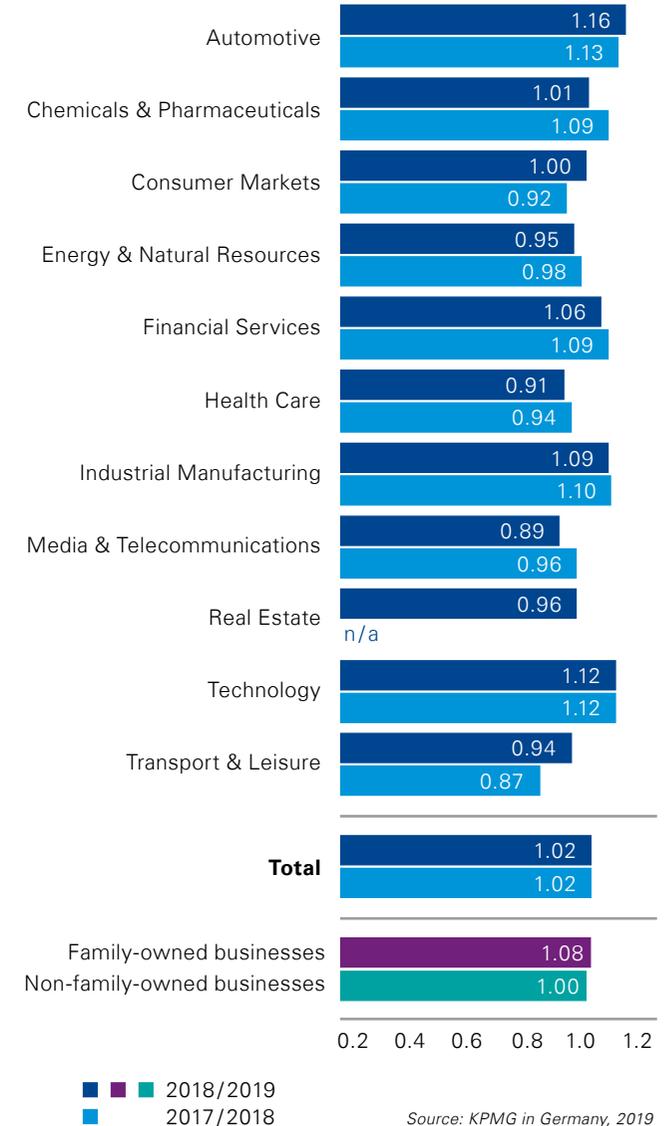
Since the unlevered beta factor reflects the operative risk independent of a company's capital structure, the levered beta factor serves as a metric for the equity provider's systemic risk under consideration of the risk from debt in the capital structure.

While on average the unlevered beta factor did not materially change across industries, there are relatively strong changes in individual industries.

23 Average unlevered beta factors by industry



24 Average levered beta factors by industry



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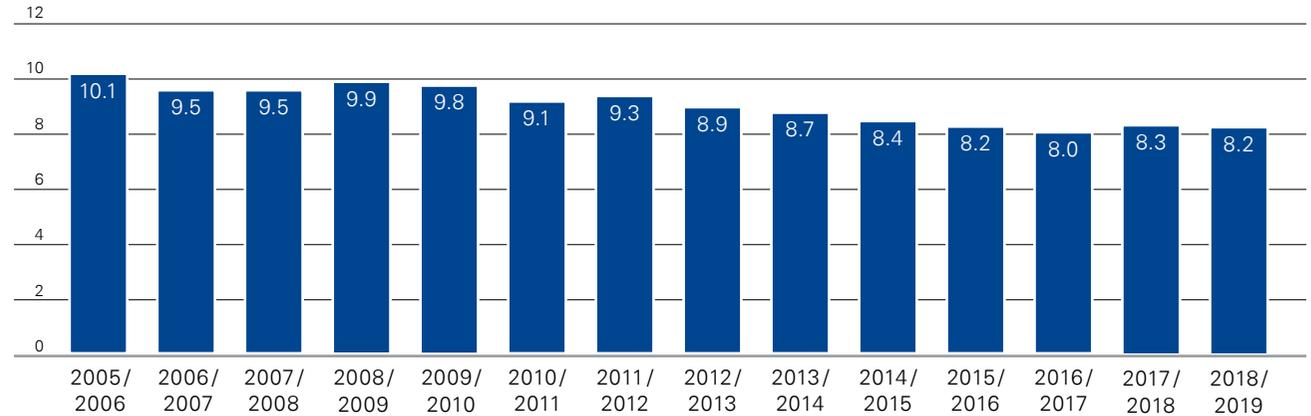
### 3.5 Cost of Equity

The determination of the levered cost of equity is based on the underlying mathematical equation of the CAPM using the risk-free rate, the company-specific levered beta factor and the market risk premium.

In comparison to the previous year, the levered cost of equity applied in this year's survey results have decreased slightly only due to the slight downward movement in the risk-free rate.

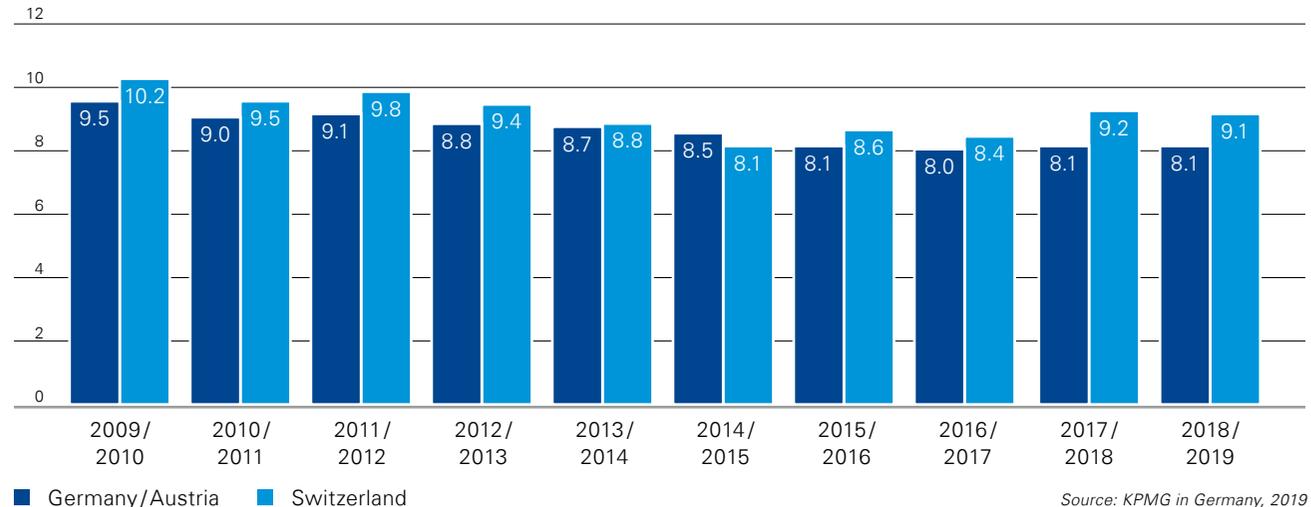
The difference in the levered cost of equity between Austria and Germany on the one hand and Switzerland on the other remained constant and is driven by the high difference between the country-specific risk-free rates applied.

