KPMG

Cost of Capital Study 2021

**Sustainability vs. Return –
ESG as a key driver for long-term performance?**

This study is an empirical investigation with the aim of analyzing management practices. The 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 for accounting, tax or other purposes.

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.

The data presented in this study does not necessarily reflect KPMG's view on future-oriented assessments or on the cost of capital in the survey period.

Preface

Dear readers,

It is our pleasure to present you with the results of the sixteenth edition of our Cost of Capital Study. With 332 participating companies, the number of participants increased compared to the previous year (previous year: 309) and attained, once again, a new record level. We would like to express our heartfelt gratitude to all those companies which took part despite the special circumstances due to the COVID-19 pandemic and the associated challenges for these companies. The large number once again underlines the significance of the study as 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 influence of sustainability requirements on business models, corporate developments and on long-term return expectations (cost of capital).

Consequently, we have chosen the motto "Sustainability vs. Return – ESG as a key driver for long-term performance?" for this year's Cost of Capital Study. Based on this theme, we focus on the following subjects:

- Key changes to ESG reporting
- ESG impacts on valuations in the consumer markets sector
- Making good decisions in the ESG environment

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.

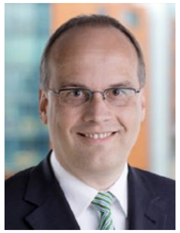
Supplementary to the current study, we would like to direct you to the interactive opportunities for analyzing the data.

There you can compile the parameters relevant for your company and/or industry and use them to perform your own, tailor-made assessment.

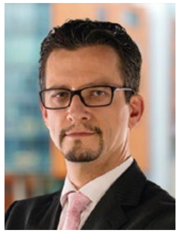
Furthermore, with KPMG Valuation Data Source you have access to reliable parameters on the cost of capital for more than 150 countries – anywhere and any time.

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 in a personal appointment and are, of course, available for any questions and comments you may have.

With best regards,



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

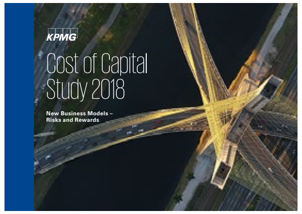


Dr. Andreas Tschöpel
Partner
Deal Advisory, Valuation
KPMG AG Wirtschafts-prüfungsgesellschaft

Recent editions of the Cost of Capital Study by KPMG

'17

'18



'19

'20

'21

Highlighted subjects of the study

'17

- 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?

'18

- 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

'19

- 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

'20

- The world is changing
- Goodwill – steady in turbulent times?!
- Exceptional times – new valuation methods?

'21

- Key changes to ESG reporting
- ESG impacts on valuations in the consumer markets sector
- Making good decisions in the ESG environment

Summary of Findings

The main drivers of this year's study are the COVID-19 pandemic, technological development and sustainability.

Growth expectations

The growth expectations are influenced by the ongoing COVID-19 pandemic and the accelerating development of new technologies. Accordingly, the highest EBIT growth is expected in the Technology and Health Care sectors.

Page 14

Planning uncertainty

The current situation shows the importance of considering an increased number of risks when performing financial forecasts. Concerning macroeconomic risks, economic and regulatory risks have been increasingly considered in comparison to the previous year.

Page 18

WACC

The average WACC of 6.6 percent across industries remained at the same level as in the previous year. The constant average WACC contradicts the heterogeneous WACC development within the various sectors. The highest increase compared to the previous year was observed in the Technology sector, whereas the largest decrease was seen in the Transport & Leisure sector.

Page 20

Risk-free rate

After last year's significant decrease, the risk-free rate continued its downward trend by dropping slightly from 0.5 percent to 0.2 percent. In Germany and Austria the risk-free rate decreased from 0.4 percent in 2019/2020 to 0.1 percent in 2020/2021. The risk-free rate in Switzerland declined as well by 0.3 percentage points to 0.9 percent in this year's Cost of Capital Study.

Page 22

Market risk premium

The average market risk premium slightly increased from 7.1% in the previous year to 7.2%. This observation is in line with the consistently increasing market risk premium in Germany (7.2 percent to 7.3 percent), Austria (7.7 percent to 8.0 percent) and Switzerland (5.6 percent to 6.1 percent).

Page 23

Beta factors

The highest unlevered beta factor was applied by the Automotive sector, closely followed by the Technology sector.

Page 26

Cost of debt

The average cost of debt continued its downward trend decreasing from 2.3 percent to a new historic low of 2.1 percent.

Page 30

Impairment Test

Over the past three years, there has been a significant decrease in the number of companies that have recognized an impairment on goodwill or assets. The most recent period shows an increase due to the impact of the COVID-19 pandemic.

Page 37

Triggering event

An extraordinary impairment test (based on a so-called triggering event) was performed by only about a third of the participating companies last year, whereas this year nearly half of the participating companies conducted an impairment test due to a triggering event.

Page 38

Sustainability / ESG

The impact of environmental issues on future business developments was assessed heterogeneously. The ESG impact is rated particularly high in industries of Energy & Natural Resource and Chemical & Pharmaceutical.

Page 43

1
Introduction

Study participants

A total of 332 companies (previous year: 309), including 243 from Germany, 36 from Austria and 53 from Switzerland, participated in this year's Cost of Capital Study. Hence, the number of participating companies reached a new record level in this year's study.

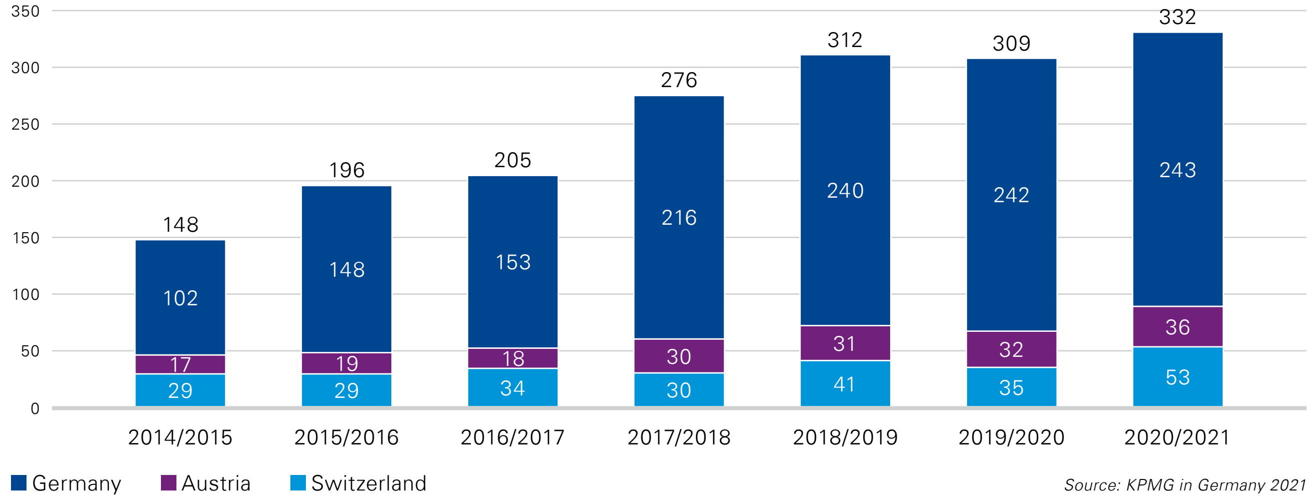
The response rate among DAX 30 companies increased slightly compared to the previous year to 83.3 percent, which corresponds to 25 companies. It should be noted that participation rates are shown according to the composition of the indices at the time of the survey. Therefore, the recent expansion of the DAX from 30 to 40 and the reduction of the MDAX from 60 to 50 companies are not reflected in the charts.

While the response ratio for companies in the ATX increased by 25.0 percentage points to 65.0 percent, the number of companies from the SMI remained constant at 55.0 percent.

Survey period

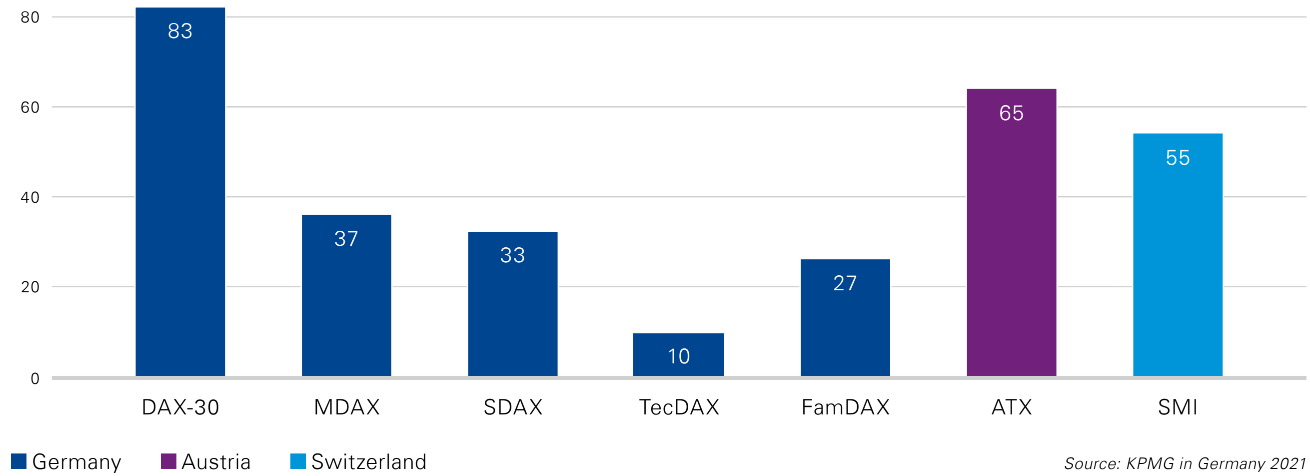
The survey of the companies was conducted between April and August 2021. Only consolidated financial statements with a reporting date between 31 March 2020 and 30 June 2021 were taken into account.

01 **Study participations by region**
Total



Source: KPMG in Germany 2021

02 **Participation rates by index**
(in percent)



Source: KPMG in Germany 2021

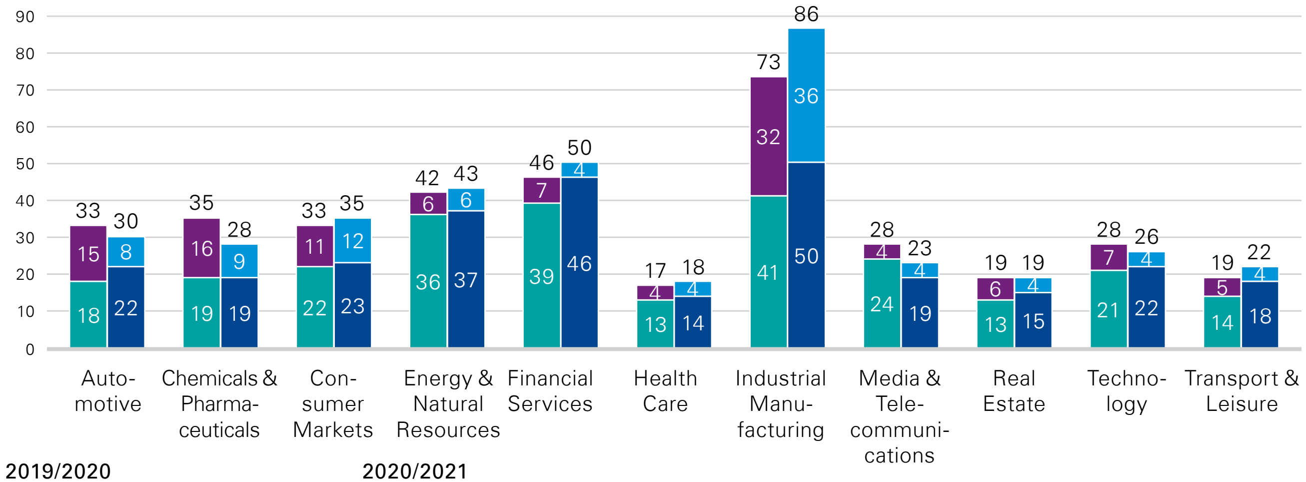
Analyses

The participating companies were asked to assign themselves to selected industries in accordance with their operating activities. This allows for a distinction and comparison of the industries in terms of material parameters for financial forecasting and cost of capital.

In the Industrial Manufacturing sector, the number of participants increased significantly compared to the previous year's study. The increased number of participants from Transport & Leisure and Consumer Markets is quite noticeable, as these industries were particularly affected by the shutdowns in the course of the COVID-19 pandemic. The number of participants in the Chemicals & Pharmaceuticals, Automotive and Media & Telecommunications sectors decreased.

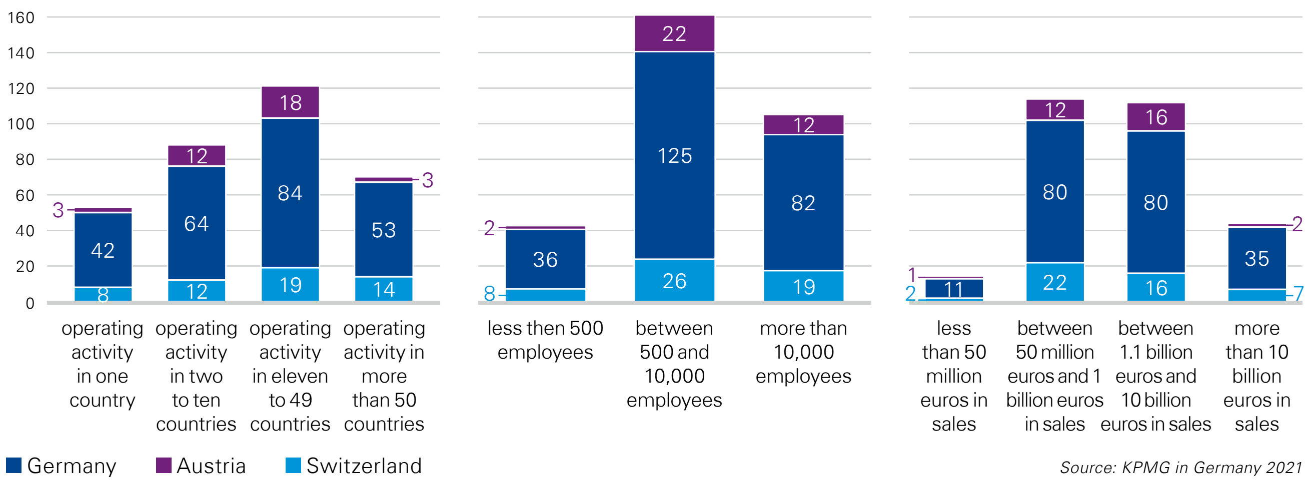
The companies participating in this year's Cost of Capital Study were predominantly medium to large companies operating in more than 10 countries, with more than 500 employees and generating revenues of more than EUR 50 million.

03 **Study participation by industry**
Total (multiple choices possible)



Source: KPMG in Germany 2021

04 **Study participation by number of countries with operational activity, number of employees and revenue**
Total



Source: KPMG in Germany 2021

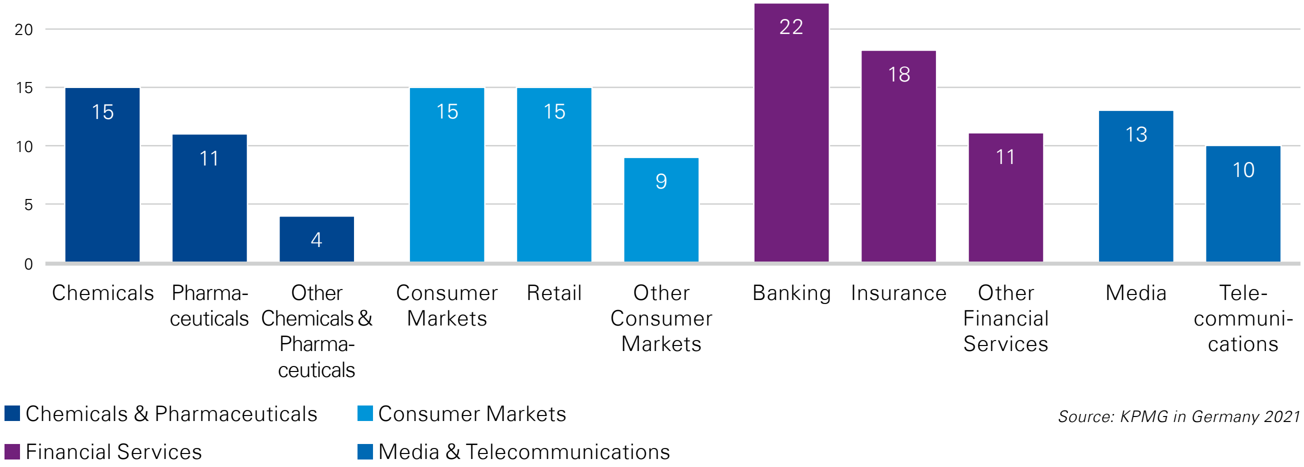
Online industry analyses

The results of the Cost of Capital Study 2021 can be accessed via the following link: **www.kpmg.de/cost-of-capital-study**. Studies from previous years are also available there. The results include a detailed overview and presentation of the financial forecasts and cost of capital parameters. In addition, these figures can be viewed for all individual industries as well as for the sub-sectors of Chemicals & Pharmaceuticals, Consumer Markets, Financial Services and Media & Communication.

Furthermore, an individual and interactive data analysis of the study results is provided online. It is possible to select individual search criteria and run customized analyses. For example, the historical development of cost of capital parameters can be shown for specific industries or countries, or the results can be filtered and differentiated by company size.

Further insights on the performance of impairment tests are also available on the website (see also chapter 4 for selected results on this topic).

05 **Study participation by sub-sector**
Total (multiple choices possible)



Source: KPMG in Germany 2021

Our perspective on ESG

A global pandemic. Protests against racial injustice. Rising unemployment and inequality. Not to mention forest fires, floods and other natural disasters linked to climate change. We all face existential challenges. Change is needed while our confidence is shaken. That's why KPMG's purpose – to inspire confidence and empower change – has never been so important.

We are determined to make a positive impact on the world. With our global platform, KPMG IMPACT (website: KPMG IMPACT), we bundle our propositions to assist our clients in fulfilling their purpose and help them deliver on the UN Sustainable Development Goals. KPMG IMPACT's focus areas and solutions can help organizations enhance, accelerate and build a sustainable future that drives purposeful growth and profitability.

Evermore, we recognize our responsibility to foster inclusive and fair workplaces, to build trust in and harness the power of the capital markets to spur much-needed innovation, to empower the most disadvantaged in our communities and to help preserve our planet so future generations can thrive. To hold ourselves accountable for these responsibilities, we've brought together our firm's environmental, social and governance (ESG) commitments under one umbrella: our Impact Plan.

Using our values – integrity, excellence, courage, for better, together – as a guide, our Impact Plan specifies our commitments and actions across four important categories: Planet, People, Prosperity and Governance. We've defined our collective commitments including our carbon footprint, renewable energy usage and inclusiveness. We undoubtedly acknowledge our imperfection and respect that much more must be accomplished.

In business, what you cannot measure, you cannot change. Over the past years, also driven by regulations, public and non-public companies have thus introduced ESG and sustainability frameworks and have begun reporting on certain defined indicators. KPMG has started to report according to the WEF IBC Stakeholder Capitalism Metrics to give our stakeholders a standardized way of measuring and understanding our year-over-year progress.

In our valuation profession, i.e. in our quest for the financial value of an asset or a company, we are now faced with the question of how to measure the financial impact of certain ESG and sustainability factors on business value.

