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FINANCIAL EXPERTS IN ACTION

# European Capital Market Study

## ANALYSIS OF COST OF CAPITAL PARAMETERS AND SECTOR MULTIPLES FOR THE CAPITAL MARKETS IN EUROPE AS OF 30 JUNE 2024

Volume 14, September 2024

ValueTrust is a brand of PVT Financial Advisors SE

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Dear business partners and friends of ValueTrust,

We are pleased to release our fourteenth edition of **the ValueTrust European Capital Market Study for Q2 2024**. Within this Study, we provide certain cost of capital inputs required to perform an enterprise valuation in Europe. The Study also shows trends of the analyzed data over time.

In this Study we provide:

- The relevant parameters used to calculate the cost of capital under the CAPM, including **risk-free rate**, **market risk premium** and **beta**.
- **Implied and historical market/sector returns**.
- Capital structure-adjusted implied sector returns, which serve as an indicator for the **unlevered cost of equity** (the **relevered cost of equity** can be calculated by adapting the company specific debt situation to the **unlevered cost of equity,** serving as an alternative to the CAPM).
- An analysis of empirical (ex-post) cost of equity in the form of **total shareholder returns** consisting of capital gains and dividends (total shareholder returns can be used as a plausibility check for the implied (ex-ante) returns).
- **A trading multiples overview**.

We examine the relevant cost of capital parameters for the **European capital market** in form of the STOXX Europe 600. This index includes the countries Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland as well as the UK and has been subdivided **into ten sector indices by industry**[1)]: Financials, Consumer Cyclicals, Consumer Non-Cyclicals, Healthcare, Technology, Utilities, Energy, Basic Materials, Industrials and Real Estate.

Historical data was compiled between the reference dates **30 June 2018** and **30 June 2024** and is **updated semi-annually** with the objective to track capital market performance over time.

**Prof. Dr. Christian Aders** **Benedikt Brambs**

1) Based on Thomson Reuters Business Classification

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- Chris is the founder and board member of ValueTrust
- Previously he was a Partner at KPMG and Managing Director for the DACH region at Duff & Phelps
- He has more than 30 years of experience in corporate valuation and financial advisory
- He is Honorary Professor for "Practice of transaction-oriented company valuation and value-oriented management" at the LMU in Munich
- He is member of the DVFA Expert Group "Fairness Opinions" and "Best Practice Recommendations Corporate Valuation“
- He is also Co-Founder of the European Association of Certified Valuators and Analysts (EACVA e.V.)

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- Benedikt leads the Swiss operations, the Financial Advisory business as well as the VC and Digital Valuation practice
- With more than 15 years of experience at the interface of corporate finance and strategy, he has extensive knowledge of valuations, financial modeling, as well as the development and implementation of corporate and functional strategies
- He advises clients on initiatives that drive shareholder value: capital allocation, assessment of strategic alternatives, forecasting and scenario planning
- He holds a degree in Business Administration from the LMU in Munich and is an Accredited Senior Appraiser (ASA) in Business Valuation

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**Fredrik Müller**
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- Fredrik is Vice President at ValueTrust and gained more than 6 years of project experience in corporate valuation and financial advisory
- He has extensive experience in valuation and value management projects in various industries
- He holds a masters degree (M.Sc.) in Business Administration from the LMU in Munich and is a Chartered Financial Analyst (CFA) charterholder

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## DISCLAIMER

This Study presents an empirical analysis which serves the purpose of illustrating the cost of capital of European capital markets. The available information and the corresponding exemplifications do not allow for a complete presentation of a proper derivation of cost of capital. Furthermore, the market participant must consider that the company specific cost of capital can vary widely due to individual corporate circumstances.

The listed information is not specific to anyone and consequently, it cannot be directed to an individual or juristic person. Although we are always striving for reliable, accurate and current information, we cannot guarantee that the data is applicable in current and future valuation analyses. The same applies to the underlying data from the data provider S&P Capital IQ.

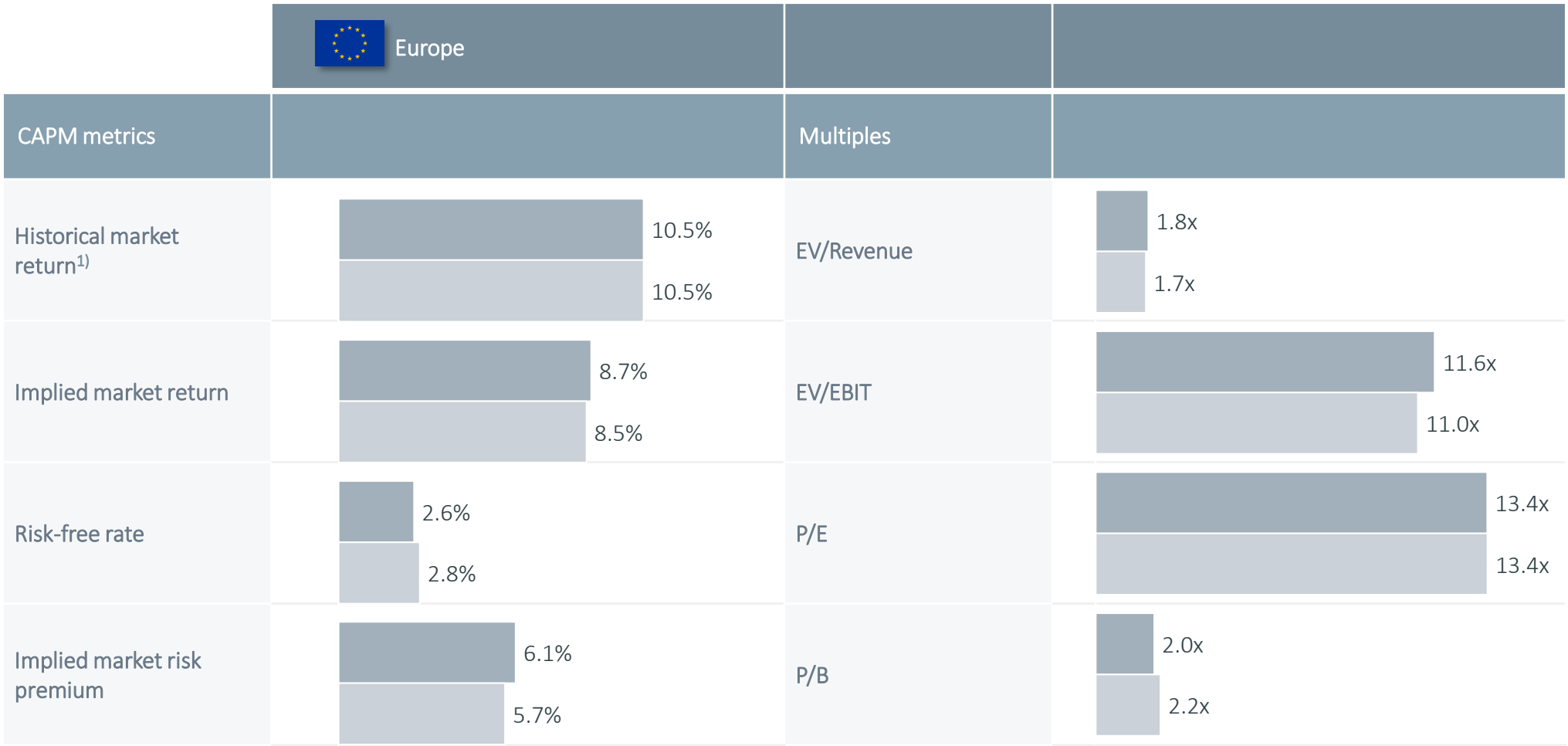
We recommend a self-contained, technical, and detailed analysis of the specific situation and we dissuade from acting solely based on the information provided.