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



Source: KPMG in Germany, 2019

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



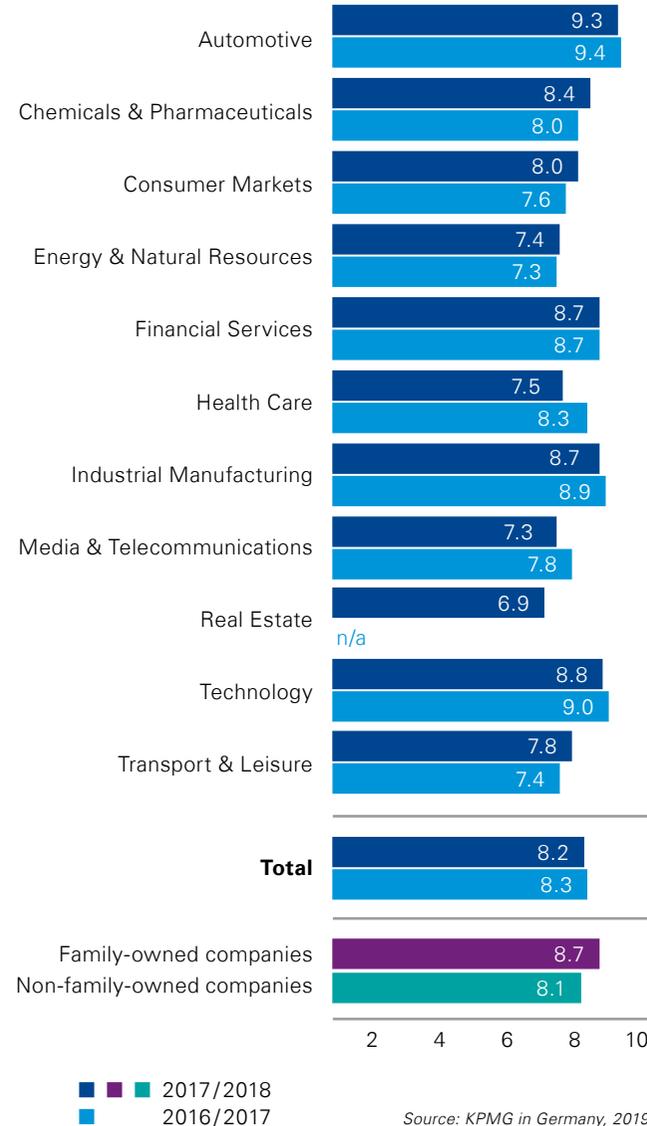
Source: KPMG in Germany, 2019

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Against the background of the unchanged average risk-free rate, market risk premium and the levered beta factor, the levered cost of equity is also at the same level as in the previous year.

In contrast, the cost of equity applied by the participating family-owned and non-family-owned companies differs significantly.

## 27 Average levered cost of equity by industry (in percent)



Source: KPMG in Germany, 2019

### Chemicals & Pharmaceuticals

The cost of equity applied by participating companies in the Chemicals sub-sector increased significantly to 8.6 percent compared to 7.7 percent in the previous year, leading to an overall increase in the Chemicals & Pharmaceuticals sector.

### Media & Telecommunications

While the cost of equity in the Telecommunications sub-sector remained stable, the cost of equity in the Media sub-sector decreased significantly by 1.0 percentage points compared to the previous year to 6.9 percent in the current year.

# Data driven Omnichannel Models

The consumer climate in Germany has been very positive in recent years, low unemployment and a stable economy have contributed to the positive buying mood of Germans. Moreover, there is no evidence that this will change in the near future.

However, these fundamentally optimistic prospects for consumer goods companies and retail are being overshadowed by a noticeable technological shift in the retail sector. Online shops have a market share of around 10 percent and recorded sales growth of just under 10 percent in 2018, while “offline” retail stagnated and the number of small retailers continued to decline.

Unfortunately, the mere conversion of the business model to online retailing does not meet customer needs. In fact, the consumer of tomorrow expects to be able to freely determine the shopping channel with each new purchase in order to create an optimal shopping experience across the range of possibilities. This is also reflected in the fact that companies operating both online and stationary shops have a significantly higher turnover than pure players, regardless of whether they are online or stationary. However, this success requires an extended business model, the omnichannel concept, which combines the best of both worlds. Customers can find out what they want to buy before they visit the store (and vice versa), inform themselves about the product in the store by smartphone, buy it in the store and then have it delivered to their homes. Every second operator of the 1,000 largest online shops already has at least one additional stationary store. Of those operators, the number of distributors using a cross- and omnichannel approach grew significantly compared to the previous year (+13.9 percent), while

the number of stores using a multi-channel approach decreased (-21.5 percent).<sup>1</sup>

Two thirds of all German retail companies that have not yet integrated a cross-channel process have this at the top of their investment list.

They have recognized that a customer-affinity and efficient linking of all sales channels, including the integration of suppliers and logisticians, ultimately decides whether one is a winner or loser in the technological change.



The optimized linking of distribution channels will represent the greatest technical and organizational challenge for retailers in the coming years. At the same time, it offers enormous growth potential by creating a demand-oriented and cost-optimized integration of both channels. “Data” plays a key role in this – as online retailers recognized years ago. In e-commerce, the evaluation and implementation of data in category management and push marketing has become a key competence, while “offline”

<sup>1</sup> EHI Retail Institute together with Statista as part of the “E-Commerce Market in Germany” study 2018

retail has shown little interest in their clients’ data compared to the industry as a whole. Even two years ago, 15 percent of the retailers surveyed in the study “Creating Value with Data” by Bitkom Research and KPMG stated that they were critical of the issue of big data. As the omnichannel concept becomes more widespread, the data imbalance between offline and online is increasing. Stationary retail must further develop its ability to collect and analyze data in order to successfully link it with online sales. Here, the scarce resource of “personnel” represents a major hurdle.

IT and statistical skills are becoming increasingly important and data specialists are in high demand. In order to fully utilize the data potential, the bundling of specialists and responsibilities for data development is unavoidable. The pioneers in the digitization process are the so-called “GAFA companies” (Google, Amazon, Facebook and Apple), whose business models and global presence are based on technology affinity, innovative capability and an awareness of the potential of data. Against this background, the partly exaggerated stock market prices of these companies with their platform models also become comprehensible – with their future-oriented business models, they also detach themselves from traditional evaluation criteria.

Therefore, the influence as well as the sustainability of the success of disruptive approaches are more difficult to predict than traditional market developments based on evolution and trends. This leads to a decoupling of economic and sector development and to new approaches in the planning and evaluation of such companies.

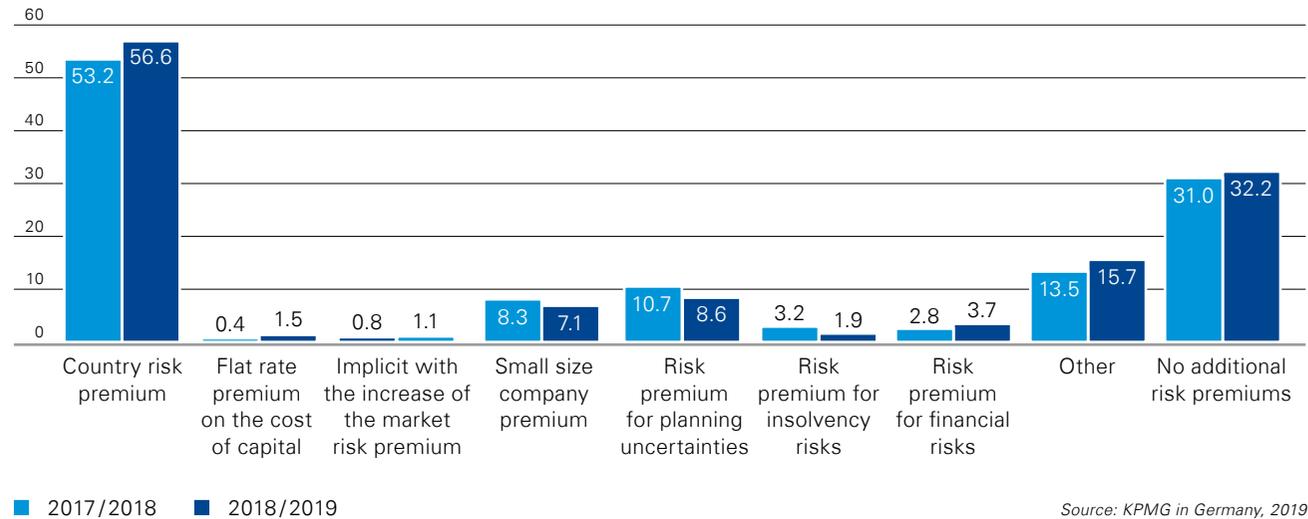
### 3.6 Other Risk Premiums

As a rule, future developments and therefore no cash flow in the financial forecast can be precisely predicted. Consequently, it is even more important to identify the uncertainty of the cash flows and the associated risk and reflect them in their expected value as well as in the cost of capital.

