Risk Governance 2023

Assessment of risk, resilience and robustness of German companies: a benchmark study

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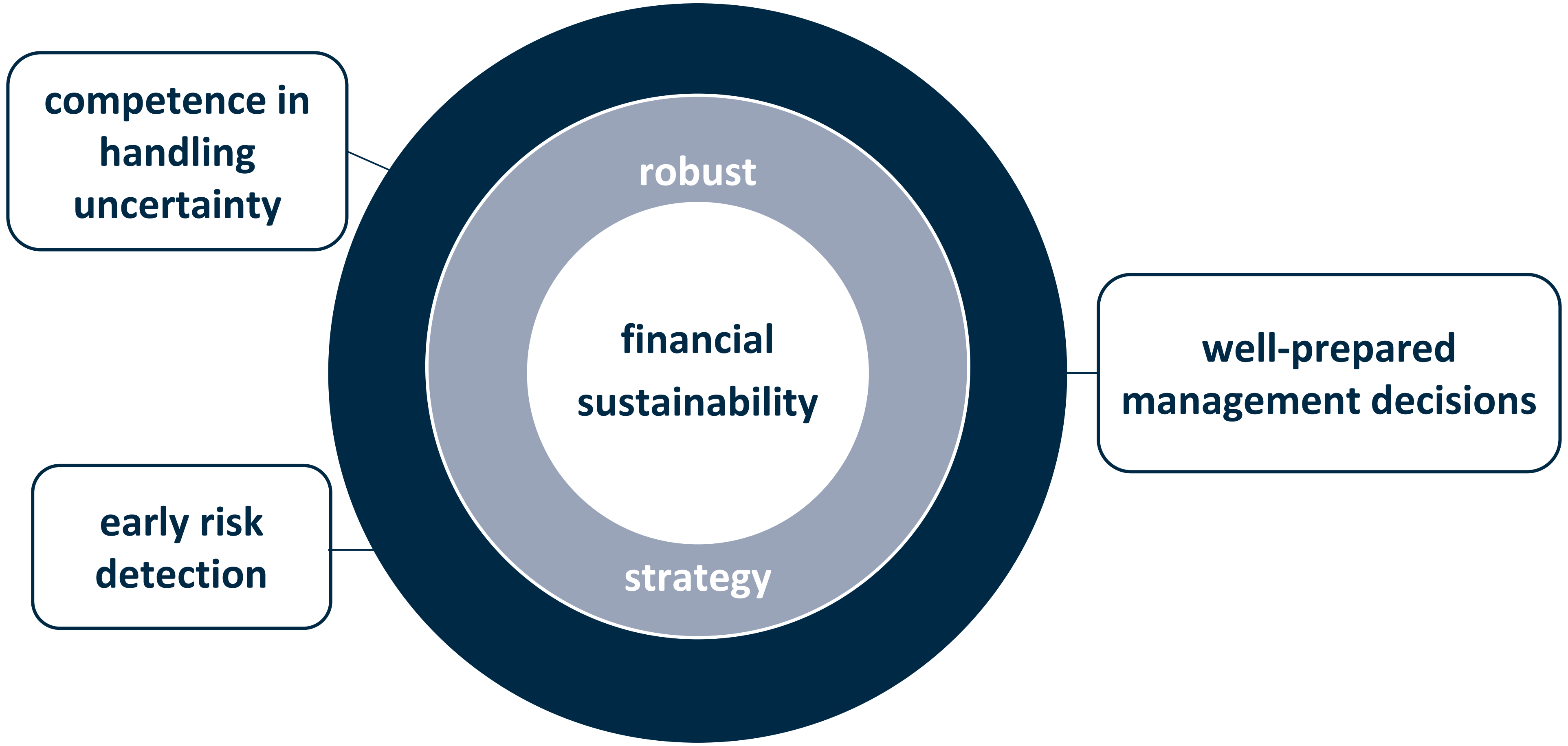
Assessment of risk, resilience and robustness of German companies: Determinants, dependencies and the importancy of risk management for a company‘s future-viability.

The German Mittelstand and family businesses are the backbone of the German economy. However their future-viability has not been adressed in research and business practice appropriately.

- Survey and study to analyse the characteristics und dependencies of those factors significant for financial and economic sustainability and future-viability of companies and to derive recommendations for business practices.

„What are verifiable key factors to sustain future success – even over generations?“

Securing success is required on 3 levels!



Using scientific insights from crises-, rating- and risk-research, strategic management practices and empirical capital markt research to derive a holistic and on verifiable key aspects focused approach.

As seen so far in research

1. „**Quality companies**“, especially those with a financial sustainability, are one average more successful.
2. Companies with a **good risk-return profile** and **low „fundamental risk“** show a more sustainable success even at the stock exchange, especially during macroeconomic crises.
3. A **resilient organization** and a **robust strategy** secure future success.
4. The **longterm orientation** of family businesses makes them on average more sucessful.
5. **Well-prepared management decisions** (§ 93 AktG) are also relevant for medium-sized family businesses and help securing future success.
6. **Distinct skills in handling uncertainties** (chances and threats) raise stability in crises.

