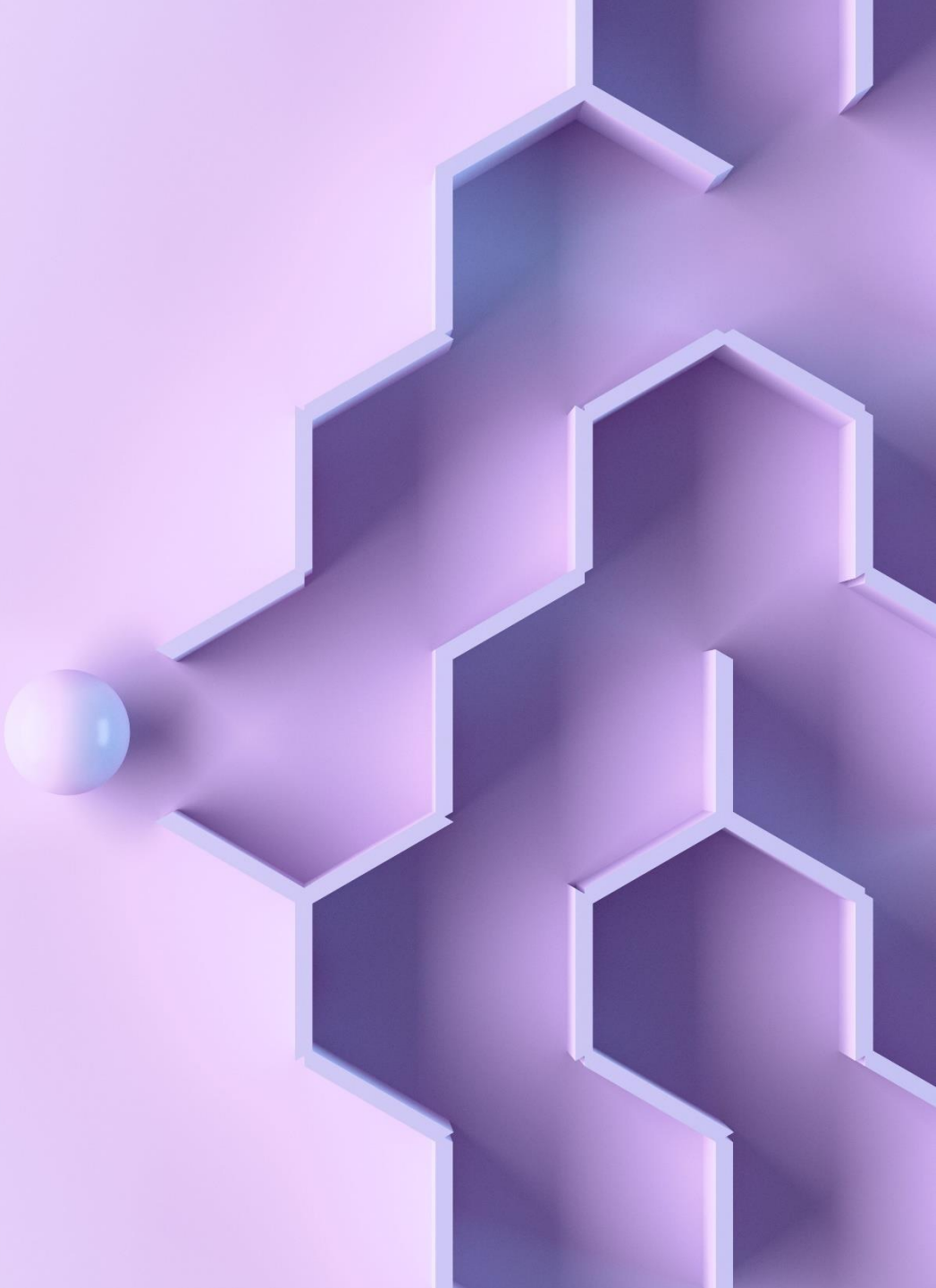
KPMG

Cost of Capital Study 2023

Unpredictability on the rise! – Interest rates too?

What are the drivers,
what are the consequences?



This study is an empirical investigation with the aim of analysing 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, or 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 in different countries, some with different currencies and at varying points in time. Furthermore, it should be noted that not all participants in the study 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 eighteenth edition of our Cost of Capital Study. With 322 respondents this year, we have once again succeeded in drawing a significant number of participants. We would like to express our sincere gratitude to all of the companies that took part in the study. Your support and participation demonstrates once more that the study continues to be an integral component in your valuation practice. We therefore hope that this year's study and the key topics contained therein will be of particular interest to you.

In recent times, the global economy has contended with a multitude of uncertainties such as Russia's war against Ukraine and the enduring Covid-19 pandemic. Accordingly, the capital markets have been increasingly exposed to factors such as rising inflation rates and the energy crisis. Consequently, we have chosen the title "Unpredictability on the rise! – Interest rates too? What are the drivers, what are the consequences?" for this year's Cost of Capital Study.

In the current issue, we examine the impact of increased uncertainties and accompanying interest rate and inflation developments on business models, corporate development and long-term return expectations (cost of capital). In this context, the current issue of the study focuses on the following subjects:

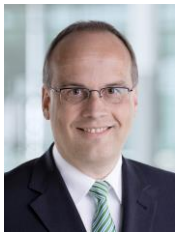
- Growing divergence? Hypotheses on the different development of global economic areas
- Inflation unleashed? Central Banks' interaction with capital markets
- Navigating increasing uncertainty? Development of market return expectations in turbulent times

As a reference point, the collection of empirical data provided by the participants 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 draw your attention to the interactive version of the report. The interactive version allows you to compile your own parameters relevant to your company and/or industry so that you can obtain a personalized industry assessment.

We hope that this year's Cost of Capital Study also meets your expectations, serving as captivating reading material. Our team will be happy to discuss the results with you personally, and we encourage you to contact us with any questions or comments you may have.

With best regards,



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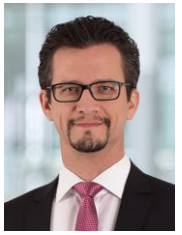

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- Disruptive times in the energy sector – what's the impact of inflation and cost of capital?
- Inflation is back – and what about the cost of capital?

2023

- Growing divergence? Hypotheses on the different development of global economic areas
- Inflation unleashed? Central Banks' interaction with capital markets
- Navigating increasing uncertainty? Development of market return expectations in turbulent times

Summary of Findings

Growth expectations

Growth expectations continue to be influenced by Russia's war against Ukraine and rising interest and inflation rates. Although the anticipated sales growth has decreased slightly compared to the results of last year's study, the forecasted EBIT growth has shown a significant increase. *Page 15*

WACC

Compared to the previous year, the average WACC across all industries increased significantly from 6.8 percent to 7.9 percent. The increase in WACC is in line with the development in the different sectors. The largest increase can be observed in the Real Estate sector, from 5.9 percent to 7.6 percent. *Page 24*

Market risk premium

The average market risk premium applied by participating companies declined from 7.2 percent in the previous year to 6.9 percent. The declining trend is also observed in the cross-country comparison. In Germany, the market risk premium declined from 7.4 percent to 7.1 percent, in Austria from 7.5 percent to 7.2 percent and in Switzerland from 6.2 percent to 5.9 percent. *Page 27*

Cost of debt

Following a downward trend in recent years, the participating companies' average cost of debt increased from 2.0 percent in the previous year to 3.8 percent during the survey period. *Page 35*

Triggering event

Compared to the previous year, there has been an increase in the percentage of participating companies that conducted an impairment test based on a triggering event, from 33 percent to 44 percent. *Page 41*

Planning uncertainty

To improve planning accuracy of future cash flows, it is important to consider relevant opportunities and risks. Compared to the previous year, participating companies placed greater emphasis on economic risks (macroeconomic) and risks from new technologies and digitisation (microeconomic). *Page 21*

Risk-free rate

During the survey period, the average risk-free rate increased by 1.6 percentage points to 1.9 percent. In Germany and Austria, the risk-free rate increased from 0.2 percent in 2021/2022 to 1.9 percent in 2022/2023. In Switzerland, the risk-free rate increased by 1.1 percentage points to 1.8 percent in 2022/2023. *Page 26*

Beta factors

The highest unlevered beta factors were again applied by the Technology sector, followed by the Automotive sector. The lowest unlevered beta factor continued to be applied by the participating companies in the Energy & Natural Resources sector. *Page 31*

Impairment test

The most recent period shows a slight increase in the number of companies recognising an impairment which could be attributable to the economic consequences of Russia's war against Ukraine. *Page 39*

Sustainability

In recent years, ESG has become an increasingly important topic for companies. Even though the importance of ESG remains at a high level, it slightly declined compared to the previous year. *Page 46*

1 Introduction

1.1 Overview of Participating Companies

Study participants

With 240 companies from Germany, 32 from Austria and 50 from Switzerland, the total number of participants in this year's Cost of Capital Study amounts to 322 companies (previous year: 321). As in previous years, the study has again attracted a very large number of participants.

The response rate among the DAX-40 companies decreased slightly compared to the previous year to 65 percent, which corresponds to 26 companies. At 46 percent, the participation rate of the companies listed on the MDAX remained at a similar level to the previous year.

While the response ratio for companies listed on the ATX decreased to 35 percent, the number of participating companies listed on the SMI increased by 5 percentage points to 45 percent.

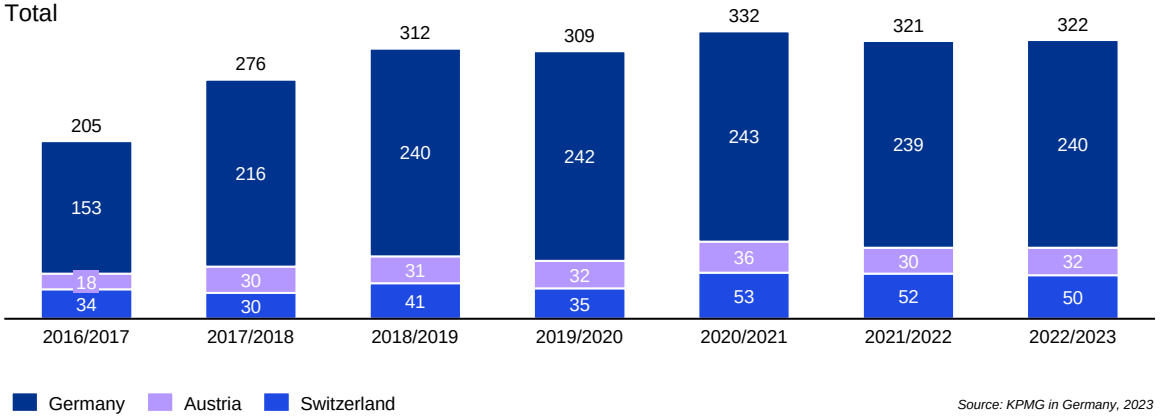
Survey period

Companies had the chance to participate in the survey for this year's study between April and July 2023. The survey period covers the reporting dates of the consolidated financial statements of the companies under consideration between 30 September 2022 and 30 June 2023.

Figure 01:

Participants by country

Total

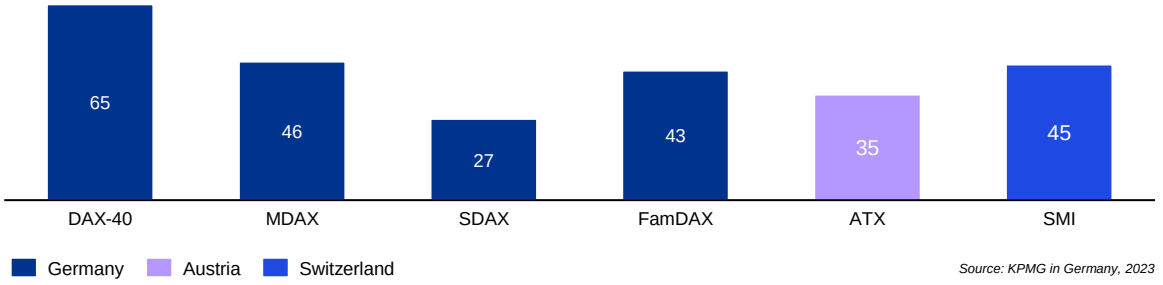


Source: KPMG in Germany, 2023

Figure 02:

Participation rates by market index

(in percent)



Source: KPMG in Germany, 2023

Analyses

The companies taking part in the Cost of Capital Study were asked to categorise themselves into specific industries based on their operational activities. In terms of the relevant parameters for financial forecasting and cost of capital, this enables both a differentiation and a comparison of these industries.

The industrial manufacturing sector continues to have the highest number of participants in the survey. Compared to the previous year, however, we observe an increase in participant numbers from the Financial Services, Energy & Natural Resources and Media & Telecommunications sectors.

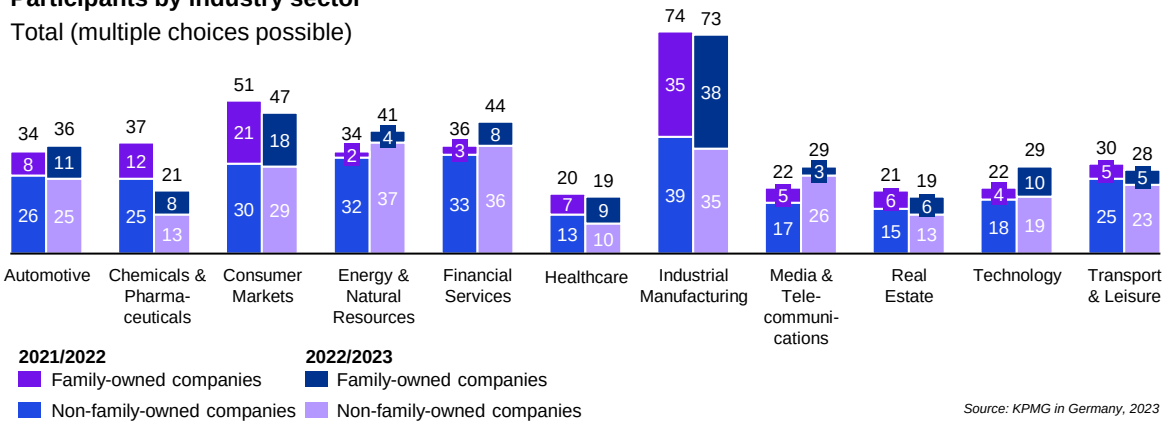
By contrast, the number of participants from the Chemicals & Pharmaceuticals industry declined significantly, especially among non-family-owned companies. The decreasing participation from this sector may be linked to the ongoing global supply chain challenges, as this sector is particularly affected by the consequences.

Most of the companies taking part in the Cost of Capital Study were medium to large-sized companies conducting operations in more than ten countries, with more than 500 employees, and generating revenues exceeding EUR 1 billion.

Figure 03:

Participants by industry sector

Total (multiple choices possible)

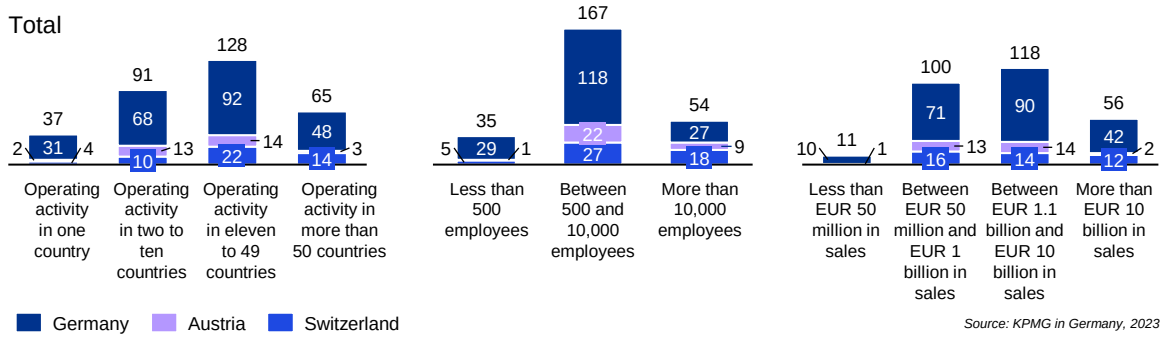


Source: KPMG in Germany, 2023

Figure 04:

Participation by number of countries where respondents operate, by number of employees and by revenue

Total



Source: KPMG in Germany, 2023

1.2 Online Industry Analyses

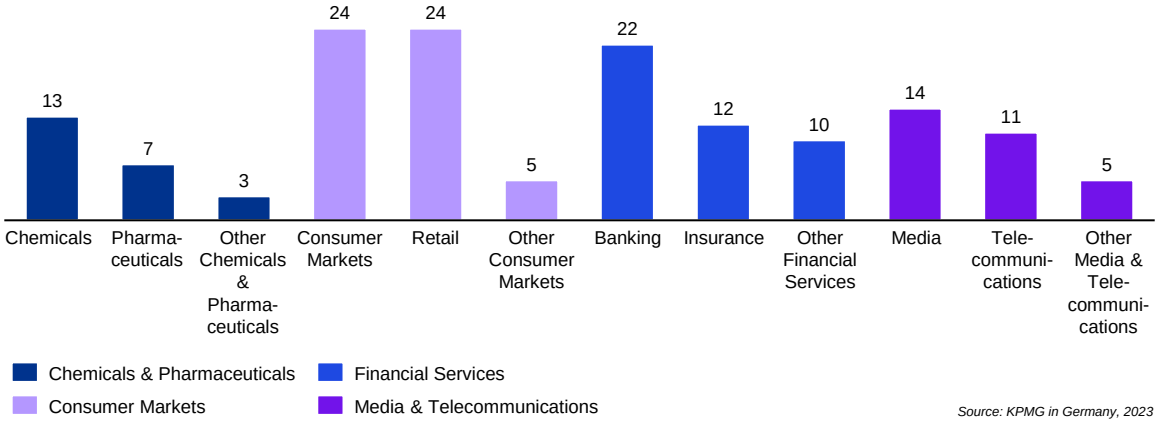
The results of the Cost of Capital Study 2023 can be accessed via the following link:
Online data analysis

The results include a detailed overview and presentation of financial forecasts and cost of capital parameters. Furthermore, the findings of the study can be viewed separately for each industry sector as well as for the sub-sectors of Chemicals & Pharmaceuticals, Consumer Markets, Financial Services, and Media & Telecommunications.