For over a decade, a common debate within ESG investing has been whether incorporating ESG factors into the investment process hurts asset performance.

Some studies suggest that companies with robust ESG practices exhibit a lower cost of capital, lower volatility and fewer instances of bribery, corruption and fraud. Conversely, studies have shown that companies performing poorly in ESG have a higher cost of capital, higher volatility due to controversies and other incidents such as labor strikes, fraud, environmental pollution and accounting or other governance irregularities. However, despite rapid development, the lack of a commonly accepted uniform ESG standard still represents a fundamental challenge for a robust valuation analysis. To sensibly include ESG considerations into a business valuation analysis, is it necessary to simply stand by and wait for globally accepted standards? We do not believe so.

Intense discussions with our clients are ongoing regarding the ways in which the outside-in impact of ESG factors on the prospects of businesses could be reflected in the cash flows and discount rate estimations to perform business valuations, as it is imperative for investors and management to assess the value drivers of companies through not just a financial lens but also an ESG lens. This is as true for our clients as it is for KPMG.

Johannes Post
Partner, Global Head of Valuation Services
KPMG Switzerland

2
Derivation of Cash Flows

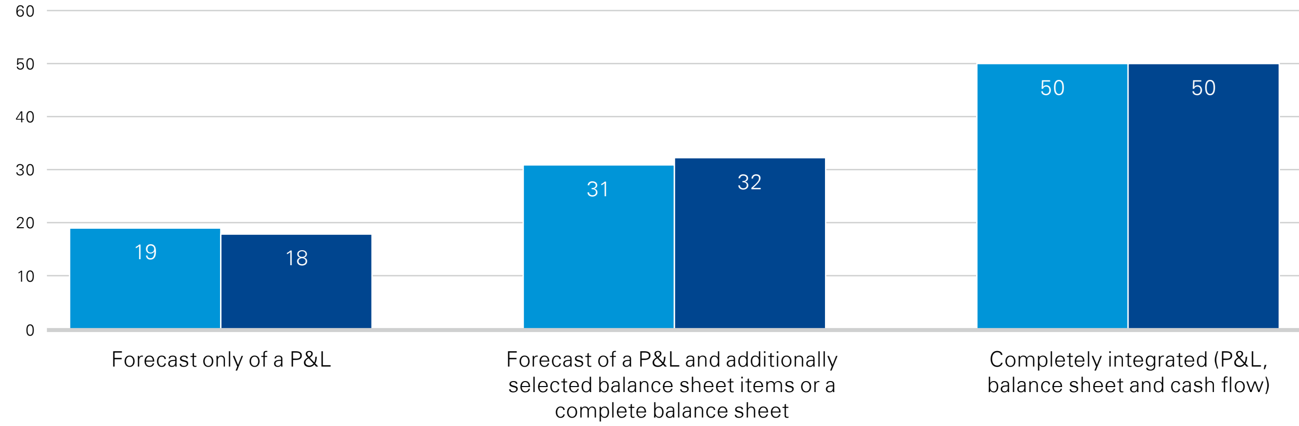
2.1 Preparation of the Financial Forecasts

The prediction of a company's profits is subject to uncertainty. Difficulties in predicting economic developments result in planning uncertainties that shape our understanding of financial forecasts.

In order to further increase accuracy in financial planning, we have to properly reflect expectations of operating performance and risk drivers and prepare planning figures in an integrated and sufficiently detailed manner.

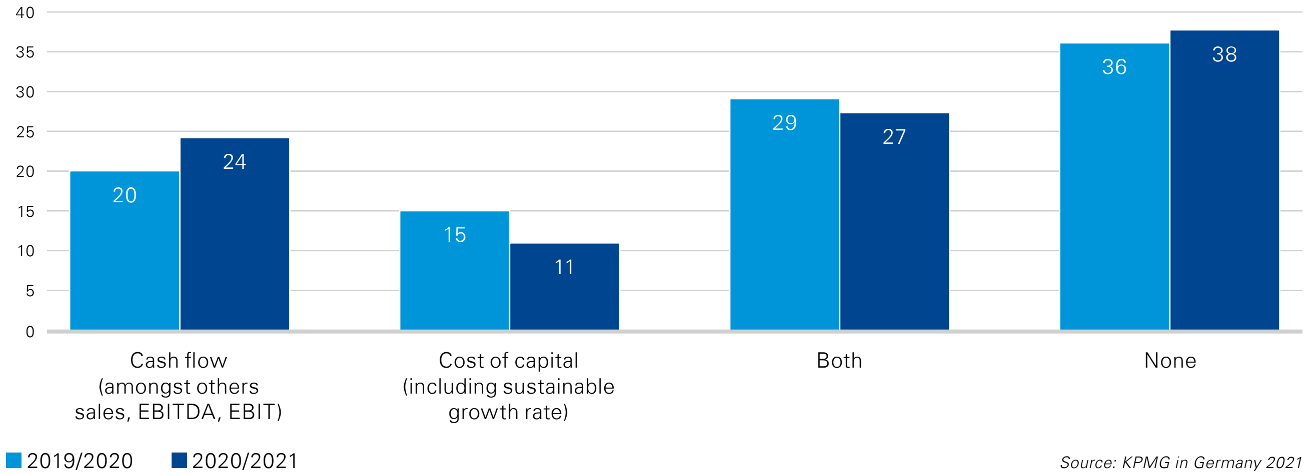
Sensitivity and scenario analyses can capture future fluctuations in a company's performance and therefore provide a suitable framework to account for uncertainty in enterprise valuations.

06 **Degree of detail of the financial forecast**
Total (in percent)



Source: KPMG in Germany 2021

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



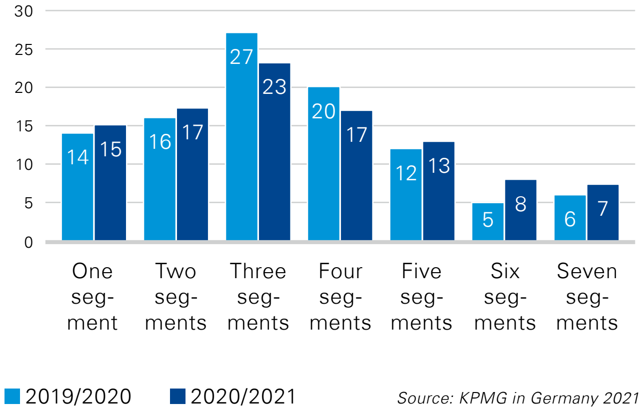
Source: KPMG in Germany 2021

There is still some incongruity regarding the choice of planning horizon. For instance, a longer planning horizon means greater planning uncertainty, whereas a (too) short planning horizon results in investment and product life cycles as well as long-term industry developments not being properly reflected in the financial forecast. This can lead to erroneous company valuations and may then result in inappropriate decisions.

According to International Accounting Standard (IAS) 36.33 (b), the planning horizon of financial forecasts should not exceed a five-year period when applying the value-in-use concept. Given product and investment cycles, an extended planning horizon can be justified.

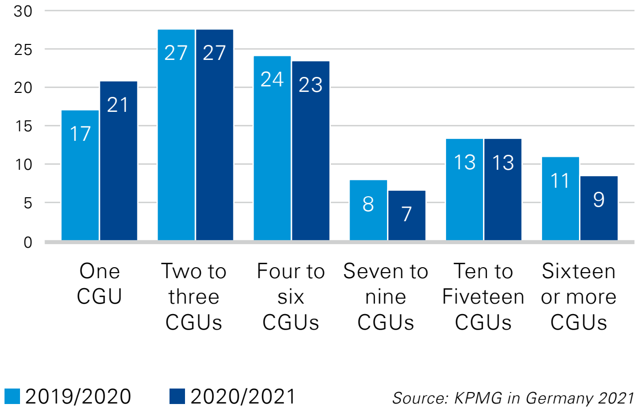
The survey showed a general trend towards longer planning periods, as the application of planning periods of three years decreased by nine percentage points, whereas the planning horizons with five planning years increased by seven percentage points. This trend towards longer planning periods could be influenced by the short-term distortions in financial figures resulting from the COVID-19 pandemic as well as through the implementation of innovative technologies.

08 **Number of segments**
Total (in percent)



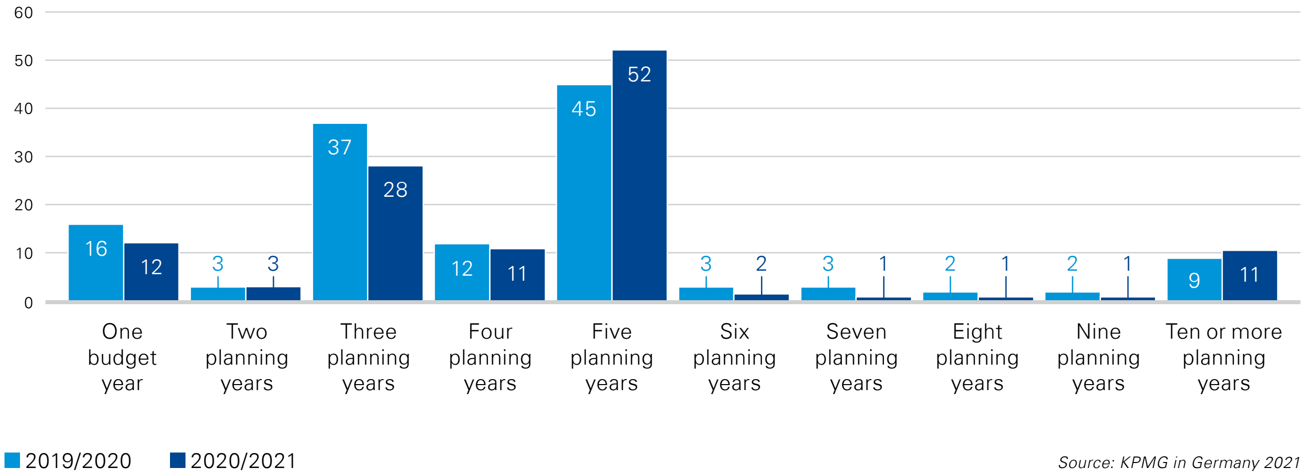
Source: KPMG in Germany 2021

09 **Number of cash generating units (CGUs)**
Total (in percent)



Source: KPMG in Germany 2021

10 **Planning horizon**
Total (in percent, multiple choices possible)



Source: KPMG in Germany 2021

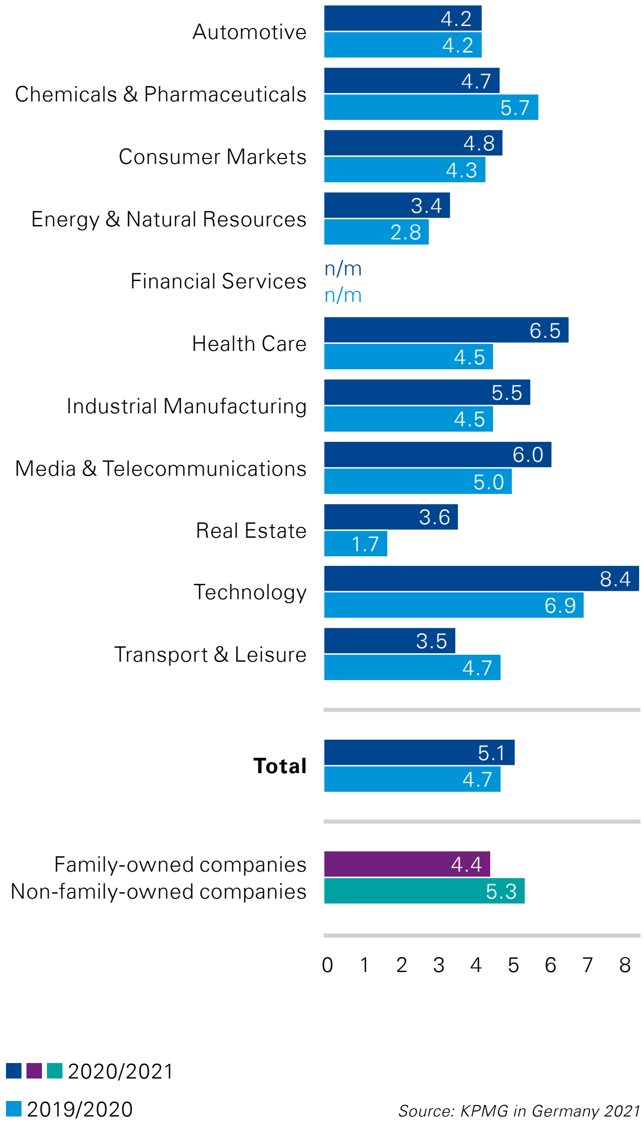
2.2 Growth Expectations

Today's growth expectations are dominated by concerns regarding the continuing effects of the COVID-19 pandemic on the world economy as well as the continuous development of new technologies. These factors present challenges and opportunities that can vary widely in their impact on forecasted growth rates across industries.

Continuing last year's digitalization trend, the Technology sector has increased its growth expectation by 1.5 percentage points for sales and by 3.2 percentage points for EBIT. Due to the COVID-19 pandemic, growth expectations for the Health Care sector have risen significantly as well. In the Consumer Markets sector the decline in the forecasted sales and EBIT level in last year's study has somewhat improved at least for the top-line. Cost pressure seems to remain high with a further expected decrease in EBIT.

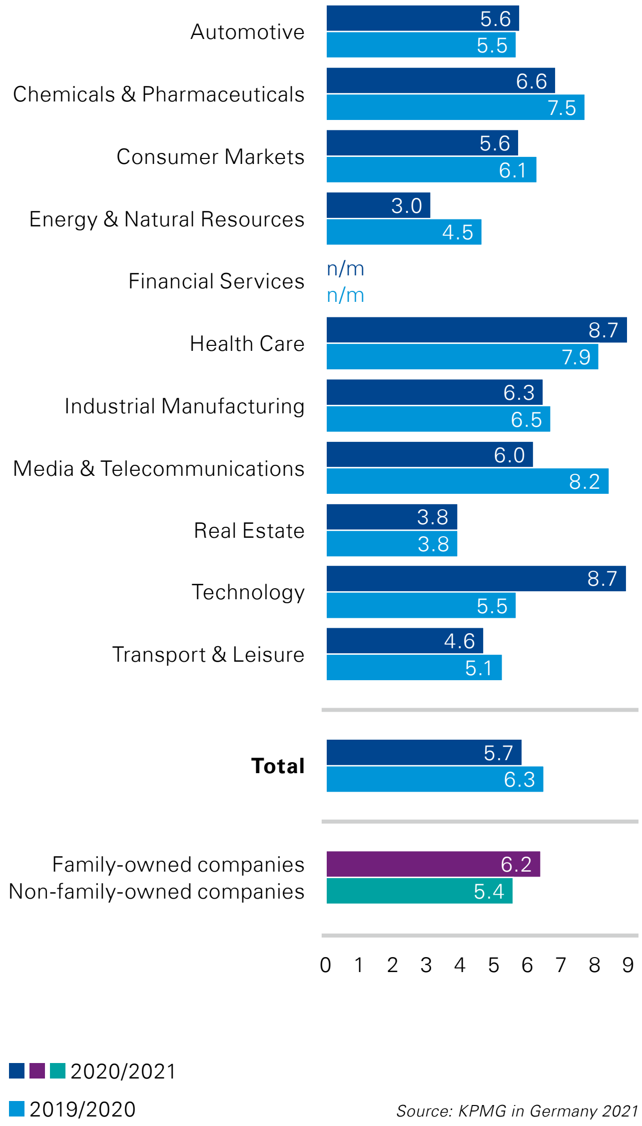
Overall, average expected revenue growth increased by 0.4 percentage points, whereas the forecasted EBIT growth decreased by 0.6 percentage points.

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



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

Key changes to ESG reporting (1/2)

Background

With Directive 2014/95/EU in November 2014, the European Commission for the first time codified the requirements for certain entities to submit a "non-financial statement" on material sustainability aspects[1]. In accordance with the requirements, a non-financial statement is to be prepared, which includes the concepts, results, risks and key performance indicators on environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery matters. The Directive encompasses large publicly listed companies which are public-interest entities with over 500 employees as well as banks and insurance undertakings.

Based on experience with the aforementioned reporting, a number of necessary improvements have been discussed since it was first adopted for calendar year 2018. Key criticisms include the definition of the entities obliged to report, the lack of consistency and comparability of the disclosed non-financial information as well as the different data quality as compared to financial reporting and its reliability given the lack of a substantive statutory audit requirement.

In view of the above, the EU has now announced that it will issue a revised Directive. On 21 April 2021, as part of the EU Green Deal, the Commission presented its draft proposal for a Corporate Sustainability Reporting Directive (CSRD) in its 2021/0104 announcement; this addresses a number of aspects that have been noted by the various stakeholders since the Directive was first adopted. The Directive is to be transposed into German law as at 1 December 2022, which means that first-time application of the new regulations can be expected from January 2023.

Scope, reporting and form

The scope is to be extended to include all large companies with a registered office in the EU that meet at least two of the three following criteria: balance sheet total of EUR 20 million, net turnover of EUR 40 million or an average of 250 employees during the financial year. The departure from focusing on publicly listed companies will lead to a significant increase in the number of entities required to report.

According to the previous Directive, it was left to the discretion of the companies whether to disclose non-financial information in the management report or as a separate report, as well as which standards and frameworks companies use to prepare this report. Therefore, the difficulties of comparing reports and the comparability of information was often criticized in practice. The new regulation now stipulates that this information be included in the management report or group management report. With regard to the contents of the report, the European Financial Reporting Advisory Group (EFRAG) has been tasked by the EU Commission to prepare binding reporting standards that – similar to German commercial law or international financial reporting – are to be used by all companies. In addition, digitalization by electronically "tagging" information will be mandatory. This tagging will make it easier to compare, evaluate and use the information.

The Taxonomy Regulation is applicable from financial year 2021; according to this, large public-interest entities must disclose proportionate "turnover", "operational expenditure" and "capital expenditure" that are taxonomy compliant. In this initial step, taxonomy compliance is only targeted at "environmental sustainability" and is recognized by using technical assessment criteria.

1 The Directive was adopted into German law by the "Act to Strengthen Non-Financial Reporting by Companies in their Management Reports and Group Management Reports (German EU CSR Directive Implementation Act)" in April 2017.

Key changes to ESG reporting (2/2)

Corporate governance and audit requirement

Furthermore, the proposal for a Directive clearly notes the responsibilities of management and supervisory bodies for sustainability reporting. Specifically, it is stated that the audit committee must also monitor sustainability reporting as well as the systems and processes necessary for this purpose.

The increasing importance of non-financial information for a number of stakeholders, ranging all the way up to those responsible for making financing decisions, means even greater requirements are being placed on data quality. Therefore, the EU's new Directive requires all companies within the scope of these regulations to conduct a limited assurance audit.[2]

Impact on return requirements and cost of capital

The effects of the new regulatory requirements on the respective companies will depend heavily on the related sector and the sector reporting obligations, as well as on the demands of stakeholders. Due to greater transparency, companies may be induced to adjust their capital expenditure and production decisions to meet these requirements. This adjustment process could impact the expected short- to medium-term returns of companies. It cannot currently be clearly determined whether this will have a sustainable, significant bearing on the expected returns of companies and, thus, the cost of capital. In light of the relatively stable ranges of historic real yields observed, movements in yields between companies are conceivable, which would be in line with the established thesis of a correlation between transparency and return requirements.