Proceeding from *measurement and empirical evidence of financial sustainability by Gleißner, Günther, Walkshäusl 2022 (Journal of Business Economics 92)…*

Abstract

Financial sustainability is underrepresented in both the research on and practice of sustainability management and reporting. This article proposes a conceptual measure of financial sustainability and examines its association with capital market returns. The measure is positioned at the intersection of sustainability management, risk management and risk governance. Financial sustainability is regarded as a crucial control parameter complementing shareholder value and can be viewed by riskaverse investors as a secondary condition of investment decisions. It reduces refinancing and insolvency risks, leading to risk-adjusted excess returns in an imperfect capital market with financing restrictions and insolvency costs.

We propose measuring a firm's financial sustainability in terms of four conditions:

(1) firm growth,

(2) the company's ability to survive,

(3) an acceptable overall level of earnings risk exposure, and

(4) an attractive earnings risk profile.

We show that the application of a conditions-based investment strategy to European firms with high financial sustainability (i.e., firms fulfilling all four conditions) over the period from July 1990 to June 2019 results in monthly excess returns of 0.39%. This portfolio's risk is lower than the risk of market investment. We find that the excess returns increase when incrementally adding each of the four conditions to the investment strategy.

(1) Real Growth. The net income (NI) growth rate g over the previous 5 years is greater than the target inflation rate of 2% per year. The net income values used for the calculation must be positive.

$$g = \left(\frac{NI_t}{NI_{t-5}}\right)^{\frac{1}{5}} - 1 \geq 0{,}02$$

(2) High survival probability. The probability of insolvency p, calculated using following formula, does not exceed 1 % corresponding to a BB rating.

$$p = \frac{0{,}265}{1 + e^{-0{,}41+7{,}42(\mathrm{EKQ})+11{,}2(\mathrm{ROCE})}} \leq 0{,}01$$

(3) Low earnings risk exposure. Earnings risk is based on the coefficient of variation (C) of net income measured over a 5-year period. It is the ratio of the standard deviation of net income, σ(NI), to its mean, NI t,t−5 , over the same period. The measure must be positive and below 40% for a firm to be classified as having low earnings risk exposure.

$$C = \frac{\sigma(NI_{t,t-5})}{NI_{t,t-5}} \leq 0{,}4$$

(4) Attractive earnings risk profile (value creation). The earnings power value (V) exceeds the book value of equity.

$$V = \frac{\overline{NI_{t,t-5}}\,(1-p)}{i+p} \geq Equity$$

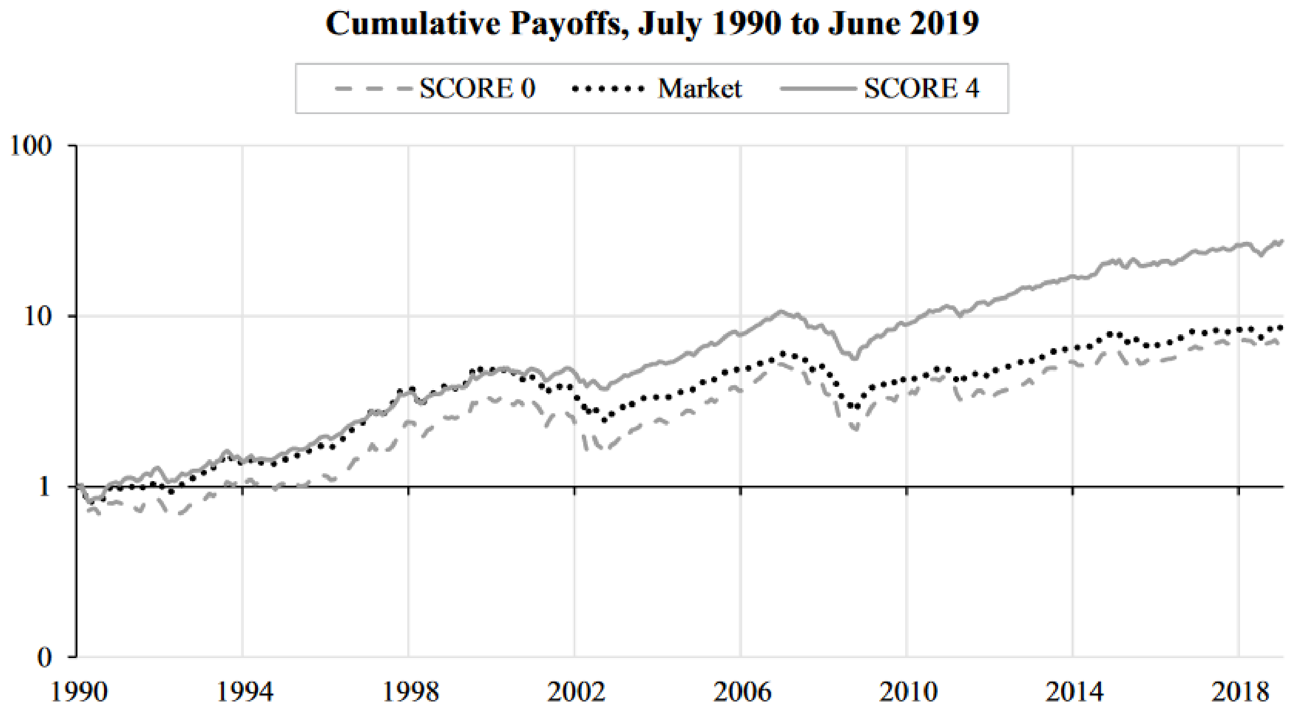


Fig. 2 Cumulative payoffs of low and high FS firms in comparison to the market. This figure illustrates the cumulative payoff of a €1 investment in in the value-weighted low FS portfolio (dashed gray line), the value-weighted high FS portfolio (solid gray line) and the market portfolio (dotted black line) over the sample period

Gleißner, W./Günther, Th./Walkshäusl, Ch. (2022): Financial sustainability: measurement and empirical evidence, in: Journal of Business Economics, 92, S. 467–516, https://doi.org/10.1007/s11573-022-01081-0

… we developed the QScore as a measurement for „Zukunftsfähigkeit“ / „future-viability“. The 10 criterias of the QScore.