As in previous years, an interactive version of the online study is available online. To enable tailored analyses, search criteria can be individually chosen to generate the desired output such as the historical development of cost of capital parameters for certain industries or countries. The results can also be filtered by company size to further differentiate.

The website also provides additional information on the performance of impairment tests (note that chapter 4 contains some of the results on this topic).

Figure 05:
Participation by sub-sector
Total (multiple choices possible)



Source: KPMG in Germany, 2023

Growing divergence? Hypotheses on the different development of global economic areas

The cash flow and return expectations of market participants determine the development of values and prices. As uncertainties increase, market participants demand higher risk premiums. Moreover, they attempt to compensate for higher inflation rates through yield spreads. With three hypotheses, we will shed light on the direction we believe return expectations will take in the near future.

1) The increase in geopolitical crisis situations leads to an increase in macroeconomic uncertainties.

The (increasingly short-term) succession of crises – with corresponding negative economic impacts – has continued in the past year following the Covid-19 pandemic, with Russia's war against Ukraine. A mid-term analysis of the major regional economies to forecast their future economic developments continues to be increasingly difficult due to the numerous and in some cases overlapping special effects. The crisis-related influences are accompanied by the increasingly evident effects of global warming. Additionally, the demand for ESG compliance poses challenges for companies, as does the realignment of global supply chains. The trend towards protectionist tendencies continues. At the same time, capital markets are reaching new highs, while real estate markets are coming under increasing pressure.

The aspect already described in previous issues of our Cost of Capital Study – that the global world economy continues to evolve in a state in which new crises emerge before the effects of previous crises are resolved – has tended to intensify.

Negative effects may therefore accumulate increasingly. This makes it even more challenging to assess the specific effectiveness of measures taken by central banks and governments, limiting the room for action. As a result, macroeconomic uncertainties have increased further. However, the effects of the highly expansionary monetary policy of central banks since 2008 – which have led to a significant increase in global inflation since 2021 – are clearly evident. In response to this, central banks have had to abandon their long-standing low interest rate policies. Consequently, companies and market participants find themselves confronted with rising interest rates in an already challenging environment.

The extent to which the measures taken by governments and central banks are sustainable in guiding global economies back to calmer waters remains to be seen. Although comparisons with historical facts and previous market corrections are only useful to a limited extent, there are also regularly recurring parallels to historical corrections.

2) The cost of (too) expansionary monetary policy is higher inflation in the long term

Expansionary monetary policy in crisis situations is fundamentally recommended by economic theory to cushion recessive phases. However, everything comes at a cost, and crucial for the general price level is the ratio between money supply and economic output.

If the money supply is greater than economic output, this leads to inflation. Since in theory (moderate) inflation is preferred over deflation, central banks such as the US Federal Reserve (Fed) and the European Central Bank (ECB) have communicated inflation targets of up to two percent in the past.

If the money supply – for example, due to numerous monetary policy measures resulting from crises in quick succession – increases too much and over an extended period beyond a healthy relationship with economic output, this will lead to an increase in inflation above the inflation target as soon as the money supply reaches the product market. In situations where the money supply initially increases but does not immediately reach the product market (liquidity trap), there is a risk of sudden release (the so-called ketchup bottle effect) with a sharp, short-term increase in inflation. To contain high inflation, specific countermeasures are needed from central banks and possibly governments.

Currently, it appears that relief measures by central banks and governments are sometimes acting in opposing directions. Furthermore, there are differences in the causes, crisis-related special effects, and goals of central banks among the major regional economic areas, which are expected to result in different developments regarding sustainable inflation in the future (see also focus topic pp. 18 *et seq*.).

3) The development of the major economic areas will diverge in the future.

China faces major challenges after years of high growth. The ongoing trade war with the USA, disruptions in supply chains due to the Covid-19 pandemic, de-risking and decoupling from major trading partners, demographic changes as a result of the one-child policy, overvaluations in the real estate sector combined with the looming insolvency of major real estate companies, political tensions arising from China's claim to Taiwan, and human rights violations are leading to a decline in economic growth combined with negative social consequences. The recent Chinese economic system is facing its first major test and must prove its sustainability for the first time. It is expected that the Chinese government will once again demonstrate that the Chinese market is not a politically and economically free economic space.

Therefore, the Chinese capital market remains separated due to limited access and high government influence. The (exclusive) use of capital market data from Chinese companies is still subject to critical evaluation due to the lack of integration, as can be assumed, for example, in the European and US capital markets.

After pursuing an expansive monetary policy – somewhat too expansive according to the Fed – the Fed responded promptly with consistent interest rate increases at the first sign of money-related inflation, resulting in the current decline in inflation, with theoretically recognised instruments being consistently applied and effective. While government support packages in the USA counteract this trend to some extent, they generally provide support for a robust US economy. Compared to Europe, the USA has grown significantly stronger since the financial crisis – both in absolute terms and per capita. Among the contributing factors are higher economic momentum in the transformation of business models, increased research and development spending, and lower energy costs. The valuations of large tech companies and their share of the overall market have grown steadily. However, whether these valuations are justified sustainably remains to be seen, as does the development of increasing social tensions and the US election in 2024.

In comparison to the USA, the expansion of the money supply by the ECB has been significantly higher in the Eurozone since the financial crisis in 2008. This, along with the additional pressure caused by the scarcity of energy due to Russia's war against Ukraine, led to a significant increase in inflation.

The ECB's hesitant response to counteracting the price increases through interest rate hikes can partly be explained by the increasingly apparent negative consequences, such as payment difficulties for member states and companies.

Overall, the Eurozone appears to be in a fragile state – the high dependency of some member states on energy supplies from Russia, demographic changes with an increasingly ageing society, the persisting North-South economic divide among member states, rising levels of government debt, increasing EU regulations and bureaucracy, the refugee crisis and growing nationalist tendencies all have a negative impact on the necessary dynamism of the European economies. In particular, Germany – historically an important stability factor in Europe – has slipped to the lower end of the EU member states in terms of expected economic growth due to self-imposed challenges and declining competitiveness.

Compared to the North American economic area, it is expected that Europe could continue to lose ground in the coming years.

2 Derivation of Cash Flows

2.1 Preparation of the Financial Forecasts

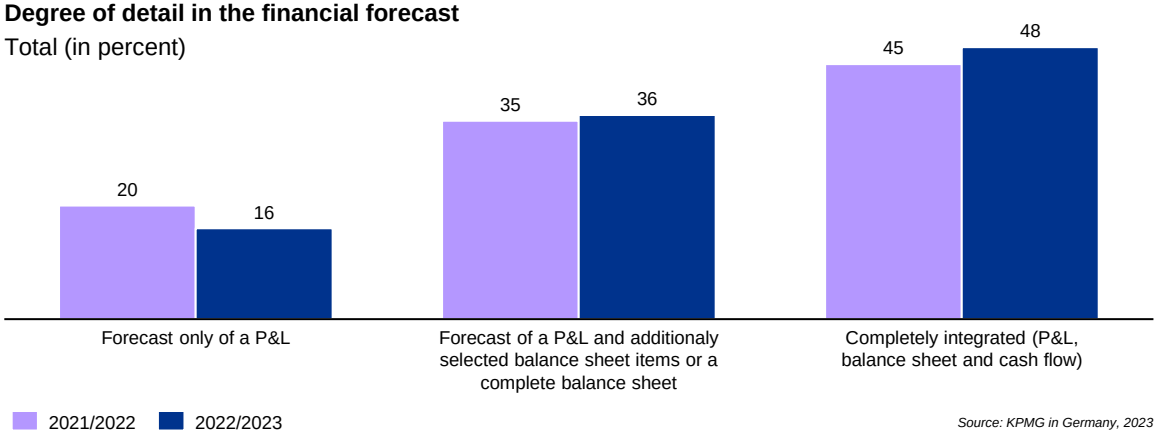
Especially in the current prevailing times, which are subject to high uncertainties, the predictability of future economic developments is severely limited. This makes financial forecasting by companies similarly difficult. In order to enhance the precision of financial projections, it is essential to thoroughly consider expectations regarding operating performance and risk drivers. Another important factor for increasing accuracy is the preparation of planning figures in an integrated and sufficiently detailed way.

It is noticeable that the study participants have increased the level of detail in their financial projections compared to previous year's study, which may be attributable to an increased level of uncertainty.

Sensitivity and scenario analyses are able to predict future variations in a company's performance. This means that they provide an appropriate framework to account for uncertainty in company valuations. In order to properly consider cash flow sensitivities, a simultaneous adjustment in the cost of capital is necessary. Without this adjustment, the risk equivalence between numerator and denominator is not given, thus leading to biased valuation results.

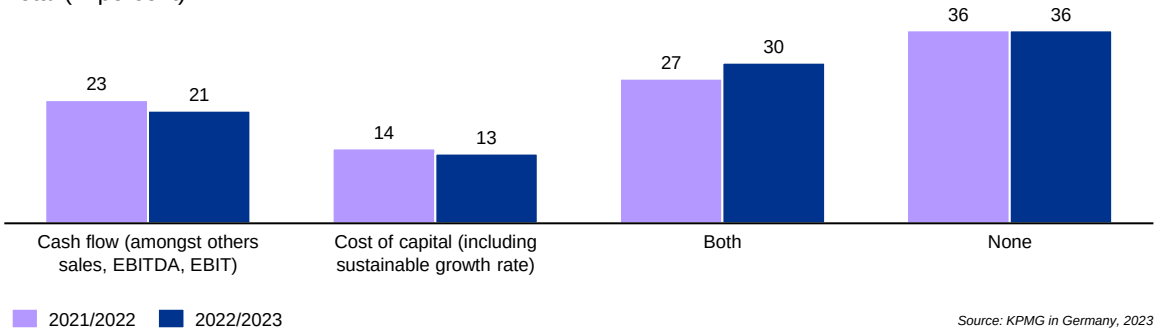
The study results show that, compared to the previous year, participants not only increased the level of detail in financial forecasting but also increasingly conduct sensitivity analysis for both cash flow and cost of capital.

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



Source: KPMG in Germany, 2023

Figure 07:
Consideration of sensitivities
Total (in percent)



Source: KPMG in Germany, 2023

The choice of the planning period is naturally accompanied by some incongruity. A longer planning horizon increases the level of planning uncertainty, while a (too) short planning horizon fails to adequately consider investment and product life cycles, as well as long-term industry developments, in the financial forecast. Consequently, this may result in inaccurate company valuations that, at worst, are utilised for subsequent decision-making.

In accordance with International Accounting Standard (IAS) 36.33 (b), the planning horizon of the financial forecast should not exceed a five-year period when applying the value-in-use concept. Depending on the product and investment cycles, an extended planning horizon may be warranted.

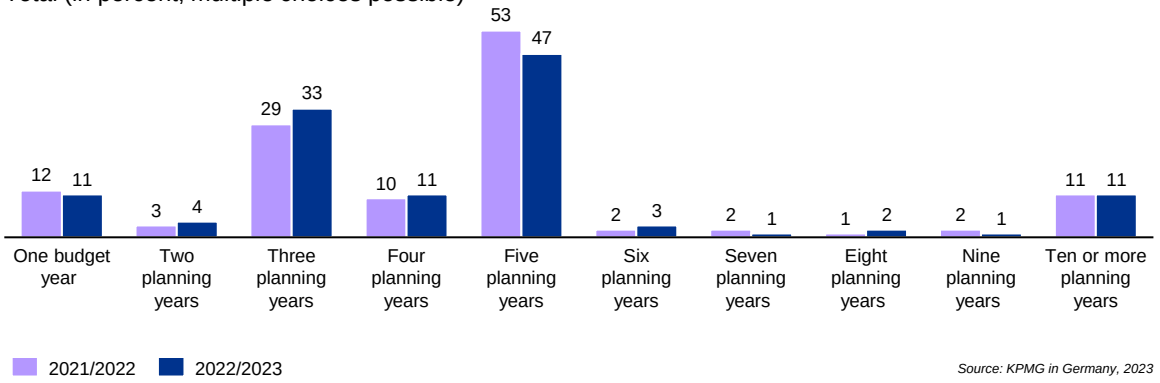
In contrast to last year's study, there is a trend among participants towards shorter planning periods. The utilisation of two, three, and four planning years has increased slightly, while the usage of five planning years has decreased by six percentage points. The trend towards shorter planning periods could be the result of significant planning uncertainties arising from macroeconomic and geopolitical disruptions like Russia's war against Ukraine or rising inflation and interest rates.

Compared to the previous year, the participating companies have not made significant changes to the number of segments or CGUs.

Figure 08:

Planning horizon

Total (in percent, multiple choices possible)

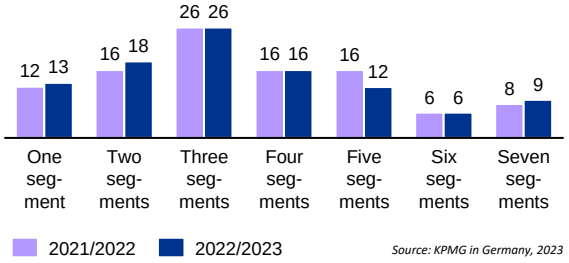


Source: KPMG in Germany, 2023

Figure 09:

Number of segments

Total (in percent)

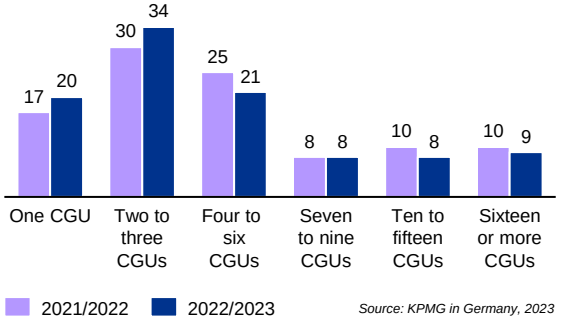


Source: KPMG in Germany, 2023

Figure 10:

Number of cash-generating units (CGUs)

Total (in percent)



Source: KPMG in Germany, 2023

2.2 Growth Expectations

Russia's ongoing war against Ukraine and the resulting resource scarcity, coupled with rising interest and inflation rates, are causing significant uncertainty and exerting a strong influence on companies' growth expectations. Additionally, the emergence of new technologies, such as artificial intelligence, is reshaping industries and creating potential business opportunities. These factors will continue to impact industry growth rates to varying degrees.

In comparison to previous year's study, sales growth expectations have declined in all industries except for Media & Telecommunications (+2.7 percentage points) and Real Estate (+2.0 percentage points). However, forecasted EBIT growth has significantly increased compared to the previous year, particularly in the Technology (+7.0 percentage points) and Media & Telecommunications (+6.0 percentage points) sectors. This trend may be attributed to the ongoing digitisation and the emergence of artificial intelligence.

Overall, the average expected sales growth has decreased by 0.1 percentage points, while the average forecasted EBIT growth has increased by 3.0 percentage points.

Figure 11:
Forecasted sales growth by industry
(in percent)

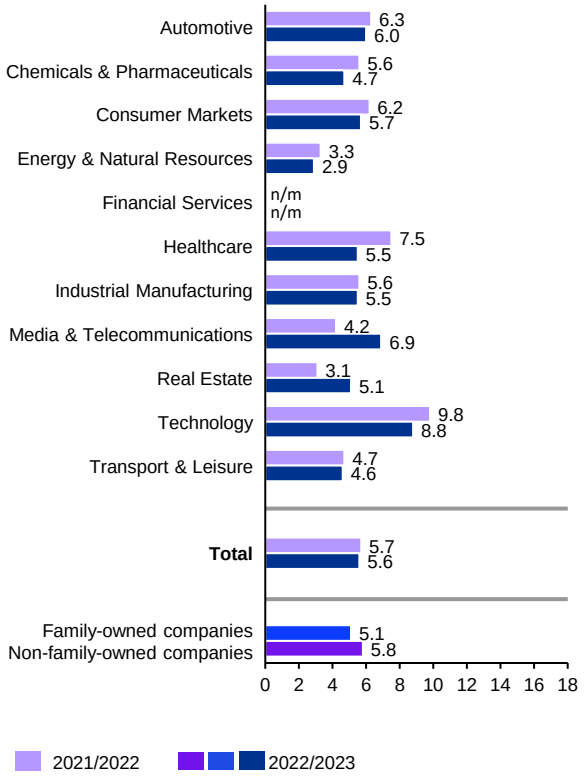
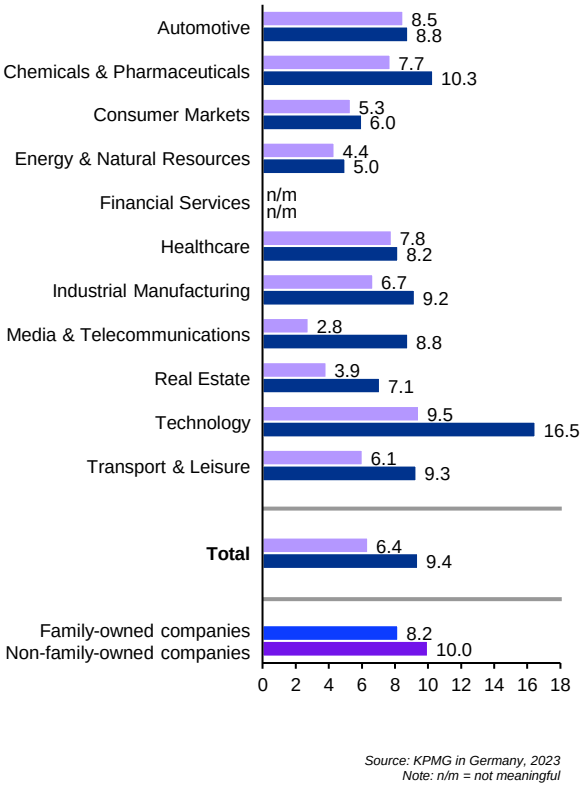


Figure 12:
Forecasted EBIT growth by industry
(in percent)



Source: KPMG in Germany, 2023
Note: n/m = not meaningful

2.3 Inflation Expectations

As compared to the second half of the year 2022, a decline in inflation rates could be observed in the past months of 2023. However, the current inflation level is still well above the ECB's target of around 2 percent.