ValueTrust and its co-authors do not assume any responsibility or liability for the up-to-datedness, completeness or accuracy of this Study or its contents.

# 01 Executive summary

# The implied market risk premium increased 40 bps to 6.1% in the last 6 months due to higher implied market returns and a lower risk-free rate

Market risk premium and trading multiples for Europe, Q2 2024




1. Arithmetic return of the STOXX Europe 600 between 2009 and 2024.

# The Energy sector has the highest implied levered cost of equity at 12.4%, while the Technology sector has the lowest at 6.1%

Cost of equity by sector and methodology for Europe, Q2 2024

| Sectors | Implied levered cost of equity | Levered cost of equity (CAPM) [1] | 1 / PE-ratio (1yf) | Total shareholder return (Ø 6y) [2] |
|---|---|---|---|---|
| Financials | 11.8% | 10.2% | 11.7% | 14.7% |
| Consumer Cyclicals | 8.8% | 9.8% | 7.4% | 16.1% |
| Consumer Non-Cyclicals | 8.1% | 6.6% | 6.5% | 6.3% |
| Healthcare | 7.3% | 6.9% | 5.5% | 15.4% |
| Technology | 6.1% | 9.4% | 4.4% | 19.7% |
| Utilities | 9.2% | 6.8% | 8.4% | 11.0% |
| Energy | 12.4% | 9.5% | 12.4% | 12.3% |
| Basic Materials | 8.2% | 9.3% | 7.0% | 13.9% |
| Industrials | 7.6% | 9.6% | 5.9% | 18.1% |
| Real Estate | 6.9% | 9.7% | 6.7% | 4.4% |

1. Based on 5-year sector beta, risk-free rate of 2.60% and implied market risk premium of 6.1% for the European market;
2. Total shareholder returns can be viewed as historic, realized cost of equity. However, it has to be considered that total shareholder returns vary widely, depending on the relevant time period.

# Strong earnings growth brought down valuations in the Financials sector, while valuations in the Technology sector remained elevated, with high continuing expectations for Artificial Intelligence

Trading multiples by sector for Europe, Q2 2024

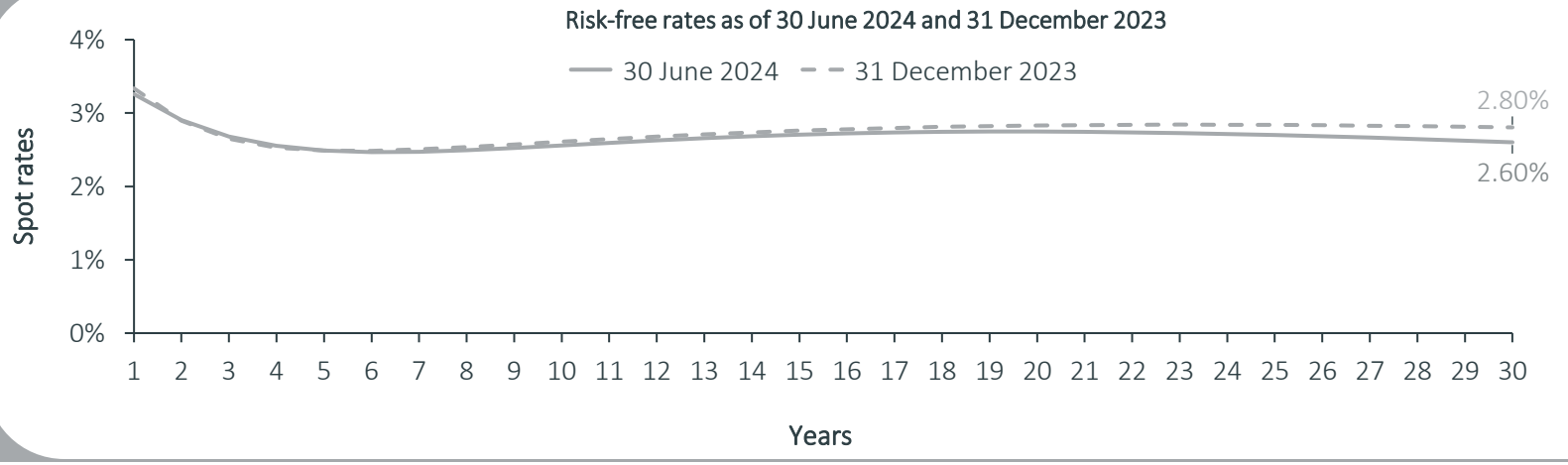
| Sectors | EV/Revenue 1yf | EV/EBIT 1yf | P/E 1yf | P/B LTM |
|---|---|---|---|---|
| Financials | n.a. | n.a. | 8,5x | 1,0x |
| Consumer Cyclicals | 1,3x | 11,7x | 13,4x | 2,1x |
| Consumer Non-Cyclicals | 1,7x | 13,2x | 15,4x | 3,1x |
| Healthcare | 3,7x | 14,6x | 18,2x | 4,3x |
| Technology | 3,3x | 18,3x | 22,9x | 3,5x |
| Utilities | 1,6x | 11,7x | 11,9x | 1,6x |
| Energy | 0,8x | 5,9x | 8,1x | 1,3x |
| Basic Materials | 1,2x | 11,3x | 14,3x | 1,8x |
| Industrials | 1,5x | 14,0x | 17,1x | 3,3x |
| Real Estate | 16,0x | 23,5x | 15,0x | 0,9x |
| Europe (All) | 1,8x | 11,6x | 13,4x | 2,0x |