Nr.	Criteria	Target image	
Q1	Real growth	The company shows sustained positive real growth. It is also desirable that the market share at least does not fall and that the return on equity is above the growth rate in the medium term.	quantitative factors „financial sustainability“
Q2	Financial stability and solvency	The probability of insolvency expressed by the rating is less than 2 % per annum (approx. BB rating) and remains at a level that does not jeopardise the company's financing, even in risk-related stress scenarios.	
Q3	Low fundamental risk	The company does not exhibit any strategic risks that threaten its existence (especially threats to its potentials for success) and has a below-average earnings risk exposure – and thus a high level of planning security.	
Q4	Rentability and generating value	The company creates sustainable value – i. e. the return on capital is permanently higher than the cost of capital depending on the level of risk.	
Q5	Mission statement (purpose), culture and employees	The company has a future-oriented mission statement and an established corporate culture. In particular, it is guided by the principles of value-oriented corporate management and has competent, committed employees.	qualitative factors
Q6	Robust strategy	The company has a documented, promising and robust strategy with long-term viable potential for success, especially competitive advantages (such as a brand), and implements it in its day-to-day business.	
Q7	product and service provision, organisation and resources	The company’s product and service provision is efficient, resilient, organized in line with the strategy and adequately involves the employees.	
Q8	Accounting, planning and governance	Accounting and corporate planning meet the requirements for capital market-oriented companies and take into account the "Principles of Proper Planning" (GoP). Structures and regulations enable "good corporate governance".	
Q9	Risk Management	The company has a risk management system in place that meets all legal requirements, in particular detects and manages possible "developments that threaten the company's continued existence" due to individual risks or combination effects at an early stage through risk analysis and risk aggregation (§ 91 AktG und § 1 StaRUG).	
Q10	Profound preperation of „management decisions“	Management decisions are based on documented "appropriate information" (§ 93 AktG), in particular a risk analysis, and are based on the company's value as a measure of success (performance measure and key figure of the risk-return profile).	

Our Hypotheses for factor dependencies.

Hypothesis H1
Firms with (a) a high financial sustainability also have (b) a robust strategy.
Hypothesis H2
Firms with (a) high financial sustainability also show (b) distinct skills handling uncertainties (chances and threats).
Hypothesis H3
A robust strategy in the past leads to a improvement of financial sustainability (robust strategy as cause of financial sustainability).
Hypothesis H4
The „robustness of the strategy“ has more impact on financial sustainability than any other factor (including the resilience of product and service provision)
Hypothesis H5
High robustness of the strategy results in (a) an above average return on capital as well as (b) an below average earnings risk exposure (see the earning-risk-paradoxon).
Hypothesis H6
Distinct skills in risk management lead to a low earnings risk exposure.
Hypothesis H7
A robust strategy is a requirement for an efficient and resilient provision of products and services.

Factors of financial sustainability, potential determinants and dependencies as well as the questions for our survey