In line with these observations, around half of the participating companies expect short-term company-specific inflation rates of at least 4 percent. The highest short-term inflation expectations can be observed within the Consumer Markets sector, while participants within the Technology sector expect the lowest short-term inflation rates among all industries.

Consistent with the previous year's study, the majority of participants anticipate their company's specific mid-to long-term inflation (i.e. from the third planning year onwards) to be in a range between 1 and 3 percent.

Participating companies identified high energy prices, resource scarcity, and geopolitical crises as the primary drivers for high inflation rates. However, compared to last year, fewer participants believe that high inflation rates are caused by the rapid rebooting of the economy following the Covid-19 pandemic (-11 percentage points). Instead, an increasing number of participants identified the price-wage spiral as one of the primary drivers for inflation (+10 percentage points).

Figure 13:

Short-term company-specific inflation expectations

(in percent)

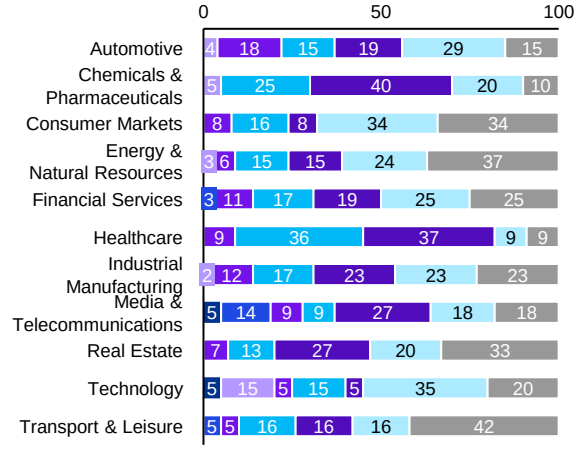
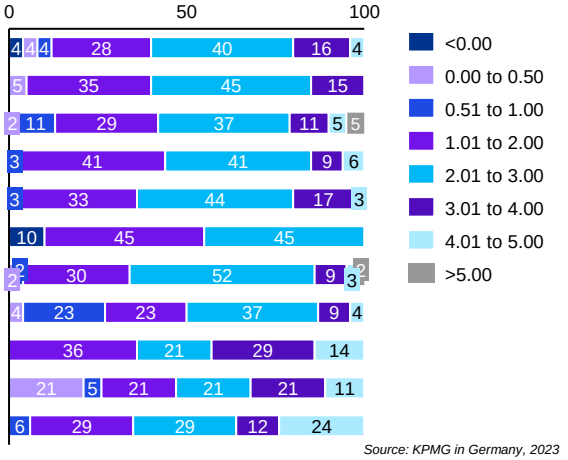


Figure 14:

Mid/-Long-term company-specific inflation expectations

(in percent)

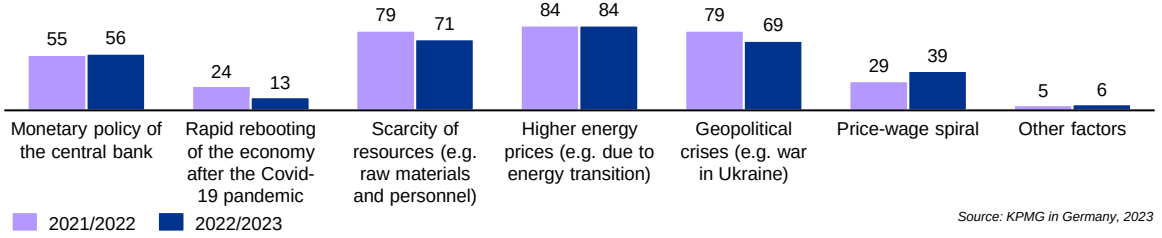


Source: KPMG in Germany, 2023

Figure 15:

Main drivers of the current level of inflation

Total (in percent, multiple choices possible)



Source: KPMG in Germany, 2023

The impact of inflation on a company is significantly influenced by the company's ability to pass on its inflationary cost increases to its (end) customers. On average, participating companies indicated that they are able to pass on inflationary cost increases to some extent (50–100 percent pass-on).

Besides, the extent to which companies are able to pass on inflation-related cost increases differs between industries. While participating companies in the Energy & Natural Resources industry have a comparatively better ability to pass on inflation-related cost increases, companies in the Media & Telecommunications sector show the lowest capability of passing on inflation-related cost increases to customers.

The ability to pass on cost increases related to inflation is crucial in determining how inflation affects company valuations.

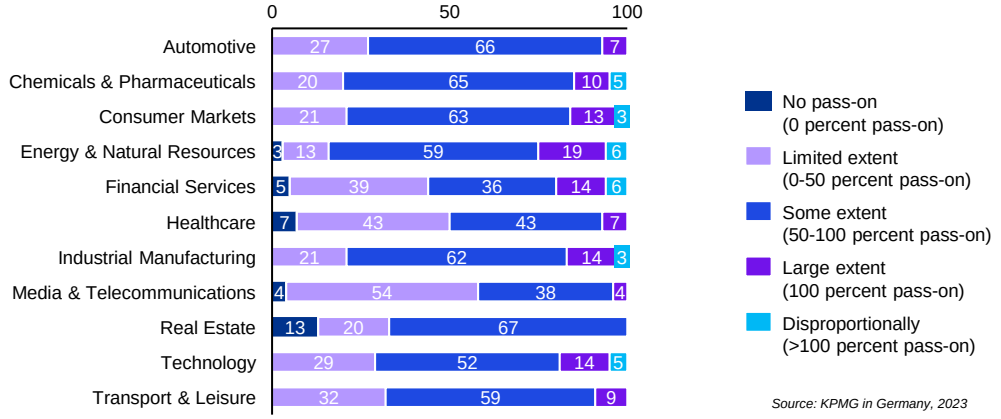
Across all participating companies, 41 percent are aware of the impact rising inflation rates have on company valuations. Thereof, 8 percent project a positive impact on company valuations, whereas 33 percent expect a decline.

In line with last year's results, a significant proportion of participating companies are uncertain about the impact of rising inflation rates on company valuations. However, that proportion declined slightly from 52 percent to 46 percent.

Figure 16:

Ability to pass on inflation-related cost increases to customers

(in percent)

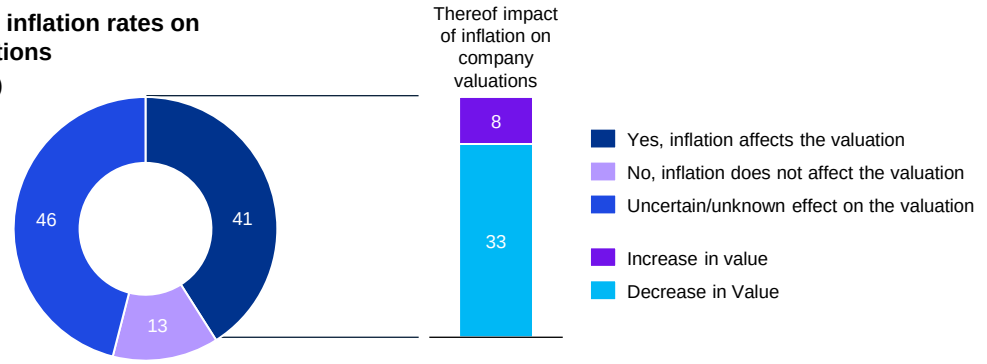


Source: KPMG in Germany, 2023

Figure 17:

Impact of rising inflation rates on company valuations

Total (in percent)



Source: KPMG in Germany, 2023

Inflation Unleashed? Central Banks' interaction with capital markets

To assess the current inflation trends, it is helpful to examine the causes of their emergence. The main reason for today's high inflation rates was essentially the expansionary monetary policy pursued by central banks in response to various crises, both global (the 2008 financial crisis and 2020/2021 Covid-19 pandemic) as well as regional (the 2012 sovereign debt crisis and Russia's war against Ukraine). A (too) significant increase in the money supply beyond a healthy ratio to economic output regularly leads over time to inflation exceeding the typical inflation targets set by central banks.

In the USA and particularly in Europe, the money supply has increased significantly in recent years beyond the growth in economic output – thereby altering its relation to economic output. It is evident that the money supply in the Eurozone increased by multiples compared to that in the USA. While inflation in the USA – as acknowledged by the Fed early on – was primarily attributed to a somewhat expansionary monetary policy, Europe experienced additional special effects alongside money-related inflation, such as the war-induced increase in energy prices.

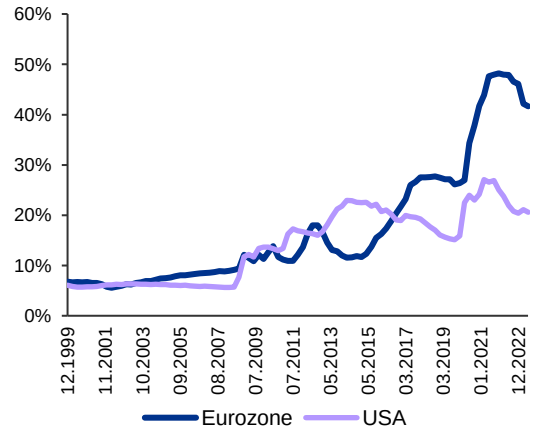
Against this background, the perspective between general overall inflation and core inflation (adjusted for volatile products such as energy) became crucial.

The latter generally serves as a better indicator for the long-term inflation trajectory. In Europe, there was a recent situation observed where core inflation continued to rise while overall inflation was declining. Compared to the Fed and other central banks, the ECB took significantly more time to recognise the sharp rise in inflation as a fact that required an appropriate response.

As a result of the strong inflation, central banks aggressively raised interest rates, with the Fed displaying a more determined and earlier response in terms of both timing and magnitude compared to the ECB.

Figure 18:

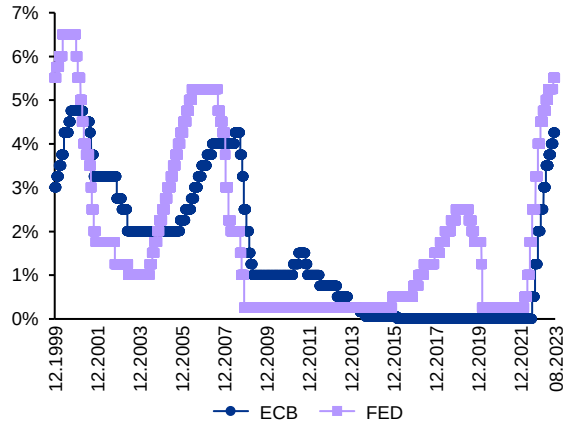
Monetary base/GDP development USA and Eurozone



Source: KPMG analysis on the basis of data from the European Central Bank, Federal Reserve and OECD

Figure 19:

Interest rate development USA and Eurozone



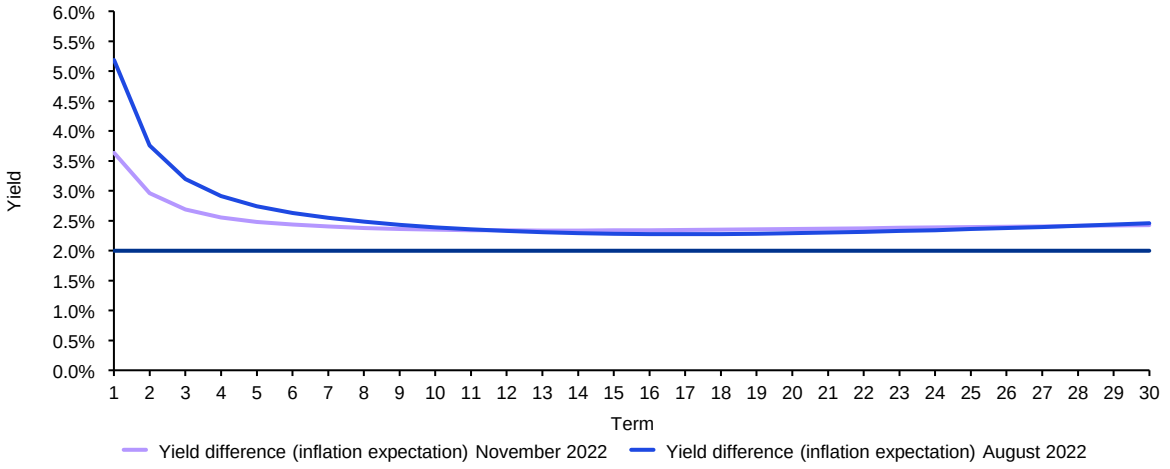
Source: KPMG analysis on the basis of data from the European Central Bank and Federal Reserve

Developments over the past decade have led to adjustments in the inflation targets of the central banks. Originally, the inflation targets of both central banks were capped at a maximum of 2 percent. However, there was a relaxation of this target in the years 2020/2021, so that currently higher inflation rates of around 2 percent are considered the target in both economic areas.

Meanwhile, it appears that inflation has also been incorporated into the capital markets and reflected in capital market prices. The initial inflation-driven increase in nominal implied total market returns in 2022 came to a halt. For Germany, the implied overall market returns declined from their peak in October 2022, which was around 10 percent, to below 9 percent in April 2023, while inflation expectations simultaneously stabilised. By early 2023, market return expectations had thus returned to the range of long-term nominal market return expectations of 7–9 percent (a range, however, based on a moderate inflation environment). It is also evident that short-term inflation expectations are declining, but long-term inflation expectations, measured against the central banks' inflation target of 2 percent, are solidifying at a significantly higher level.

Against this background, central bank communication and capital market observations suggest that inflation rates will remain above recent historical averages in the medium to long term, despite the current efforts taken by central banks through increases in interest rates.

Figure 20:
Inflation expectation



Source: KPMG in Germany on the basis of data from the European Central Bank

Additionally, it remains to be seen whether developments in the USA and Europe will tend to converge or diverge in the medium term. The potential reasons for divergence could be the partially different causes of inflation, the level of the money supply, as well as the varying overall objectives of central banks, coupled with the resulting and partly different countermeasures in terms of actions and timing.

2.4 Determination of Expected Values

In the past, companies with a long history and operating in a relatively stable environment may have found single-value estimations of future cash flows to be a sufficient forecasting tool. However, in environments characterised by high uncertainties, the applicability of single-value estimates is severely limited.

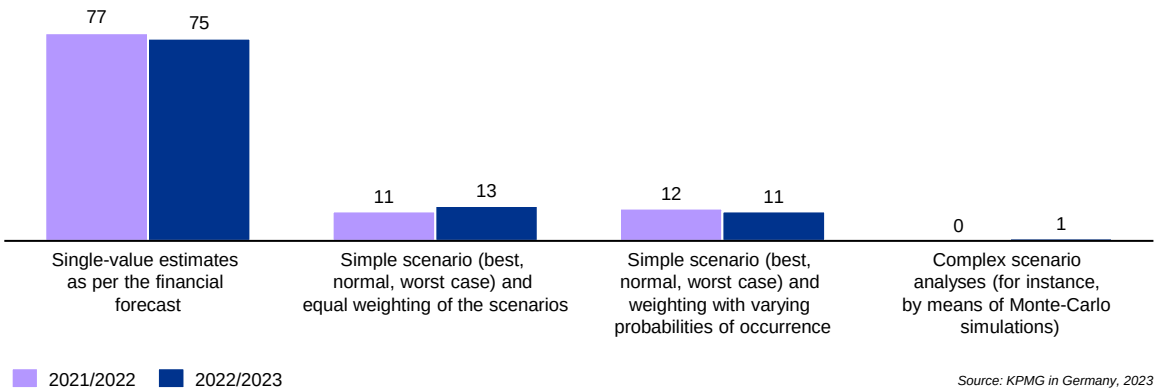
In economic environments characterised by high uncertainty, it is essential to use multi-valued estimations based on scenarios and simulations to address performance and risk drivers in a systematic and transparent manner. This approach is necessary due to the challenges posed by predicting macro- and microeconomic developments, as well as short-term distortions, which can significantly impact business models.