# 02 Risk-free rate

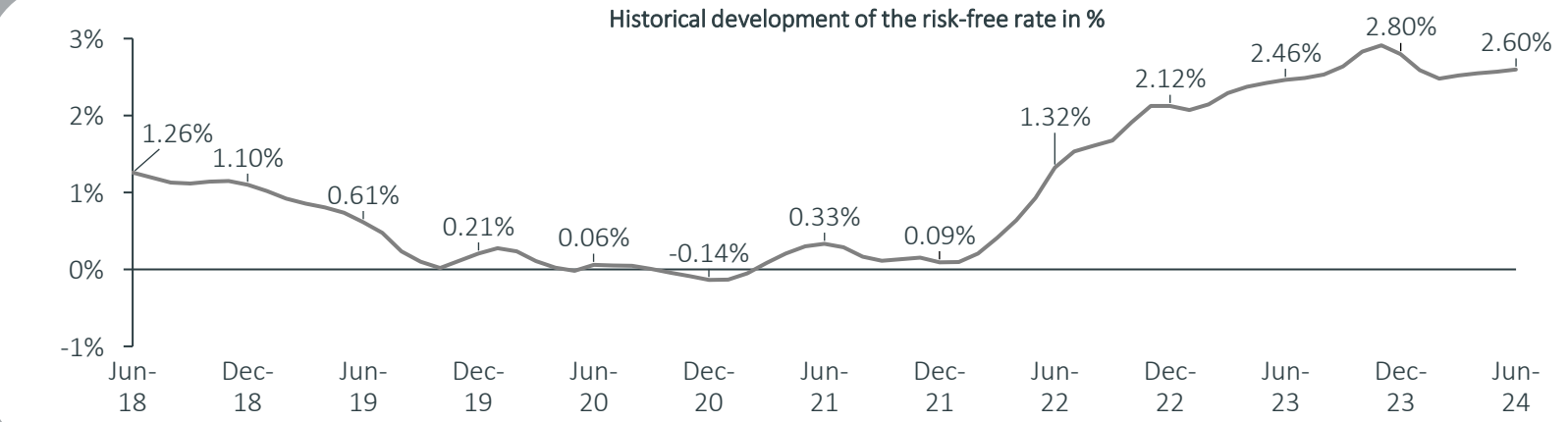
# Europe's risk-free rate decreased by 20 bps in the last 6 months, whereby its curve still reflected an inverted rate curve with the strongest decrease at the long end of the curve

Interest rate curve based on long-term bonds and historical development of the risk-free rate in Europe (Svensson Method)

Interest rate curve based on long-term bonds (IDW S1)




Historical development of the risk-free rate in %




1. Note: Interest rate as of reference date using 3-month average yield curves in accordance with IDW S 1.

# 03

# Market returns and risk premium

## a. Implied returns (ex-ante analysis)

# The implied market risk premium increased 40 bps to 6.1% in the last 6 months due to a slightly higher implied market return and a lower risk-free rate

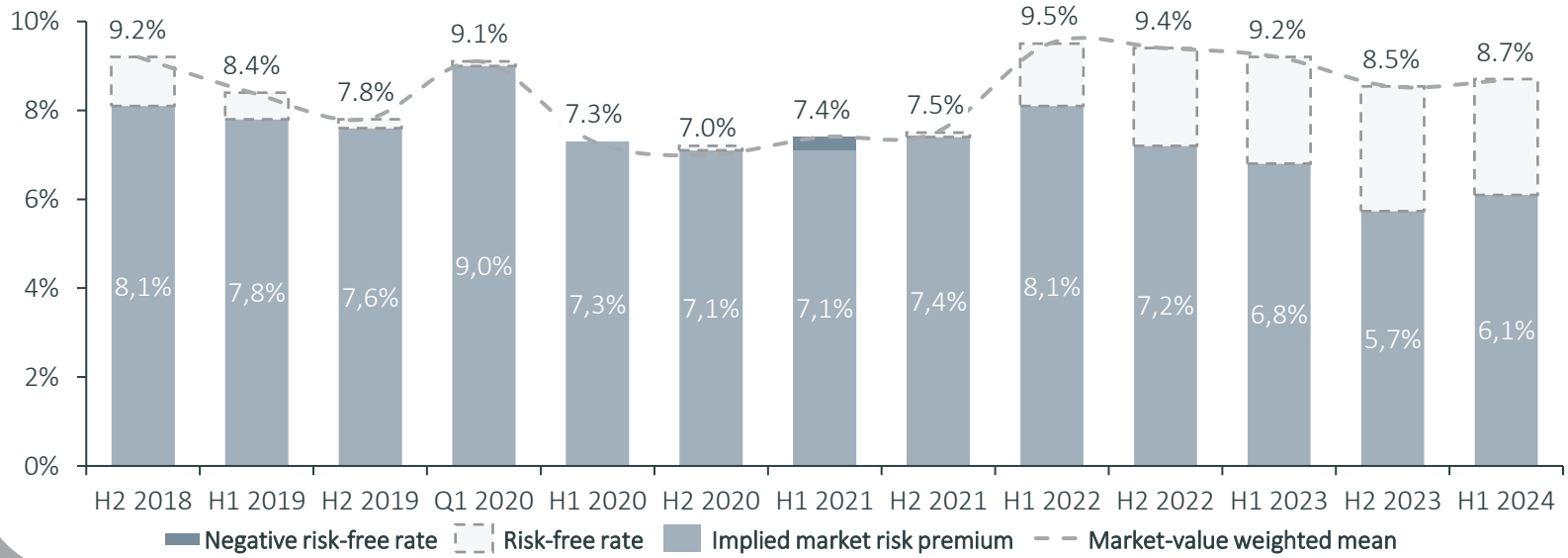
Implied market risk premium for Europe since 31 December 2018