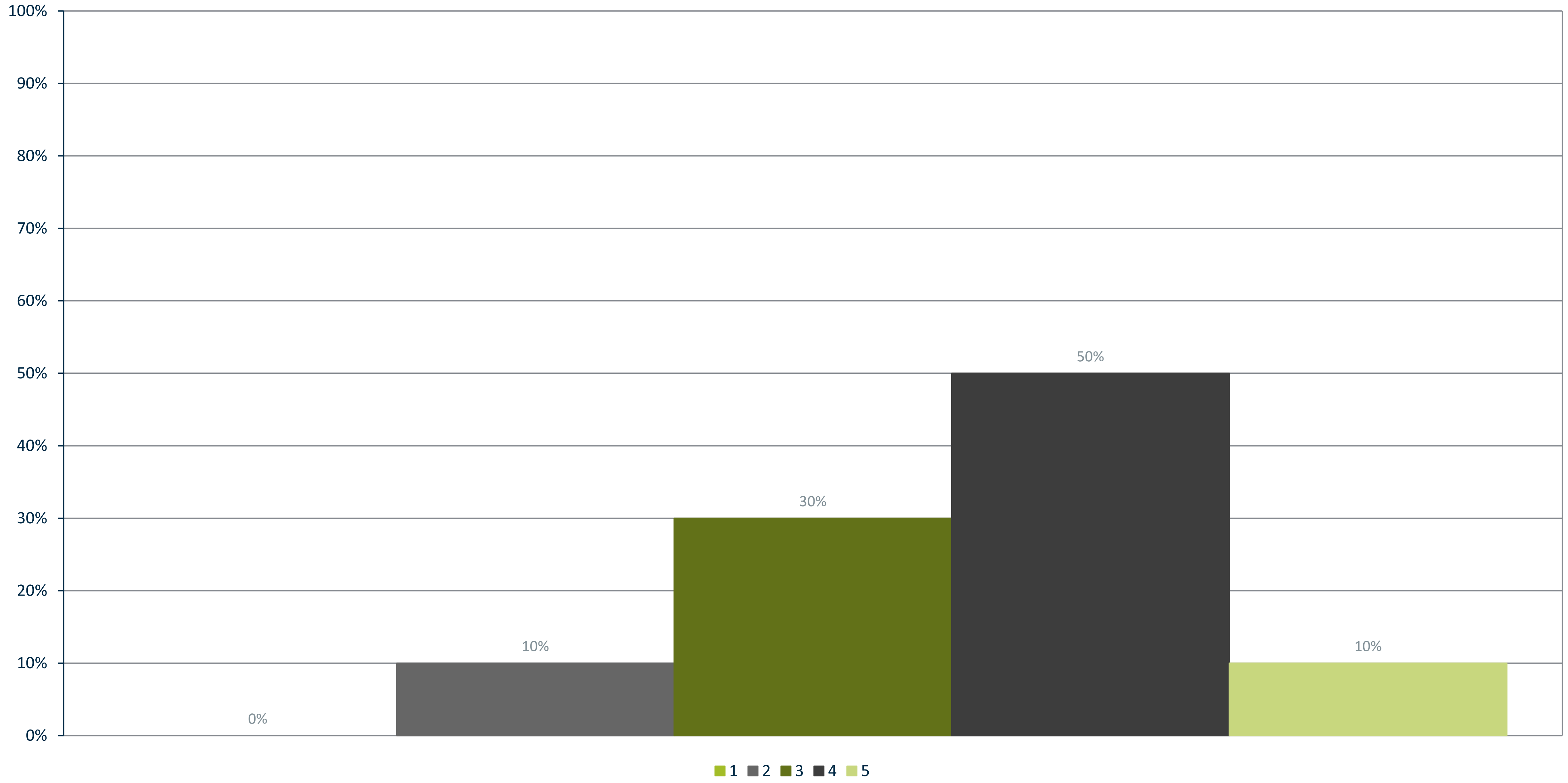
Q1	growth	Is the real growth rate positive?
Q2	financial stability and solvency	Is the probability of default low?
Q3	earnings risk exposure	Is the volatility of earnings low?
Q4	generating value	Is there a positive return on equity?
Q1-4	financial sustainability	How has the financial strength (financial sustainability) of your company evolved over the past five years?
Q5 a	qualified employees	Does the company employ competent and motivated people?
Q5 b	owners‘ goal	Do the owners seek a cross-generational securitization of the company‘s existenz?
Q6 a	robustness/market attractiveness	Does the company mainly operate on attractive markets with growth and potentials to differentiate from competition?
Q6 b	robustness/core competencies	Does the company have core competencies leading to competitive advanages in terms of the main purchase criterias of customers?
Q6 c	robustness/critical dependecies	Is the company able to prevent critical dependecnies of single or few customers or supplyers?
Q6 d	robustness	How has the robustness of your company and its strategy evolved over the past five years?
Q7	resilience/value chain	Are the processes of value creation und support systems reslilient, e. g. via redundancies, inventories, flexibility?
Q8 a	sustainability, ESG	What is your evaluation of your company‘s fulfillment of ESG-requirements (Environmental, Social, Governance)?
Q8 b	accounting, planning	Does your company meet all requirements of a capital market-oriented company and take into account the „principles of proper planning“ ("Grundsätze ordnungsmäßiger Planung“, GoP)?
Q8 c	(familiy-) governance	Has an effective (family-)governance been implemented, e. g. regulations for solving conflicts and succession, and is there an compentent and effective board of advisors / supervisory board?
Q9 a	risk competencies	To what extent does the risk management system fulfill the requirements of the DIIR RS Nr. 2 (and thus KonTraG and § 1 StaRUG), i. d. are risks systematically identified, quantified, aggregated und monitored?
Q9 b	early risk detection/risk situation	What‘s the current risk situation of your company?
Q10	decision support system	Are there binding guidelines for the preperation of management decisions (e. g. on investments) and are neutral decision papers made up accordingly?

selected intermediate results of the survey

UNCERTAINTY BUSINESS ENVIRONMENT

What ist your estimation of the uncertainty of your business environment?

1 = very low, 5 = very high



HYPOTHESES

To what extend do you agree to the following hypotheses?

1= absolute rejection, 5= complete consent

Firms with (a) high financial sustainability also show (b) distinct skills handling uncertainties (chances and threats).