In line with last year's Cost of Capital Study, the majority of participating companies still rely on single-value estimates to forecast future cash flows. This indicates that alternative scenarios and potential changes in the future performance and risk of the prevailing business model are not being adequately considered when determining expected values. However, the trend from the previous year of participating companies increasingly utilising simple scenarios to derive future cash flows continues this year as well.

Figure 21:

Measurement of expected values

Total (in percent)



Source: KPMG in Germany, 2023

2.5 Consideration of Risks

Future cash flows are characterised by uncertainty and must therefore be determined by their expected value.

To improve the precision of expected values, it is crucial to include all relevant opportunities and risks associated with the business model, whether they are micro- or macroeconomic in nature, during the preparation of the financial forecast. The importance of considering risks in a company's financial forecast is additionally emphasised during times characterised by high uncertainty.

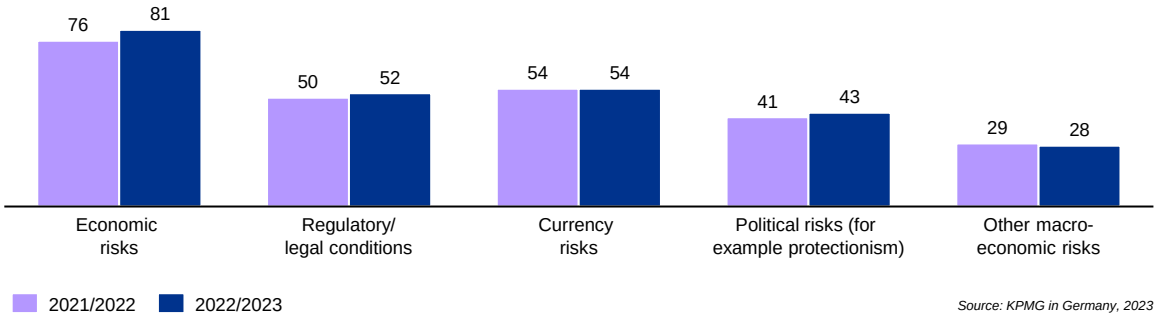
Compared to last year's study, we observed that the number of participants taking economic risks into account increased slightly.

Regarding the microeconomic risk factors, the significance of risks associated with new technologies/digitisation increased for participants compared to last year's Cost of Capital Study. This trend aligns with the growing prevalence of emerging technologies, such as artificial intelligence, which impact established industries and potentially generate new business prospects. Additionally, the declining trend of new competitors as a microeconomic risk factor was already observed in last year's study.

Figure 22:

Consideration of risks in the financial forecast – macroeconomic risks

Total (in percent, multiple choices possible)

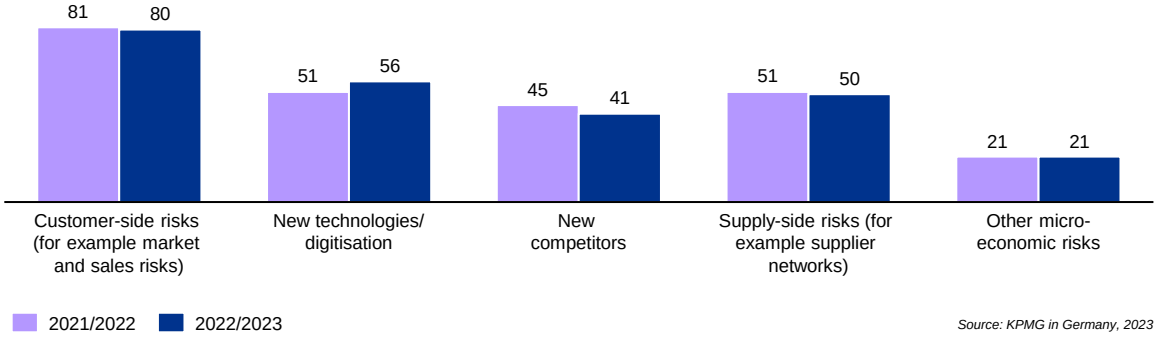


Source: KPMG in Germany, 2023

Figure 23:

Consideration of risks in the financial forecast – microeconomic risks

Total (in percent, multiple choices possible)



Source: KPMG in Germany, 2023

2.6 Dealing with Uncertainty

The series of crises – becoming progressively more short-term – and their resulting adverse economic consequences have endured throughout the past year in the wake of the Covid-19 pandemic, compounded by Russia's war against Ukraine. As highlighted in the focus article on pp. 10 *et seq*., a rise in geopolitical crises could lead to further uncertainties in the future.

According to the findings of this year's Cost of Capital Study, almost 70 percent of the participating companies reported that uncertainty has a (highly) negative impact on their business plan.

A comparison across industries, however, shows that for some companies, especially in the Energy & Natural Resources as well as Financial Services sector, uncertainty had a positive or even highly positive impact on business plans.

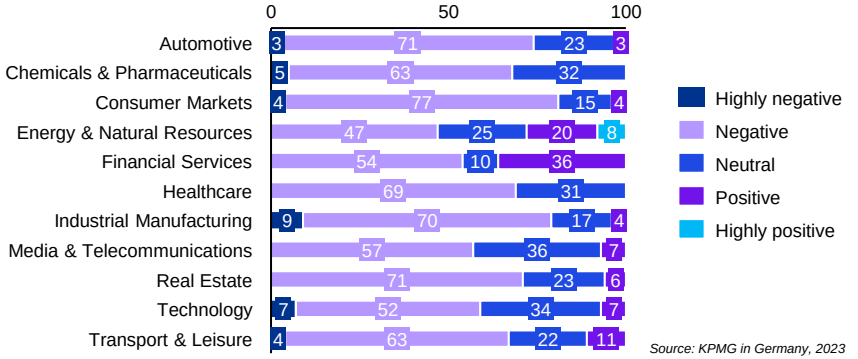
While most participating companies indicated that uncertainty has a negative impact on their business plan, the majority of these companies do not see a need to adjust their planning processes for this reason.

The companies that indicated a need for adjustment (17 percent) see the need to change their planning approach, increase the level of detail in their business plans, and make other adjustments.

Figure 24:

Impact of uncertainty on companies' business plans

(in percent)

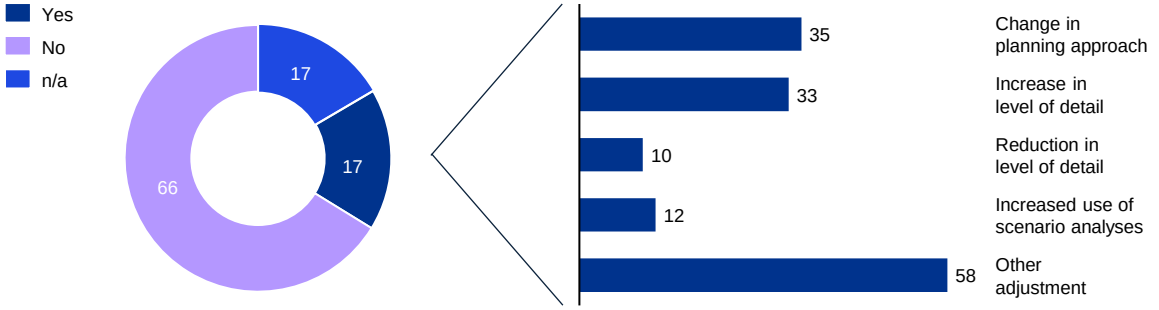


Source: KPMG in Germany, 2023

Figure 25:

Need and level for adjustment of planning process due to uncertainty

Total (in percent, level for adjustment, multiple choices possible)



Source: KPMG in Germany, 2023

3 Determination of the Cost of Capital Parameters

3.1 WACC Overview

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

By applying this approach, the weighted average cost of capital (WACC) is utilised to discount a firm's future cash flows. The WACC is calculated by weighing the cost of equity and cost of debt based on their respective proportions of the market value of equity and market value of debt in relation to the total entity value.

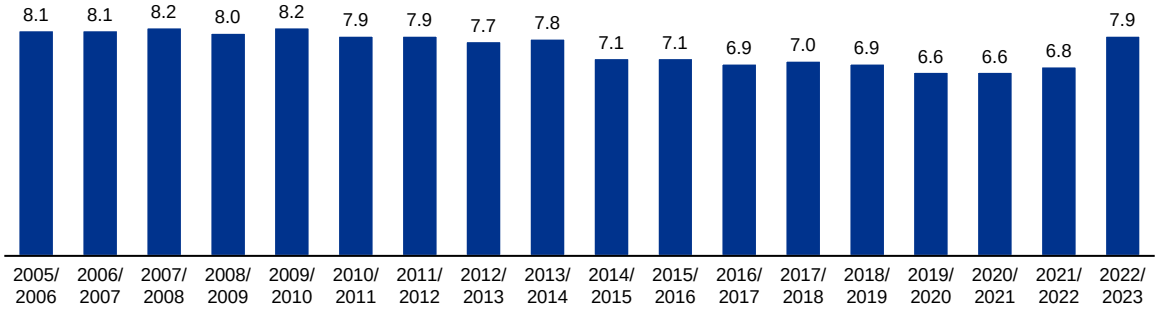
Since 2014/2015, the WACC has ranged between 6.6 percent and 7.1 percent. This year's study shows a significant increase in the WACC to 7.9 percent and thus again reaches the level of the years 2005/2006 to 2013/2014.

Ensuring methodological consistency in deriving the cost of capital is crucial across various valuation scenarios encountered in practice, rather than focusing solely on value-based consistency. However, a significant proportion of study participants fail to compare the cost of capital utilised in M&A transactions and investment decisions, despite the need for consistently applied concepts that are applicable to different project types.

Figure 26:

WACC (after corporate taxes)

Total (in percent)



Source: KPMG in Germany, 2023

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 their companies 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 17,000 companies worldwide. Historical cut-off dates are available from 2012 to the present.

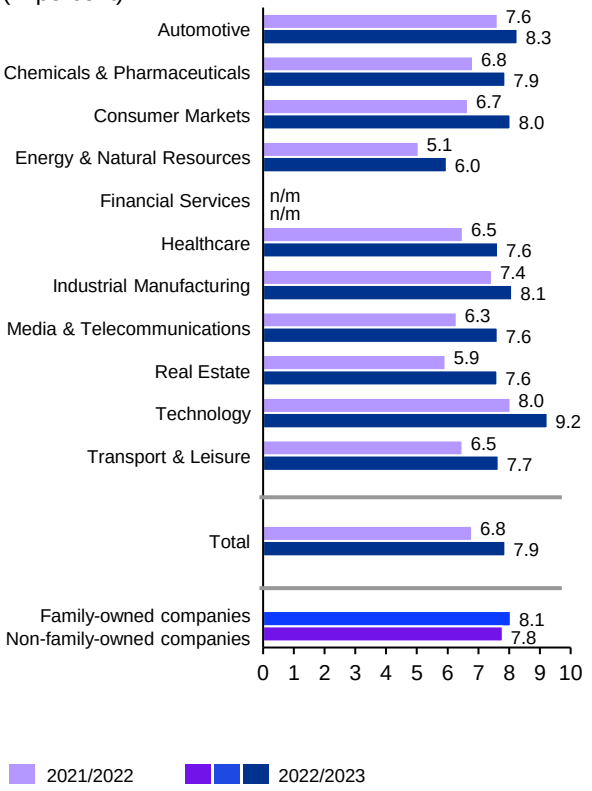
For further information see KPMG Valuation Data Source.

The current year has seen a notable increase in the aggregate WACC across all industries, with each sector displaying a higher WACC than the previous year. The most significant increases are observed in Real Estate (5.9 percent to 7.6 percent), Consumer Markets (6.7 percent to 8.0 percent) as well as Media & Telecommunications (6.3 percent to 7.6 percent).

As compared to last year's study, the Technology sector continues to report the highest WACC, increasing from 8.0 percent to 9.2 percent.

On average, family-owned companies applied a higher WACC of 8.1 percent compared to non-family-owned companies, which used a WACC of 7.8 percent.

Figure 27:
WACC (after corporate taxes) by industry
(in percent)



Source: KPMG in Germany, 2023
Note: n/m = not meaningful

Consumer Markets

The Consumer Markets sector consists of the Consumer Markets and Retail sub-sectors. In general, the development of the cost of capital in these sub-sectors was quite homogeneous. While the WACC for the Consumer Markets sub-sector increased from 6.4 percent to 8.1 percent, the WACC for the Retail sub-sector increased from 7.0 percent to 8.6 percent. As a result of these developments and the stronger increase in the Retail sector, the difference between the two sub-sectors narrowed slightly to 0.5 percentage points.

Media & Telecommunications

In the Media sub-sector, the WACC increased from 6.6 percent in the previous year to 8.5 percent in the current year. In line with that, an increase can also be observed in the Telecommunications sub-sector. Compared to last year, the WACC increased from 5.8 percent to 7.3 percent.

3.2 Risk-free Rate

The Capital Asset Pricing Model (CAPM) is a theoretical capital market model commonly used to determine the cost of equity. The CAPM states that the cost of equity can be divided into the risk-free rate and a premium that compensates investors for risks associated with the investment.

In order to ensure consistency in maturity, the risk-free rate used in the cost of capital derivation should be based on the term structure of interest rates of the relevant central banks.

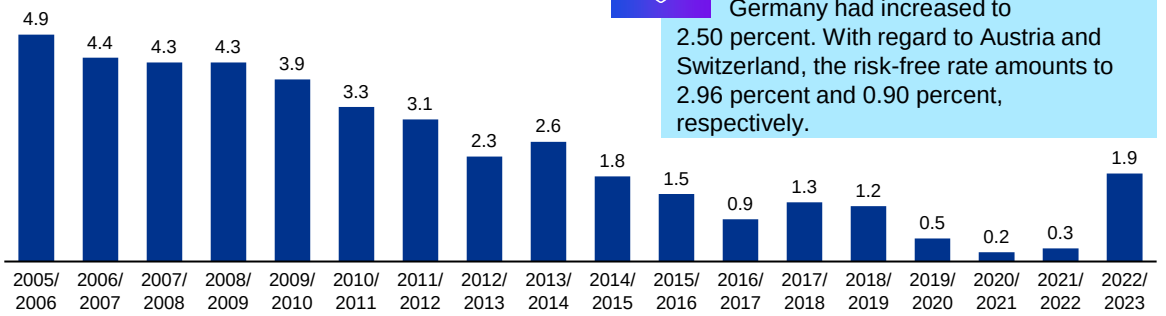
To mitigate short-term market fluctuations and potential estimation errors, especially for long-term returns, the risk-free rate should be derived based on the calculation of an average of the three months preceding the valuation date. After last year's slight increase, the risk-free rate continued its upward trend this year by increasing significantly to 1.9 percent.

In the context of a cross-country comparison between Austria/Germany and Switzerland, this year a homogeneous development is observable. In Germany and Austria, the applied risk-free rate increased from 0.2 percent to 1.9 percent compared to last year. The increase in Switzerland was less pronounced, yielding a risk-free rate of 1.8 percent compared to 0.7 percent in last year's study. It should also be mentioned that, unlike in previous years, the average risk-free rates applied in Germany/Austria and Switzerland are almost at the same level.

Figure 28:

Average risk-free rate applied

Total (in percent)



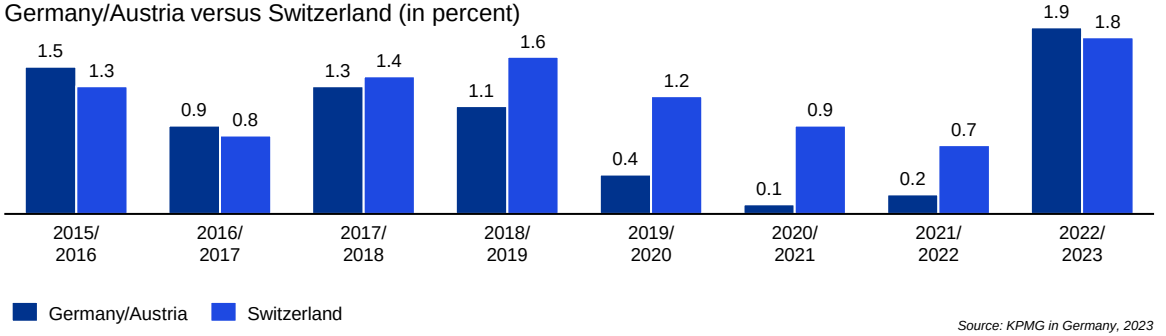
In recent months, the risk-free rate has further increased significantly. As of September 2023, the risk-free rate in Germany had increased to 2.50 percent. With regard to Austria and Switzerland, the risk-free rate amounts to 2.96 percent and 0.90 percent, respectively.

Source: KPMG in Germany, 2023

Figure 29:

Average risk-free rate applied

Germany/Austria versus Switzerland (in percent)



Source: KPMG in Germany, 2023

3.3 Market Risk Premium

As a parameter not directly observable in the capital markets, 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 to the recommended bandwidth for an appropriate market risk premium in response to current developments in the capital markets and the monetary policy of the ECB. As a result, the new recommended range for the market risk premium in Germany lies between 6.0 and 8.0 percent.