2 A requirement to conduct a reasonable assurance audit was not included in the revised Directive in view of the excessive burden on companies at the moment. However, the Directive specifies reviewing this requirement no later than within three years, according to which – if applicable – there will be a transition to a mandatory audit with a reasonable assurance requirement. Until there is a binding requirement to conduct a reasonable assurance audit, we will initially also see diverse audit depths in parallel in this regard among the audited reports.

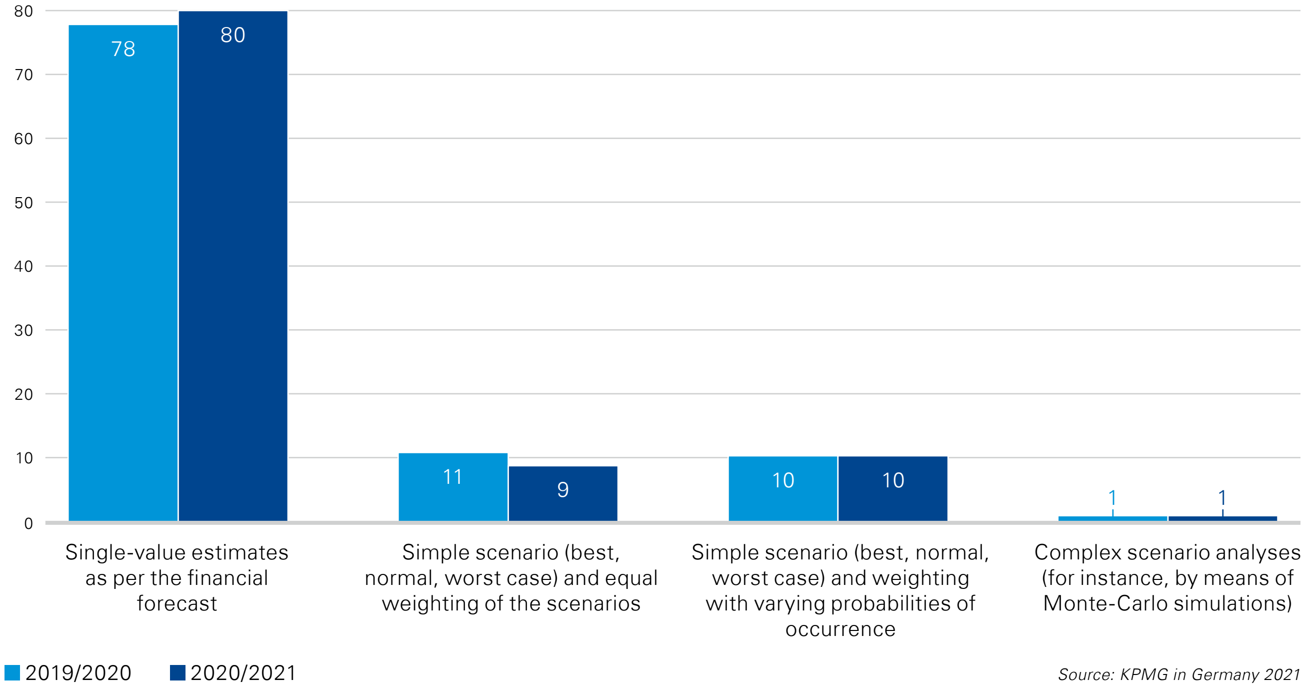
2.3 Determination of Expected Values

In the past, single-valued estimations of future cash flows were considered sufficient as forecasting tools for companies with a long company history and given a relatively stable economic situation.

In the current economic environment full of uncertainties, the performance and risk drivers can only be systematically and transparently addressed by using multi-valued estimations based on scenarios and simulations. It is therefore necessary to use a multi-valued approach, as difficulties in predicting macro- and microeconomic developments and short-term distortions affect business models.

As in the previous year, the majority 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 being adequately taken into account in the derivation of the expected value.

13 **Measurement of expected values**
Total (in percent)



Source: KPMG in Germany 2021

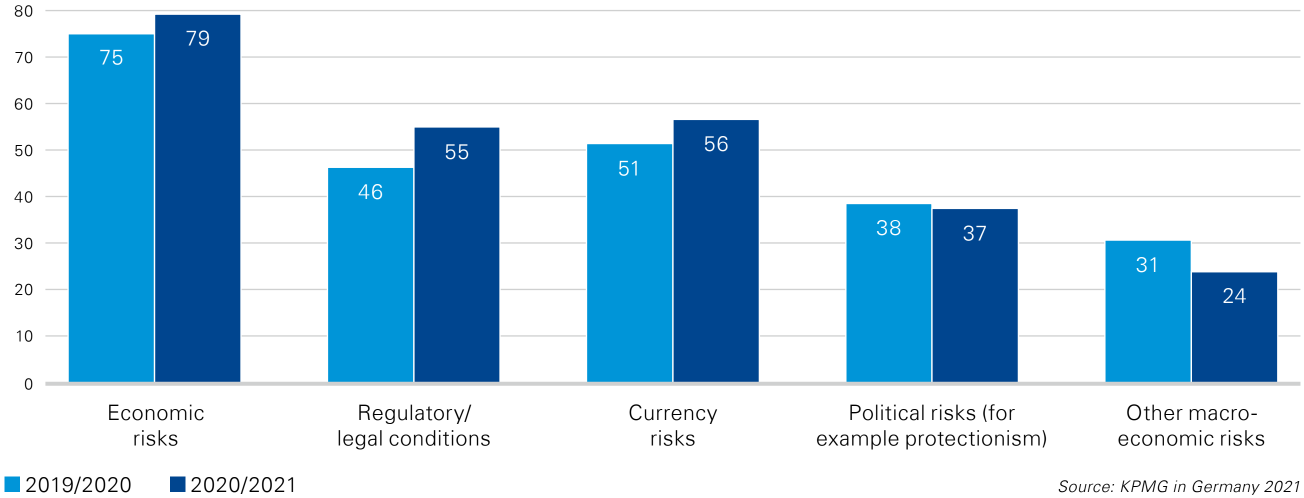
2.4 Consideration of Risks

Future cash flows are uncertain and must be reflected with their expected values. For that reason, all the opportunities and risks associated with the business model have to be completely considered when compiling the financial forecast and deriving the cash flows. These risks may be macro- or microeconomic in nature.

The current situation shows the importance of considering an increased number of risks when performing financial forecasts. Concerning macroeconomic risks, especially regulatory factors/requirements and currency fluctuations have been considered in financial forecasts in comparison to the previous year. The effects of new regulatory requirements on the respective companies will depend heavily on the related sector and the sector reporting obligations, as well as on the demands of stakeholders.

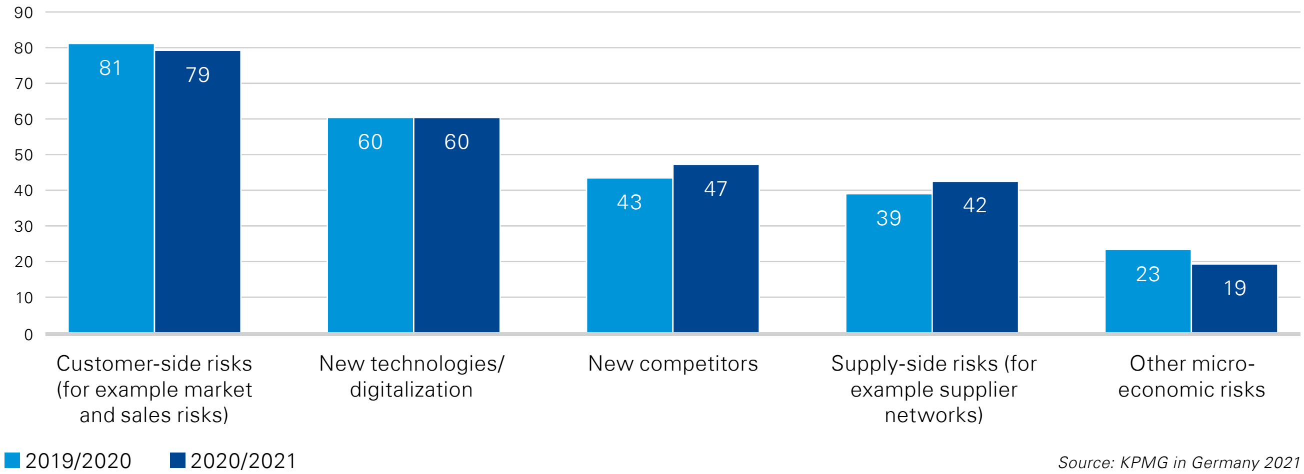
On a microeconomic scale, we see relatively stable developments for most categories in comparison to last year's results. The risk of competitor companies entering the market appears to have increased in importance to the study participants.

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



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

3 Determination of the Cost of Capital Parameters

3.1 WACC Overview

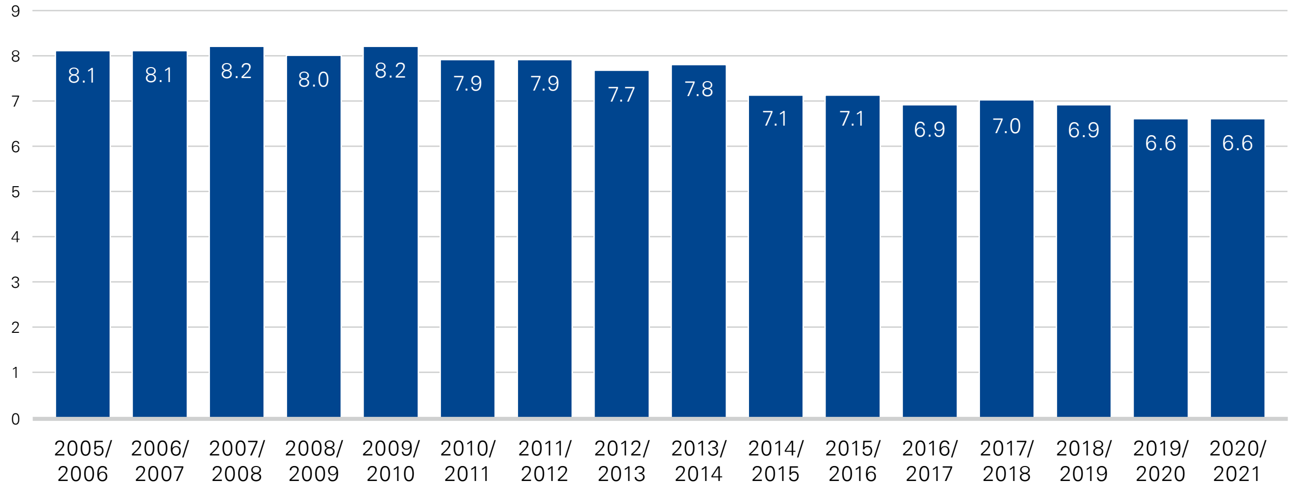
The most common discounted cash flow (DCF) method to derive an enterprise value is the so-called WACC approach.

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.

After last year's decline in the WACC to 6.6 percent, the WACC remained constant this year 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, a high percentage 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.

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



Source: KPMG in Germany 2021

Relevant cost of capital parameters at a glance

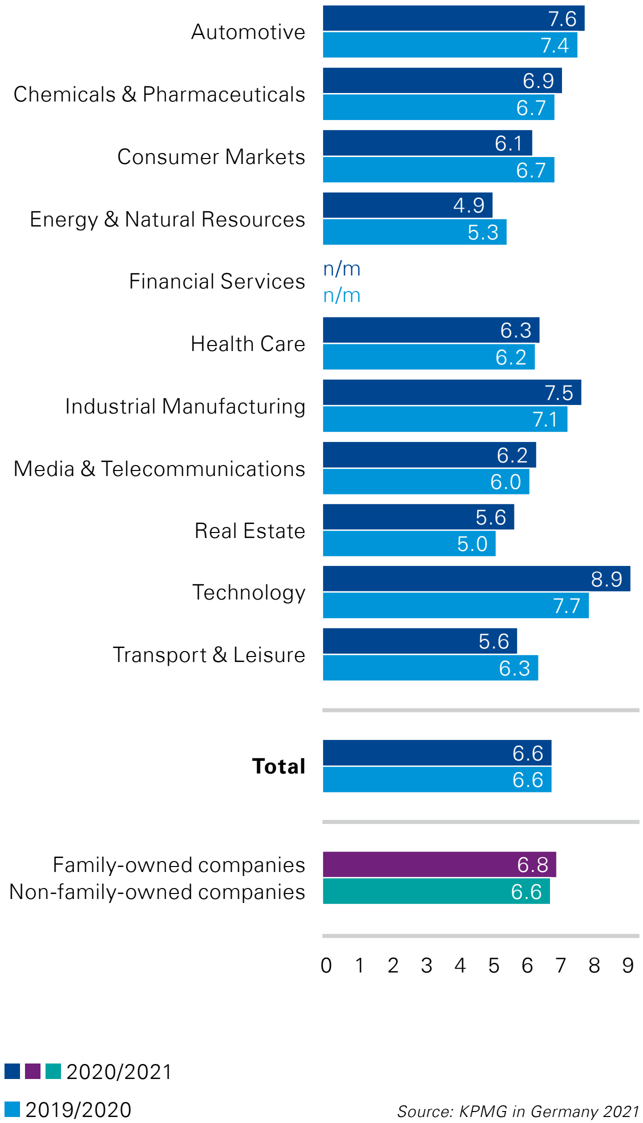
In times of uncertainty, it is more important than ever for companies to keep an eye on cost of capital parameters in order to be prepared for changing market conditions and to protect your company against losses. How can companies keep track of the most important capital market data? The KPMG Valuation Data Source collates relevant cost of capital parameters and guides the user through the derivation of the individual weighted average cost of capital (WACC) or the cost of equity relevant for the financial sector: the user simply specifies the preferred reporting date, the desired country, the currency and the peer group and selects the desired settings for the calculations. The KPMG Valuation Data Source provides access to cost of capital parameters from more than 150 countries and peer group-specific data from over 13,000 companies worldwide. Historical cut-off dates are available from 2012 until today.

For further information see **www.kpmg.de/valuation-data-source**.

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

The highest increase compared to the previous year was observed in the Technology sector, the largest decrease in the Transport & Leisure sector.

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



Source: KPMG in Germany 2021

Consumer Markets

The heterogeneous development is also reflected within the Consumer Markets sector. While the WACC for the sub-sector Consumer Markets significantly decreased from 7.7 percent in the previous year to 5.7 percent, the WACC in the Retail sub-sector declined only slightly from 6.2 percent to 6.0. Therefore, the gap between the two sub-sectors narrowed from 1.5 percentage points in the previous year to 0.3 percentage points.

Media & Telecommunications

Within the Media & Tele-communications sector, the gap between the sub-sectors increased compared to the previous year. The WACC increased by 0.6 percentage points to 6.7 percent in the Media sub-sector and decreased by 0.4 percentage points to 5.5 percent in the Telecom-munications sub-sector.

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 risks taken with regard to the asset invested in.

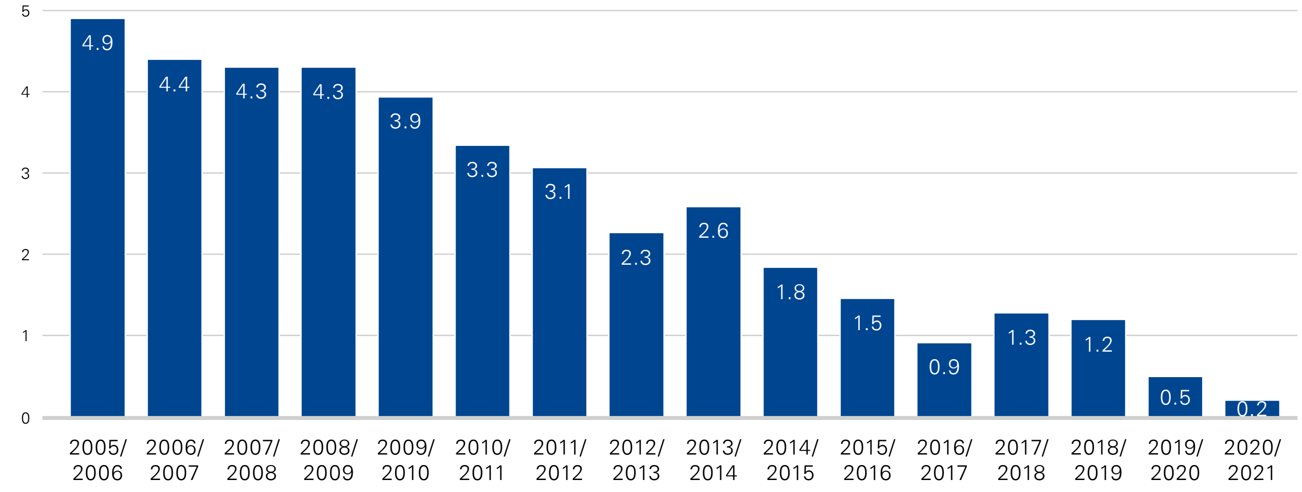
To ensure equivalence in the maturity, the risk-free rate applied should be determined taking into account the current term structure of interest rates of the relevant central banks.

In order to smooth out abnormal market fluctuations when deriving the risk-free rate, an average of the three months preceding the valuation date should be calculated.
After last year's significant decrease, the risk-free rate continued its downward trend this year by dropping slightly to 0.2 percent.

A cross-country comparison shows homogenous development. In Germany and Austria the risk-free rate decreased from 0.4 percent in 2019/2020 to 0.1 percent in 2020/2021. The risk-free rate also declined in Switzerland, falling by 0.3 percentage points to 0.9 percent in this year's Cost of Capital Study.

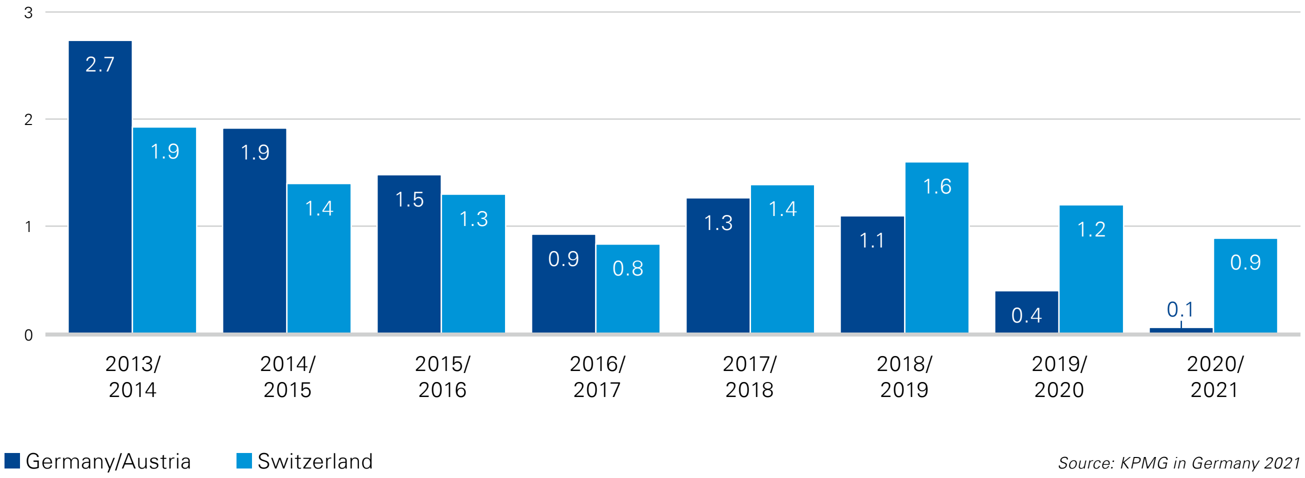
As of August 2021, the risk-free rate has remained unchanged in the Eurozone (0.2 percent) and had decreased in Switzerland to -0.1 percent.