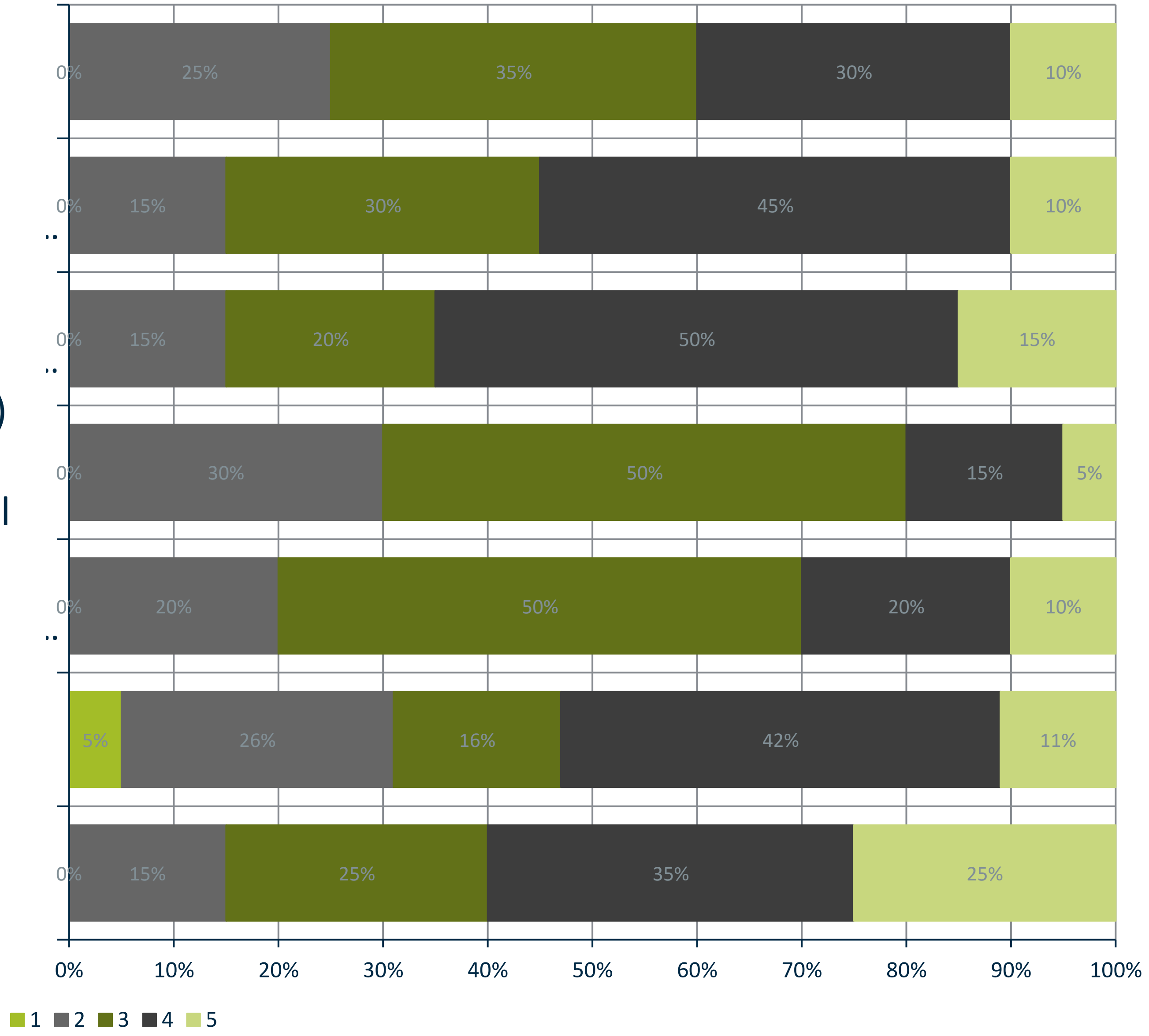
A robust strategy in the past leads to a improvement of financial sustainability (robust strategy as cause of financial sustainability).

The „robustness of the strategy" has more impact on financial sustainability than any other factor (including the resilience of product and service provision)

High robustness of the strategy results in (a) an above average return on capital as well as (b) an below average earnings risk exposure (see the earning-risk-paradoxon).