Alongside the option of risk-adjusting discounts from the cash flow, specific risk premiums as part of the cost of capital's determination might also be taken into account using the risk mark-up method.

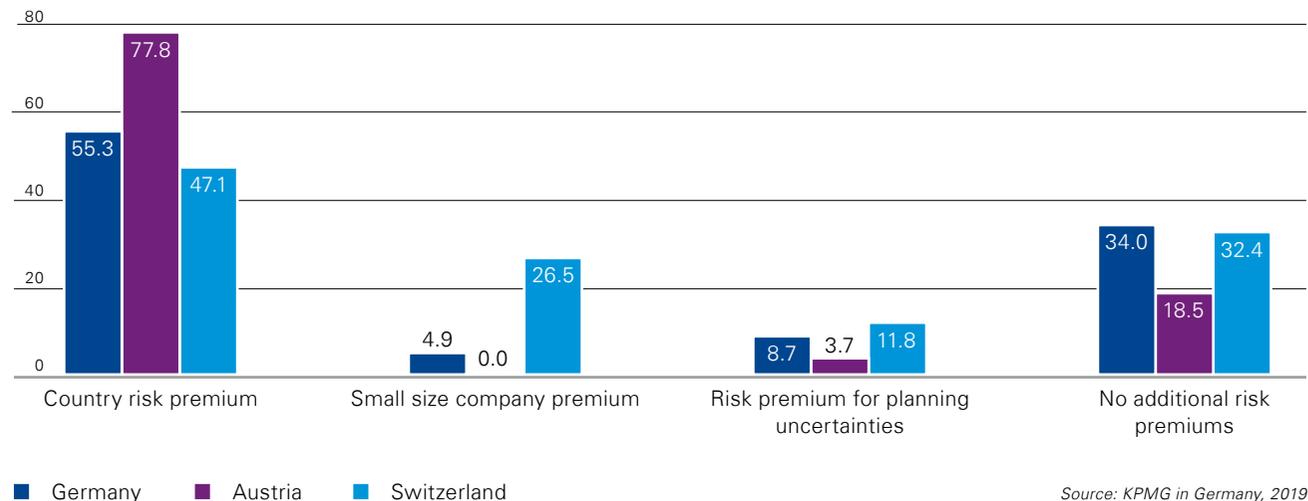
In line with the previous year's findings, the country risk premium is still the most important surcharge on the cost of capital and thus the most frequently applied other risk premium at both the overall and national level.

**28 Other risk premiums 2017/2018 versus 2018/2019**  
Total (in percent, multiple choice possible)



Source: KPMG in Germany, 2019

**29 Selected other risk premiums 2018/2019**  
Germany vs Austria vs Switzerland (in percent, multiple choice possible)



Source: KPMG in Germany, 2019

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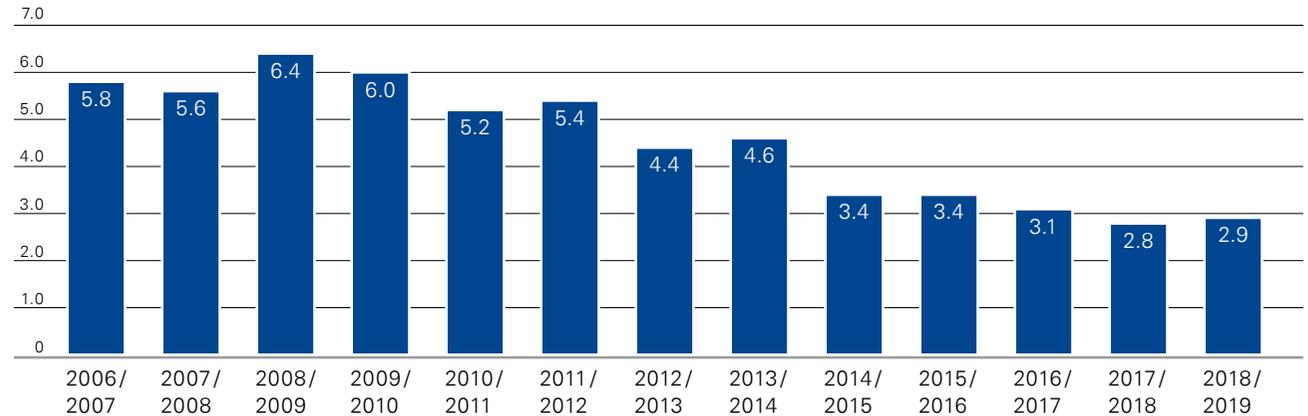
## 3.7 Cost of Debt and Debt Ratio

The second major constituent – apart from the cost of equity – within the WACC derivation is the cost of debt and the debt ratio.

While the first component describes the expected rate of return of an entity's debt lender, the second is defined as the ratio of market value of the (net) debt to market value of the total capital (entity value).

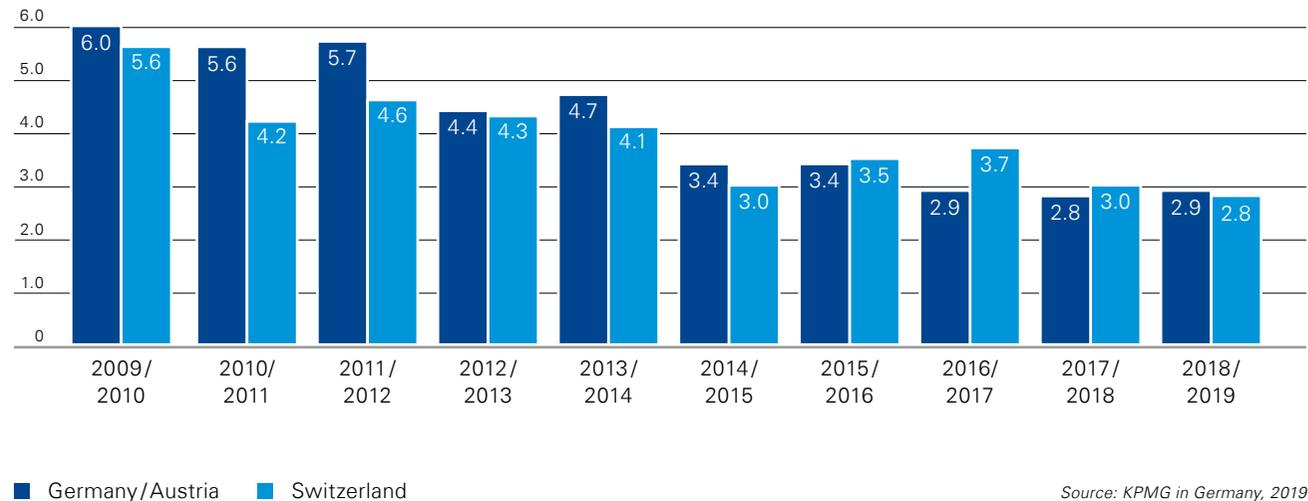
After an observed downward trend and a historic low in the previous year, the cost of debt applied has slightly increased again.