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



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

3.3 Market Risk Premium

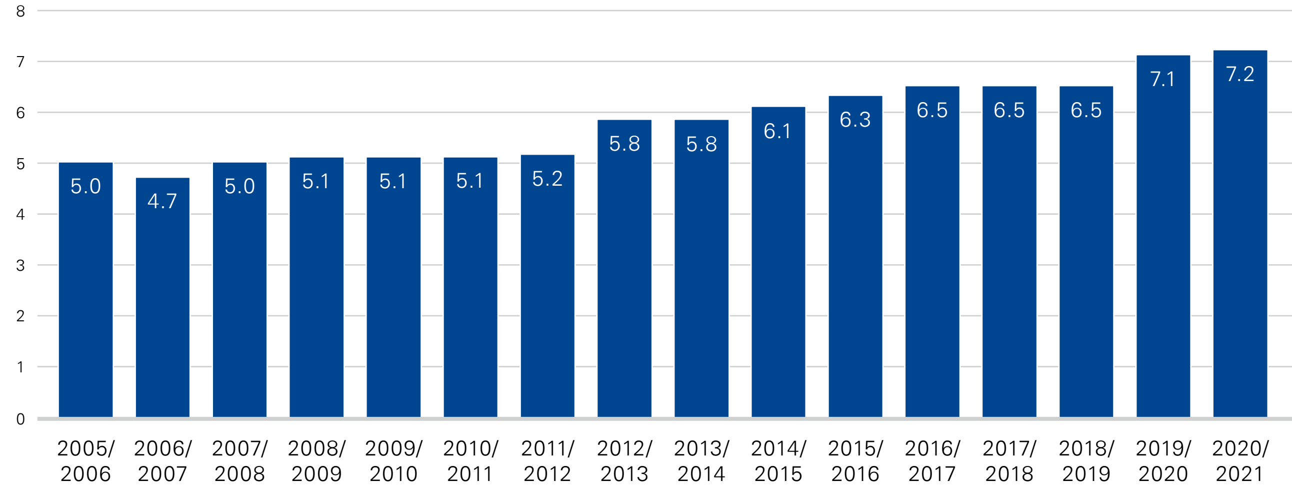
The market risk premium is a parameter not directly observable in the capital market and is derived by subtracting the risk-free rate from the market return.

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.

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 of between 7.5 and 9.1 percent.

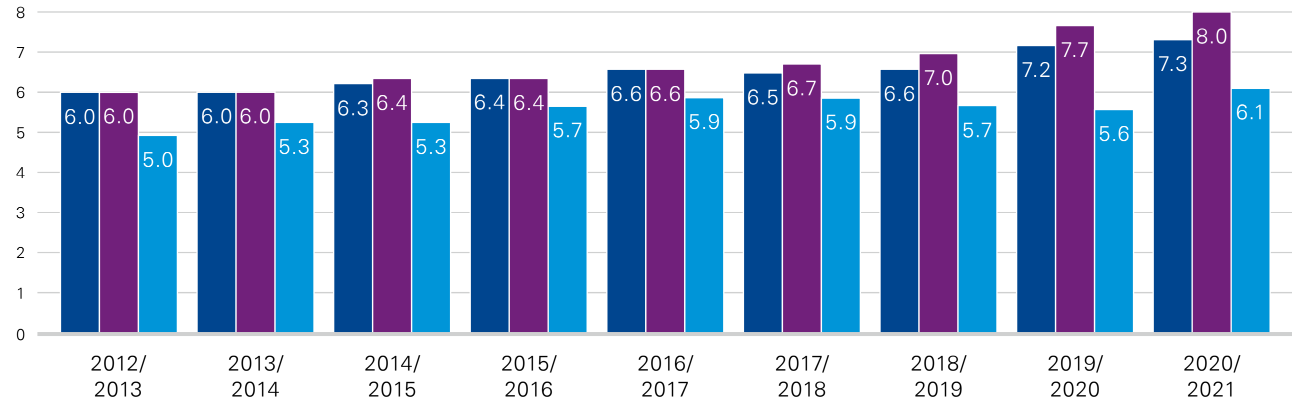
Individual analyses to determine the market risk premium should always be performed based on the aforementioned ranges recommended by the standard-setters.

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



Source: KPMG in Germany 2021

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



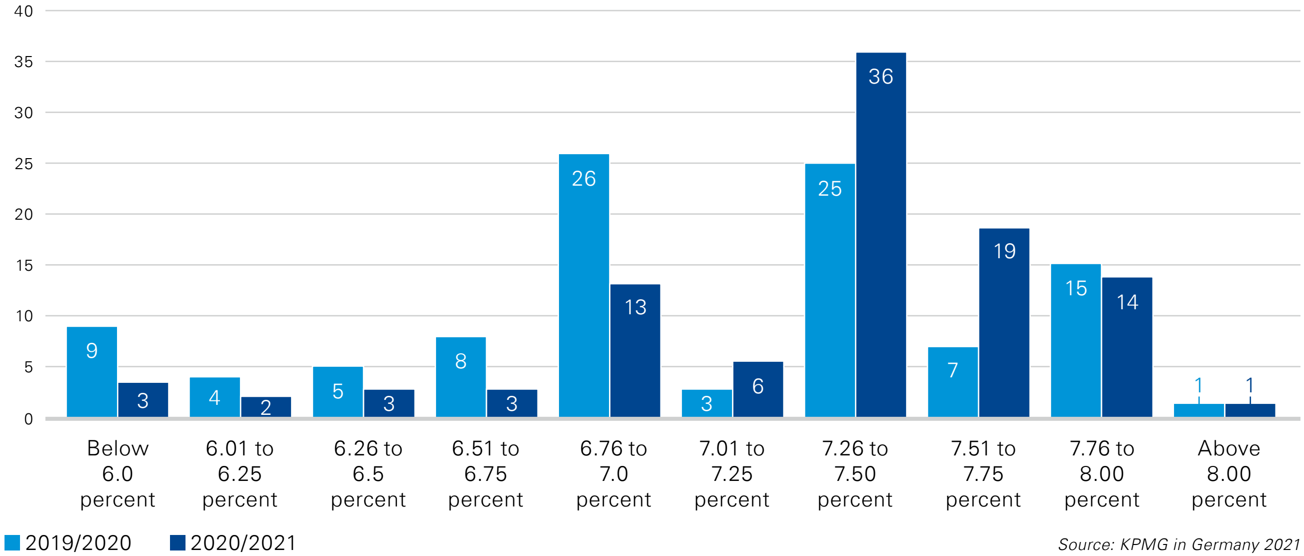
Source: KPMG in Germany 2021

In this year's study more than 75 percent of the participants applied a market risk premium greater than 7.0 percent, of which 55 percent applied a market risk premium between 7.26 percent and 7.75 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.

As of August 2021, the market risk premium for German companies amounted to 7.5 percent according to KPMG analysis.

22 **Distribution of the market risk premiums of German companies**
(in percent, multiple choices possible)



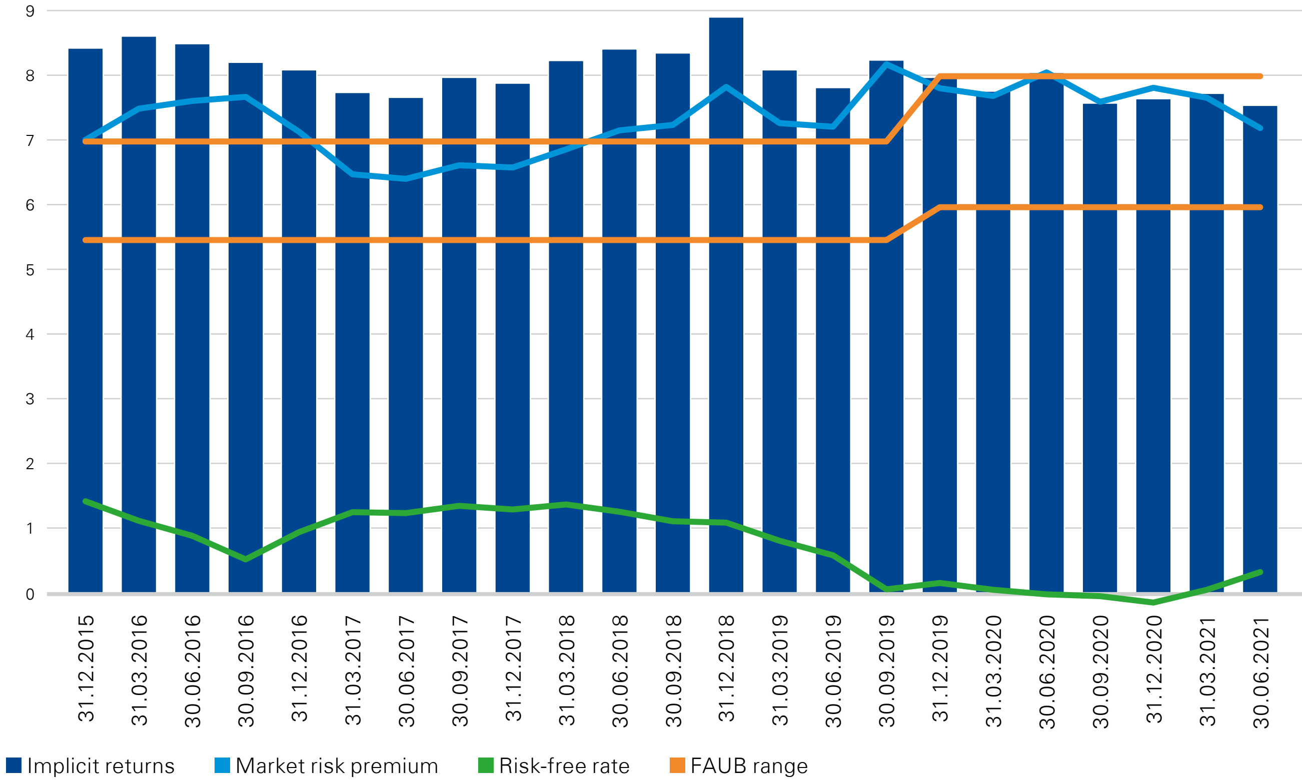
Source: KPMG in Germany 2021

Analyses of 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 will fluctuate over time.

Aside from that, researchers have been applying models for deriving implicit returns for some time, and these models have become relevant more recently in valuation practice. 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.

Since 2020 the market risk premium resulting from implicit returns in Germany has been within the range recommended by FAUB.

23 **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 return as a whole.

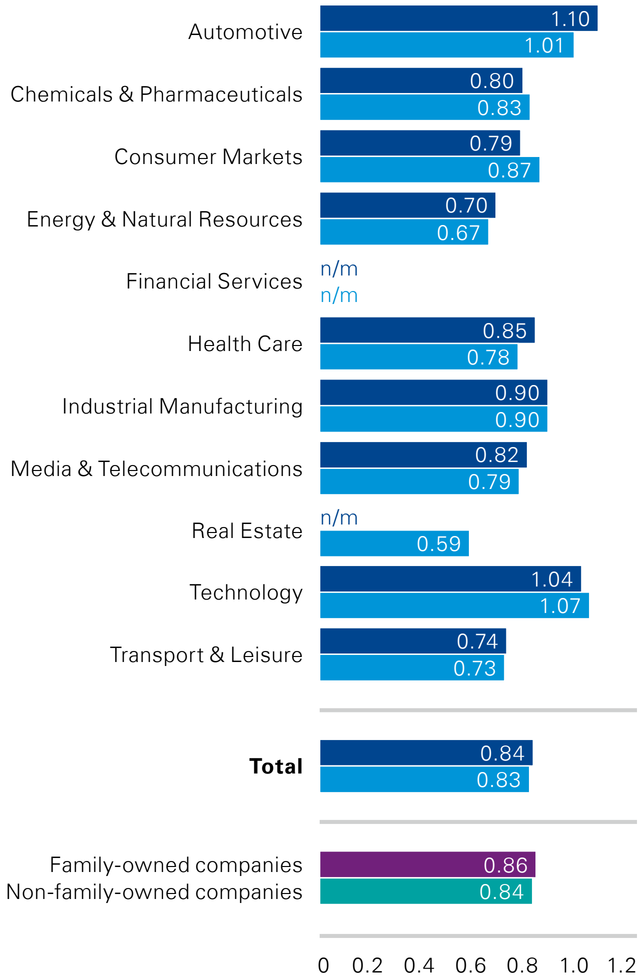
Even though the beta factor is typically applied to capture the company's future risk in relation to the general market risk, it is usually determined based on historical data and serves as an estimator for the future.

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 operational 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 change significantly across all industries, there were relatively big changes in individual sectors.

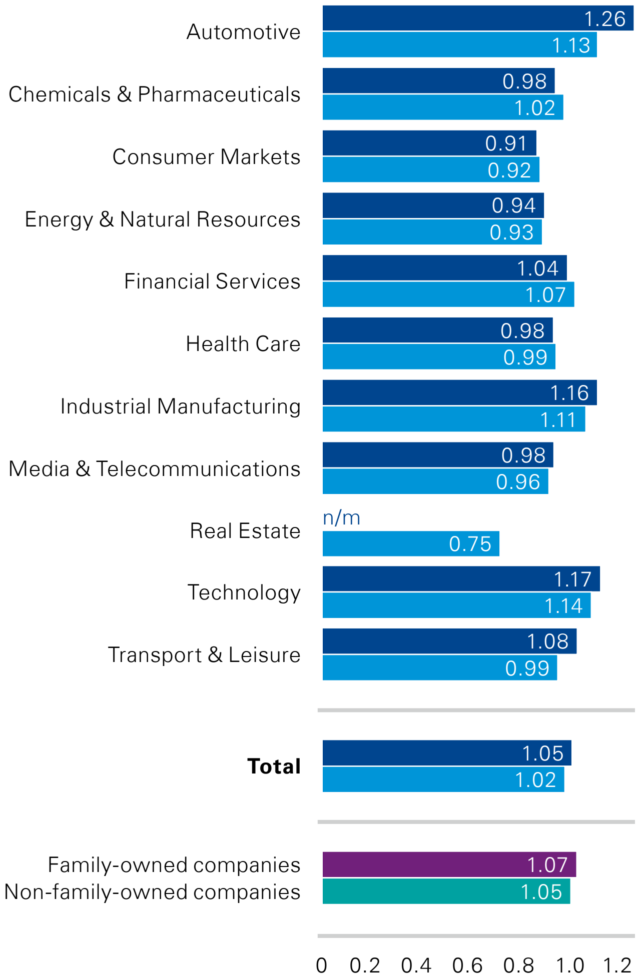
24 **Average unlevered beta factors by industry**



2020/2021
2019/2020

Source: KPMG in Germany 2021

25 **Average levered beta factors by industry**



2020/2021
2019/2020

Source: KPMG in Germany 2021

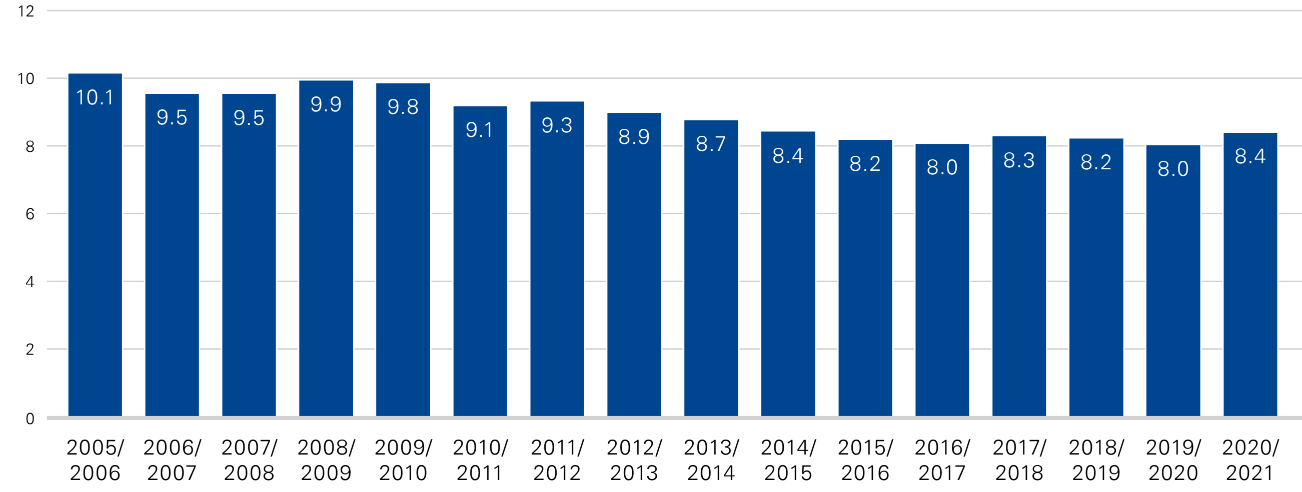
3.5 Cost of Equity

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

In comparison to the previous years, the levered cost of equity applied in this year's survey results reversed its downward trend and increased to 8.4 percent, the highest level since 2014/2015.

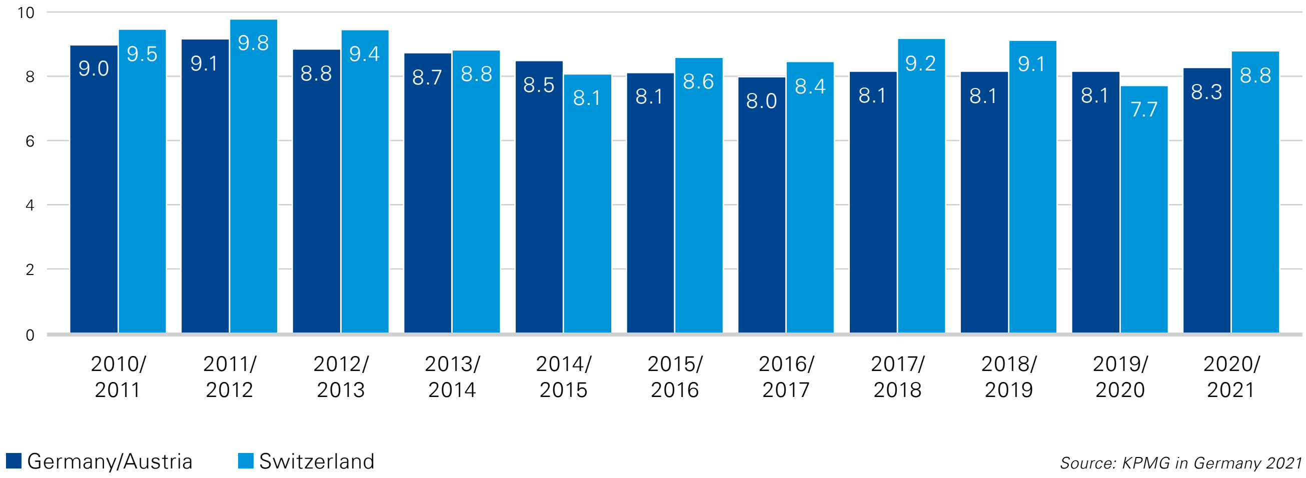
While the average levered cost of equity in Germany and Austria increased only slightly by 0.2 percent to 8.3 percent, in Switzerland it jumped from 7.7 percent to 8.8 percent.