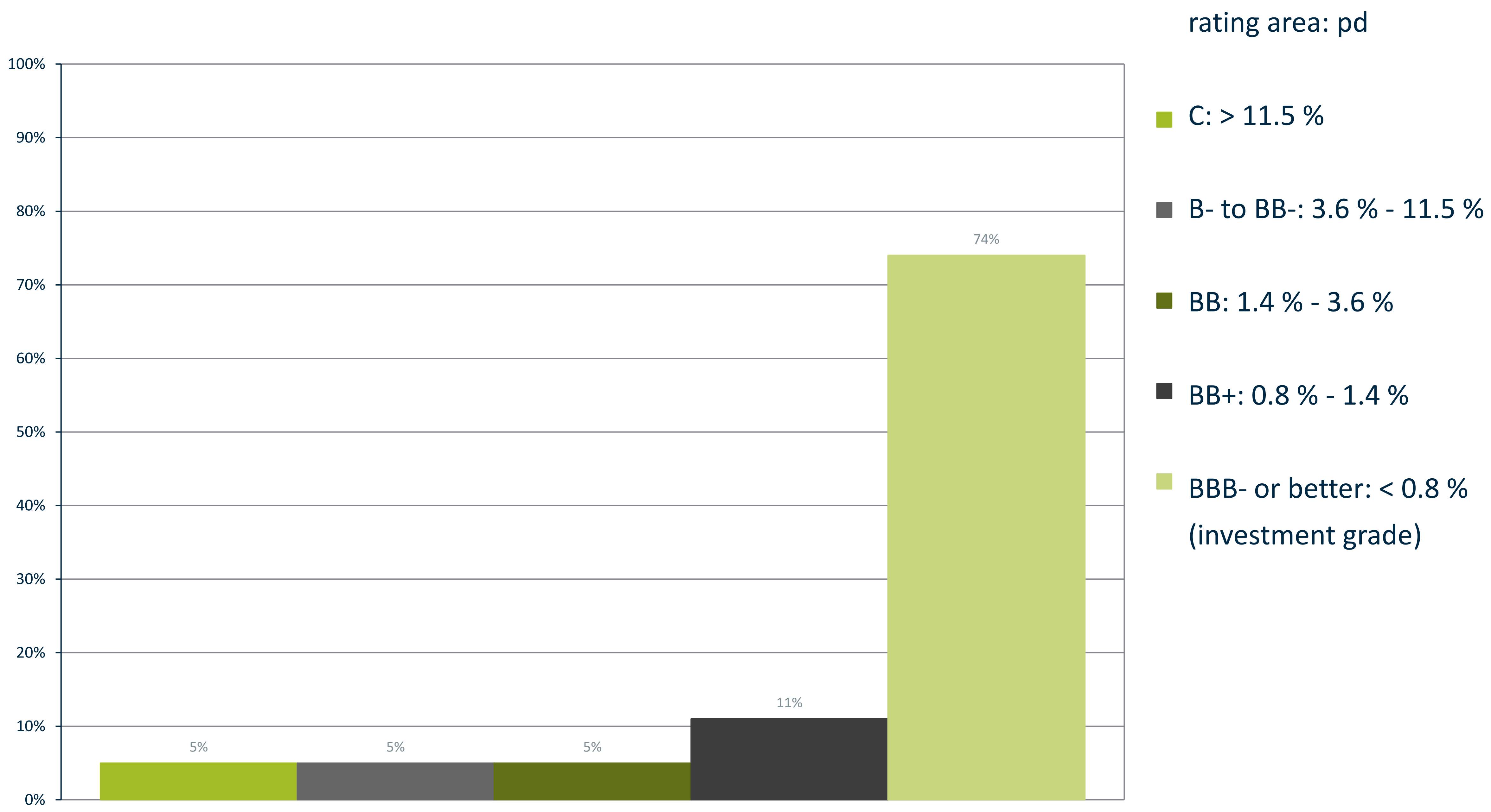
Distinct skills in risk management lead to a low earnings risk exposure.

A robust strategy is a requirement for an efficient and resilient provision of products and services.



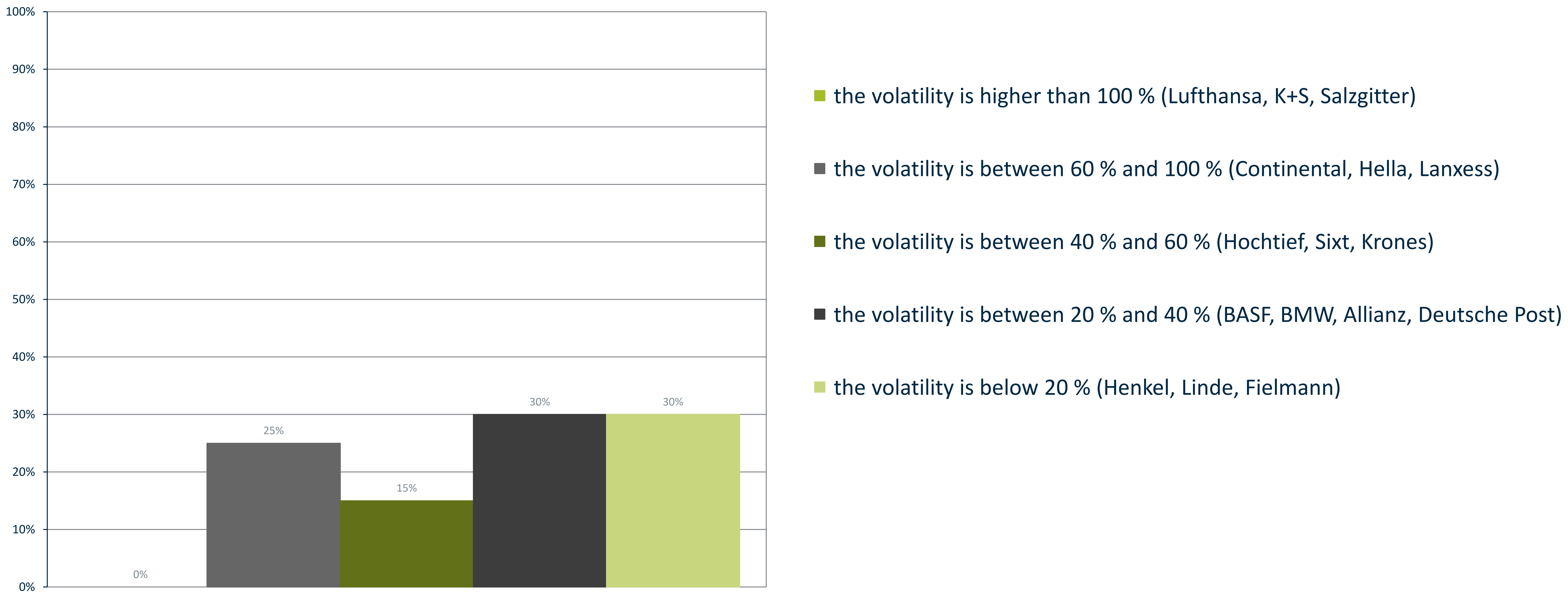
PROBABILITY OF DEFAULT

Is the probability of default low?