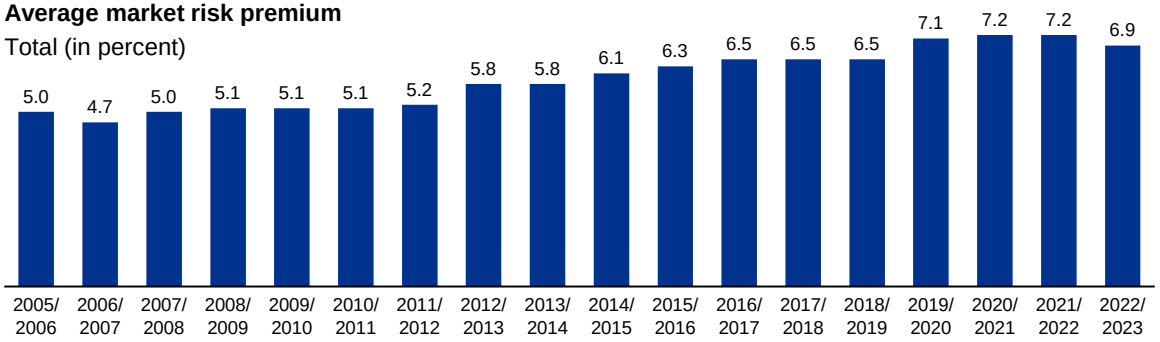
The Council of Experts for Business Administration (KFS/BW, Fachsenat für Betriebswirtschaft) of the Chamber for Tax Advisors and Auditors in Austria (KSW, Kammer der Steuerberater und Wirtschaftsprüfer) recommended a nominal market return of 7.5 to 9.0 percent at the end of 2017. Less the average risk-free rate applied by German/Austrian participants, this results in an approximate market risk premium of between 5.6 and 7.1 percent.

When determining the market risk premium, individual analyses should always be conducted based on the bandwidths recommended by the standard-setters mentioned above.

Figure 30:

Average market risk premium

Total (in percent)

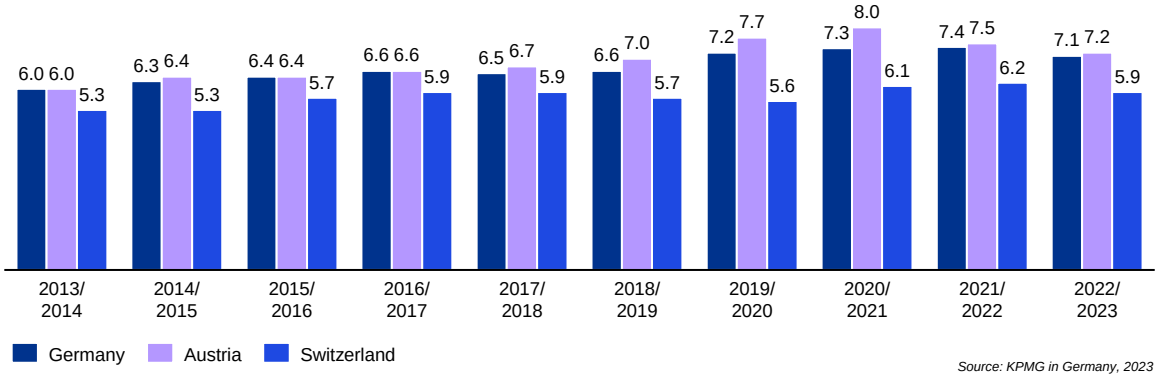


Source: KPMG in Germany, 2023

Figure 31:

Average market risk premium

Germany versus Austria versus Switzerland (in percent)



Source: KPMG in Germany, 2023

Among the participating companies from Germany, more than half (55 percent) apply a market risk premium above 7.0 percent. In contrast to last year's study, this proportion has decreased significantly.

Instead, we observe an increase in the number of participating companies that apply a market risk premium of below 7.0 percent, particularly in a range between 6.76 and 7.0 percent.

However, the slight decline in the level of the market risk premium has by no means compensated for the increase in the risk-free rate.

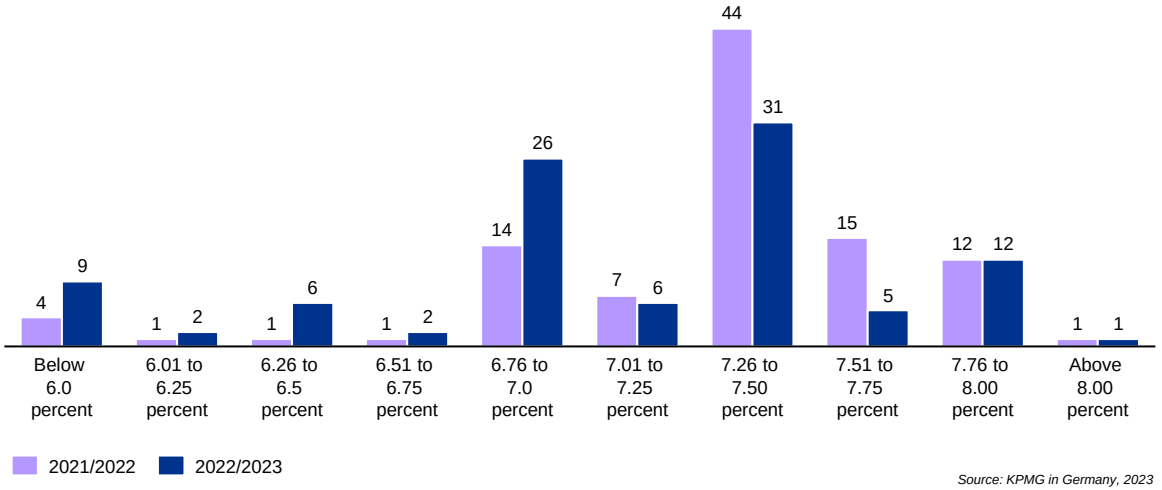
By definition, the market risk premium is an industry-independent parameter. Accordingly, the market risk premiums applied by the study participants were in a narrow range without any significant differences between specific industries.

Figure 32:

Distribution of the market risk premiums of German companies

(in percent, multiple choices possible)

As of September 2023, the market risk premium for German companies amounted to 7.25 percent according to KPMG analysis.



Source: KPMG in Germany, 2023

Navigating increasing uncertainty? Development of market return expectations in turbulent times

Continuously higher expected inflation rates (see also focus topic pp.18 *et seq*.) and a dimmed economic environment in the Eurozone – especially in Germany – are currently the main influencing factors on the return expectations observed on the stock market. Clearly visible in the first nine months of the past year is the inflation-related increase in nominal total returns, which, during this period, along with an increasing risk-free rate, led to an increase in the implied market risk premium, in some cases even exceeding the range recommended by the FAUB of the IDW. In hindsight, market overreactions regarding inflation expectations cannot be ruled out, and capping implied market risk premiums at the FAUB upper limit seemed sensible even when viewed from today's perspective.

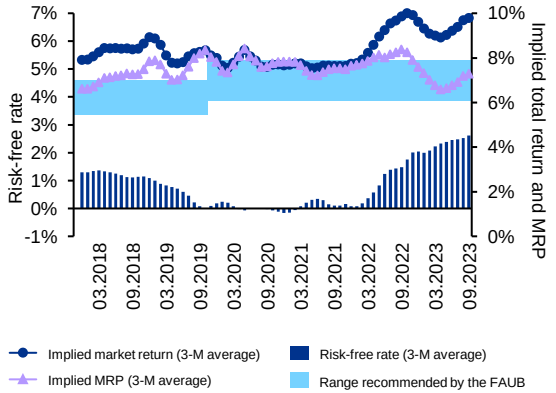
After incorporating the first "inflation shock" and declining short-term inflation expectations since the middle of last year, long-term inflation expectations appear to be gradually stabilising at an elevated base level, at least with no signs of a decline in expectations apparent. At the same time, total returns and implied market risk premiums reached their interim lows in the spring of 2023. During the same period, the pace of the risk-free rate increase also slowed down.

Since the middle of this year, there has been a renewed increase in implied return expectations. In past periods without significant inflation, the increase in return expectations could mainly be attributed to increasing risk aversion among market participants due to growing uncertainties.

In the winter of 2022/2023, the sharp increase in implied returns was largely driven by inflation. The recent increase in returns can be attributed to the gradual increase in inflation expectations on the one hand and recession expectations on the other hand, possibly even a combination of both effects.

Figure 33:

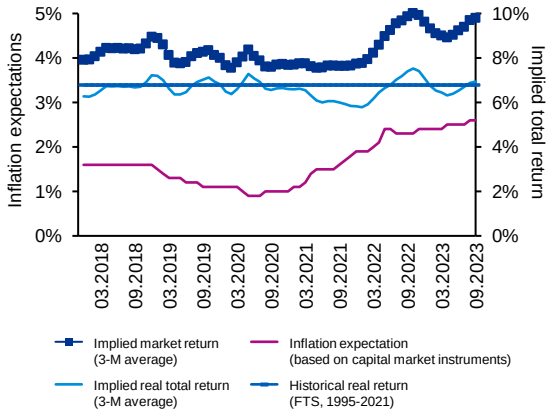
Total returns, risk-free rate and market risk premium



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

Figure 34:

Inflation rates and total return expectations



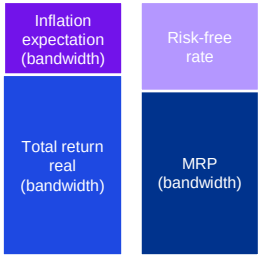
Source: KPMG analysis on the basis of data from S&P Capital IQ

Although fundamental company valuations regularly make use of capital market data, an unreflected transfer of possible market overreactions (such as those observed 1999 – the dot.com bubble, 2009 – the financial crisis, and 2012 – the sovereign debt crisis) to the valuation calculations must be avoided. Against this background, (irrational) market over- or underestimations need to be analysed and, potentially, adjusted. In the current environment, attention must be given to both implied inflation expectations and market participants' risk assessments. While the reference point during times of normal inflation was the historically observable nominal return bandwidth (7–9 percent), it is advisable to isolate the now-relevant inflation effect as the basis for the risk assessment analysis by initially referring to a historically observable bandwidth of real returns.

Based on a range of historically observable real returns, and taking into account a bandwidth of realistic inflation expectations, the second step results in a justifiable range for the nominal return expectations for fundamental valuations. Deducting the current risk-free rate results in the third step, which determines the acceptable range for the market risk premium. If the current implied market risk premium lies outside this range, it should be set at the upper/lower limit of the bandwidth for valuation purposes.

Figure 35:

Derivation of a nominal return bandwidth and market risk premium



Source: KPMG in Germany, 2023

The graph "Inflation rates and total return expectations" on the previous page shows that real total returns remained relatively stable throughout the observation period, with the exception of a short period at the end of the recent low-interest phase (due to the continued intervention of the ECB despite rising inflation). Currently, this indicator does not yet suggest a potential market overreaction on the risk side.

Also, the current inflation expectations do not appear to be exaggerated in light of the factors mentioned in the focus topic on pp. 18 *et seq*. Apparently, the markets are gradually moving forward after a temporary inflation expectation spike drive by short-term inflation data – which was quickly corrected. There is no apparent irrational exaggeration.

Gradual adjustments in inflation expectations and increasing risk aversion among market participants can lead to further increases in implied returns. If the ECB decides to hold back on further interest rate increases during a phase of declining momentum, implied market risk premiums would tend to rise again. Correspondingly, it must be taken into account that these expectations must also be reflected in business plans and sustainable inflation-related growth rates.

3.4 Beta Factor

The beta factor quantifies the operational risk of a company by measuring the volatility of the return on an individual asset in comparison to the market return as a whole. Due to the absence of alternatives, the beta factor is typically determined based on historical data despite its intended purpose of assessing a company's future risk in comparison to the general market risk.

Since beta factors can only be observed for publicly traded companies, the concept of a peer group consisting of comparable listed companies is still the dominant method used to derive the beta factor. However, for new business models it may be difficult to identify a relevant comparison group, and this may require the development of new approaches in the future.

The unlevered beta factor reflects a company's operational risk without considering its capital structure, whereas the levered beta factor provides a measure of the equity provider's systemic risk, taking into account the risk from debt in the capital structure.

Compared to last year's study, the average unlevered beta factor applied by participating companies decreased from 0.86 to 0.85. This development is also reflected in most of the industries. The strongest changes in the unlevered beta factor can be observed in the Energy & Natural Resources, Consumer Markets, Healthcare and Transport & Leisure industries.

Figure 36:
Average unlevered beta factors by industry

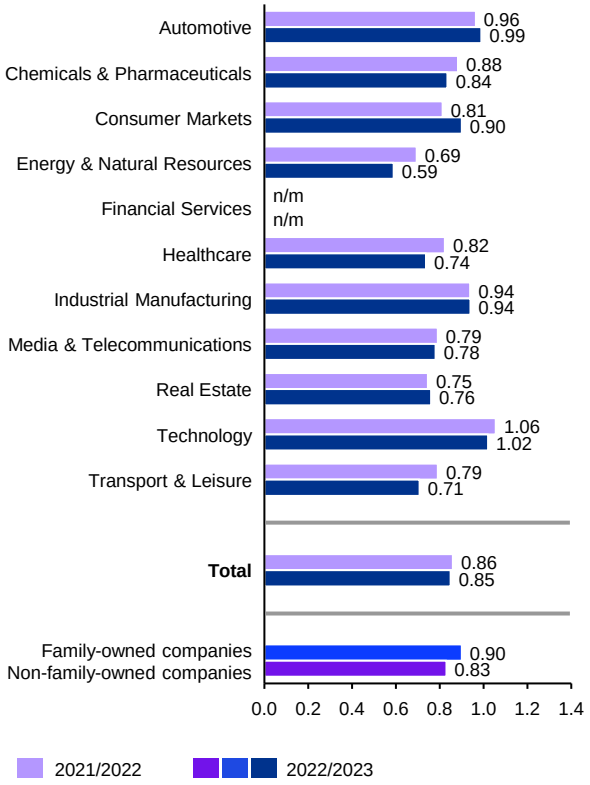
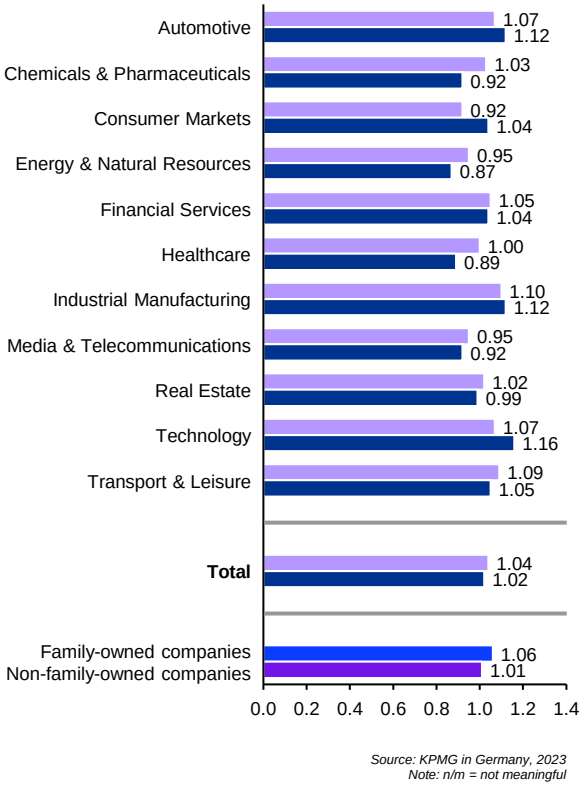


Figure 37:
Average levered beta factors by industry



Source: KPMG in Germany, 2023
Note: n/m = not meaningful

3.5 Cost of Equity

The levered cost of equity is calculated using the mathematical equation of the CAPM, which takes into account the risk-free rate, the company's specific levered beta factor, and the market risk premium.

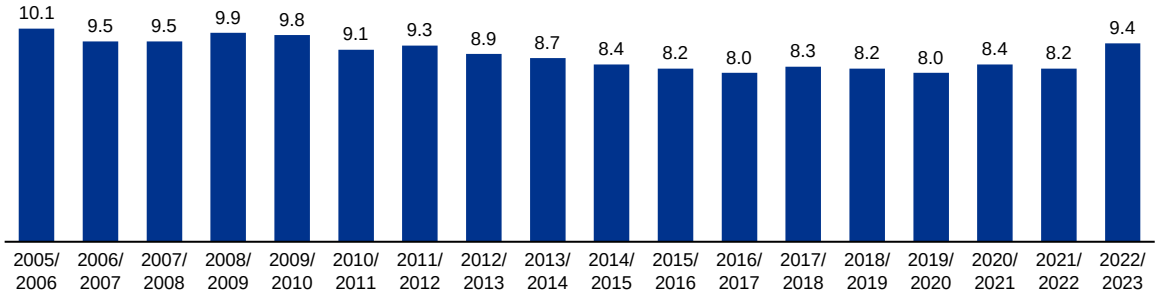
Compared to the previous year's study, the average levered cost of equity applied by the participating companies increased from 8.2 percent to 9.4 percent, reaching the level of the years 2005/2006 to 2013/2014.

This increase is also reflected in a cross-country comparison between Germany, Austria and Switzerland. More precisely, the average levered cost of equity in Germany and Austria increased from 8.2 percent to 9.4 percent and from 8.6 percent to 10.2 percent, respectively, while a slightly less pronounced increase from 7.7 percent to 8.6 percent can be observed in Switzerland.