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



Source: KPMG in Germany, 2019

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

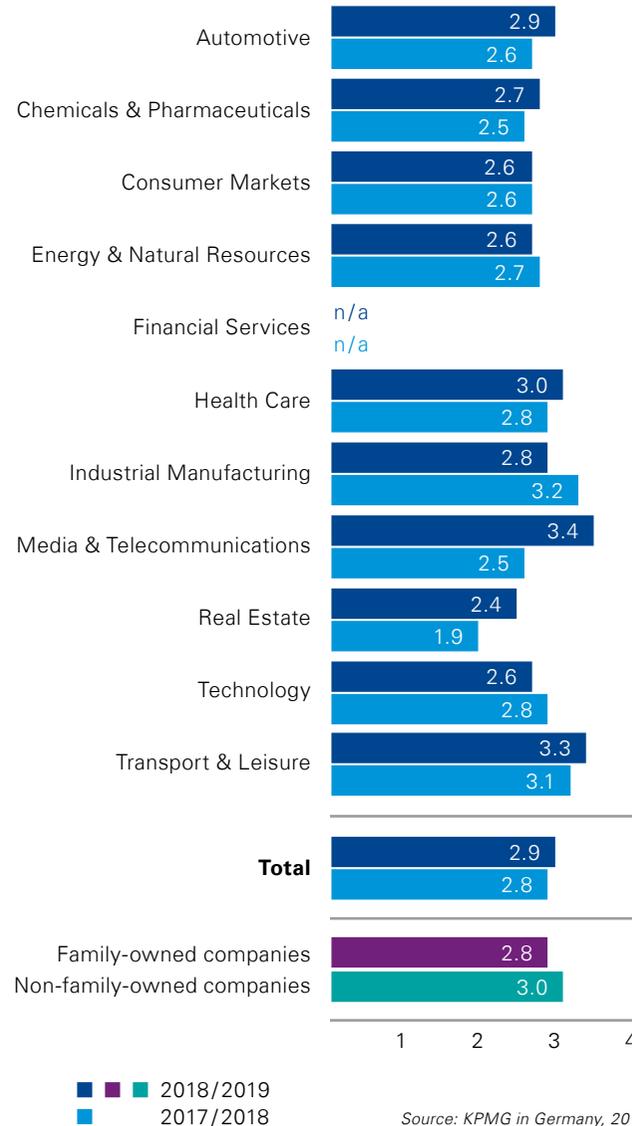


Source: KPMG in Germany, 2019

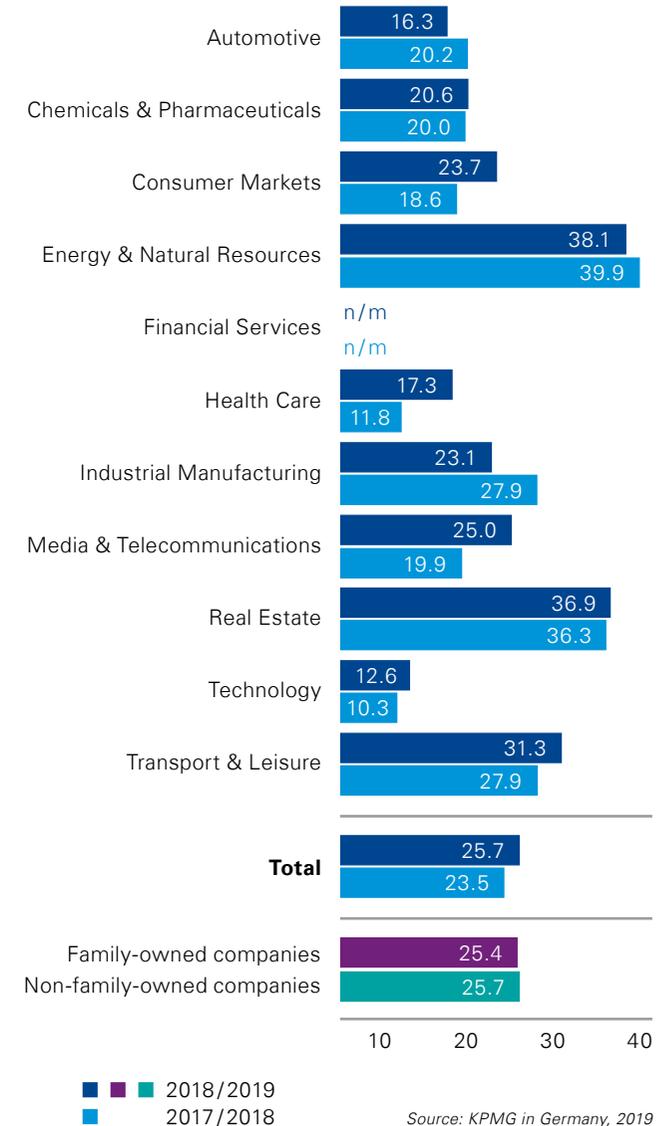
The majority of the industry segments reported higher or almost constant cost of debt, with the largest increment of 0.9 percentage points in the Media & Telecommunications sector.

In contrast to the trend towards an alignment of the cost of debt across industry segments, the average debt ratio continues to differ significantly across industries as well as on total average.

### 32 Average cost of debt by industry (in percent)



### 33 Average debt ratio by industry (in percent)



# Chemical Industry and the Challenge of Climate Change

The chemical industry is facing strategic and structural challenges worldwide, the increasing importance of which is overshadowing macroeconomic cycles. In addition to geopolitical and macroeconomic trends, such as a growing world population combined with a shortage of skilled workers in the industrialized countries, rising public debt, expansive interest rate policies and increasing protectionism, the future environment of the chemical industry will be determined above all by issues such as climate change and environmental protection, resource consumption and sustainability.

Resources such as fossil and mineral reserves as well as energy are not infinitely available. Global population and economic growth - especially in emerging markets - combined with increasing trade conflicts and political risks in source countries are exerting pressure on the procurement markets of the chemical industry. As a result, raw material prices, profit margins and corporate values can fluctuate sharply in some cases, making appropriate hedging measures indispensable.

Above all, however, the issues of climate change and environmental protection are increasingly becoming the focus of public debate, as demonstrated by the results of the recent elections in many European countries, the case law on driving bans or media-effective demonstration movements, being some examples. Politicians increasingly see themselves called upon to act – even beyond the borders of Europe. Despite diverging political ambitions in the various regions of the world, environmental standards will be tightened in almost all countries in the future and emissions

of greenhouse gases and other environmental pollutants as well as the use of plastic packaging or pesticides will be limited.

Not least on the capital markets, investors have long since incorporated the criteria of sustainability and environmental protection into their investment decisions, as violations of environmental standards can lead to massive fines, damage to their image and ultimately decreases in stock prices. The independent verification of greenhouse gas emissions and energy management systems or certification for compliance with ISO 50001 are exemplary measures to meet the transparency requirements of investors.

In view of the conflicting priorities of scarce resources, increasing competition and growing regulatory requirements, the chemical industry needs to make fundamental innovations both in its own production processes and in its product portfolio. Rising input prices and additional efforts to meet stricter environmental standards can only partially be passed on to customers, so that innovation-driven efficiency gains within the framework of resource-conserving production are indispensable for securing the company's own profitability. Advancing digitization will have an additional impact on the process technologies and value chain of the chemical industry and its customers and suppliers. Through the collection and intensive use of in-house data, operational processes and operating models (e.g. determination of efficient economic and ecological production routes through machine learning) can be improved and new business models (e.g. real-time analysis

for agricultural processes or 3D printing) can be developed.