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



Source: KPMG in Germany 2021

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



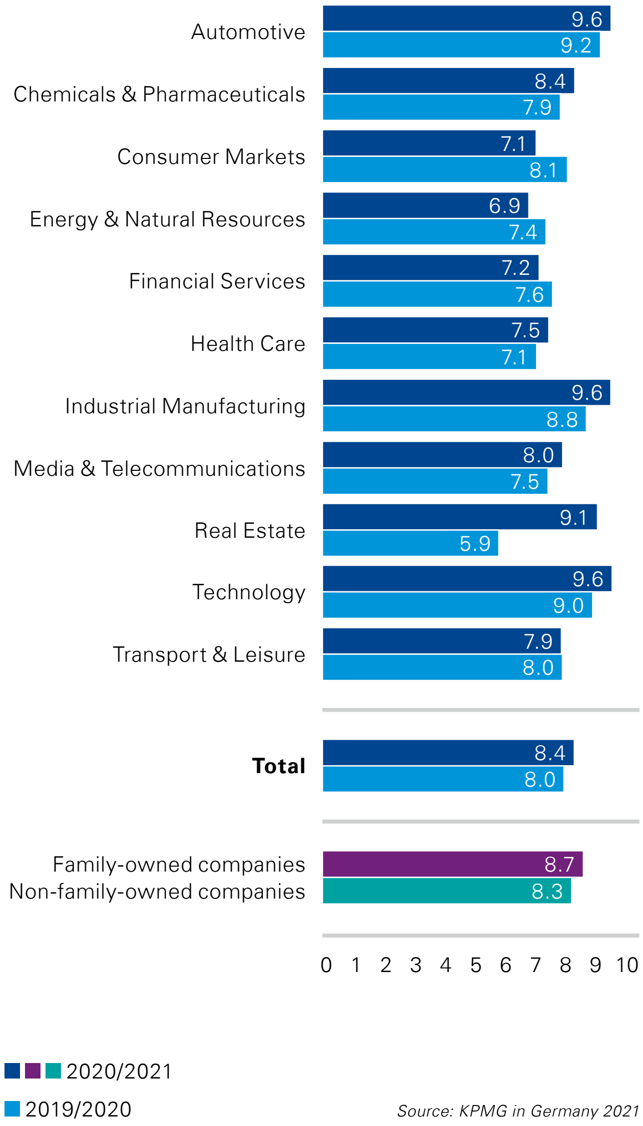
Source: KPMG in Germany 2021

The slightly increased market risk premium and levered beta factor overcompensate the decreased average risk-free rate. Hence, the levered cost of equity increased by 0.4 percentage points to 8.4 percent in this year's study.

Within sectors, the applied levered cost of equity changed significantly, increasing in most sectors. The largest increase can be seen in the Real Estate sector with a jump from 5.9 percent to 9.1 percent, mainly driven by changes in the composition of participants. The largest decrease has been observed in the Consumer Markets sector by 1.0 percent.

The cost of equity applied by the participating family-owned companies is 0.4 percentage points higher than for non-family owned companies.

28 **Average levered cost of equity by industry**
(in percent)



Source: KPMG in Germany 2021

Chemicals & Pharmaceuticals

The levered cost of equity in the Chemicals & Pharmaceuticals industry increased from 7.9 percent in the previous year to 8.4 percent. The effect arises from an increase in the levered cost of equity in the sub-industry Chemicals (7.6 percent to 8.7 percent) and is offset by a decrease in Pharmaceuticals (8.4 percent to 7.7 percent).

Media & Telecommunications

The overall increase of the applied cost of equity in the Media & Telecommunications sector to 8.0 percent is mainly attributable to the increased cost of equity in the Media sub-sector, which moved from 7.2 percent to 8.1 percent.

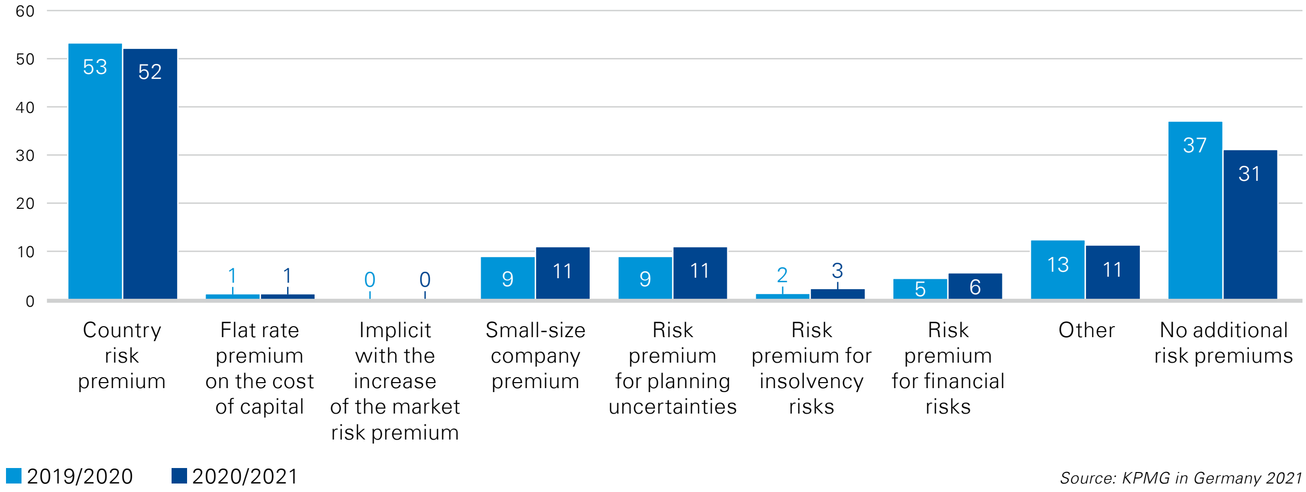
3.6 Other Risk Premiums

Future developments, and specifically future cash flows, are impossible to forecast precisely. Consequently, it is even more important to identify the uncertainty and associated risk of cash flows and to reflect these risk factors properly in the 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 might also be taken into consideration.

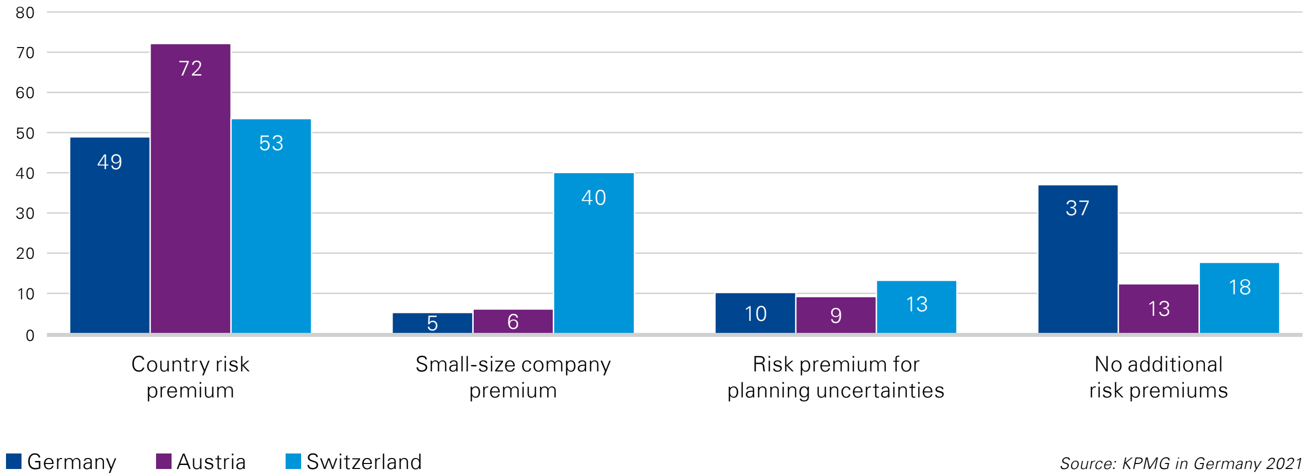
In line with the previous year's findings, the country risk premium is still the most important surcharge on the cost of capital and thus the most frequently applied other risk premium at both overall and national level.

29 **Other risk premiums 2019/2020 versus 2020/2021**
Total (in percent, multiple choices possible)



Source: KPMG in Germany 2021

30 **Selected other risk premiums 2020/2021**
Germany versus Austria versus Switzerland (in percent, multiple choices possible)



Source: KPMG in Germany 2021

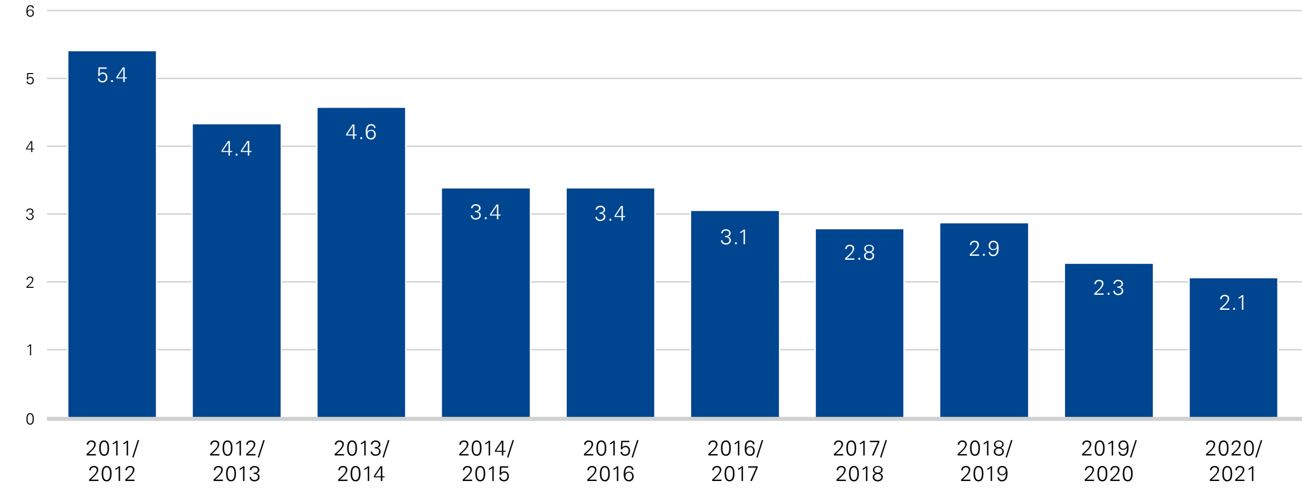
3.7 Cost of Debt and Debt Ratio

The second major constituent within the WACC derivation is the cost of debt and the debt ratio.

While the first component denotes 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).

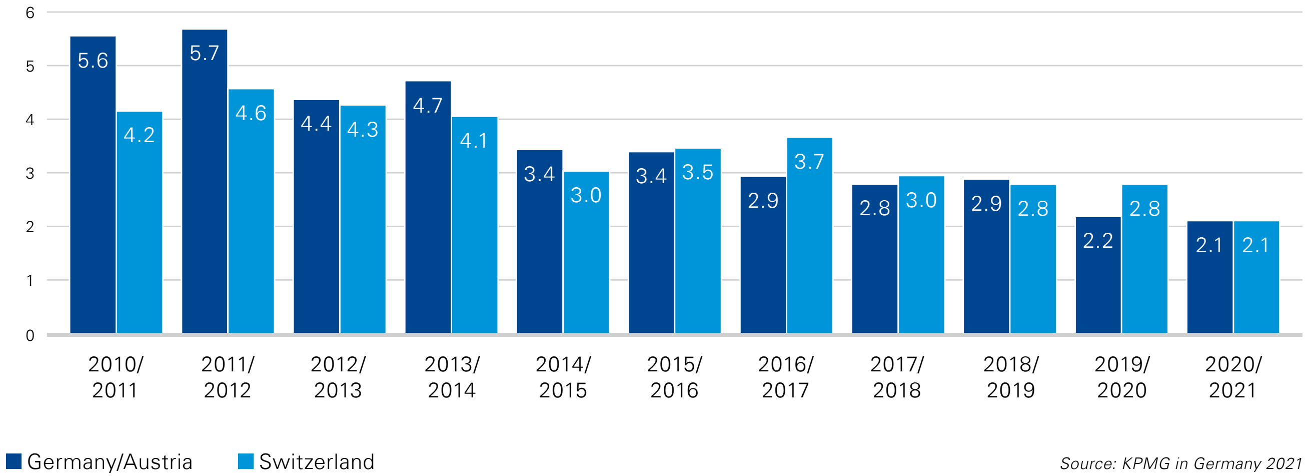
After an observed downward trend in recent years, the cost of debt declined further to a new historic low of 2.1 percent. In contrast to last year's study, no difference in the cost of debt between Germany/Austria and Switzerland was observed, although the risk-free rates within those regions are not alike.

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



Source: KPMG in Germany 2021

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

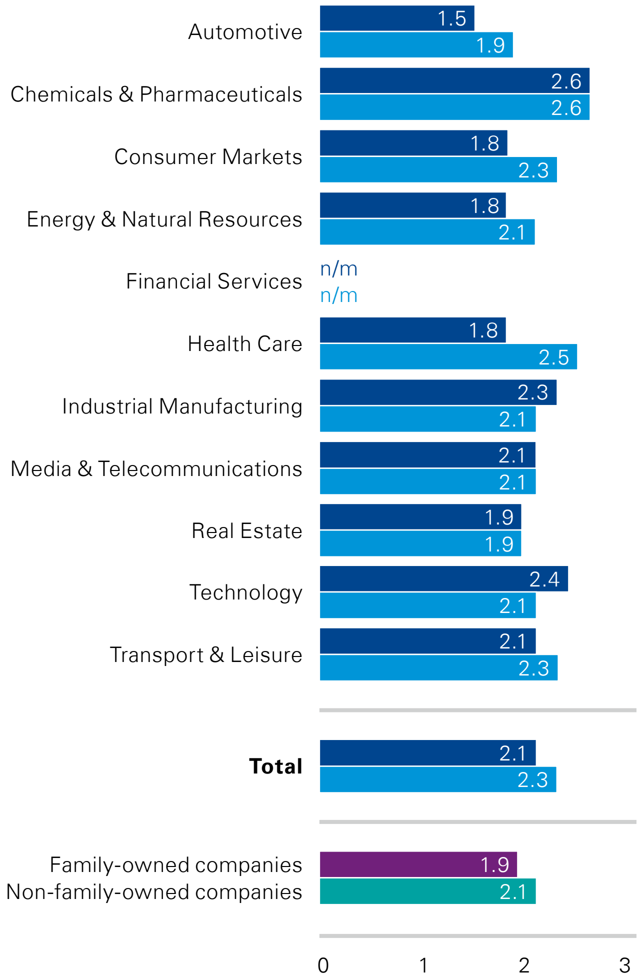


Source: KPMG in Germany 2021

While in the previous study all observed industry segments reported a lower cost of debt, some industry segments like Industrial Manufacturing and Technology reported a slightly higher cost of debt in this year's study. However, the downward trend continued in most industries, with the largest decrease of 0.7 percentage points in the Health Care sector.

The trend towards a lower cost of debt was accompanied by a decrease in the total average debt ratio compared to the previous year, with the largest decrease observed in the Health Care sector, which saw a decline from 31.5 percent to 15.1 percent.

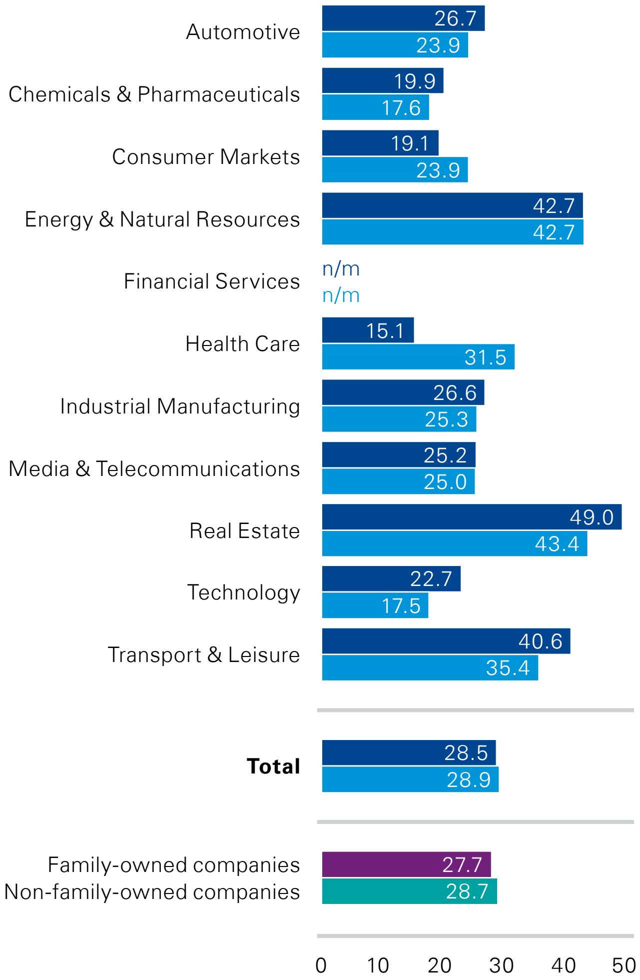
33 **Average cost of debt by industry**
(in percent)



2020/2021
2019/2020

Source: KPMG in Germany 2021

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



2020/2021
2019/2020

Source: KPMG in Germany 2021

3.8 Sustainable Growth Rate

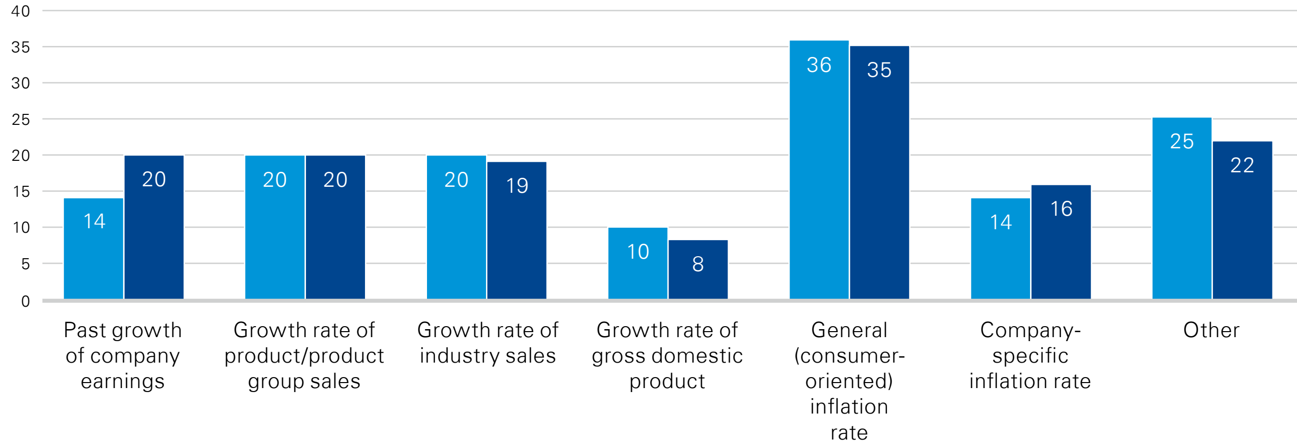
The sustainable growth rate of a company is an essential component in determining the terminal value. It reflects the company-specific inflationary growth in a sustainable state.

The company-specific sustainable growth rate should be derived by analyzing the company-specific operating activities. However, the most common way used by the study's participants to estimate the sustainable growth rate remains to apply a consumer-based inflation rate. In contrast to last year, an increasing number of participants applied a sustainable growth rate based on the company's historical earnings growth.

Based on the assumption of perpetuity, the terminal value is usually the primary contributing factor to the value of an enterprise.