Figure 38:

Average levered cost of equity

Total (in percent)

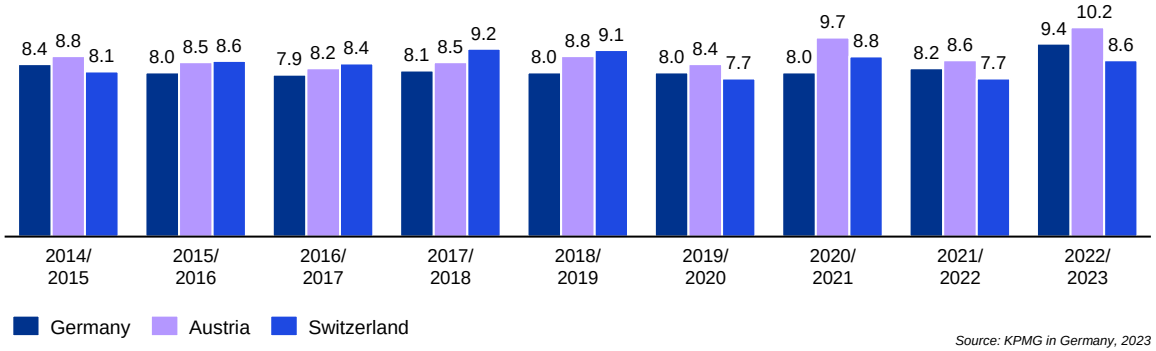


Source: KPMG in Germany, 2023

Figure 39:

Average levered cost of equity

Germany versus Austria versus Switzerland (in percent)



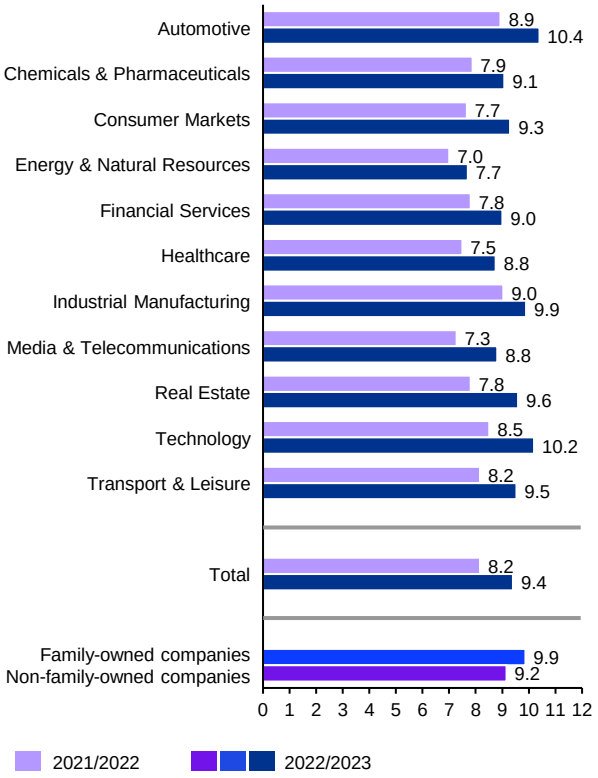
Source: KPMG in Germany, 2023

Compared to the previous year, the levered cost of equity increased significantly in the survey period. This is due in particular to the significant increase in the risk-free rate, which compensates for the observed decline in the market risk premium.

The aforementioned development of the levered cost of equity applied in the survey period is also reflected in each of the different sectors. The most significant increase can be observed in the Consumer Markets, Real Estate and Technology sectors.

The average levered cost of equity applied by the participating family-owned companies amounts to 9.9 percent, which is 0.7 percentage points higher than the levered cost of equity applied by non-family-owned companies. This observation is in line with the results of last year's study.

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



Source: KPMG in Germany, 2023

Consumer Markets

The levered cost of equity in the Consumer Markets industry increased from 7.7 percent in the previous year to 9.3 percent. This development is also reflected in the individual sub-sectors. In the Consumer Markets sub-sector, the levered cost of equity increased by 1.2 percentage points to 8.4 percent and in the Retail sub-sector by 2.2 percent to 10.5 percent.

Media & Telecommunications

Compared to last year's study, the levered cost of equity in the Financial Services sector increased by 1.5 percentage points to 8.8 percent. This level can also be seen in the sub-sectors. The Media sub-sector saw an increase of 1.6 percentage points and the Telecommunications sub-sector was at 8.2 percent.

3.6 Other Risk Premiums

Predicting future developments and cash flows with complete accuracy is impossible. As a result, it is essential to identify the uncertainty and associated risks of cash flows and to incorporate them appropriately into the expected value and cost of capital.

In addition to risk-adjusting cash flows, risk premiums can be used as part of the cost of capital in order to mitigate uncertainty.

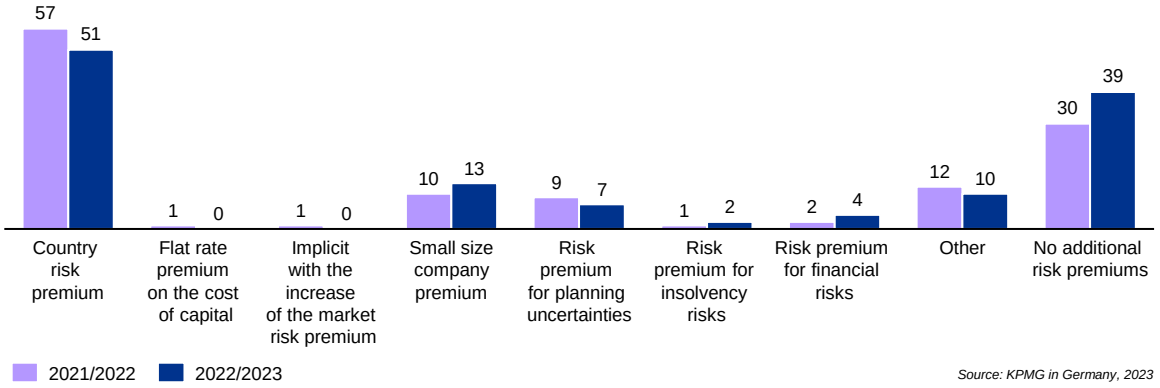
In line with the previous year's findings, the country risk premium is still the most important surcharge on the cost of capital and thus the most frequently applied other risk premium at the overall and national level.

However, a cross-country comparison between Austria, Germany and Switzerland shows that the majority of participating companies from Germany apply no additional risk premiums. This is significantly different from Austria and Switzerland.

Figure 41:

Other risk premiums 2021/2022 versus 2022/2023

Total (in percent, multiple choices possible)

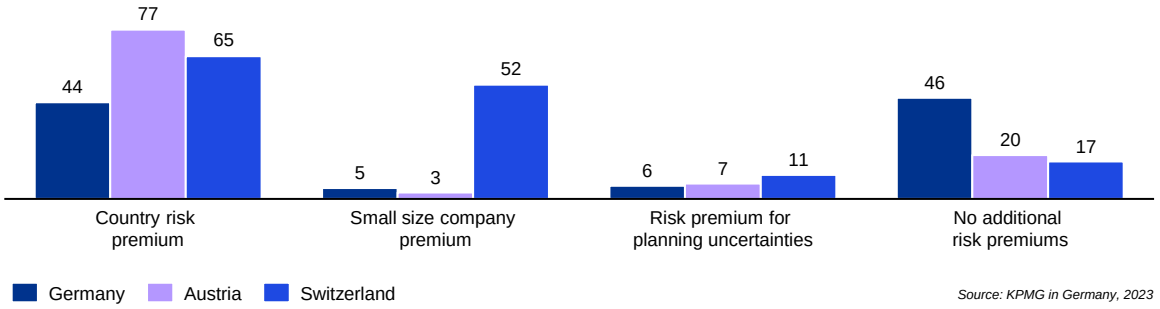


Source: KPMG in Germany, 2023

Figure 42:

Selected other risk premiums 2022/2023

Germany versus Austria versus Switzerland (in percent, multiple choices possible)



Source: KPMG in Germany, 2023

3.7 Cost of Debt and Debt Ratio

Aside from the cost of equity, the cost of debt and the debt ratio are essential components in determining the WACC.

While the cost of debt represents the rate of return expected by an entity's debt lender, the debt ratio is defined as the proportion of the market value of the (net) debt to the market value of the total capital (entity value).

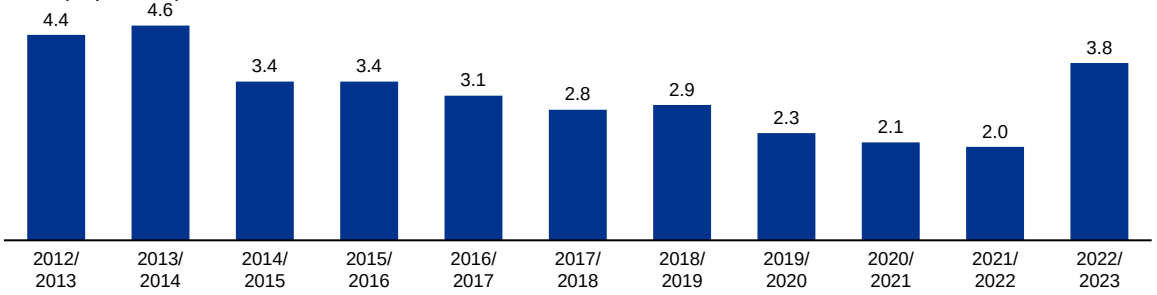
After the downward trend in recent years and a historical low observed in the previous year's study, the average cost of debt applied by the companies participating in this year's study increased significantly to 3.8 percent in the survey period.

In contrast to the previous year, a difference in the cost of debt between Germany, Austria and Switzerland can be observed. More precisely, the increase in the average cost of debt applied by the participating companies in Germany and Austria was more pronounced than in Switzerland, although the risk-free rates within those regions during the survey period are alike.

Figure 43:

Average cost of debt

Total (in percent)

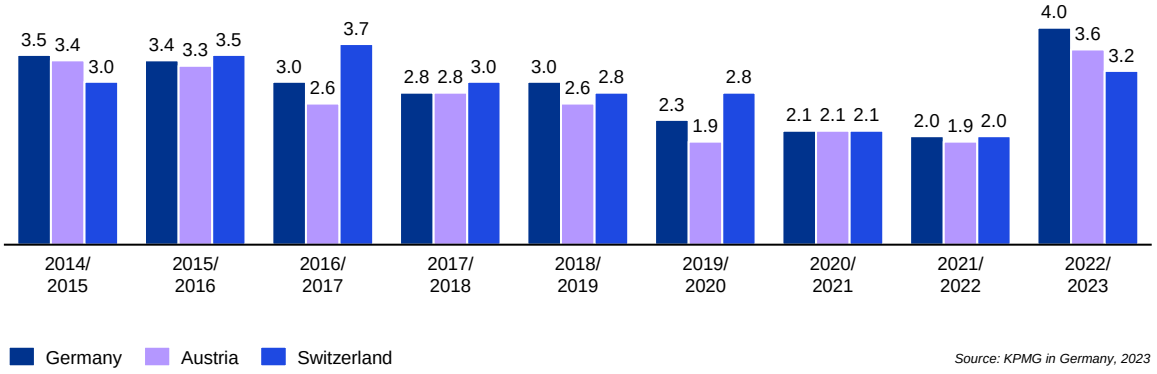


Source: KPMG in Germany, 2023

Figure 44:

Average cost of debt

Germany versus Austria versus Switzerland (in percent)



Source: KPMG in Germany, 2023

The overall increase in the cost of debt compared to last year's study is evident across all industries. The Healthcare, Media & Telecommunications and Real Estate sectors recorded the largest increases, of 2.2 percentage points, respectively.

The average cost of debt applied by family-owned companies amounts to 3.6 percent and is therefore slightly lower (-0.3 percentage points) than for non-family-owned companies.

Unlike in last year's study, the increase in the cost of debt is accompanied by an increase in the average debt ratio. The largest increase, at 8.1 percentage points, was seen in the Technology sector, while the average debt ratio of companies in the Energy & Natural Resources sector remains the highest of all industries.

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

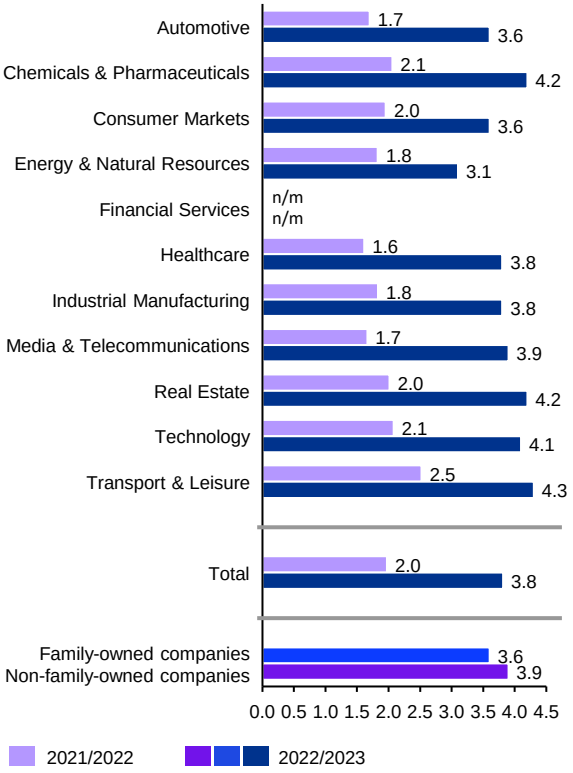
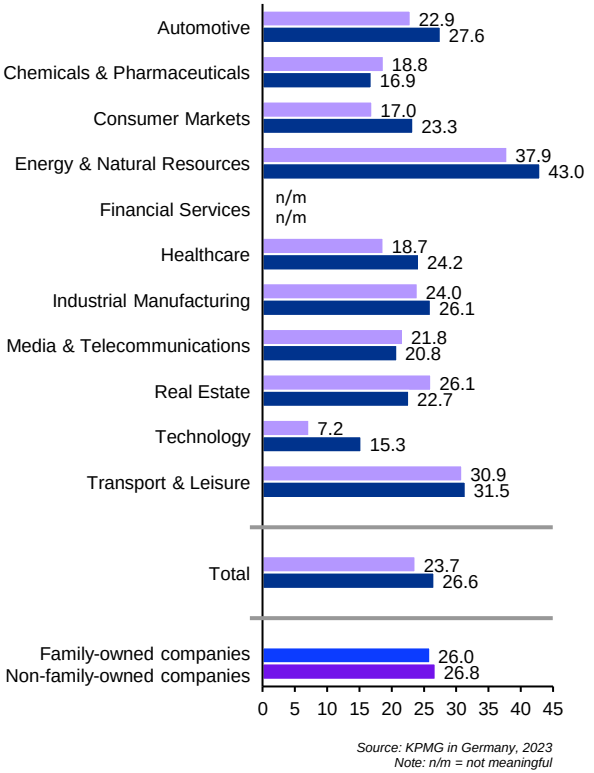


Figure 46:
Average debt ratio by industry
(in percent)



Source: KPMG in Germany, 2023
Note: n/m = not meaningful

3.8 Sustainable Growth Rate

The sustainable growth rate of a company is a crucial element in determining the terminal value. It represents the company's inflationary growth in a sustainable state.

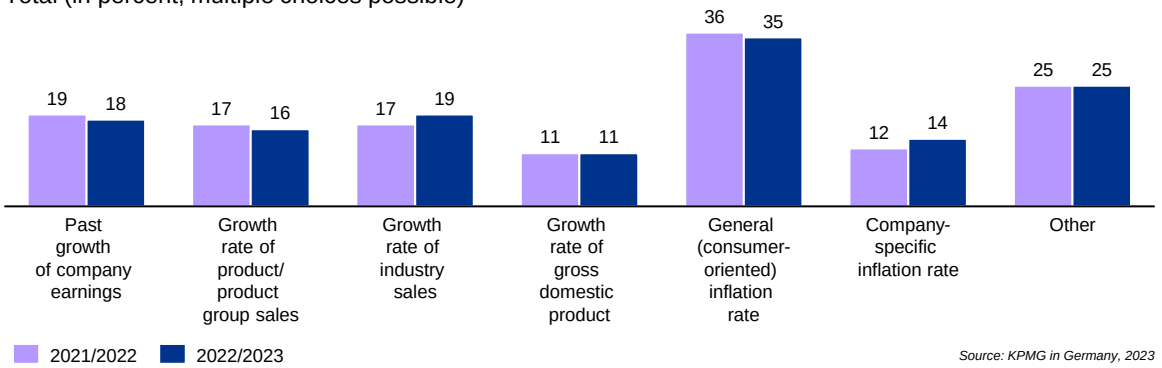
While it is recommended that a company's specific sustainable growth rate be determined by analysing its operations, the study participants commonly estimate it by applying a general consumer-based inflation rate.

When assuming perpetuity, the terminal value is usually the main contributing factor towards the value of an enterprise. It assumes that the company is in a state of sustainable equilibrium, which is usually not reached at the end of the planning horizon. Because of its importance, the derivation of the sustainable year should be based on a scenario approach such as Monte-Carlo simulations.