Despite the expected, partly disruptive changes in the chemical industry and the associated challenges in the coming years, a complete decoupling of the industry from economic cycles in this industry is not to be expected. As an important supplier, the chemical industry will continue to be shaped by economic developments worldwide and demand in key sales regions. However, the long-term success of each individual company in the industry will depend decisively on its own ability to recognize these changes at an early stage, to simulate and evaluate various scenarios with the help, for example, of the CEDA simulation and control model developed by KPMG, and to take suitable value-creating measures. As the record summer of 2018 with the accompanying drought, the limited navigability of rivers and the interruption of supply chains has shown, the effects of disruptive changes can already be felt today.



### 3.8 Sustainable Growth Rate

The sustainable growth rate plays an important role regarding the determination of the terminal value. The terminal growth rate reflects the company-specific inflationary growth in a sustainable state.

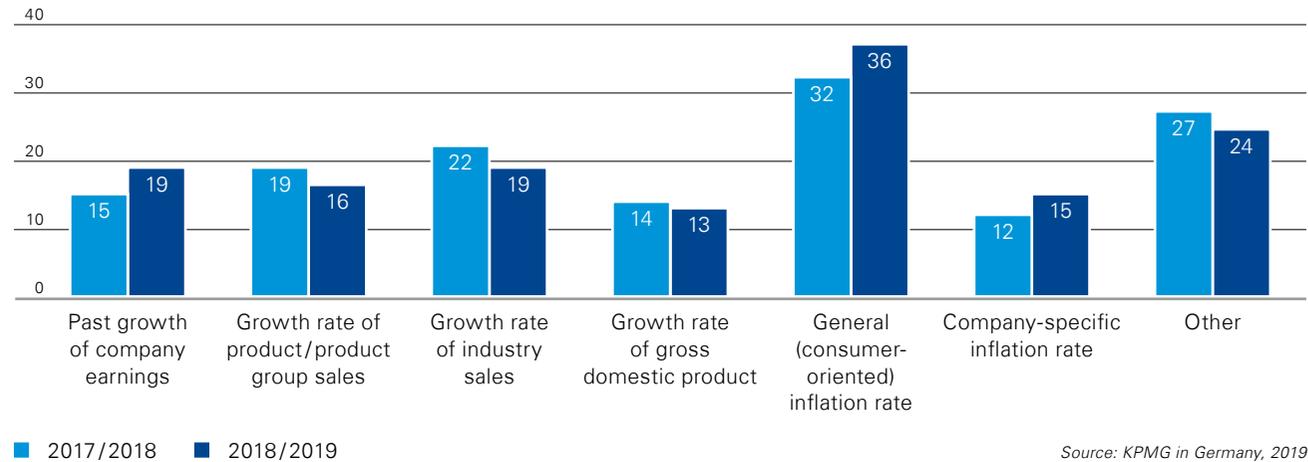
In practice, the company-specific growth rate cannot be easily estimated.

The company-specific sustainable growth rate should be derived by analyzing the company-specific operating activities. However, the most common way among the study's participants to estimate the sustainable growth rate remains the application of a consumer-based inflation rate.

On the assumption of infinite business models, the sustainable year or so-called terminal value is primarily decisive for the value of an enterprise.

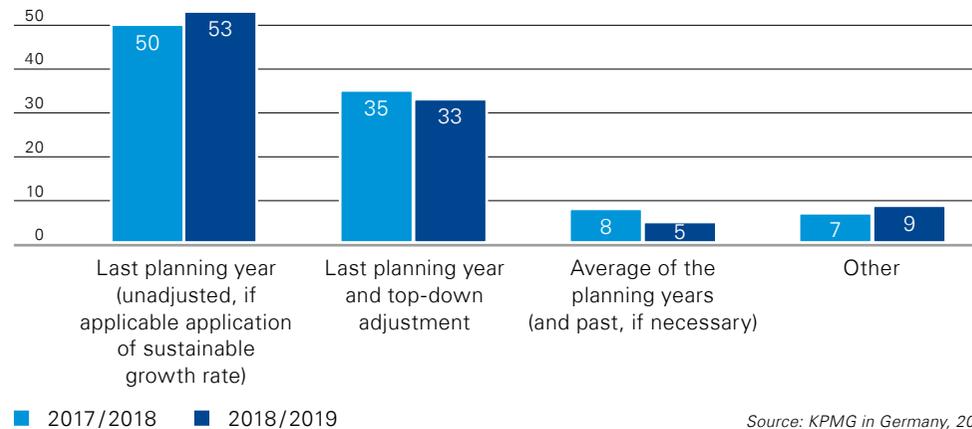
The terminal value requires the company to be in an equilibrium-sustainable state. Such a state is typically not achieved at the end of the planning horizon. On the grounds of its significant relevance, the determination of the sustainable year should be based on a scenario approach using simulations such as Monte-Carlo simulations.

**34 Measurement of the sustainable growth rate**  
Total (in percent, multiple choice possible)



Source: KPMG in Germany, 2019

**35 Determination of the terminal value**  
Total (in percent)



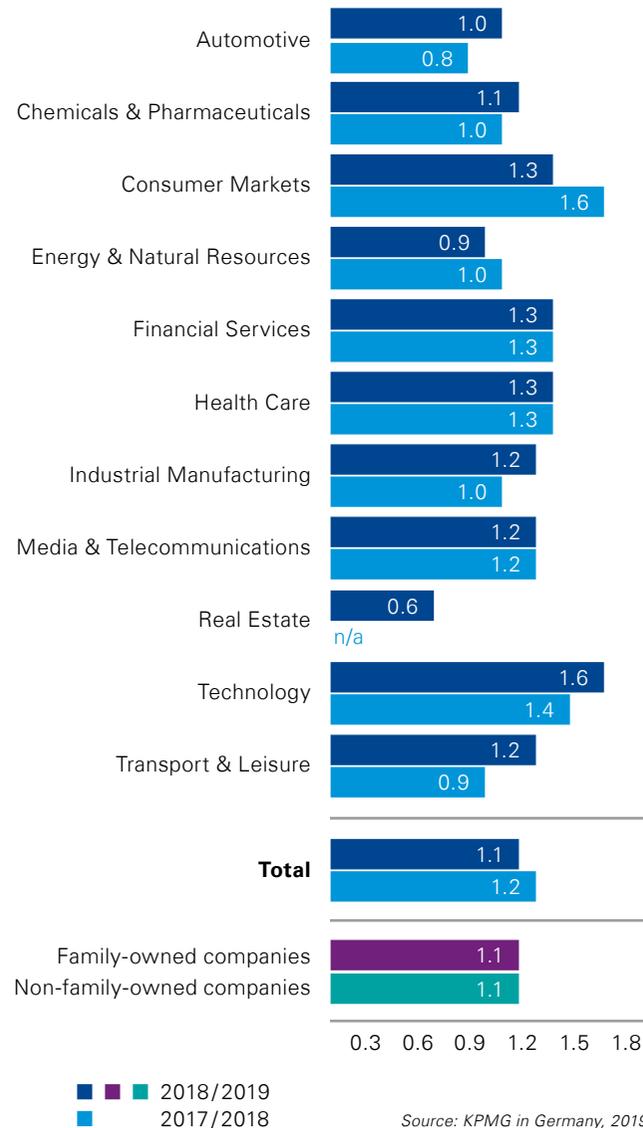
Source: KPMG in Germany, 2019

In general, the average sustainable growth rate applied by the participants is almost on the same level as in the previous year. However, the range of fluctuation between the industries is slightly higher.

Compared to the previous year, the average sustainable growth rate remained stable in Germany and Switzerland with 1.1 percent and 1.5 percent, respectively, while it decreased slightly from 1.1 percent to 1.0 percent in Austria.

When interpreting the applied growth rate, it is also necessary to consider the length of the specific detailed planning horizon and the growth rate applied there.