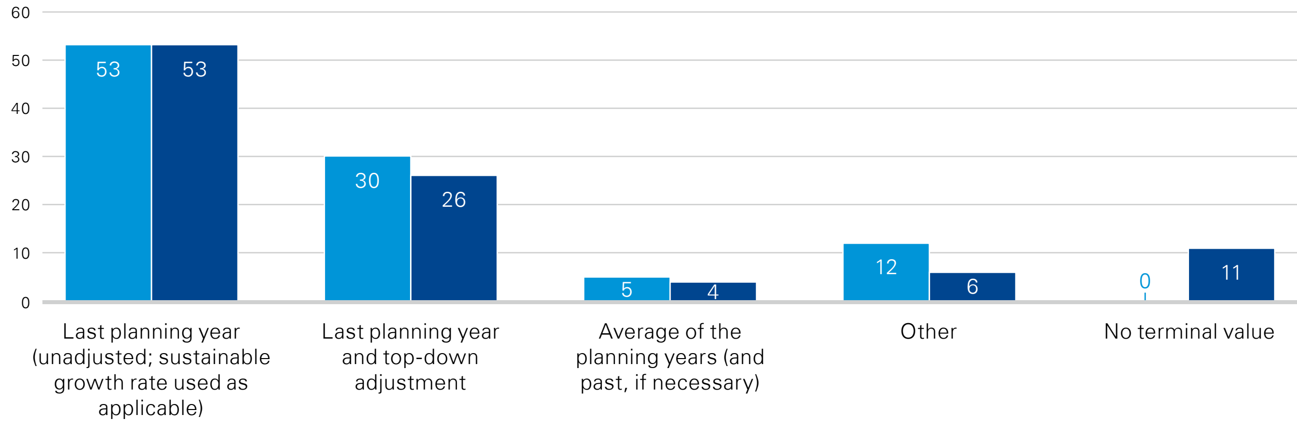
The terminal value requires the company to be in an equilibrium-sustainable state. Such a state is typically not achieved at the end of the planning horizon. Given its significance, the sustainable year should be determined based on a scenario approach such as Monte-Carlo simulations.

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



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

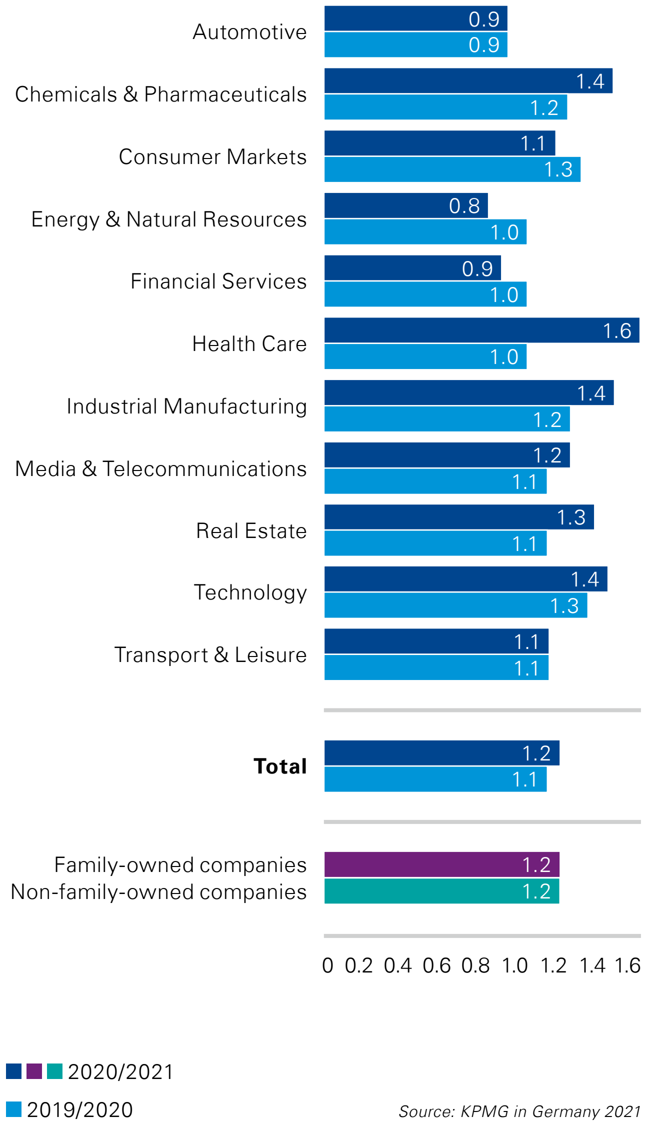
The total average sustainable growth rate applied by the participants amounts to 1.2 percent and is slightly higher than in the previous year.

Overall, the change in average sustainable growth is relatively heterogeneous across industries. While it increased in the Health Care, Industrial Manufacturing and Chemicals and Pharmaceuticals sectors, it decreased in industries like Consumer Markets, Energy & Natural Resources and Financial Services.

On a country level, the average sustainable growth rate remained constant in Germany and Austria compared to last year, whereas it increased by 0.4 percent in Switzerland.

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

37 **Average sustainable growth rate by industry**
(in percent)



Source: KPMG in Germany 2021

Financial Services

As in the last year, the sustainable growth rate differs within the Financial Services sector. While participating companies in the Banking sub-sector applied a growth rate of 1.1 percent, companies in the Insurance sub-sector applied a significantly lower growth rate of 0.5 percent.

Consumer Markets

Although the growth rate in the Consumer Markets sector decreased slightly compared to last year, a diverging development can be seen in the sub-sectors. While the growth rate in the Retail sub-sector decreased from 1.6 percent to 0.9 percent, it increased from 1.0 percent to 1.4 percent in the Consumer Market sub-sector.

ESG impacts on valuations in the consumer markets sector (1/2)

The complex and manifold challenges and solutions grouped under "ESG" are particularly evident in the retail and consumer goods sector: biodiversity is a key issue in food production; data security essential for online retailers; fair working conditions in the supply chain have long been points of discussion for the clothing industry; and money laundering is a perennial issue for retail. However, the sector has also shown that the buzzword ESG also encompasses many other familiar topics: animal welfare, food traffic light systems (Nutri-Score), food waste and safety, microplastics, child labor, etc. These are in some cases issues that have been the subject of public debate for decades and under the magnifying glass of ESG, have led to increased pressure for companies to change and take action – even leading to a complete upheaval of entire sectors.

Much like the challenges themselves, incorporating them into strategic budgeting and into corporate valuation of the companies concerned is highly sector- and company-specific. Even within this sector, "simple" and generalized conclusions should be treated with skepticism, as illustrated in the following two examples.

A new dawn in the meat industry?

Many experts have predicted an end to factory farming and conventional meat production and expect vegan and cultivated meat alternatives to prevail. Start-ups with sustainable concepts, a clear customer focus and streamlined ESG-compliant processes are revolutionizing the sector. This industry brings together new and, in some cases, values-based consumption trends, modern technologies, entrepreneurship and strong investors, new regulations as well as climate and resource protection – with winners and losers.

However, it is difficult to assess how this transformation process will impact the CM&R industry, and specifically companies producing meat and meat alternatives, in the next twenty years.
A one-size-fits-all projection of previous performance (corporate earnings) and risks (cost of capital) is clearly not appropriate in this context. However, to assume a lasting competitive advantage, lower risk and by extension higher corporate value on the basis of a current positive ESG rating is too simplistic. Because other market competitors will catch up with these ESG advantages over time, as happens with other competitive advantages.

The aim of corporate analytics is to record these connections transparently. Will a greater willingness to pay for "real" meat compensate for the anticipated decline in volumes? How will the supply volume and the resulting producer prices develop – particularly in view of higher production and environmental standards? Which technology for the production of meat alternatives will be the first to achieve cost parity? How are climate change and the necessary adjustments affecting the sector? Is the company's current business model fit for the future? Should a terminal value even be assumed in the context of a company valuation? What strategic options are planned? These questions demonstrate the significant uncertainties in the forecast – a characteristic of many ESG issues.

Scenario and simulation analyses can help to get to grips with the uncertainty. As part of these analyses, the key value drivers are identified and their interaction is simulated, volume and yield effects are quantified and the future costs of capital of the "new" sector are forecasted.

ESG impacts on valuations in the consumer markets sector (2/2)

Responsibility and diligence in supply chains?

In many cases, ESG first affects a company's governance, process and cost structures. The German Supply Chain Act is intended to stop the exploitation of people and natural resources by global trade. This presents particularly significant challenges for the textile industry, which is reliant on imports from other countries for 63% of its preliminary work and at the same time is faced with a fashion- and price-conscious clientele. These challenges concern production in terms of the working conditions on site, the cultivation and sourcing of raw materials such as cotton and leather, and the handling of chemicals such as dyes and impregnation agents. An increasing number of customers want "fair" production conditions and sustainably produced textiles. At the same time, there continues to be great demand for "a new fashion world every week" at a favorable price. Both trends represent a challenge for companies, but also opportunities in terms of positioning.

Investments in supplier screening and monitoring may result in a change in suppliers and thus higher costs for pre-products due to fairer wages and – this should be the goal – better working conditions.

Other positive effects that could arise include more stable supply chains and positive perception of the brand among consumers. If these effects are mapped in a simulation analysis as part of the budgeting process, this results in compensating effects that balance each other out, i.e. cost increases come with volume and price effects but also a potential reduction in risk.

Conclusion for valuations under ESG

The examples show that ESG, i.e. validation of the sustainability of the business model, is and remains at the heart of every valuation. The significant future challenges and upheaval in the coming years will require scrutiny of whether business models are sustainable in the analysis of budgets and corporate valuations and necessitate analysis through the ESG lens:

- Mapping various long-term consumer trends, competition and climate trends;
- Anticipating that positive and negative external effects will be internalized in the future;
- Taking into account the various influencing factors: regulations, customers, employees, investors, competition, technology, geopolitics, and climate.

Now more than ever, looking to the past has no place in business. The challenge of issuing a forecast for the future in light of drastically changing business models and external factors is growing. This requires an in-depth understanding of the sector and the ability to transfer the various potential ESG future impacts into scenario-driven budgets based on simulations.

4
Impairment Testing

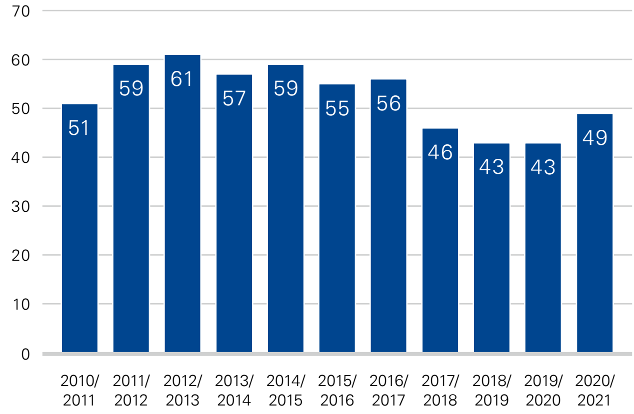
4.1 Recognition of an Impairment

In the previous three years the number of companies recognizing impairment of goodwill or assets had significantly decreased. The most recent period exhibits an increase driven by effects of the COVID-19 pandemic, with nearly half of the participating companies having recognized an impairment.

As in the previous year, most of the recognized impairments are attributable solely to asset impairment. Only around 22 percent of the participating companies reported impairment of goodwill.

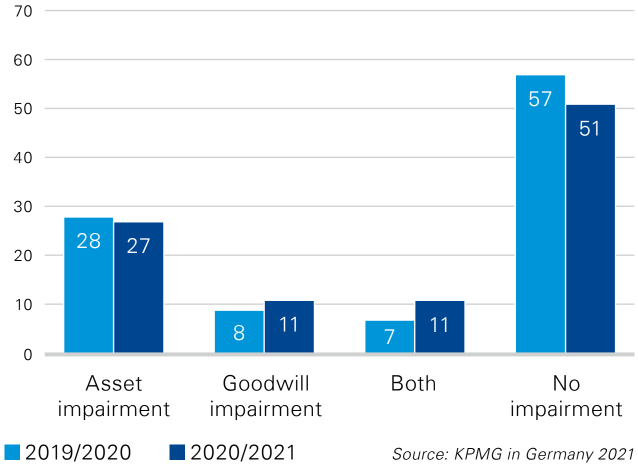
ESG factors have resulted (among other things) in several requirements and regulations, thereby impacting accomplished investments. 12 percent of the participating companies are faced with past investments that have proven to be unprofitable due to ESG requirements/ sustainability requirements (summarized here as "stranded assets"). As a result, study participants expect that the majority of these investments will be impaired.

38 **Recognition of an impairment over time**
Total (in percent)



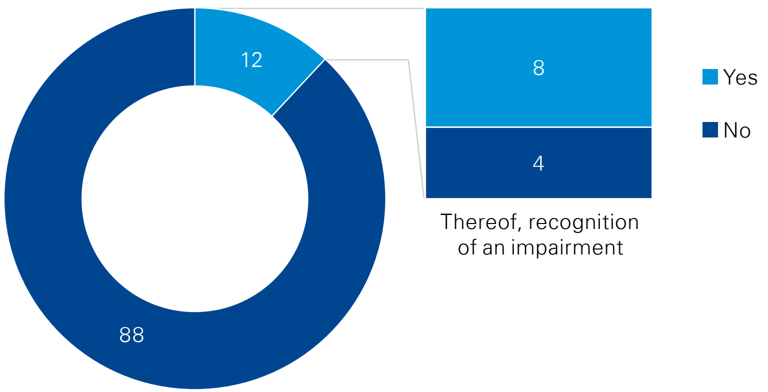
Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

40 **Stranded assets**
Total (in percent)



Source: KPMG in Germany 2021

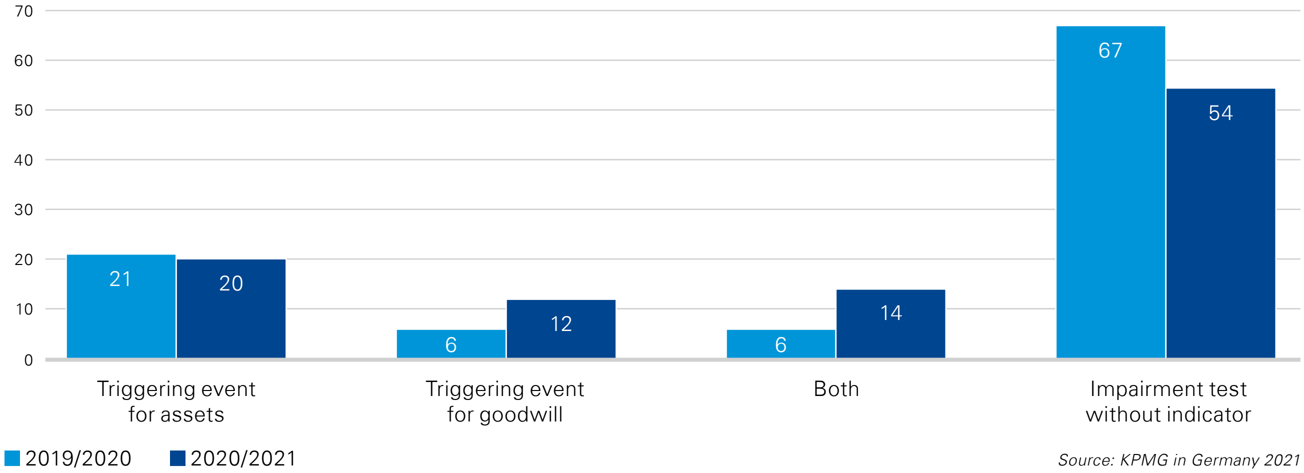
4.2 Triggering Event

According to IFRS, an impairment test on the recognized goodwill has to be performed on a yearly basis within the scope of the annual financial statements. Last year, one third of the participating companies conducted an impairment test caused by a so-called triggering event, i.e. an indicator of impairment. This year, nearly half of the participating companies conducted an impairment test based on a triggering event.

As in previous years, the majority of triggering events were based on poorer long-term expectations. In addition, the COVID-19 pandemic resulted in a higher share of triggering events from a decrease in orders.

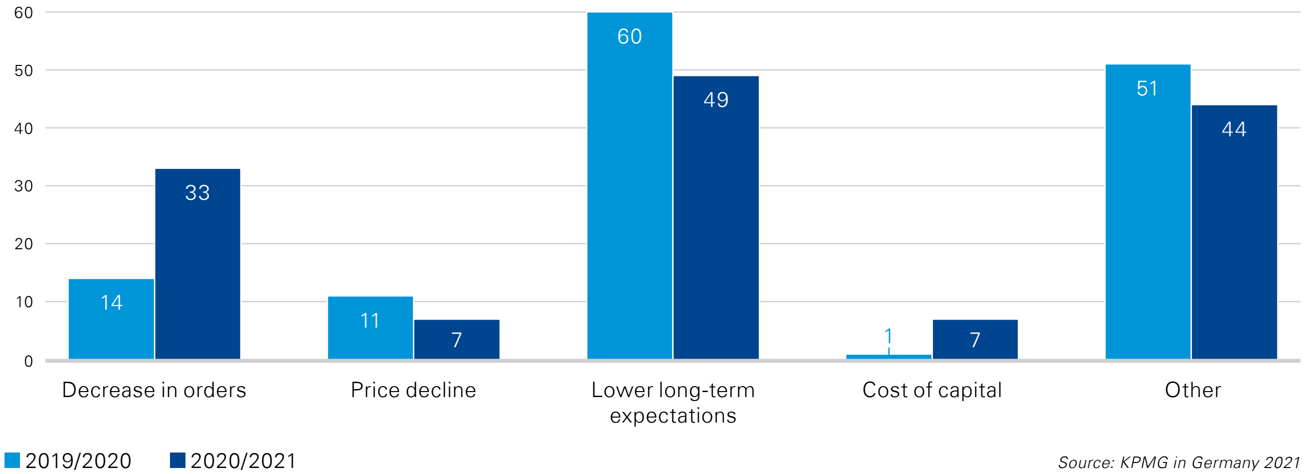
With only seven percent of the participants reporting it as cause for the triggering event, the cost of capital is not a major driver of impairment; however, this was a notable increase from one percent in the previous period.

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



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

4.3 Plausibility – Market Capitalization and Multiples

The fair value less costs of disposal concept focuses on the exit price and therefore primarily on the estimates of potential purchasers. The IFRS, especially for this concept, call for a plausibility test of the derived valuation.

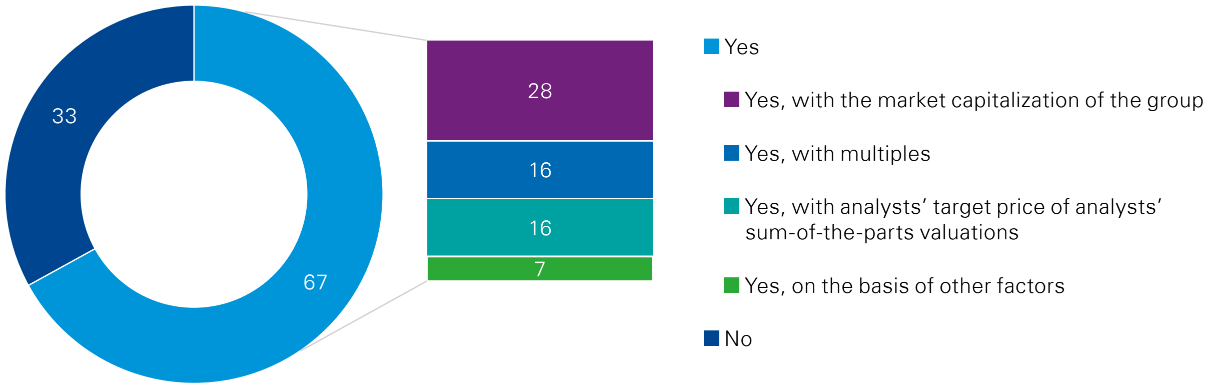
To assure the risk equivalence of the cost of capital, we recommend also performing a test for plausibility with the market expectations when calculating the value in use.