Knowing the **implied market return** and the daily measured risk-free rate of the European capital market, we can determine the implied **market risk premium**.

In the years from December 2018 to June 2024 the **implied market returns** ranged from **7.0% to 9.5%**. Subtracting the risk-free rate from the implied market return, we derive a **market risk premium** within the range of **5.7% to 9.0%.**

The **implied market return lies at 8.7%** as of the reference date 30 June 2024. Taking the **risk-free rate of 2.6%** into account, we determine an **implied market risk premium of 6.1%**. To determine the appropriate market risk premium for valuation purposes, it is important to take also the analysis of historical returns as well as volatility (see p. 17) into account. Especially in times of crisis it can make sense to apply an average market risk premium over several periods instead of a reference date value.

Implied market risk premium - Europe



# 03

# Market returns and risk premium

## b. Historical returns (ex-post analysis)

# The European capital market had long-term historical returns over an investment period of 15 years between 9.8% (geometric mean) and 10.5% (arithmetic mean)

Arithmetic and geometric mean of historical market returns as of 30 June 2024, over 15 years, 2009-24

In addition to the ex-ante analysis above, we also analyze **historical (ex-post) returns.** Historical returns over a **long-term observation period**, indicate an expected **return potential** of the European capital markets. The analysis of historical returns can be used for **plausibility checks of the cost of capital**, more specifically **return requirements**, which were evaluated through the CAPM.

To enable a precise analysis of the historical returns of the European capital market, we use the so-called **return triangle**.[1)] It helps present the **annually realized returns** from **different investment periods** in a simple and understandable way. Especially the **different buying and selling points in time** and the different annual holding periods are illustrated comprehensively. To calculate the **average annual returns** over several years, we use both the **geometric and arithmetic mean**.

In this Study, we analyze the so-called **total shareholder returns,** which include the **returns on investments** and the **dividend yields**.

As only **total return indices** capture both return on investments and dividend yields, our analysis is based on the **STOXX Europe 600.** The relevant total return index for **Europe is called the STOXX Europe 600 Gross Return ("STOXX Europe 600 GR").**

The **observation period** is **15 years**. All ex-post returns are calculated using the **data as of the reference date 30 June 2024.**

The following slide serves as an introduction by showing the historical development of the **STOXX Europe 600 GR** as of **June 2018.** Additionally, the EURO STOXX 50 Volatility ("**VSTOXX**") is displayed for the same period. The VSTOXX serves as an indicator for the **stock market's expectations of volatility** and can thus be used as a risk measure. The **VSTOXX** is often named the "fear index", higher levels are typically associated with more turbulent markets.

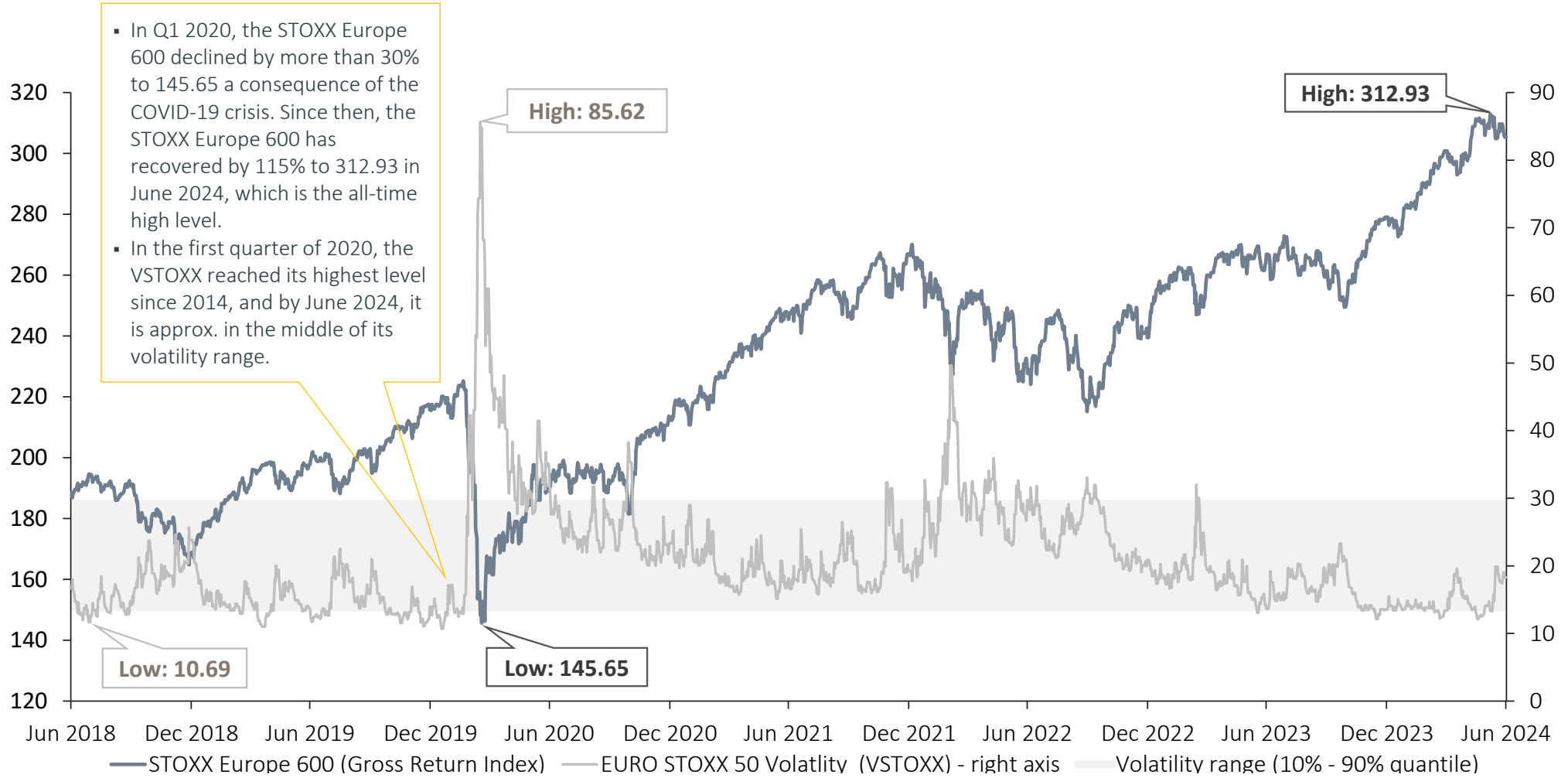
The following slides show the historical shareholder returns for different holding periods between 30 June 2009, and 30 June 2024, based on the arithmetic and geometric mean. For the longest **observation period** of **15 years** the average historical mean of the market return amounts to **10.5%.** Using geometrical averaging, we obtain a market return of **9.8%**.