### 36 Average sustainable growth rate by industry (in percent)



#### Financial Services

As in the previous year, the sustainable growth rate differs within the Financial Services sector. Participating companies in the Banking sub-sector applied a significantly higher sustainable growth rate (1.5 percent) than companies in the Insurance sub-sector (0.8 percent).

#### Media & Telecommunications

The gap within the Media & Telecommunications sector decreased compared to the previous year. While the sustainable growth rate in the Media sub-sector decreased from 1.3 percent to 1.0 percent, it increased significantly from 0.7 percent to 1.4 percent in the Telecommunications sub-sector.

# 4 Relevance of Value and Enhancement of Value

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4.1 Criteria for Investment Decisions

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4.2 Monitoring the Enhancement of Value

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4.3 Cost of Capital in Capital Market  
Communication

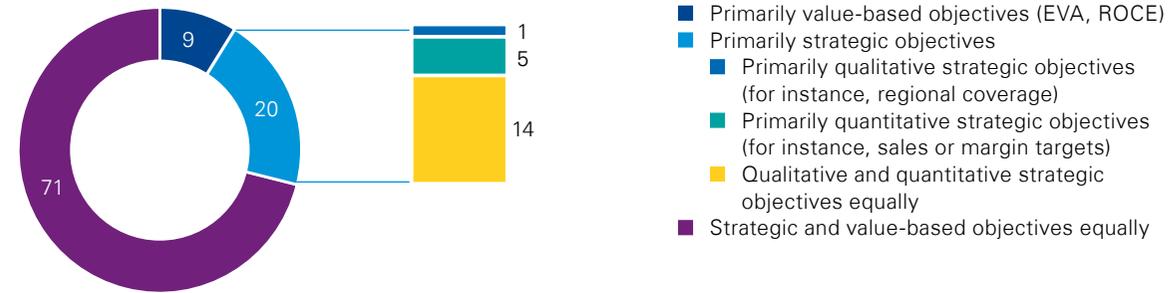
## 4.1 Criteria for Investment Decisions

Investment decisions have to be evaluated transparently and consistently in order to ensure optimal development of the firm's portfolio.

The objectives must be stipulated in the framework of investment decisions. Investment decisions are typically oriented on strategic or value-based objectives.

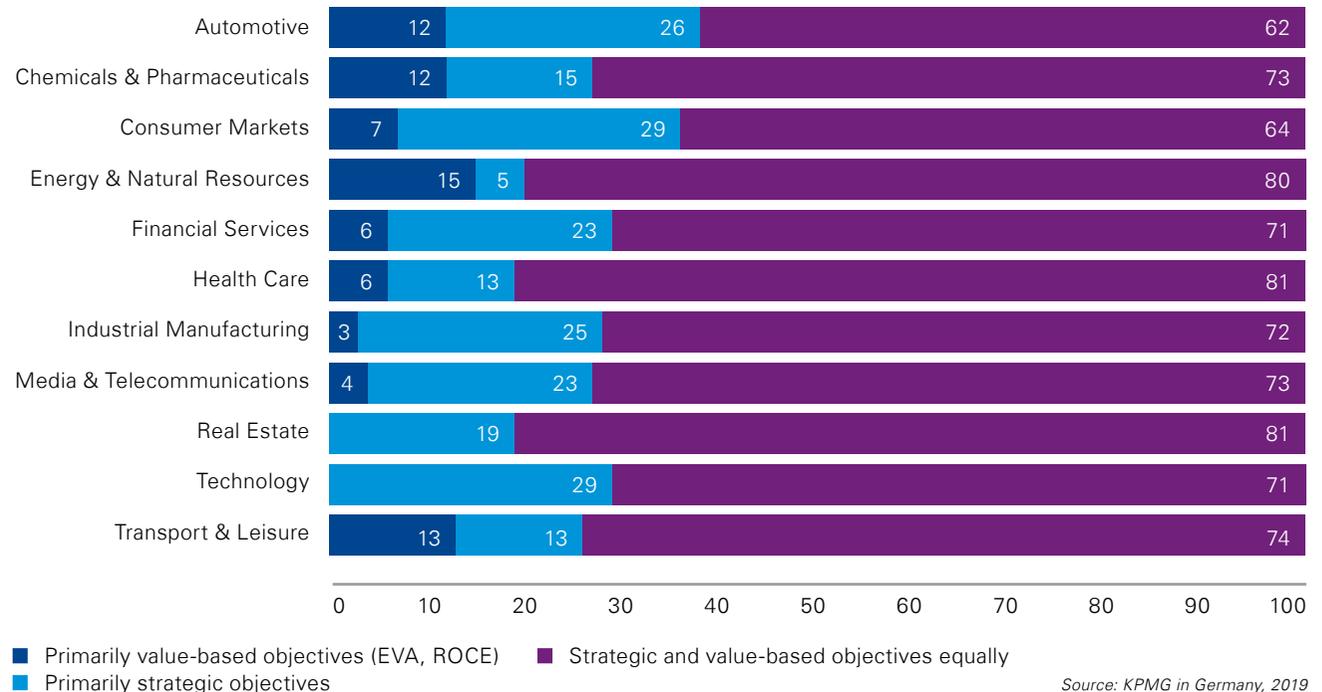
Investment decisions are, as a rule, long-term by nature. In times of macroeconomic uncertainties and microeconomic changes from disruptive business models, companies are constantly faced with new challenges to properly consider the valuation-relevant risks in the assessment of investment decisions. Furthermore, the continuing low interest rates, associated with favorable or readily accessible financing opportunities, may result in an underestimation of the risks that are associated with the target returns of investments and not reflect them completely in the decision-making process.

### 37 Criteria in investment decisions Total (in percent)



Source: KPMG in Germany, 2019

### 38 Criteria in investment decisions by industry (in percent)



Source: KPMG in Germany, 2019

# Finding the Balance in Industry 4.0 (1/2)

The industrial revolution to industry 4.0 is leading to changes on an unprecedented scale; companies and entire industries are having to make fundamental changes completely independently of economic developments. The challenge for industrial companies is to integrate disruptive digitization into the existing production process through the use of new technologies and developments such as the Internet of Things, artificial intelligence and mixed reality and to adapt the corporate culture correspondingly. It is essential for every industrial enterprise to deal with the opportunities and possibilities of industry 4.0 and to initiate change. New processes, a changed workplace culture and a closer involvement of customers can aid this.

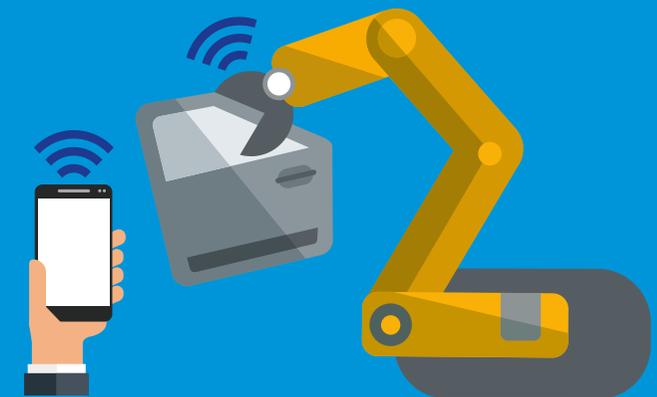
Shareholders and stakeholders demand a clear vision from the companies and the description of concrete opportunities for implementation. Torn between the stresses of uncertainty and external expectations, it is essential for industrial companies affected by change to define a transformation process and to break it down into measurable steps that can also be communicated to the outside world.

Digitization also has an impact on market and competitive conditions in the industrial sector and further increases market uncertainty. Start-ups have the great advantage of being able to act faster and position themselves on the markets with new ideas, which is also reflected in the tendency towards high market capitalization for digital companies. This is benefited by shrinking market entry barriers, which in turn places considerable pressure on established global players to take action. New developments by start-ups are already being used successfully by industrial customers.