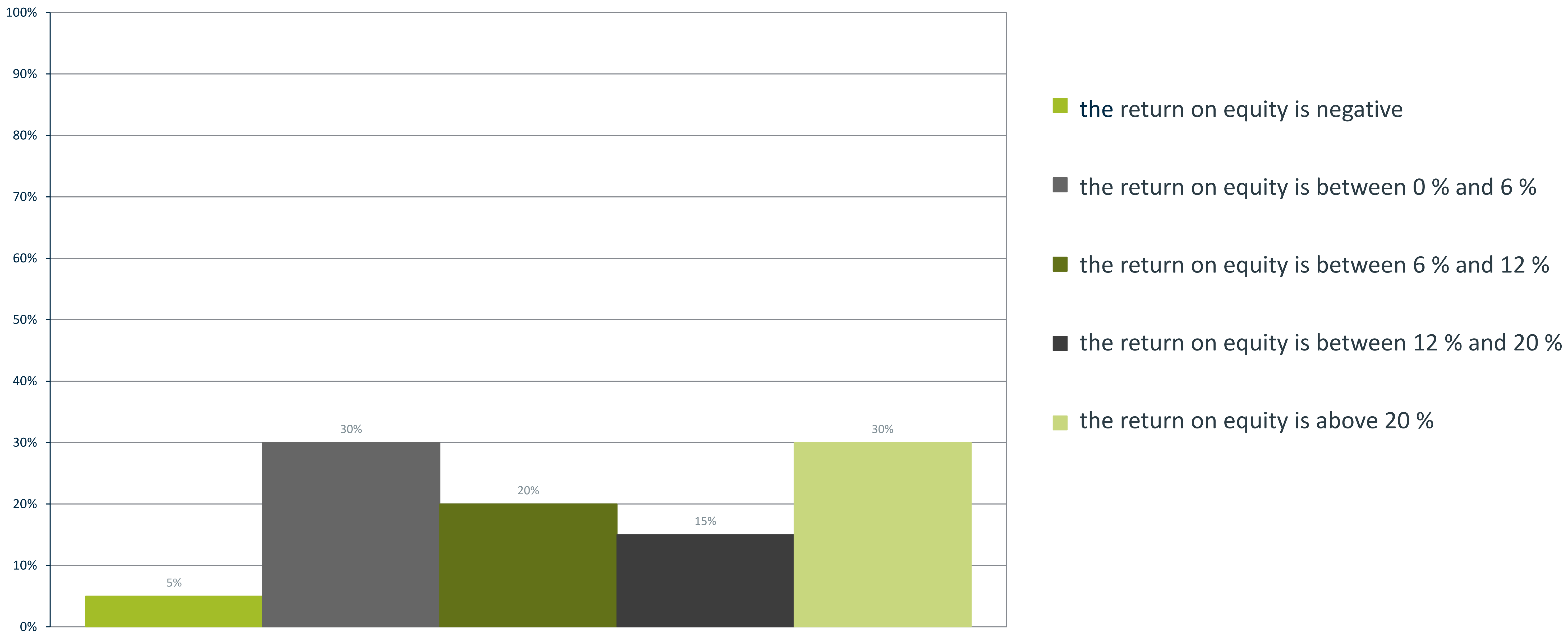
EARNINGS RISK EXPOSURE

Is the volatilily of earnings low?