Please note that the historical market return calculations are based on actual index data points, whereas the implied market return and all sector calculations are based on the Refinitiv Eikon Aggregates App. Therefore, the comparability can be impeded by different aggregation and composition methodologies.

1. The German Stock Institute e.V. (DAI) developed the return triangle for DAX and EURO STOXX.

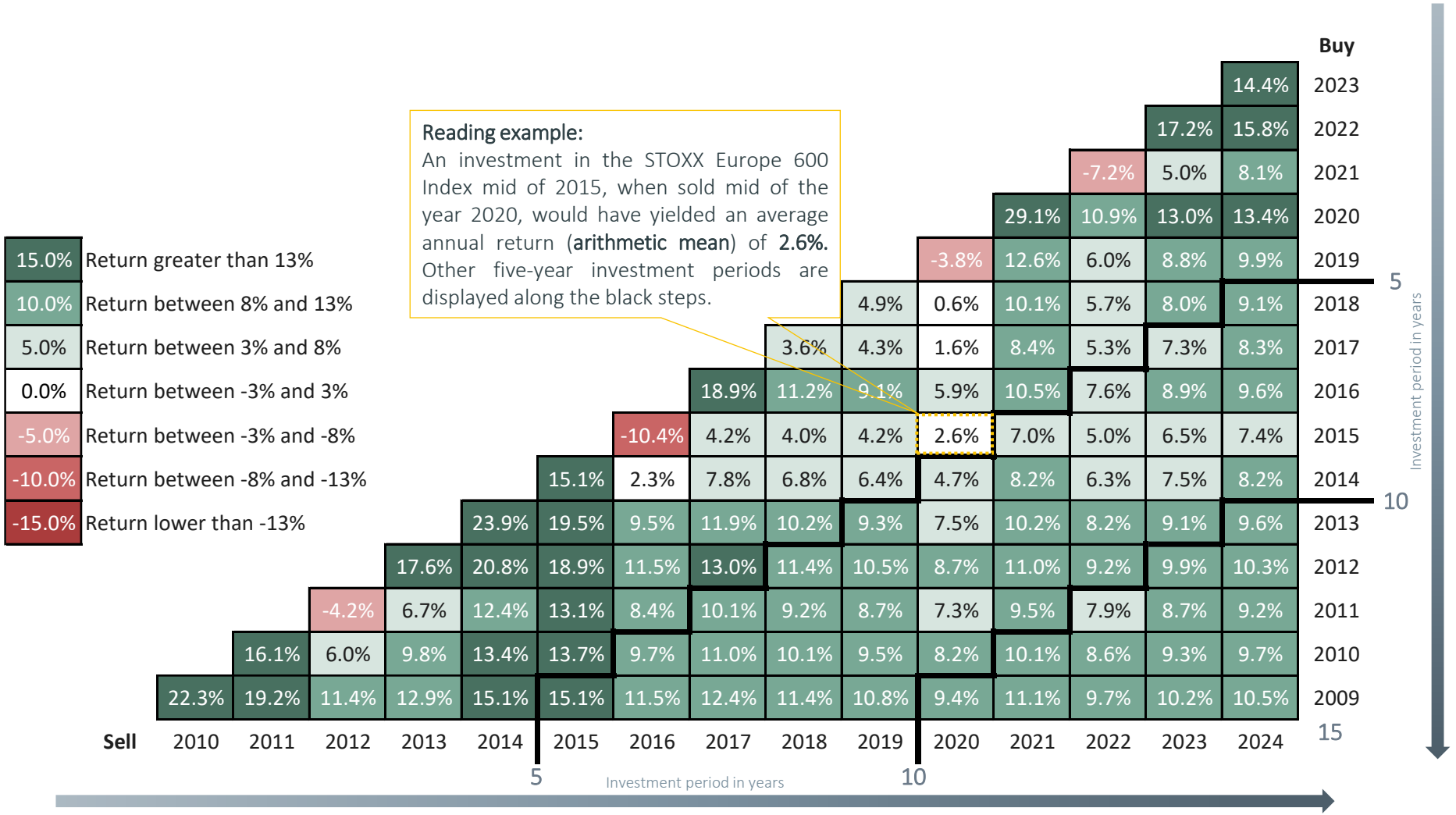
# The performance of the STOXX Europe 600 increased significantly after the COVID-19 crisis, and the index reached its new all-time high mid June 2024, while volatility declined

Historical development of STOXX Europe 600 GR vs VSTOXX



# The strong performance of the STOXX Europe 600 in the last 12 months (14.4%) resulted in a significant improvement of the arithmetic mean return of an investment in 2021 from 5.0% to 8.1%