Against this background, it is particularly important for established companies to keep a close eye on developments on the market and among competitors, to keep an eye on the start-up scene and to actively seek opportunities for cooperation. The top managers of large companies want to acquire specialized digital companies, especially in order to accelerate the change to a digitized company.<sup>1</sup> The willingness and necessity of making acquisitions, on the one hand, and due to the lack of comparability with established business models, the often highly uncertain valuation of companies

with alternative business ideas, on the other hand, increase the risk of a possible overvaluation.

In (established) companies, decision-makers also frequently encounter silo thinking, which has to be broken up by actively involving employees in the new technologies and processes. In particular, the young generation of employees is open to digital approaches and the use of artificial intelligence. New communication styles contribute to success in implementation and penetration within the company.



<sup>1</sup> KPMG in Germany, Global CEO Outlook 2019, Executive Summary ([https://hub.kpmg.de/ceo-outlook-2019-executive-summary?utm\\_campaign=CEO%20Outlook%202019&utm\\_source=AEM-executive%20summary](https://hub.kpmg.de/ceo-outlook-2019-executive-summary?utm_campaign=CEO%20Outlook%202019&utm_source=AEM-executive%20summary))

# Finding the Balance in Industry 4.0 (2/2)

The opportunities proffered by digitization can only be realized through the targeted use of new game-changing technologies. Together with the Internet of Things, they generate an immense competitive advantage. For example, the networking of machines and further development on the basis of real-time data will become increasingly possible in the future. Extended data analysis possibilities create transparency in the company and can optimize internal processes, e.g. in the production processes (early replacement of spare parts prevents unnecessary downtimes), in the planning system (retrospective planning on the basis of "old" data is replaced by real-time analyses and

recommendations for new systems of analysis) and in the customer data (360-degree view of the customer offers the possibility of increasing sales through tailor-made, optimized offers). In addition to internal process improvements, the potential to create additional added value from existing data or to create new products and services with the help of available data remains largely untapped. For example, production data provides machine manufacturers with valuable indications of how they can improve their products, or customers benefit from information collected during the manufacture of the products.<sup>2</sup>

Our experience shows that when defining the digitization strategy, companies do not have to focus primarily on the technological implementation but much more on their vision in order to be and remain successful in the long term. In addition, companies with the greatest resilience will cope best with the upcoming changes. Digitization should not be seen as another traditional IT project or as a cost-cutting program. Ultimately, regardless of economic developments, the biggest winners in a given industry will be those companies that have a vision for digitization to develop industrial products and services with added value for their customers.

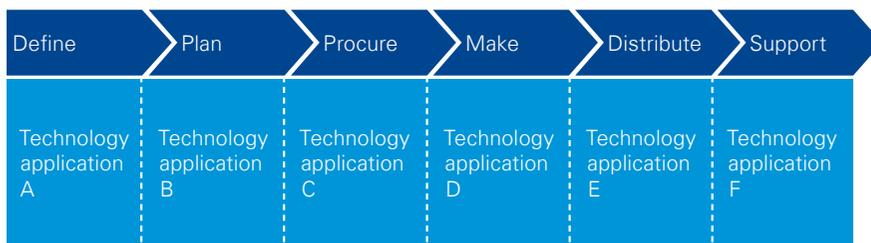
## 39 A performance-led approach<sup>3</sup>

Most common approach we see ...



... resulting in a **technology** based approach

Illustrative functional-bases approach

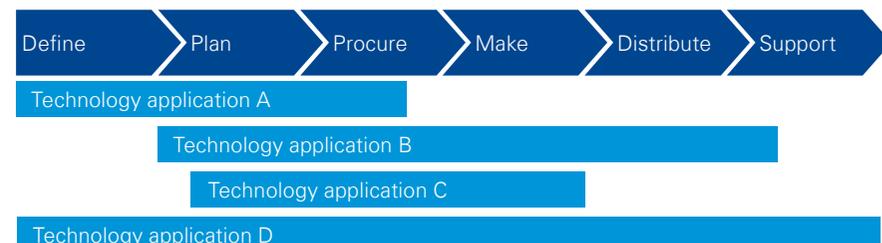


The leading companies reversed the sequence



... resulting in a **value** based approach

... rather than a cross-functional approach



<sup>2</sup> KPMG in Germany, Whitepaper: "Geschäftsmodelle im digitalen Wandel – Den Rohstoff Daten richtig nutzen" <https://home.kpmg/de/de/home/themen/2018/10/geschaeftsmodelle-im-digitalen-wandel.html>

<sup>3</sup> KPMG in Germany, Study 2018 "A reality check for today's C-suite on Industry 4.0 – The time for experimentation is ending"

## 4.2 Monitoring the Enhancement of Value

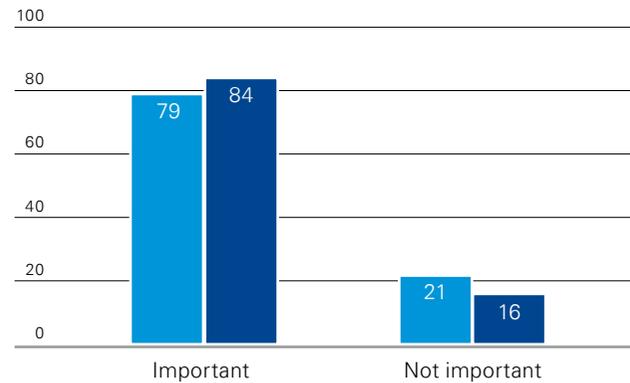
After an investment decision is taken and the investment made, it is necessary to continually monitor the enhancement in value in the specific business. The aim should then be to react to changing market conditions quickly and strategically in order to prevent future value losses.

In the course of value enhancement, the company's post-investment risk and performance patterns must always be monitored as central factors in a consistent way to improve the decision-making process.

The majority of responses show that the necessity of monitoring becomes more important in the light of the increasing future uncertainty. Nevertheless, the change in performance continues to be the primary focus within the value enhancement, which might still result in biased decisions due to additional risk potential.

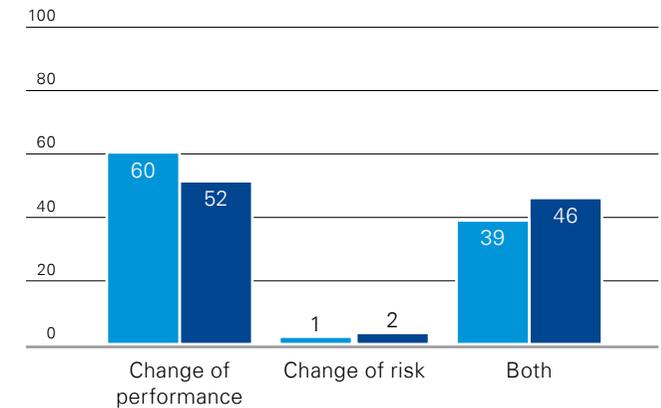
Most of the participating companies focused on simplified key performance indicators (KPI) as, for instance, sales, EBITDA, EBIT or ROCE. Concerning key risk indicators (KRI), however the surveyed companies frequently focused only on the change of the general market risks such as they are reflected in the market risk premium.