As market capitalization reflects the control of or the significant influence on a company only to a limited degree (because of the frequently low number of shares traded), it may be advisable to consider a control premium in the course of this comparison.

Furthermore, comparing the values obtained through the value in use method to market capitalization suggests that the valuation perspective and the information available to the capital market could play a role. In a plausibility test, additional information such as industry and analysts' reports as well as multiples should therefore be considered.

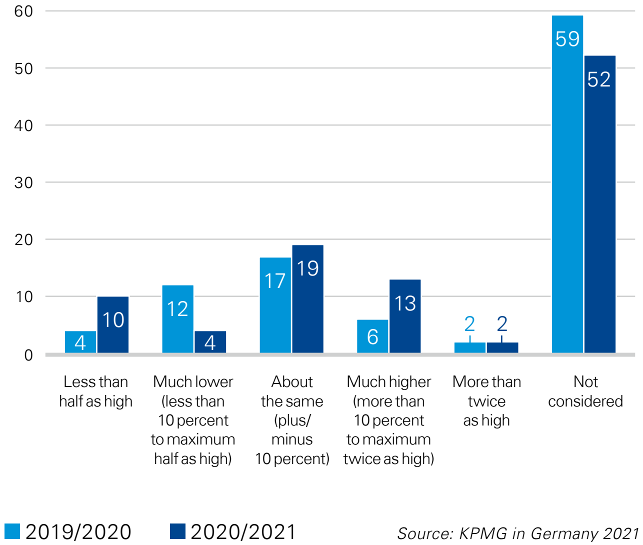
More than two thirds of the participating companies tested the valuation results for plausibility.

43 Plausibility of valuation results
Listed companies, total (in percent, multiple choices possible)



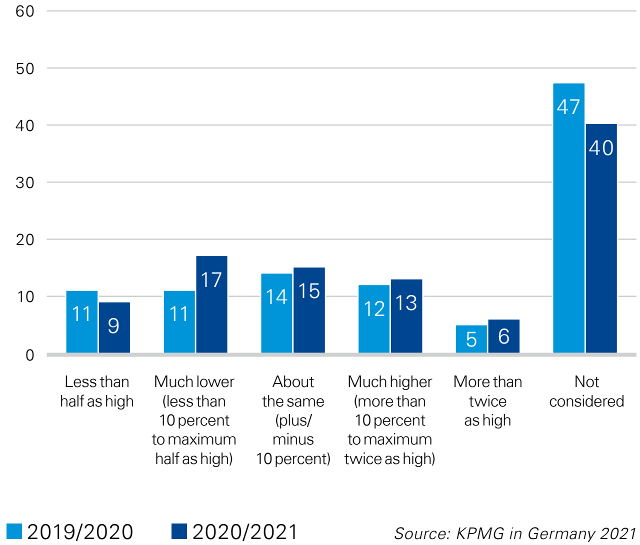
Source: KPMG in Germany 2021

44 Comparison of market capitalization to fair value less cost of disposal
Listed companies (in percent)



Source: KPMG in Germany 2021

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



Source: KPMG in Germany 2021

The IFRS, especially the fair value less costs of disposal concept, call for a plausibility test of the derived valuation results (e.g. using the multiple approach).

The multiple approach follows the principle of a capital market-oriented valuation method. The value of the company is determined in a simplified manner, namely on the basis of a multiple applied to a financial figure such as EBITDA, EBIT, or, in specific cases, sales.

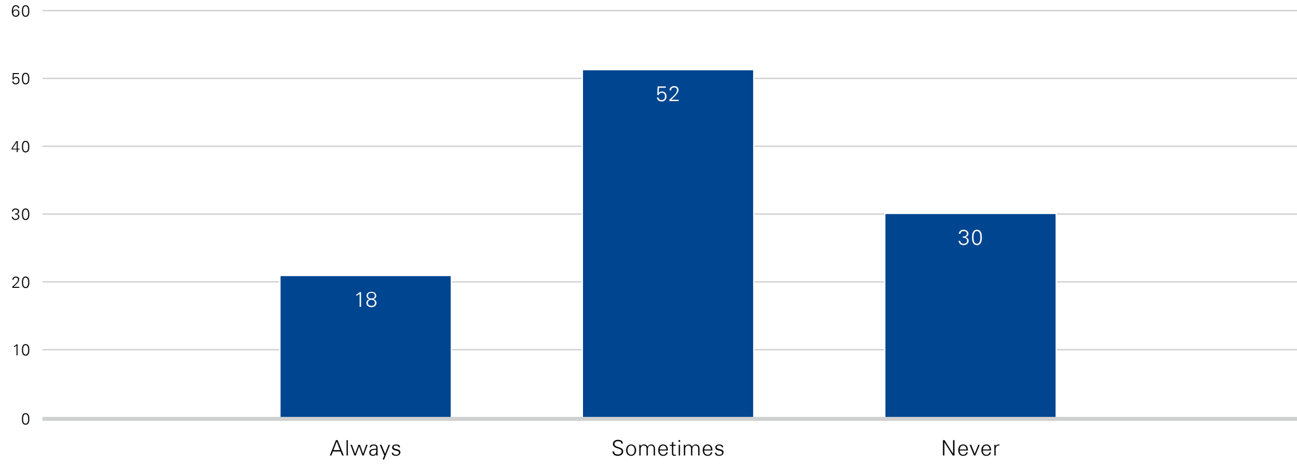
The multiple approach is based on a comparative price setting (e.g. peer group) to the extent that suitable multiples are determined by an analysis of capital market data and then applied to the company subject to valuation.

While 70 percent of survey participants might use plausibility calculations based on multiples (e.g. for valuations in general), they are an integral component for only 18 percent of the participants.

The multiple applied most frequently is the EBITDA multiple, followed by EBIT and sales multiples.

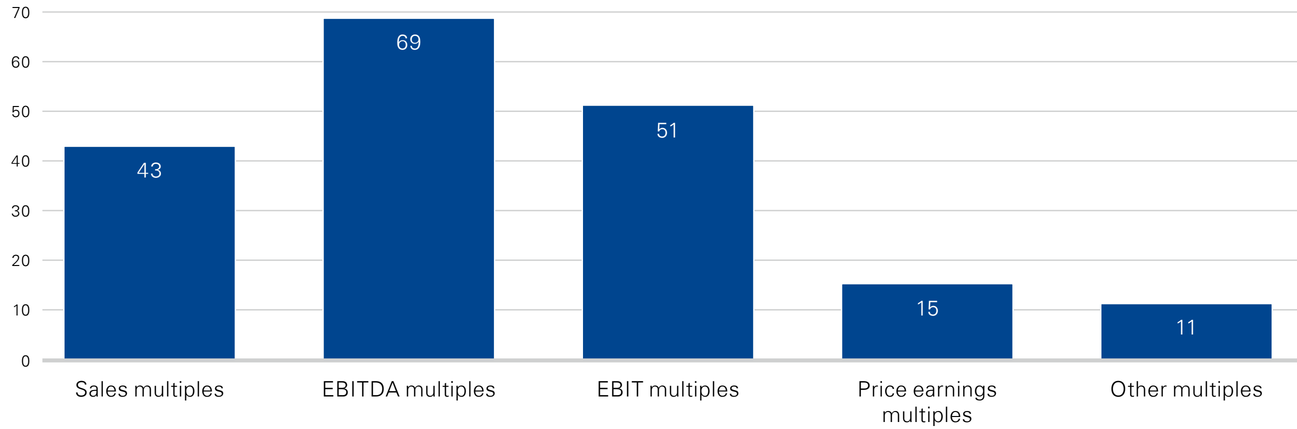
To support price determination, **KPMG Multiples** allows insights into helpful benchmark data. The tool quickly provides access to current market multiples.

46 **Application of multiples**
Total (in percent)



Source: KPMG in Germany 2021

47 **Type(s) of multiples used for the plausibility of valuation results or other valuation considerations**
Total (in percent, multiple choices possible)



Source: KPMG in Germany 2021

5
Relevance of Value and Value Enhancement

5.1 Monitoring Value Enhancement

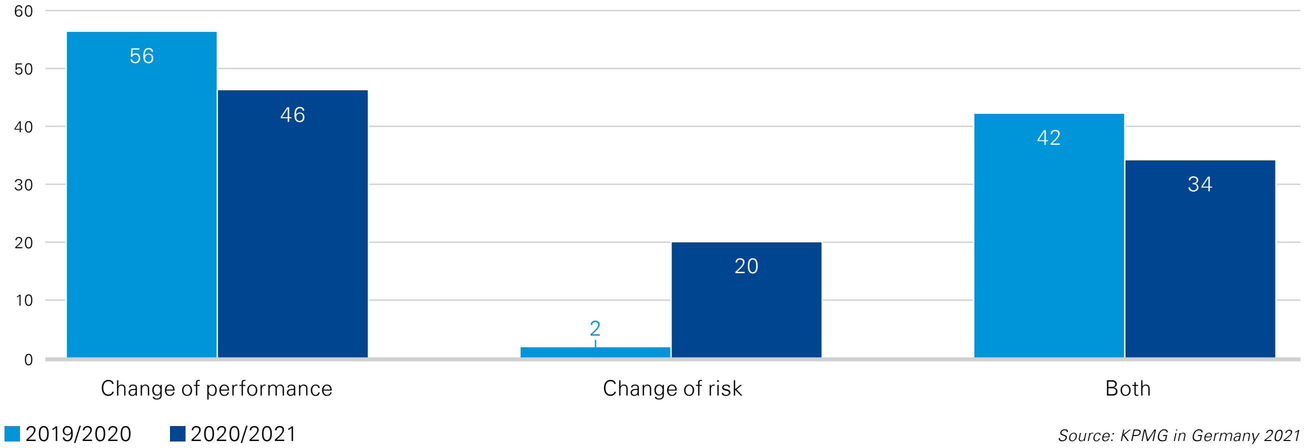
The value of an investment embedded in a company is reflected in the future increase in value of that respective company.

In order to prevent future value losses due to today's dynamically changing market conditions, risk and performance patterns should be consistently monitored.

Retrospective evaluation of past investments is one of many relevant factors that improve the decision-making process for future investments.

With an increase of 18 percentage points compared to the previous year, we see an increasing trend of monitoring only risks. The necessity of risk monitoring becomes even more relevant in light of increasing future uncertainties. Nevertheless, the change in performance remains the primary focus for value enhancement.

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



Source: KPMG in Germany 2021

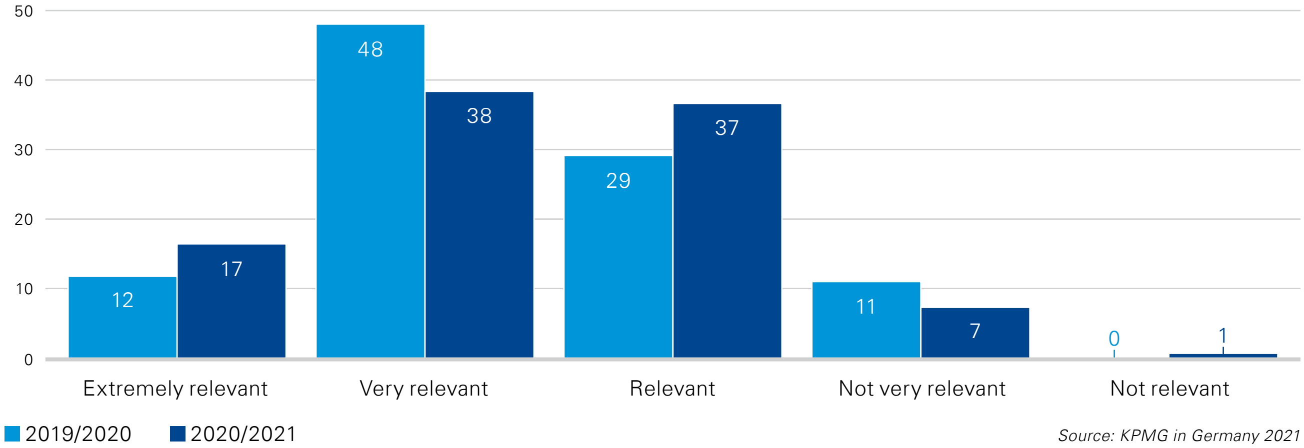
5.2 Sustainability / ESG

In recent years the importance of sustainability issues for companies, their employees and shareholders has significantly increased. The manifold ESG challenges, encompassing ecological, environmental, economic, social and political factors, have found their way into many aspects of companies' business activities today. ESG criteria are playing an increasingly important role in corporate management and decision-making processes. For future developments it is questionable to what extent ESG aspects will affect margins mid- to long-term and even how viable entire business models are as a whole.

The vast majority of survey participants consider the impact of ESG issues on their future business development to be relevant, whereas the number of participants dismissing the importance of ESG topics is clearly declining.

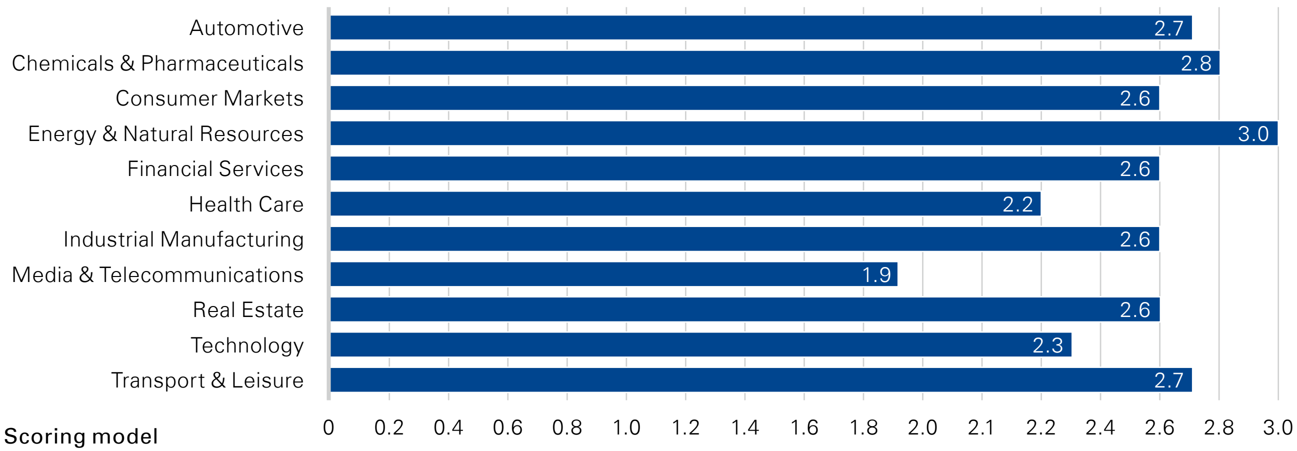
The survey also shows that the assessment of the importance of ESG for future business developments is dependent on the industry. Unsurprisingly, the Energy and Natural Resources sector assigns the highest importance to ESG. In general, resource-intensive industries and those where environmental issues play a key role, such as Transport, Real Estate, Industrial Manufacturing and Automotive, are more sensitive to the challenges/requirements posed by ESG-related factors.

49 **Impact of ESG issues on future business development**
Total (in percent)



Source: KPMG in Germany 2021

50 **Relevance of ESG issues by industry**
Total (Scoring)



Scoring model
0 Not relevant 1 Not very relevant 2 Relevant 3 Very relevant 4 Extremely relevant

Source: KPMG in Germany 2021

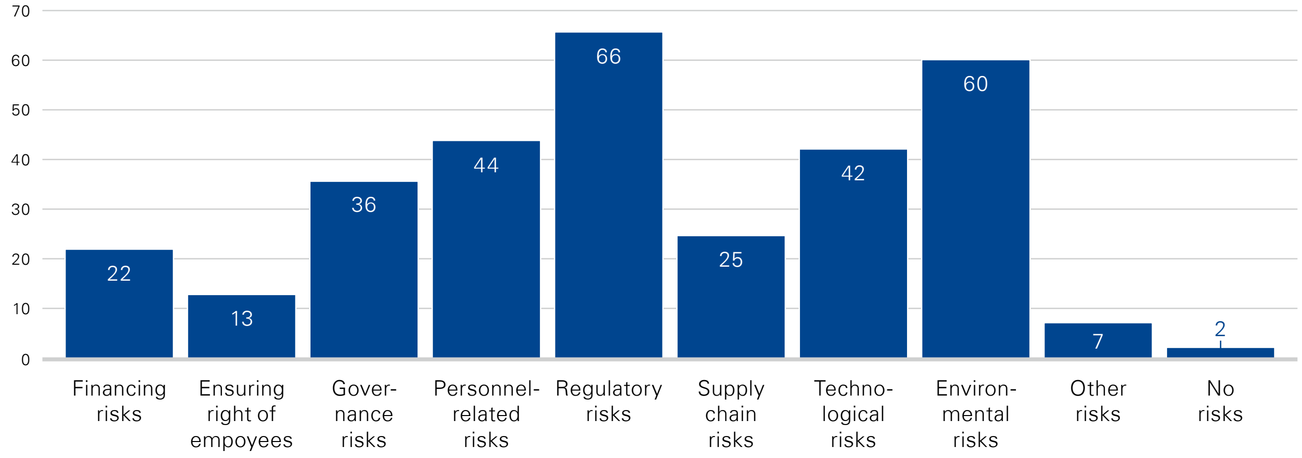
The way companies deal with ESG-related risks depends to a large extent on the particular risks they see themselves exposed to.

Regulatory risk is the primary source of risk that survey participants see companies exposed to in relation to ESG. This does not seem surprising, as ESG is to a great extent determined by guidelines for adequate assessment and reporting as well as regulatory specifications. Another highly relevant risk relates to environmental factors.

For the majority of survey participants, ESG has found its way into financial planning either by ESG impacts being considered in cash flows (51 percent) or within the cost of capital (six percent) or both (four percent).

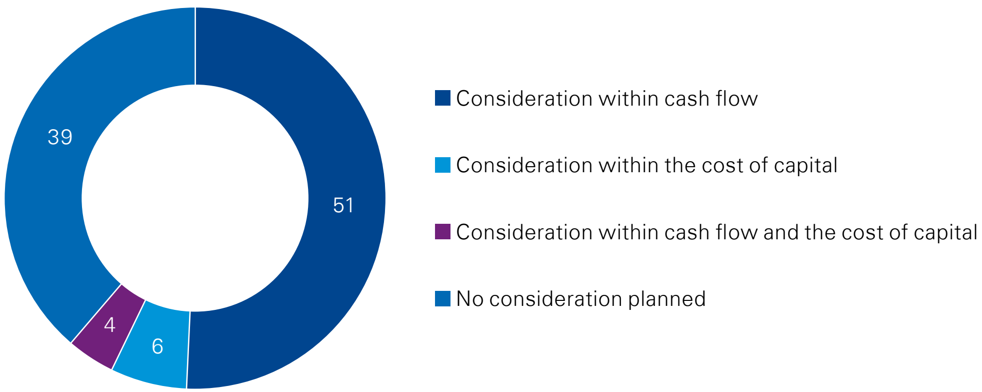
Overall, there seems to be a clear trend indicating that ESG will remain a highly relevant topic, meaning that it will be important to transparently and appropriately record the influence of ESG-driven changes to business models.