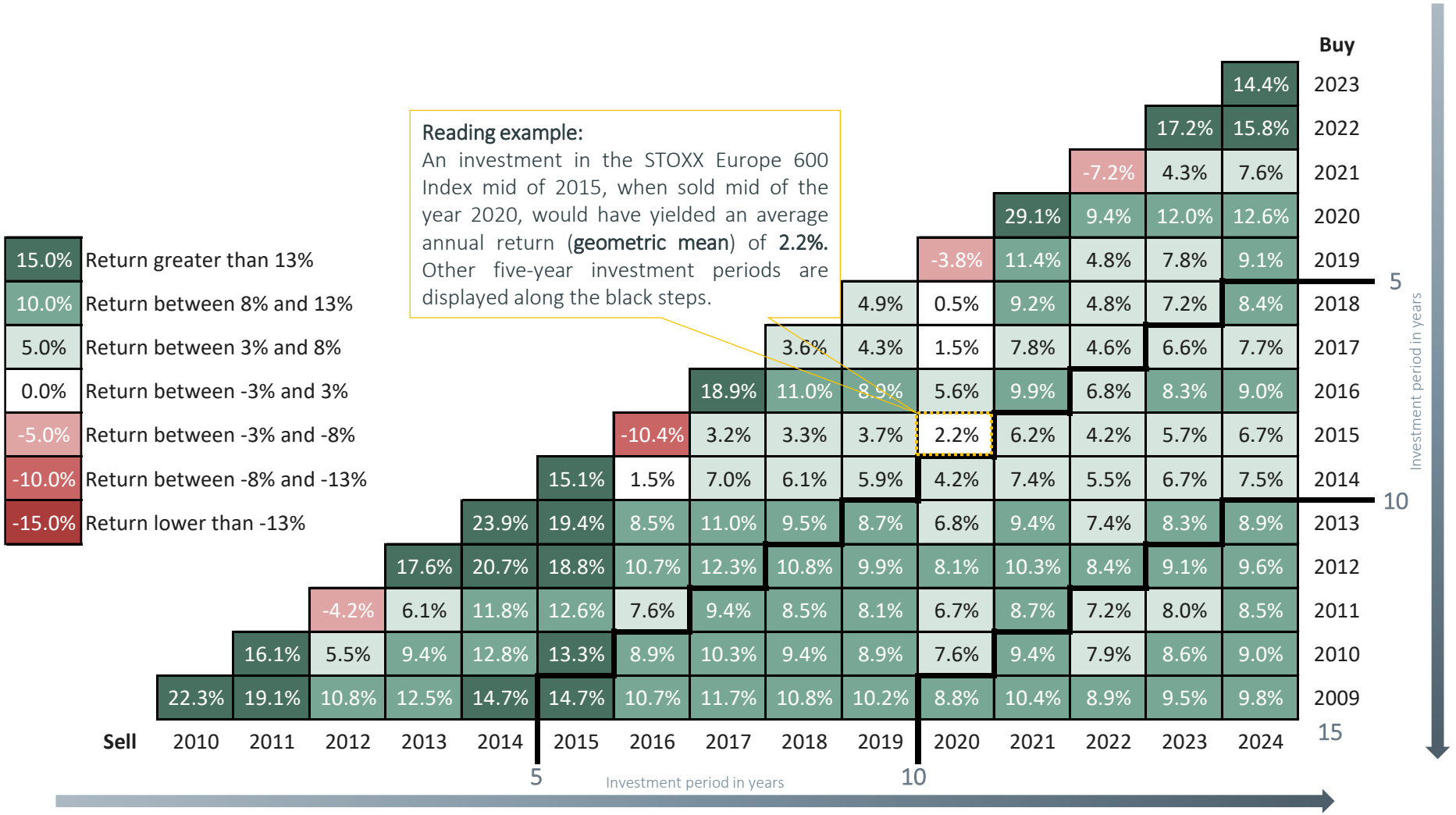
Arithmetic mean of historical market returns as of 30 June 2024, STOXX Europe 600 Performance Index, 2009-2024




Source: https://www.dai.de/files/dai_usercontent/dokumente/renditedreieck/2015-12-31%20DAX-Rendite-Dreieck%2050%20Jahre%20Web.pdf

# The strong performance of the STOXX Europe 600 in the last 12 months (14.4%) improved the geometric mean return of an investment in 2021 by 3.3%-points to 7.6%

Geometric mean of historical market returns as of 30 June 2024, STOXX Europe 600 Performance Index, 2009-2024




Source: https://www.dai.de/files/dai_usercontent/dokumente/renditedreieck/2015-12-31%20DAX-Rendite-Dreieck%2050%20Jahre%20Web.pdf

# 04 Betas

# The highest levered betas are observed in the Consumer Cyclicals and Financials sectors, the lowest in the Utilities and Consumer Non-Cyclicals sector

Levered and unlevered beta factors by sector as of 30 June 2024 (5-years monthly)

| Sector | Beta levered [1] | Beta unlevered |
|---|---|---|
| Financials | 1,25 | n.a. |
| Consumer Cyclicals | 1,18 | 0,72 |
| Consumer Non-Cyclicals | 0,65 | 0,49 |
| Healthcare | 0,71 | 0,54 |
| Technology | 1,12 | 0,66 |

| Sector | Beta levered | Beta unlevered |
|---|---|---|
| Utilities | 0,70 | 0,47 |
| Energy | 1,13 | 0,80 |
| Basic Materials | 1,11 | 0,83 |
| Industrials | 1,16 | 0,71 |
| Real Estate | 1,17 | 0,78 |

## Sector specific debt ratio, leverage and rating

| | | Financials [2] | Consumer Cyclicals | Consumer Non-Cyclicals | Healthcare | Technology | Utilities | Energy | Basic Materials | Industrials | Real Estate |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-years 2019-2023 monthly | Debt ratio [3] | 67.2% | 49.9% | 49.2% | 38.8% | 52.7% | 60.3% | 37.5% | 33.9% | 51.9% | 46.4% |
| | Leverage | 204.5% | 99.6% | 96.9% | 63.4% | 111.4% | 152.2% | 60.0% | 51.2% | 107.9% | 86.6% |
| | Rating | BBB+ | BBB+ | BBB- | BBB+ | A- | BBB- | BBB+ | BBB | BBB | BBB- |

1. The levered beta of the market does empirically not necessarily exactly amount to 1.00 due to the exclusion of statistically insignificant betas. We observe a levered beta for the market of 1.00.
2. The debt illustration of the companies of the Financials sector only serves informational purposes. We will not implement an adjustment to the company's specific debt (unlevered) because a bank's indebtedness is part of its operational activities and economic risk. Therefore, a separation of operational and financial obligations is not possible. In addition, bank specific regulations about the minimum capital within financial institutions let us assume that the indebtedness degree is widely comparable. For that reason, it is possible to renounce the adaptation of levered betas.
3. The debt ratio corresponds to the debt-to-total capital ratio.