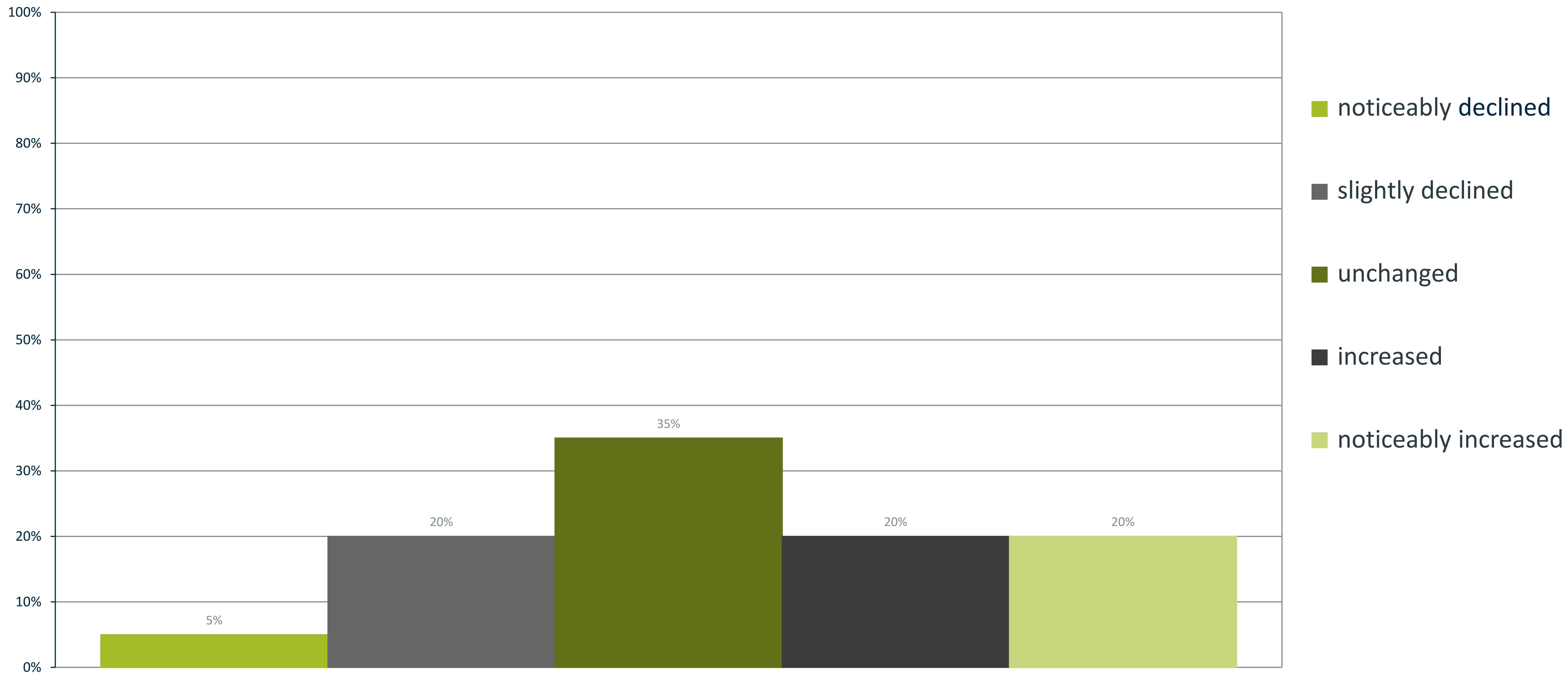
EXCESS RETURN

Is there a positive return on equity?



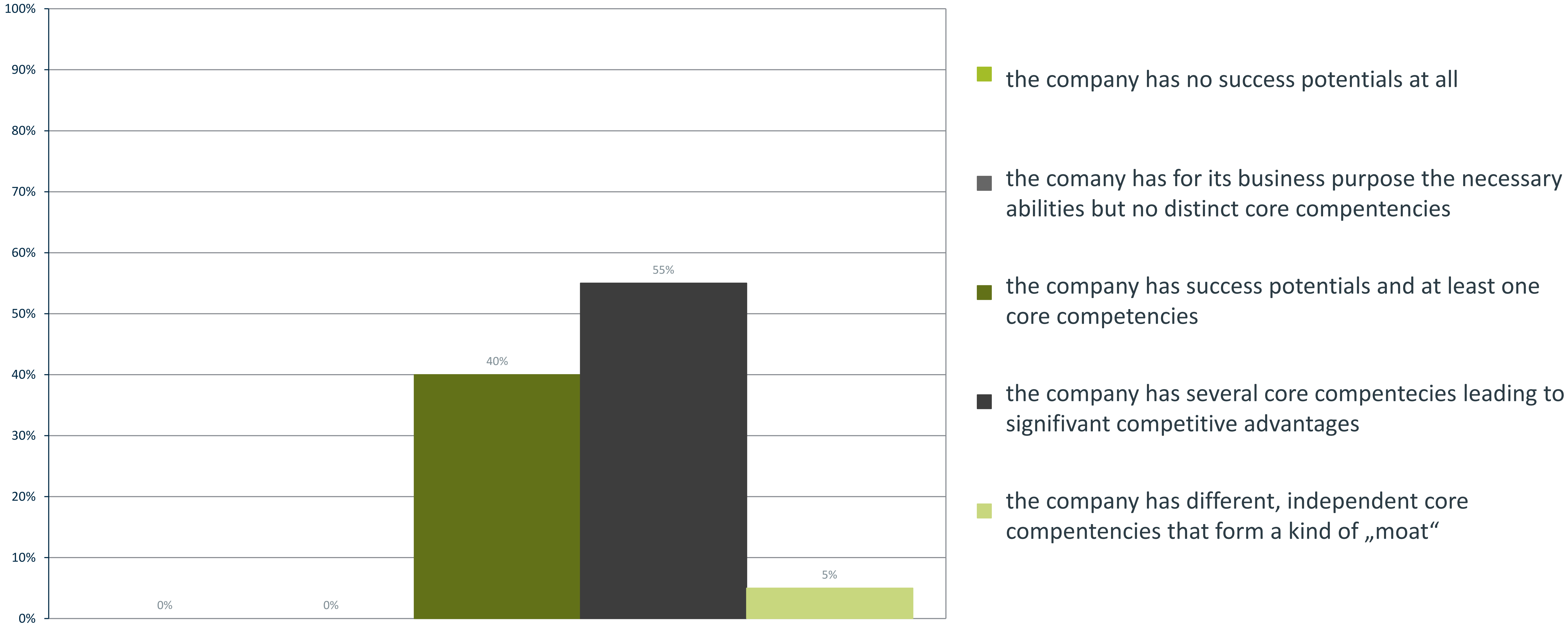
FINANCIAL SUSTAINABILITY

How has the financial strength (financial sustainability) of your company developed over the last five years?



CORE COMPETENCIES

Does the company have core competencies leading to competitive advanages in terms of the main purchase criterias of customers?



ROBUSTNESS

How has the robustness of your company and its strategy evolved over the past five years?