**40** Relevance of monitoring value enhancement  
Total (in percent)



■ 2017/2018 ■ 2018/2019 Source: KPMG in Germany, 2019

**41** Monitoring of value enhancement  
Total (in percent)



■ 2017/2018 ■ 2018/2019 Source: KPMG in Germany, 2019

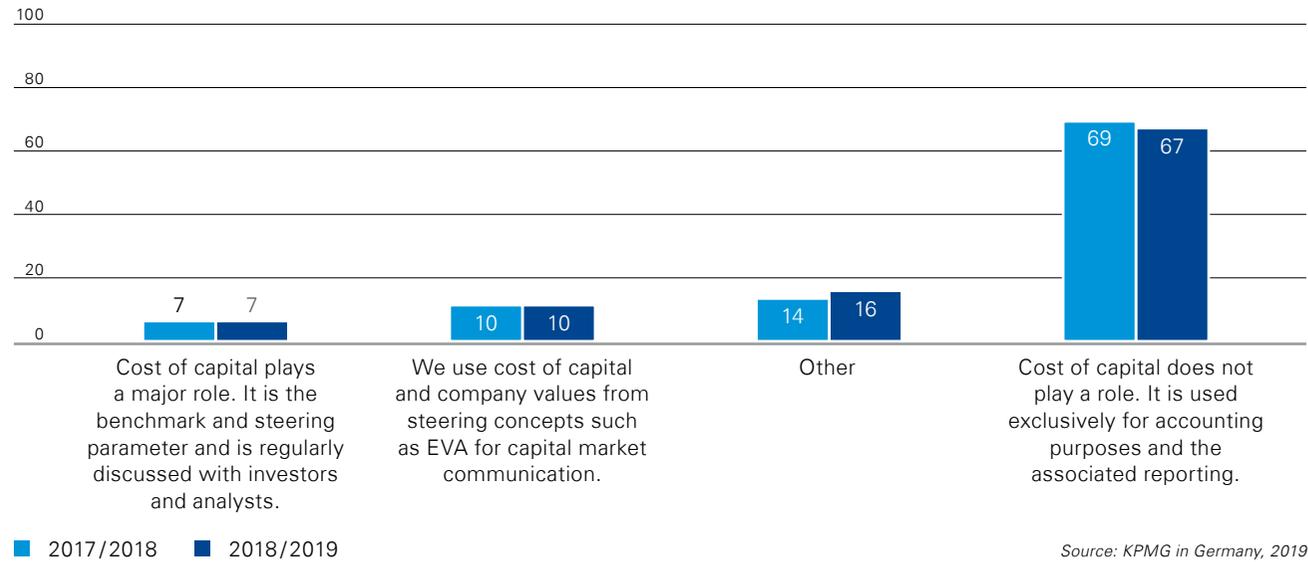
## 4.3 Cost of Capital in Capital Market Communication

Regulatory frameworks require companies to immediately disclose non-public information affecting the stock price. However, the cost of capital is often disregarded in the context of capital market communication.

Transparently communicated cost of capital can help shareholders to better quantify the risks they have taken and to identify changes in the risk structure of their investment.

Overall, the indicated communication behavior to the capital market of this study's participants does not differ materially from the previous year.

### 42 Communication and use of the cost of capital Total (in percent)



Source: KPMG in Germany, 2019

# 5 Online Industry Analyses



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Summary

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Values

Online Industry  
Analyses

Industry  
Specialists



In addition to the findings in the present study, we provide all the industry-specific figures for cost of capital parameters on our website.

At <https://hub.kpmg.de/cost-of-capital-study-2019> you will find both the forecasting as well as the cost of capital parameters from the current study and the results of the Cost of Capital Studies from previous years in readily viewable graphs. There you have the opportunity to apply your own search criteria to display the industry and/or country-specific parameters that are relevant for you and to select their development over time.

Beyond that, you can also increase the degree of detail for the industry assessments. Interested readers have the opportunity to select sub-sector assessments.

As in the previous year, we have performed separate assessments of sectors/sub-sectors for which we had responses from at least five participants.

## 43 Instructions for KPMG Cost of Capital Study 2019 interactive

**PARAMETER TOTAL** shows the development of the parameter based on all participants

**PARAMETER FILTERED** shows the development of the parameter based on the selected filter(s)

**GENERAL INFORMATION ON FILTERS**

1. Only one selection is possible per filter
2. (country, industry, family-owned)
3. Filters may be combined
4. (e. g. Germany + Automotive sector)
5. A separate evaluation only takes place, if at least 5 answers were submitted

**KPMG Cost of Capital Study 2019**

After an increase in the previous year, the average risk-free rate slightly declined and remained at its third-lowest level since the study has been published.

**Individualized analysis Risk-free Rate**

**Risk-free Rate**

1. ANALYZED PARAMETER specifies the parameter analyzed on this page
2. (country, industry, family-owned)
3. FILTERED shows the development of the parameter based on the selected filter(s)
4. NUMBER OF ANSWERS indicates the number of answers on which the calculation of the average is based
5. FILTER DAX-30 shows the development of the parameter exclusively on the basis of the participants in the DAX-30 index from Germany
6. FILTER FAMILY-OWNED COMPANIES shows the development of the parameter exclusively on the basis of the participants, who have classified themselves as family-owned companies or non-family-owned companies
7. FILTER BY COUNTRY shows the development of the parameter exclusively on the basis of the participants from the selected country
8. FILTER BY INDUSTRY shows the development of the parameter exclusively on the basis of the selected industry

**DAX-30**

Family-owned  
Not-family-owned

CH AT

**INDUSTRY FILTERS**

- AUTOMOTIVE
- CHEMICALS & PHARMACEUTICALS
- CONSUMER MARKETS
- ENERGY & NATURAL RESOURCES
- FINANCIAL SERVICES
- HEALTH CARE
- INDUSTRIAL MANUFACTURING
- MEDIA & TELECOMMUNICATIONS
- REAL ESTATE
- TECHNOLOGY
- TRANSPORT & LEISURE

**INDUSTRY FILTERS (Detailed)**

- CHEMICALS
- PHARMACEUTICALS
- CONSUMER MARKETS
- RETAIL
- BANKING
- INSURANCE
- MEDIA
- TELECOMMUNICATIONS

2010/ 2011/ 2012/ 2013/ 2014/ 2015/ 2016/ 2017/ 2018/ 2019/

123 145 122 113 123 175 167 161 200

Source: KPMG in Germany, 2019

# List of Abbreviations

ATX	Austrian Traded Index	IFRS	International Financial Reporting Standards
CAPM	Capital Asset Pricing Model	KFS/BW	“Fachsenat für Betriebswirtschaft in Österreich des KSWÖ”: Council of Experts for Business Administration
CEDA	Corporate Economic Decision Assessment	KSW	“Kammer der Steuerberater und Wirtschaftsprüfer in Österreich”: Chamber for Tax Advisors and Auditors in Austria
CGU	Cash Generating Unit	M&A	Mergers & Acquisitions
CEO	Chief Executive Officer	MDAX	German Mid Caps Stock Index
DAX	Main German Stock Exchange	n/a	Not available
DAX-30	The 30 largest blue chips on the main German Stock Exchange	n/m	Not meaningful
Debt Ratio	Ratio of Market Value of (Net) Debt to Market Value of Total Capital (Entity Value)	P&L	Profit & Loss Statement
EBIT	Earnings Before Interest and Taxes	ROCE	Return on Capital Employed
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization	S&P	Standard & Poor’s
EVA	Economic Value Added	SDAX	Small Caps, the companies following the MDAX with market capitalization and exchange turnover
FamDAX	DAXplus Family 30 Index, consists of the 30 largest and most liquid family-owned businesses in the Prime Standard of the German Stock Exchange	SFAS	Statement of Financial Accounting Standards
FAUB	“Fachausschuss für Unternehmensbewertung und Betriebswirtschaft des IDW”: Technical Committee for Business Valuation and Economics of the IDW	SMI	Swiss Market Index
IAS	International Accounting Standards	TecDAX	Stock Index including the Performance of the 30 largest German Companies from the Technology Sector
ICT	Information, communications & technology	US-GAAP	United States Generally Accepted Accounting Principles
IDW	“Institut der Wirtschaftsprüfer in Deutschland e.V.”: Institute of Public Auditors in Germany, Incorporated Association	WACC	Weighted Average Cost of Capital

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