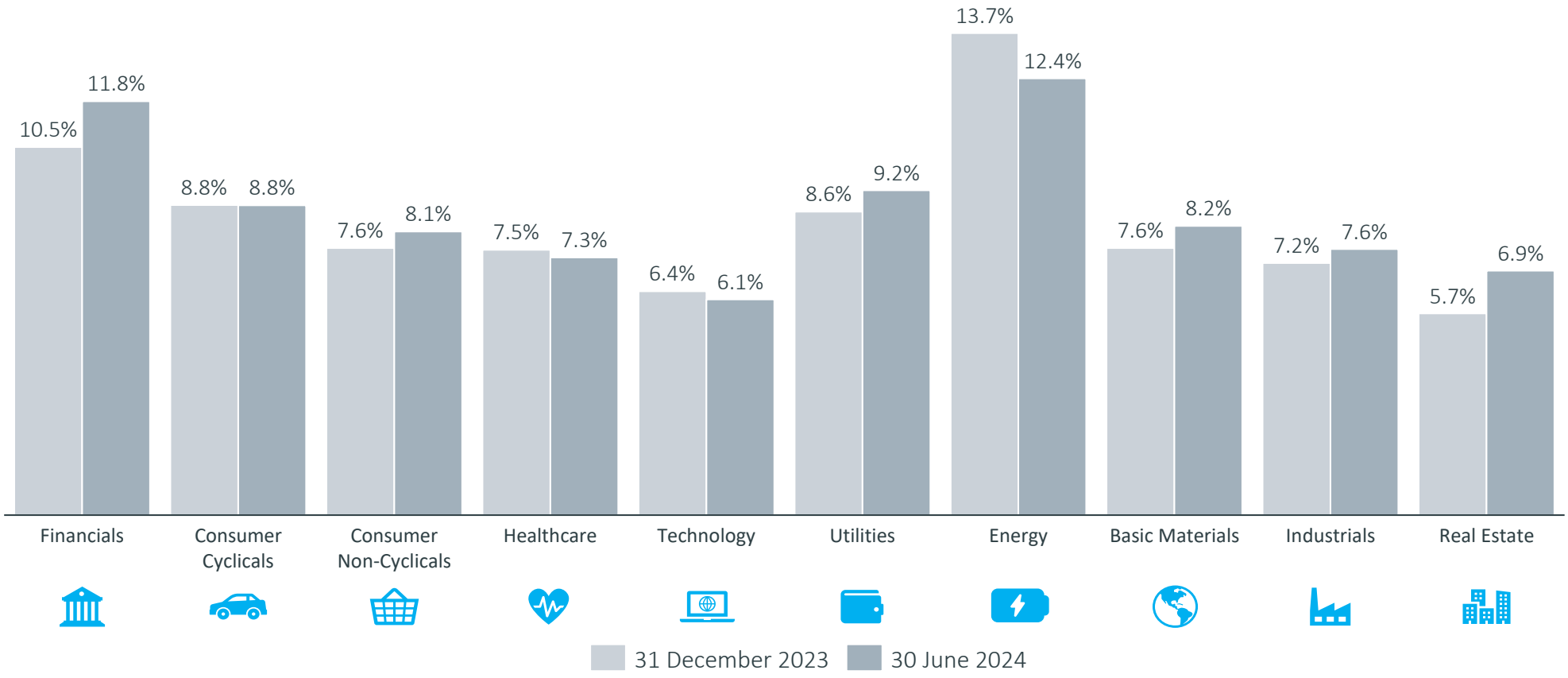
# 05

# Sector returns

## a. Implied returns (ex-ante analysis)

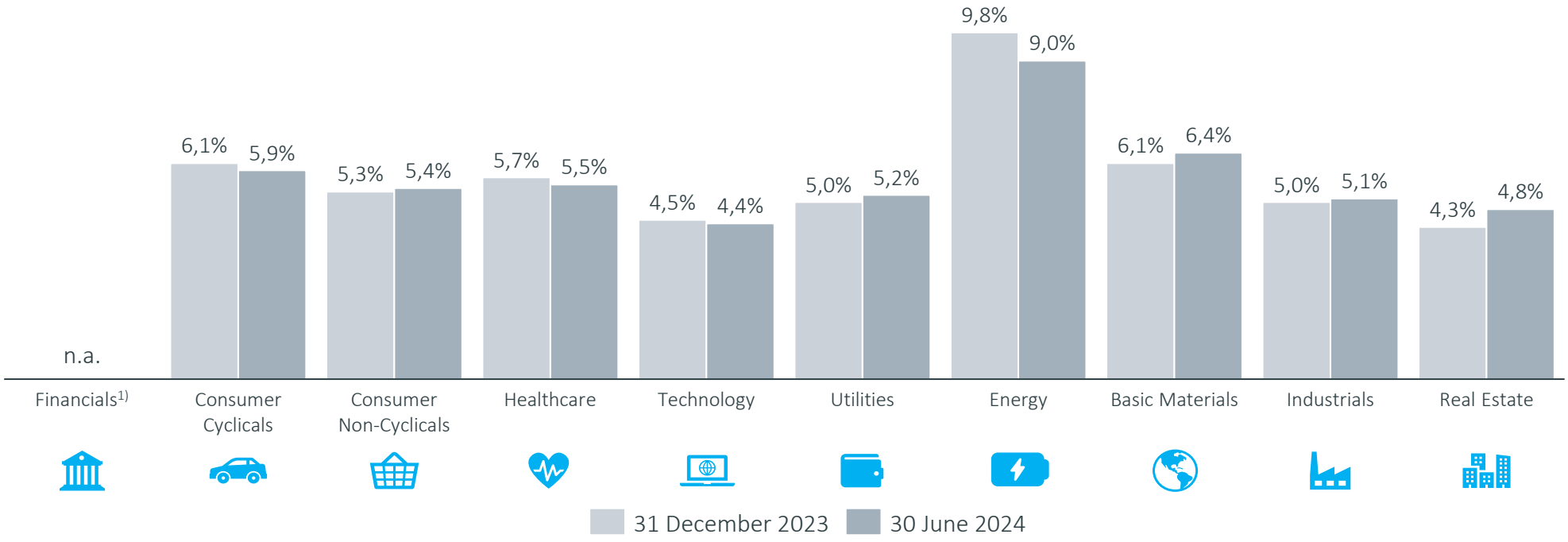
# The implied levered returns showed a mixed picture for the past 6 months; increased strongest for the Financials sector and decreased strongest for the Energy sector driven by diverging earnings