Figure 47:

Measurement of the sustainable growth rate

Total (in percent, multiple choices possible)

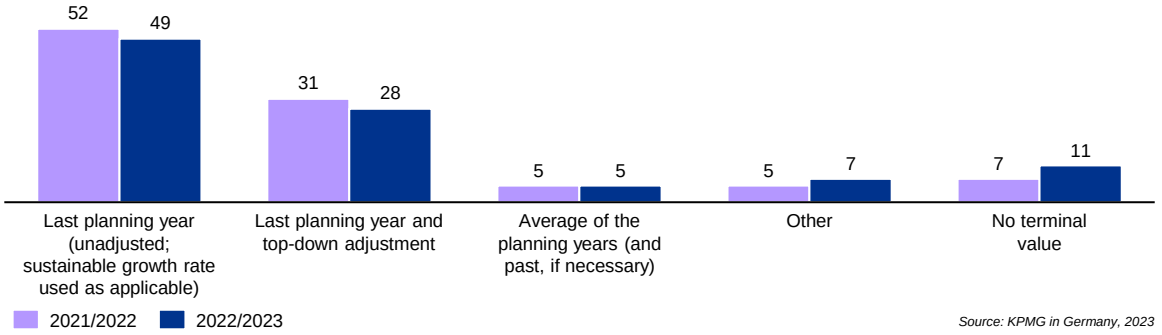


Source: KPMG in Germany, 2023

Figure 48:

Determination of the terminal value

Total (in percent)



Source: KPMG in Germany, 2023

Compared to last year's survey, the overall average sustainable growth rate applied by the participating companies increased slightly from 1.1 percent to 1.2 percent.

Overall, the change in average sustainable growth is reflected in the different industries, as most sectors show an increase in the average sustainable growth rate. The largest increase can be observed in the Real Estate sector, where the sustainable growth rate increased from 0.8 percent to 1.2 percent. The industries which experienced a decline in the average sustainable growth rate are Automotive, Energy & Natural Resources, Financial Services, Healthcare and Media & Telecommunications.

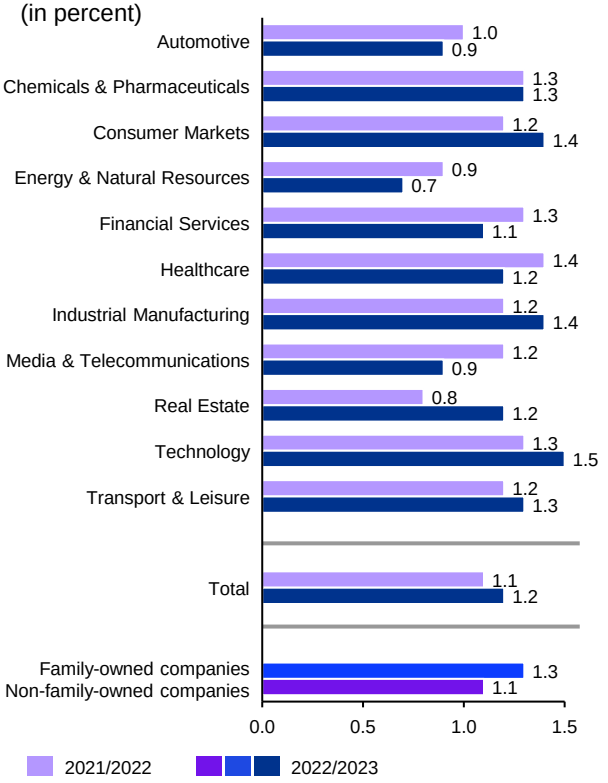
At the country level, the average sustainable growth rate in Germany increased slightly compared to last year, from 1.0 percent to 1.1 percent. In Austria, a decrease from 1.3 percent to 1.2 percent can be observed, and in Switzerland the average sustainable growth rate remained constant at 1.4 percent.

To properly interpret the applied growth rate, it is important to take into account both the duration of the detailed planning horizon and the growth rates that were applied during that time.

Figure 49:

Average sustainable growth rate by industry

(in percent)



Source: KPMG in Germany, 2023

Chemicals & Pharmaceuticals

Growth rates in the Chemicals & Pharmaceuticals sector remained at the previous year's level of 1.3 percent. However, there was some convergence in the sub-sectors compared to the previous year, as the Pharmaceuticals sub-sector reported a slight increase of 0.1 percentage points to 1.2 percent.

Consumer Markets

The growth rate in the Consumer Markets sector increased slightly by 0.2 percentage points compared to last year. This was reflected in both sub-sectors, which both increased by 0.2 percentage points. The Consumer Markets sub-sector increased its growth rate to 1.3 percent in the recent period and the Retail sub-sector to 1.5 percent.

4

Impairment Test

4.1 Recognition of an Impairment

In recent years, with the exception of 2020/2021, which was presumably impacted by the Covid-19 pandemic, the number of companies recognising an impairment of goodwill or assets has remained at a fairly stable level.

The most recent period exhibits a slight increase in companies recognising an impairment to 45 percent. This could be attributable to the economic consequences of Russia's war against Ukraine.

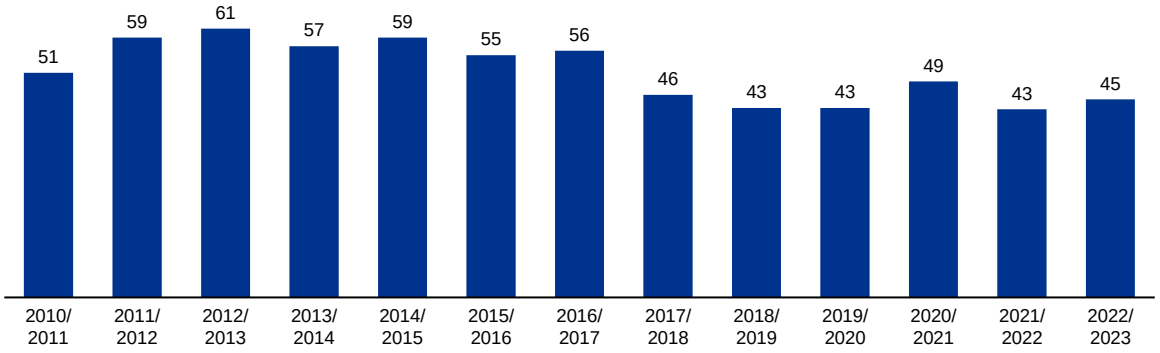
As in previous years, the majority of the impairments recognised are attributable solely to asset impairment. However, the number of participating companies recognising goodwill impairment increased from 17 percent in the previous year to 21 percent in the current year.

As a result, the number of companies not performing impairment tests decreased slightly from 57 to 55 percent.

Figure 50:

Recognition of an impairment over time

Total (in percent)

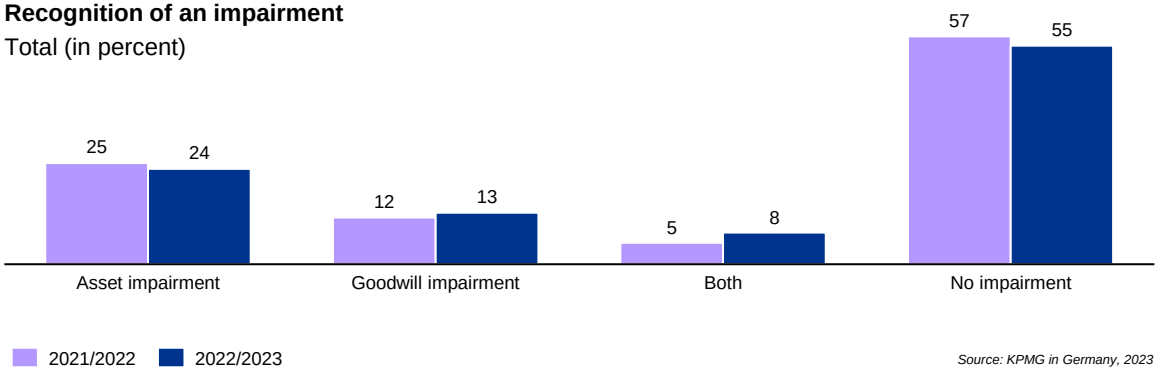


Source: KPMG in Germany, 2023

Figure 51:

Recognition of an impairment

Total (in percent)



Source: KPMG in Germany, 2023

4.2 Triggering Event

According to the IFRS, an impairment test on the goodwill recognised must be conducted once a year within the scope of the annual financial statements.

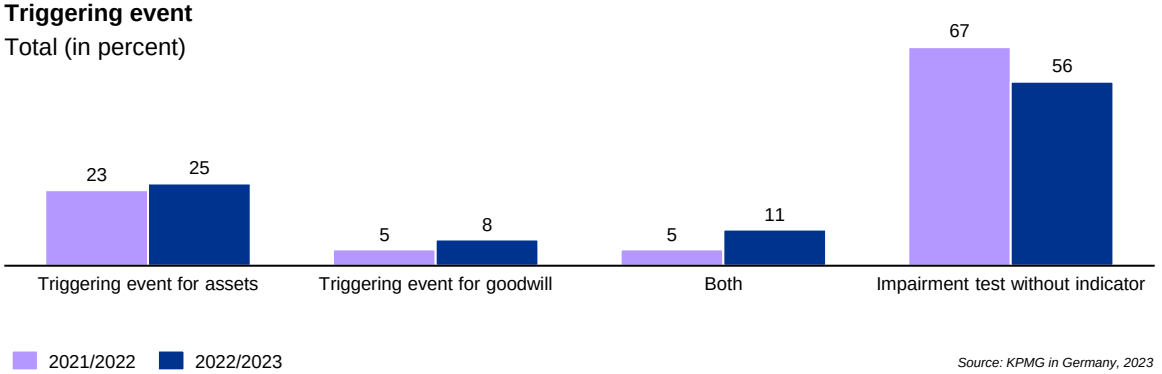
In the previous year, approximately one-third of the participants reported that they performed an additional impairment test based on a triggering event, i.e. an indicator of impairment. In the current year, the percentage of participating companies performing an impairment test prompted by a triggering event has risen to 44 percent.

Similar to the previous year, the majority of triggering events were attributable to lower long-term expectations as well as other factors.

As anticipated in last year's Cost of Capital Study, the number of triggering events caused by the cost of capital has increased significantly as a result of the increased cost of capital.

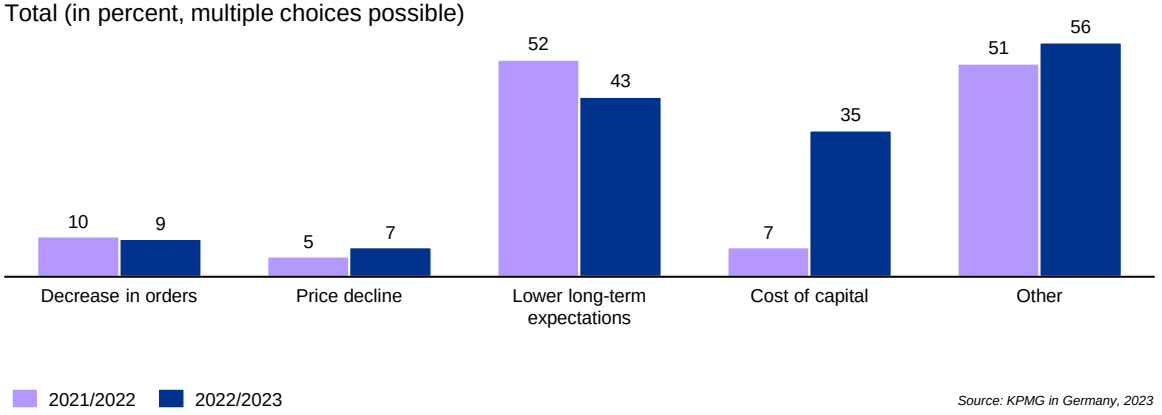
This overall trend may be attributed, in part, to the economic consequences of Russia's war against Ukraine.

Figure 52:
Triggering event
Total (in percent)



Source: KPMG in Germany, 2023

Figure 53:
Cause of the triggering event
Total (in percent, multiple choices possible)



Source: KPMG in Germany, 2023

4.3 Plausibility – Market Capitalisation and Multiples

The fair value less costs of disposal approach centres on the exit price and therefore primarily on the assessments of potential acquirers. The IFRS mandate a plausibility test of the valuation results derived using this approach.

To ensure the risk equivalence of the cost of capital, we suggest also conducting a plausibility test with market expectations when calculating the value in use.

As the market capitalisation often inadequately reflects control or significant influence over a company, primarily due to the limited number of shares traded, it may be advisable to incorporate a control premium into this comparison.

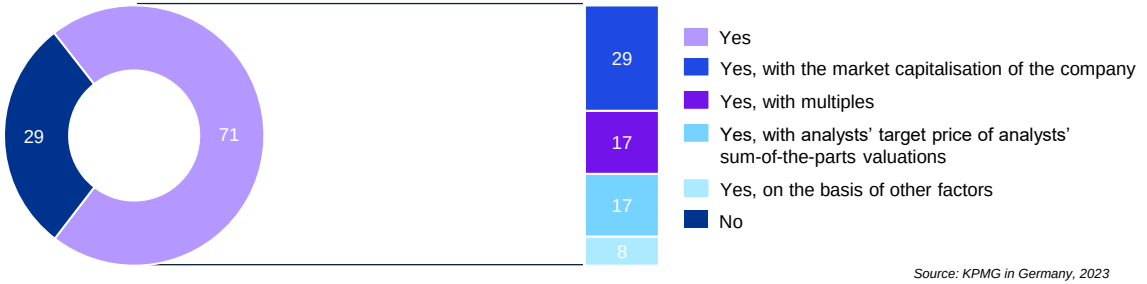
Furthermore, while comparing the values determined through the value in use approach with the market capitalisation, the valuation perspective and the information accessible to the capital market may have an impact. Therefore, a plausibility test should consider supplementary information, such as industry and analyst reports, as well as multiples.

Around three quarters of the participating listed companies conducted a plausibility test of the valuation results.

Figure 54:

Plausibility of the valuation results

Listed companies, total (in percent, multiple choices possible)

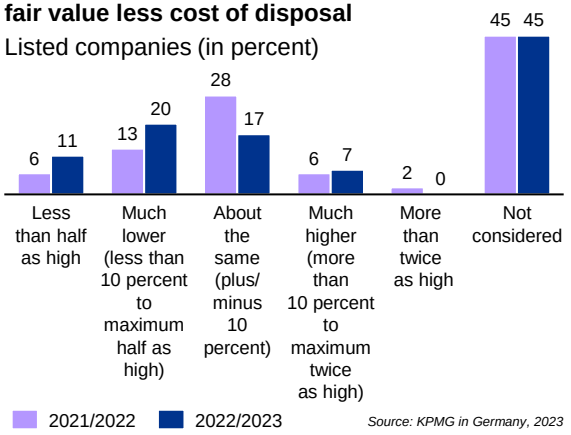


Source: KPMG in Germany, 2023

Figure 55:

Comparison of market capitalisation to fair value less cost of disposal

Listed companies (in percent)

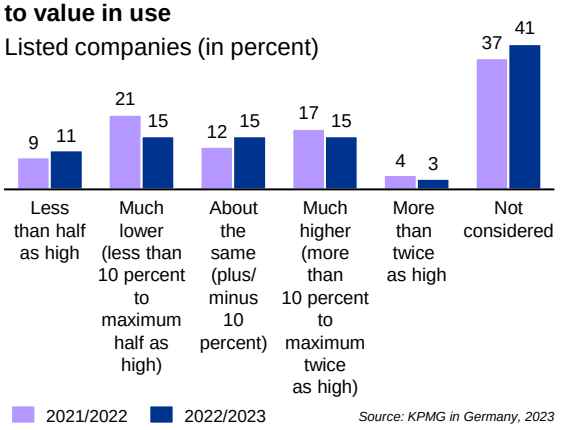


Source: KPMG in Germany, 2023

Figure 56:

Comparison of market capitalisation to value in use

Listed companies (in percent)



Source: KPMG in Germany, 2023

The IFRS, particularly the fair value less costs of disposal method, mandates a plausibility assessment of the valuation results, for instance by utilising the multiples approach.

The multiples approach is a capital market-oriented valuation method that involves applying a multiple to financial metrics such as EBITDA, EBIT or, in certain cases, sales, to determine the value of a company in a simplified manner.

Suitable multiples are determined by analysing capital market data based on a comparative price setting (e.g. peer group) which are then applied to the company being valued.

Although 73 percent of the participating companies use plausibility calculations based on multiples (e.g. for valuations in general), only 18 percent consider them to be an integral component.

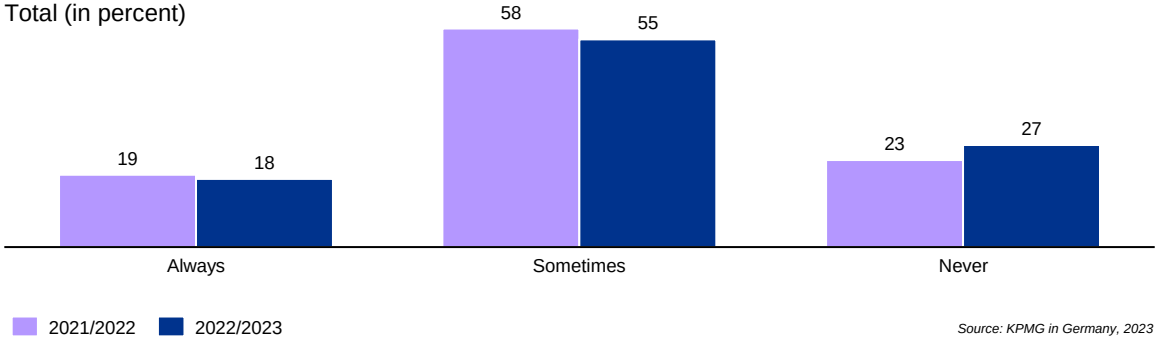
EBITDA multiples are the most commonly used, followed by sales and EBIT multiples.

KPMG Multiples provides benchmark data to assist with price determination. This tool grants quick access to current market multiples.