51 **Risks arising from ESG**
Total (in percent, multiple choices possible)



Source: KPMG in Germany 2021

52 **Consideration of ESG implications within financial planning**
Total (in percent)



Source: KPMG in Germany 2021

Make good decisions in the ESG environment (1/2)

It is impossible to ignore how changes driven by ESG have found their way into so many aspects of companies' business activities today. And with such a wide spectrum of areas affected, market participants are faced with many intransparencies. Consumers increasingly want products from ESG-compliant companies, companies want to generate competitive advantages by demonstrating ESG-compliant conduct, while investors want to invest in ESG-compliant businesses. Companies are therefore faced with the challenge of reviewing their existing business models in light of the new, ESG-specific requirements and making any adjustments necessary.

It has long been the case that external pressure to change leads to existing markets and business models permanently developing thanks to innovative approaches. In recent years, a series of disruptive innovations – driven by digitalization especially – has resulted in central elements of established business models being restructured, entirely new, innovative competitors entering the market and established companies being completely broken up. In our opinion, ESG has the same potential.

Changes to the regulatory environment and to customer desires, as well as changing demands of employees with regard to "their" company and investor demands, have already caused disruptive changes to existing business models. Current market mechanisms, such as supply and demand, performance optimizing with risk profile unchanged or performance stabilizing with risk reduction, will still apply to future "ESG-compliant" business models just as they did to their predecessors. The challenge thus remains to appropriately assess and thereafter select the right business strategy from a pool of options, through which the individual company expects to potentially adapt its existing business model to be fitter for the future and to comply with ESG. Once again, almost all companies will face additional uncertainty over the medium-term – business decisions to be taken today will be essential for the company's future survival.

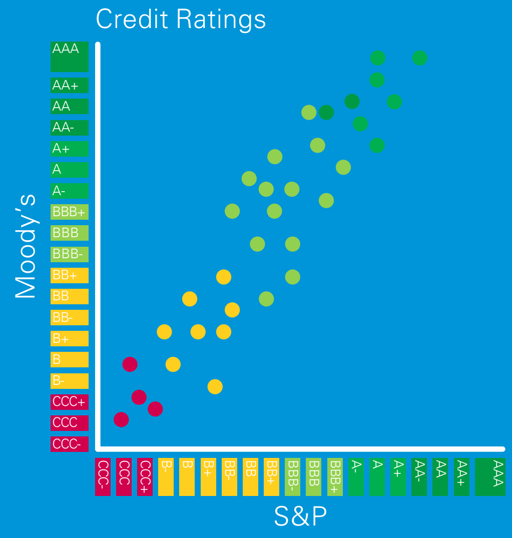
New performance indicators such as "ESG ratings" have quickly established themselves in market communication. Although ratings from different providers for the same company often spread over a very wide range, suggesting they are not particularly robust, the conceptual core of these ratings will first have to be acknowledged so that they can be incorporated into future commercial decision-making.

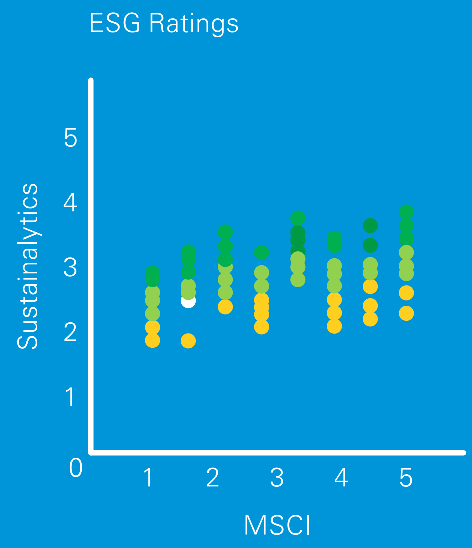
This will certainly allow ESG ratings to eventually become indicators for ESG-compliant future viability – similar to credit ratings and what they say about a company's future financial viability. What connects both indicators is the future operating business model of the company being analyzed. The spread for ESG ratings is currently larger than for credit ratings, and this can be put down to two reasons: first, a market-standard and widely accepted framework must be established; second, this should provide a reference for the currently hazy changes to ESG-compliant business models to be consistently assessed. Both elements will be further specified in future, which will see the spread of current ESG ratings reduced. Consequently, ESG ratings could plausibly become an increasingly robust indicator of how well a company's operating business model can adapt to ESG-based challenges.

Make good decisions in the ESG environment (2/2)

Despite the large spread of ESG ratings, they can provide valuable additions to established and still-relevant decision-making models in companies. Competing courses of action will continue to be assessed on how they contribute to enterprise value in terms of performance and risk. Investors will continue to invest in companies if they can expect their future business models to bring enhanced performance (with unchanged risk) or reduced risk (with unchanged performance). ESG ratings can provide an indication, at the date of any given rating, of how far a company can make necessary future adjustments to its business model because of new environmental, social and governance requirements or of the potential negative impacts should a company not yet have taken any measures. Inaction will ultimately lead to weaker performance and/or increased risk.

As with the challenge of assessing digitalization-driven disruptions over recent years, in future it will also be necessary to transparently and appropriately record the influence of ESG-driven changes to business models. Decision-making approaches established on the market, such as KPMG's CEDA (Corporate Economic Decision Assessment), can serve to quantify performance and risk contributions of different strategic actions and thereby allow these to be compared. As part of an ESG Decision Assessment, the impacts of individual measures on a company's many ESG-related fields of action can be isolated. It remains to be seen if and how the overall market will change due to ESG.





6
Online Industry Analyses

All industry-specific cost of capital parameters are provided in addition to the findings of this study.

The data can be accessed via **https://hub.kpmg.de/cost-of-capital-study-2021**. Both the forecast figures as well as the cost of capital parameters from this year's and previous studies are included.

In the interactive online version, search criteria can be individually selected in order to retrieve industry- and/or country-specific information and to display developments over time.

The level of detail of industries can be increased by selecting the data of sub-sectors.

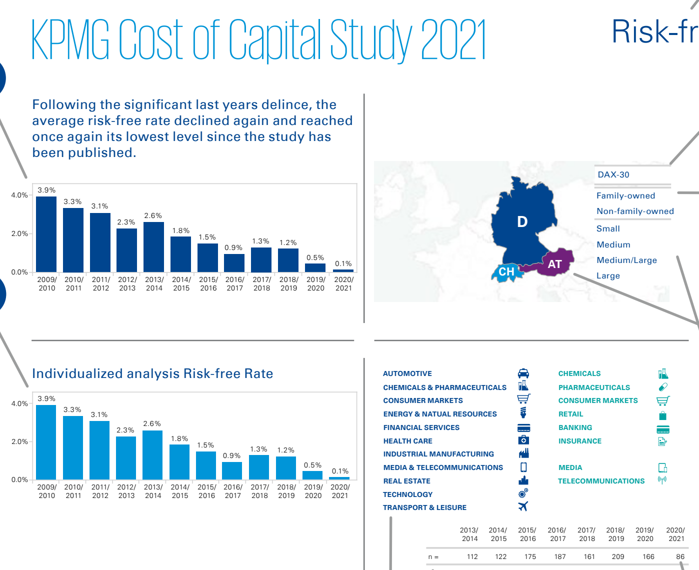
As in the previous year, we have performed separate assessments of sectors/sub-sectors for which we had responses from at least five participants.

Instructions for KPMG Cost of Capital Study 2021 interactive

1 ANALYZED PARAMETER specifies the parameter analyzed on this page

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

3 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 (country, industry, family-owned, company size)
2. Filters may be combined (e.g. Germany + automotive sector)
3. A separate evaluation only takes place, if at least 5 answers were submitted

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 not-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 COMPANY SIZE shows the development of the parameter exclusively on the basis of the participants, who have been classified by sales as small (< €50 m), medium (€50 m to €1 b), medium/large (€1.1 b to €10 b) and large (> €10 b)

9 FILTER BY INDUSTRY shows the development of the parameter exclusively on the basis of the selected industry

4 NUMBER OF ANSWERS indicates the number of answers which is the basis for the calculation of the average

Source: KPMG in Germany 2021

7
Further KPMG publications

In addition to the cost of capital survey, KPMG Valuation Germany offers a variety of digital products. Our services combine transaction expertise with the technological competence of our international network. This enables you to efficiently master challenges in the context of transactions or company valuation and make better decisions in the process.

Further information can be found at **https://www.kpmg.de/cost-of-capital**

Additional KPMG self-service tools

KPMG Valuation Data Source

Relevant cost of capital parameters at a glance

- All relevant parameters available from a single data source (risk-free interest rate, market and country risk premium, inflation spread, tax rate, beta coefficients, credit spread, gearing)
- WACC calculation based on your individual peer group
- Monthly update of quality-assured data
- Access to more than 150 countries and 13,000 companies

KPMG Pre-Deal PPA

More transparency for clear purchase decisions

- Pre-deal PPA in just five steps: Calculate and visualise balance sheet transaction effects before signing
- KPMG PPA benchmark data and sector expertise to support the validation and categorization of results
- Results at the touch of a button through fully integrated calculation logic
- Possible to adjust key valuation parameters for scenario analysis

KPMG Multiples

Purchase price allocation with a long view

- Peer group-specific trading multiples (sales, EBITDA, EBIT, earnings, book value to market value of equity)
- Individual analysis and adjustment options: exclusion of outliers or information on monthly update of quality-assured data
- Access to more than 13,000 companies worldwide

- **Ready-to-use solutions**
- **Used around the world**
- **Access at any time**
- **Excel download function**
- **Developed by our valuation and technology experts**

KPMG Valuation Germany also publishes its regular Valuation News. In addition, in 2020 the second edition of the "Praxiswissen Unternehmensbewertung" book was released.

Valuation News is an online newsletter published three times a year that informs about present topics relevant for the valuation of companies and assets. Our latest newsletters from spring and summer 2021 addressed – among others – the effects of the COVID-19 pandemic on beta factor.
Valuation News can be accessed via the following link: **Valuation News – Sommer 2021 – KPMG Deutschland**

In December 2020, the second edition of the "Praxiswissen Unternehmensbewertung" book was published. It includes explanations and assistance on several topics related to the valuation of companies and assets under the following sections:

- Regulatory-driven valuations
- Company valuations in the context of transactions and other decision-making processes (value-based management)
- Company valuations for tax purposes
- Accounting-driven valuations
- Industry- and company-specific valuation issues
- Valuations of individual assets
- Determination of the cost of capital

KPMG Valuation publications

KPMG

Valuation News

Deal Advisory

Sommer 2021

Editorial

Sehr geehrte Leserinnen und Leser,

wir freuen uns, Ihnen mit dieser 33. Ausgabe unserer Valuation News erneut aktuelle Themen der Bewertung von Unternehmen und Vermögenswerten vorstellen zu können.

Daten sind bekanntermaßen das Öl des 21. Jahrhunderts. In dem ersten Beitrag befassen wir uns mit den Fragen, ob Daten grundsätzlich einen ihnen innewohnenden Wert haben und mit welchen innovativen Ansätzen datenbasierte Geschäftsmodelle bewertet werden können. Anschließend gehen wir auf den Impairment Test gemäß IAS 36 ein und diskutieren, ob und wie die Bewertung realer Sachanlagen vieler Unternehmen durch umweltpolitische Vorgaben und/oder infolge der COVID-19-Pandemie betroffen sein könnten. Im dritten Beitrag geht es um die Strukturierung eines Joint Ventures und dessen Auswirkung auf die Form der Konsolidierung des Joint Ventures im Rahmen des Konzernabschlusses. In diesem Zusammenhang stellen wir quantitative Analysen als zentralen Bestandteil für die Beurteilung von Konsolidierungsfragen gemäß IFRS 10 und 11 vor.

Wir wünschen Ihnen eine spannende Lektüre und freuen uns über Ihr Feedback. Auch Anregungen, Themenvorschläge und weiterführende Diskussionen sind jederzeit willkommen. Gerne stehen wir darüber hinaus für Ihre individuellen Fragen zur Verfügung. Sie erreichen uns unter de-valuation-news@kpmg.com.

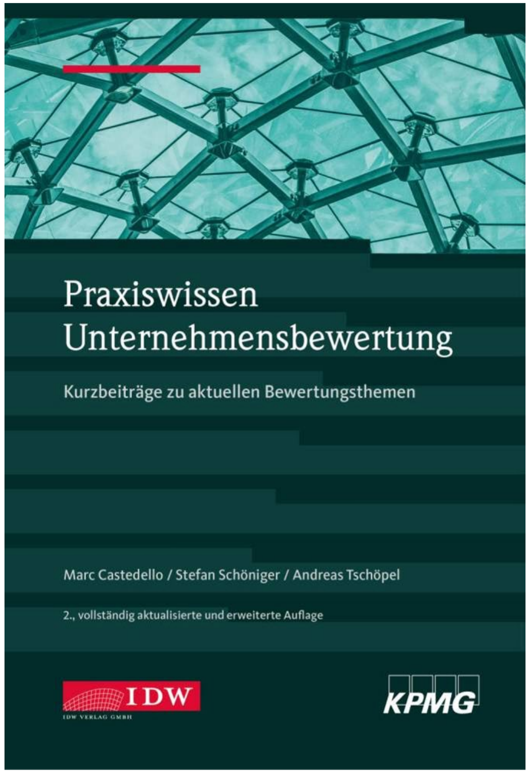
Ergänzend möchten wir Sie auf die im Dezember im IDW-Verlag erschienene 2. Auflage des Sammelbands „Praxiswissen Unternehmensbewertung – Kurzbeiträge zu aktuellen Bewertungsthemen" hinweisen, in dem mehr als 70 aktuelle Bewertungsfragen systematisiert und aktualisiert erläutert werden.

Mit freundlichen Grüßen

Prof. Dr. Marc Castedello
Partner

Stefan Schöniger
Partner

Inhalt



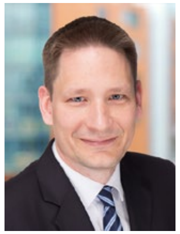
List of Abbreviations

ATX	Main Austrian Stock Exchange
CAPM	Capital Asset Pricing Model
CEDA	Corporate Economic Decision Assessment
CGU	Cash Generating Unit
CSRD	Corporate Sustainability Reporting Directive
DAX[3]	Main German Stock Exchange
DAX-30	The 30 largest blue chips on the main German Stock Exchange
DCF	Discounted Cash Flow
Debt Ratio	Ratio of Market Value of (Net) Debt to Market Value of Total Capital (Entity Value)
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest and Taxes, Depreciation and Amortization
EFRAG	European Financial Reporting Advisory Group
ESG	Environmental, Social and Governance
FamDAX	DAXplus Family 30 Index, consists of the 30 largest and most liquid family-owned businesses (founding family holds at least 25 percent of the voting rights or seat in the management board of advisory board and 5 percent of the voting rights) in the Prime Standard of the German Stock Exchange
FAUB	"Fachausschuss für Unternehmensbewertung und Betriebs-wirtschaft des IDW": Technical Committee for Business Valuation and Economics of the IDW
IAS	International Accounting Standards
IDW	"Institut der Wirtschaftsprüfer in Deutschland e.V.": Institute of Public Auditors in Germany, Incorporated Association
IFRS	International Financial Reporting Standards
KFS/BW	"Fachsenat für Betriebswirtschaft in Österreich des KSWÖ": Council of Experts for Business Administration
KSW	"Kammer der Steuerberater und Wirtschaftsprüfer in Österreich": Chamber for Tax Advisors and Auditors in Austria
M&A	Mergers & Acquisitions
MDAX[3]	German Mid Caps Stock Index
n/m	not meaningful
PPA	Purchase price allocation
S&P	Standard & Poor's
SDAX	Small Caps, the companies following the MDAX with market capitalization and exchange turnover
SMI	Main Swiss Stock Exchange
TecDAX	Stock Index including the Performance of the 30 largest German Companies from the Technology Sector
WACC	Weighted Average Cost of Capital
WEF IBC	World Economic Forum's International Business Council

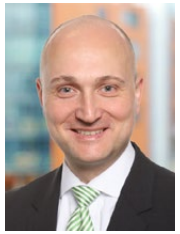
3 It should be noted that the index composition is based on the time of the survey (before the extension of the DAX-30 and the reduction of the MDAX in September 2021)

Your Industry Specialists

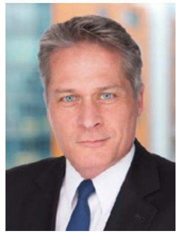
KPMG in Germany



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



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



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

Asset Management
Private Equity
Ralf Beunker
Partner
T +49 69 9587-3733
rbeunker@kpmg.com

Real Estate
Tina Haller
Director
T +49 89 9282-6888
thaller@kpmg.com

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

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

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

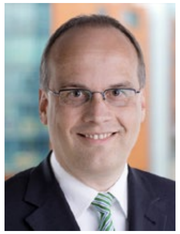
Technology, Media &
Telecommunications
Private Equity/Venture Services
Dr. Michael Kramer
Partner
T +49 89 9282-4213
michaelkramer@kpmg.com

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

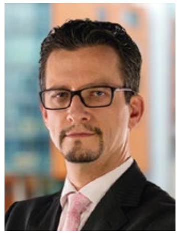
Energy & Natural Resources
Michael Killisch
Partner
T +49 211 475-6325
mkillisch@kpmg.com

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

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



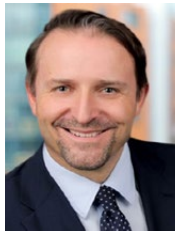
Consumer Markets
Telecommunications
Transport & Leisure
Stefan Schöniger
Partner
T +49 40 32015-5690
sschoeniger@kpmg.com



Public Sector
Building & Infrastructure
Transport & Leisure
Dr. Andreas Tschöpel
Partner
T +49 30 2068-1488
atschoepel@kpmg.com

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

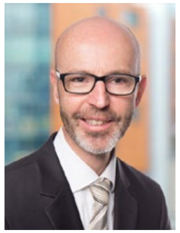
Industrial Manufacturing
Dr. Jakob Schröder
Partner
T +49 89 9282-1471
jakobschroeder@kpmg.com



Real Estate
Sven Weberbauer
Director
T +49 211 475-7059
sweberbauer@kpmg.com

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

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



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

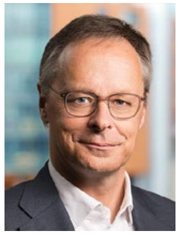
Automotive
Jens Schmoll
Partner
T +49 89 9282-4297
jschmoll@kpmg.com

Media
Heike Snellen
Director
T +49 211 475-7062
hsnellen@kpmg.com

Financial Services
Frieder Zschiesche
Partner
T +49 711 9060-43797
fzschiesche@kpmg.com

KPMG in Austria

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



Dr. Jens Kaden
Partner
T +43 1 31332-3612
jkaden@kpmg.at

Victor Purtscher
Partner
T +43 1 31332-3700
vpurtscher@kpmg.at

KPMG in Switzerland

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

Rolf Langenegger
Director
T +41 58 249-4271
rlangenegger@kpmg.com

Contact

KPMG AG
Wirtschaftsprüfungsgesellschaft

Overall responsibility
Stefan Schöniger
Partner
Deal Advisory, Valuation
Fuhlentwiete 5
20355 Hamburg
T +49 40 32015-5690
sschoeniger@kpmg.com

Technical coordination
Dr. Andreas Tschöpel
Partner
Deal Advisory, Valuation
Klingelhöferstraße 18
10785 Berlin
T +49 30 2068-1488
atschoepel@kpmg.com

www.kpmg.de

www.kpmg.de/socialmedia