Figure 57:

Application of multiples

Total (in percent)

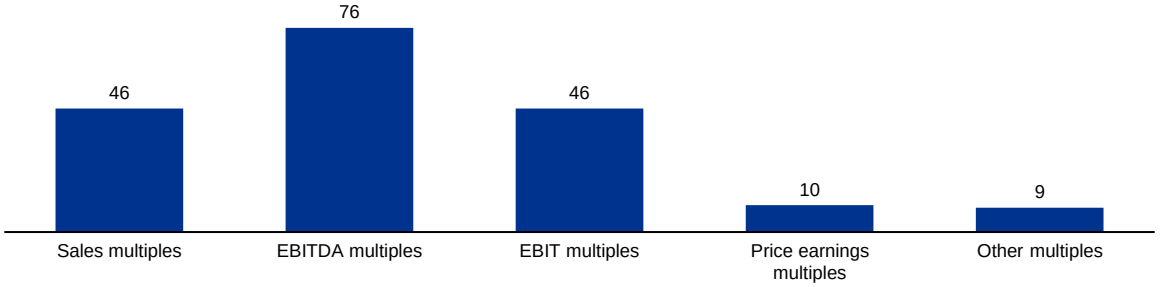


Source: KPMG in Germany, 2023

Figure 58:

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, 2023

5

Relevance of Value and Value Enhancement

5.1 Monitoring Value Enhancement

5.2 Sustainability/ESG

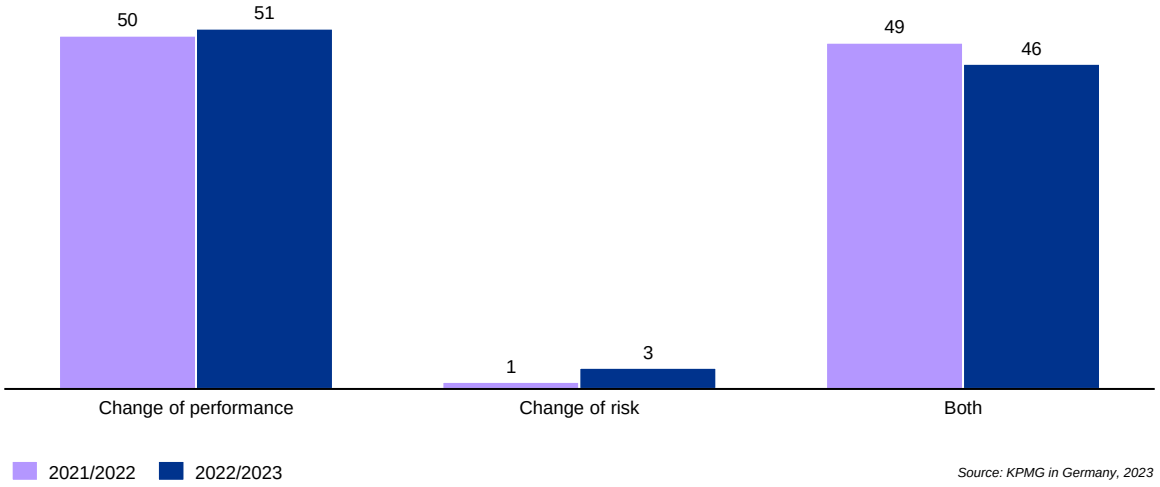
5.1 Monitoring Value Enhancement

A company's future value is influenced by the investments it holds. To avoid potential losses in future value due to ever-changing market dynamics, it is critical to continually track risk and performance trends.

Reviewing past investments plays a key role in improving the decision-making process for future investments.

Compared to last year, there was a slight increase of one percentage point in the number of respondents focusing solely on changes in performance and two percentage points in the number of respondents focusing solely on changes in risk. As volatility and market uncertainty increase, we observe a transition in respondents' priorities. More companies seem to focus on changes in risk, as opposed to emphasising both risk and performance monitoring.

Figure 59:
Monitoring of value enhancement
Total (in percent)



Source: KPMG in Germany, 2023

5.2 Sustainability/ESG

In recent years, the importance of sustainability issues for companies, their employees and shareholders has grown significantly. ESG challenges, which encompass environmental, ecological, economic, social, and political factors, have now become an integral part of how companies operate. The role of ESG criteria in corporate governance and decision-making processes is becoming increasingly important. However, it is still uncertain which ESG issues will impact margins in the medium to long term and how viable entire business models will be in the future.

The number of companies considering the impact of ESG issues on their future business development remains at a high level.

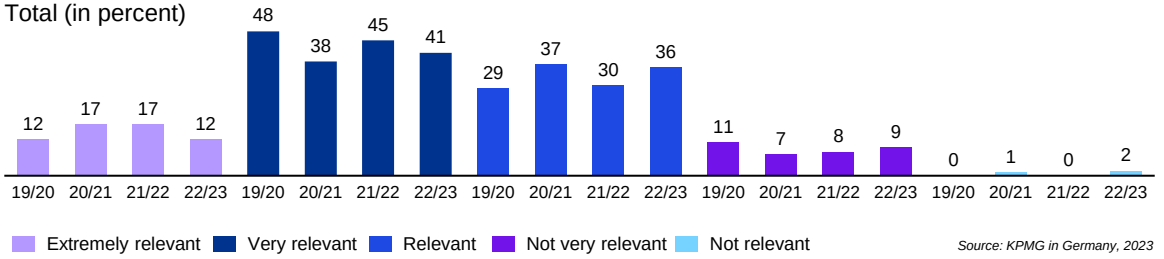
The results of the survey show that the importance of ESG for future business development varies from industry to industry. Compared to last year, the importance of ESG issues has decreased slightly in most industries, particularly in the Automotive sector. The reasons for this development need to be further illuminated in the future.

As in the previous year, resource-intensive industries and those where environmental issues play a significant role, such as Energy & Natural Resources, Real Estate, and Transport & Leisure, are more sensitive to ESG issues than other industries.

Figure 60:

Impact of ESG issues on future business development

Total (in percent)

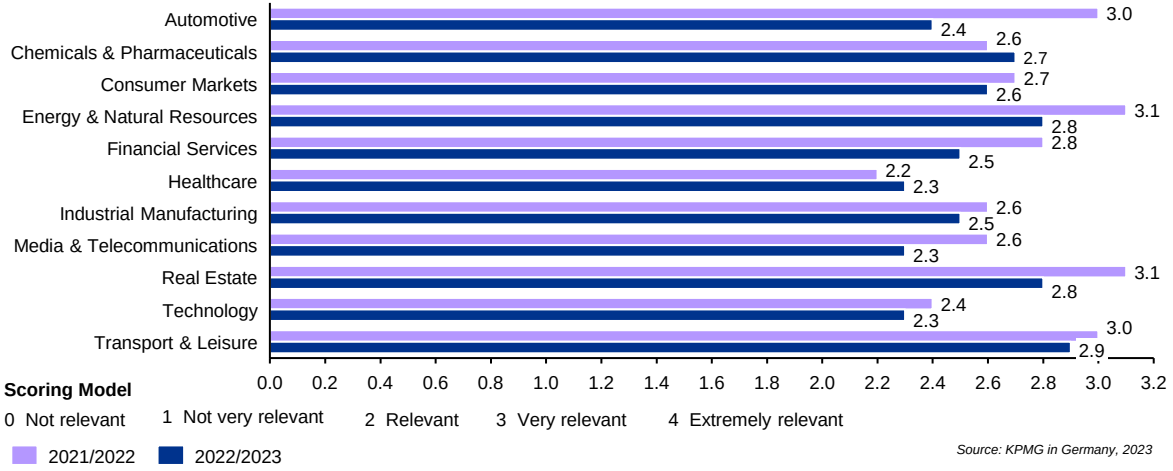


Source: KPMG in Germany, 2023

Figure 61:

Relevance of ESG issues by industry

Total (Scoring)



Source: KPMG in Germany, 2023

How companies manage ESG-related risks largely depends on the specific risks they face.

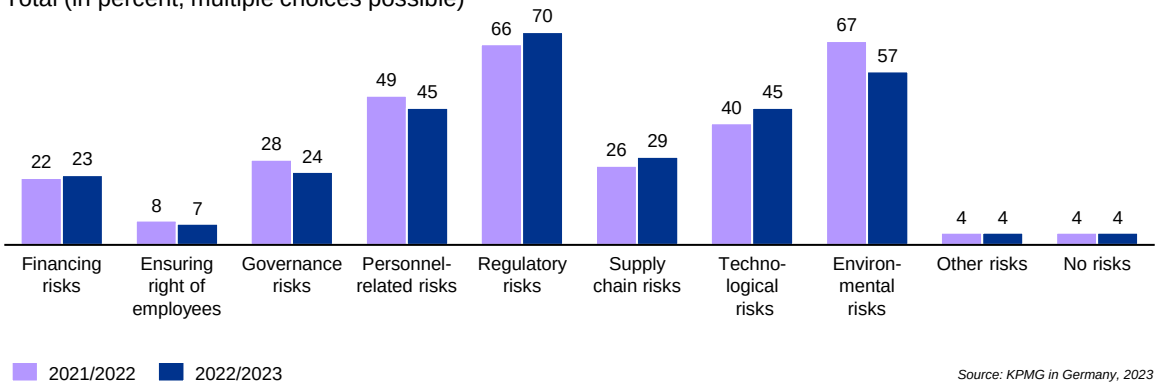
According to the study participants, the main risks associated with ESG are environmental and regulatory in nature, which is not surprising given the efforts to address climate change and the resulting regulatory-driven transformation within industries. Furthermore, study participants are also placing importance on personnel-related risks, which may be attributed to the growing discrepancies and tensions in the labour market. Additionally, technological risks are also gaining in importance, possibly due to recent advancements in the field of artificial intelligence.

The majority of survey respondents have included ESG impacts in financial reporting, either in cash flows (52 percent), cost of capital (6 percent), or both (5 percent). There is a clear trend towards ESG remaining a highly relevant topic in the future, making it increasingly important to transparently and appropriately capture the impact of ESG-driven changes on business models.

Figure 62:

Risks arising from ESG

Total (in percent, multiple choices possible)

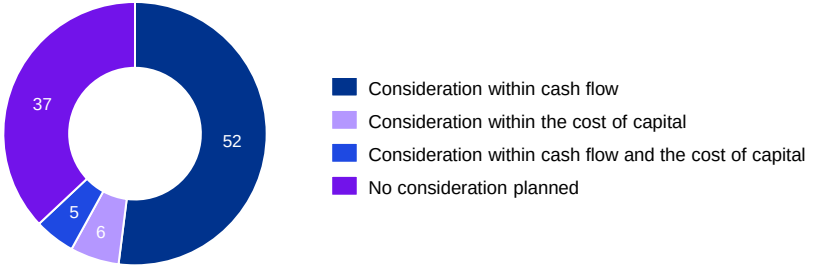


Source: KPMG in Germany, 2023

Figure 63:

Consideration of ESG implications within financial planning

Total (in percent)



Source: KPMG in Germany, 2023

6 Further Information

6.1 Online Industry Analyses

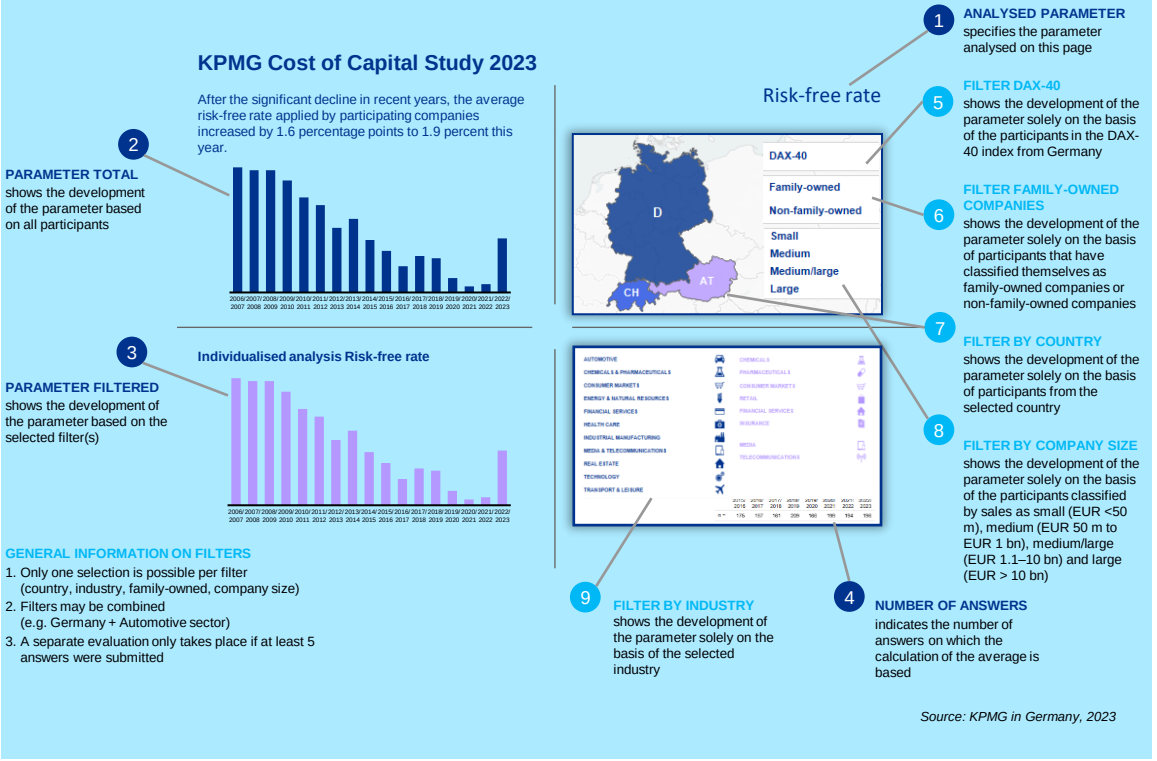
The findings of this study are accompanied by industry-specific cost of capital parameters, which can be accessed via https://hub.kpmg.de/kks-2023-iv-en. The data includes both the forecasting figures and cost of capital parameters from the actual and previous studies.

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 industry detail can be increased by selecting sub-sector data.

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

Figure 64:
Instructions for KPMG Cost of Capital Study 2023 interactive



Source: KPMG in Germany, 2023

6.2 KPMG Digital Solutions

In addition to the Cost of Capital Study, KPMG Valuation Germany offers a range of digital solutions. Our offerings seamlessly combine our transaction know-how with the technological expertise of our global network. This enables you to effectively overcome challenges in the transaction context and in business valuations, and ultimately make more informed decisions.

For more information, please visit:
KPMG Deal Advisory Digital Products.

- Ready-to-use solutions
- Global availability
- Access at any time
- Excel download functionality
- Developed by our valuation and technology experts

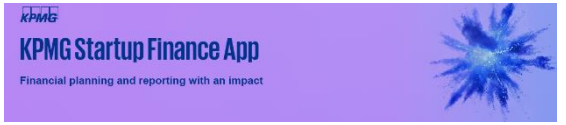
Figure 65:

Additional KPMG tools for self-use

- 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 and cost of equity calculation based on your individual peer group
- Monthly update of quality-assured data
- Access to more than 150 countries and 17,000 companies

- 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 specification of multiples range for the display of results
- Monthly update of quality-assured data
- Access to more than 17,000 companies worldwide

- Purchase price analysis: attribution of success/risk potentials to relevant assets or debt
- Analysis and consideration of attributable synergies and dyssynergies and their impact on purchase price
- Impact of transaction on asset, financial and profit position
- KPMG PPA benchmark data and sector expertise to support the validation and categorisation of results



- Certainty in business planning through clear guidance in the creation, analysis and interpretation of relevant key figures
- All relevant key figures at a glance, such as cash burn rate, equity development, working capital, cash conversion cycle
- Breakdown of key value drivers such as price/volume framework, customer analysis, sales margins, seasonal fluctuations and growth rates

6.3 KPMG Valuation Publications

For more than 12 years now, KPMG in Germany has also published its Valuation News. This is an online newsletter published three times a year that provides updates on current topics relevant to company and asset valuation. In addition to the focus topics contained herein, the latest newsletter from September 2023 addresses the Tax-CAPM as well as specific questions related to determining the consideration transferred using the example of earnout clauses. Valuation News can be accessed via the following link: [Valuation News – September 2023– KPMG Germany](#).

In December 2020, the second edition of the book “Praxiswissen Unternehmensbewertung” 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

Figure 66:
KPMG Valuation publications

List of Abbreviations

ATX	Main Austrian stock exchange
CAPM	Capital asset pricing model
CGU	Cash-generating unit
DAX	Main German stock exchange
DAX-40	The 40 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, taxes, depreciation and amortisation
ECB	European Central Bank
ESG	Environmental, social and governance
EU	European Union
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 seats on the management board or 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
Fed	Federal Reserve System
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	German mid caps stock index
MRP	Market risk premium
P&L	Profit & loss
PPA	Purchase price allocation
SDAX	Small caps, the companies following the MDAX with market capitalisation and exchange turnover
SMI	Main Swiss stock exchange
USA	United States of America
WACC	Weighted average cost of capital

Your Industry Specialists

KPMG in Germany

Automotive
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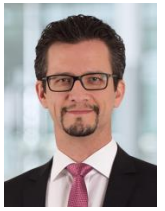

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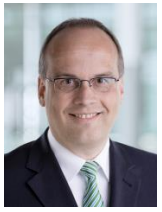

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