Implied levered returns by sector, 30 June 2024, vs. 31 December 2023



# The implied unlevered returns remained mostly stable over the past six months, with the Energy sector showing the largest decrease and the Real Estate sector the most significant increase

Implied unlevered returns by sector, 30 June 2024, vs. 31 December 2023

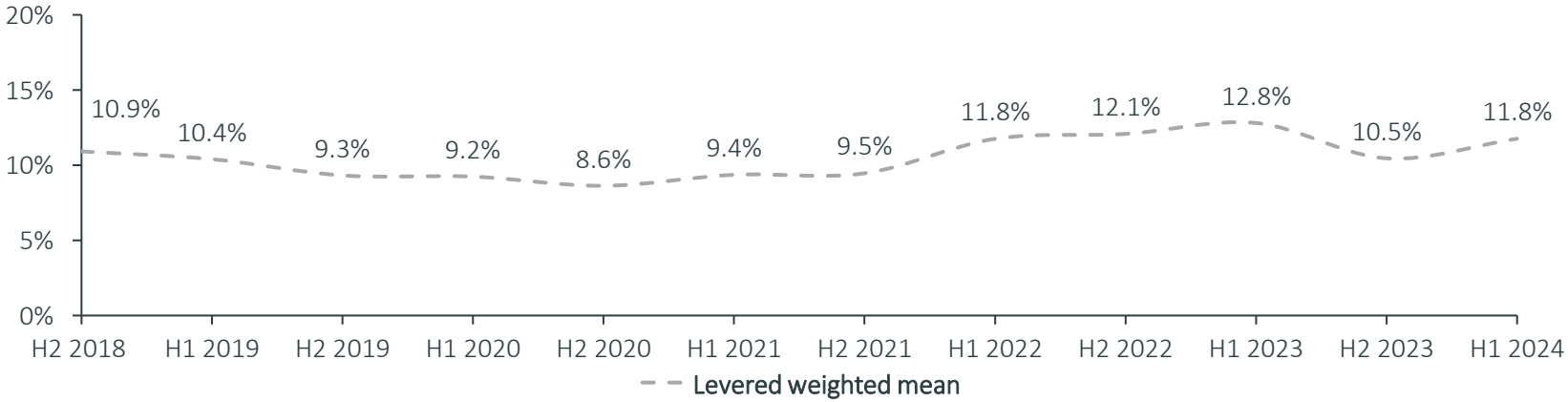



1. No unlevered returns are reported for the Financial sector, as debt is part of operating activities.

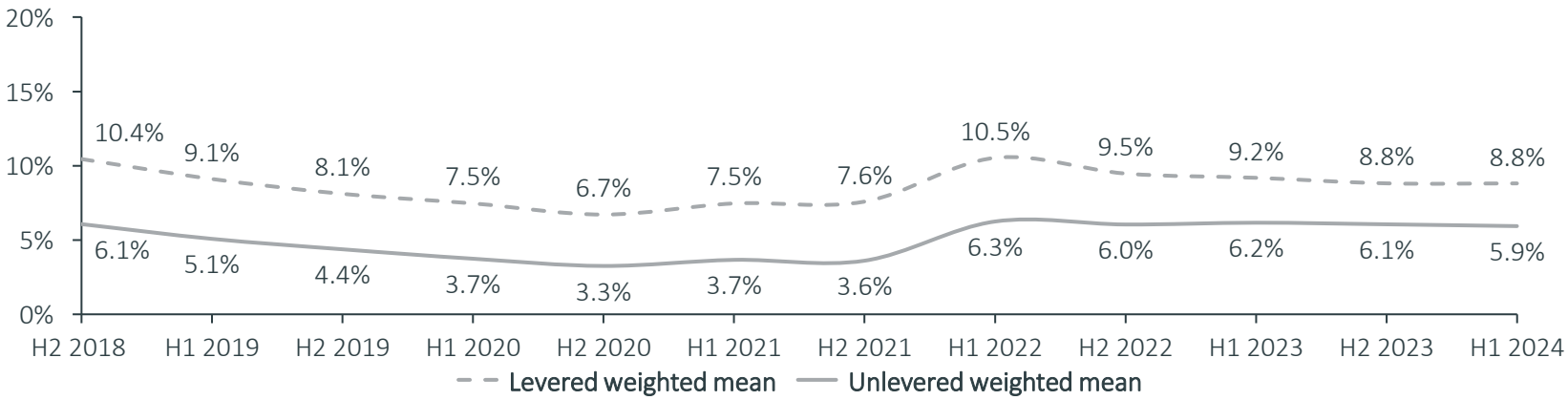
# Implied sector returns increased in the Financials sector as earnings estimates increased stronger than market prices and remained stable in the Consumer Cyclicals sector

Implied levered and unlevered sector returns since June 2018

## Financials



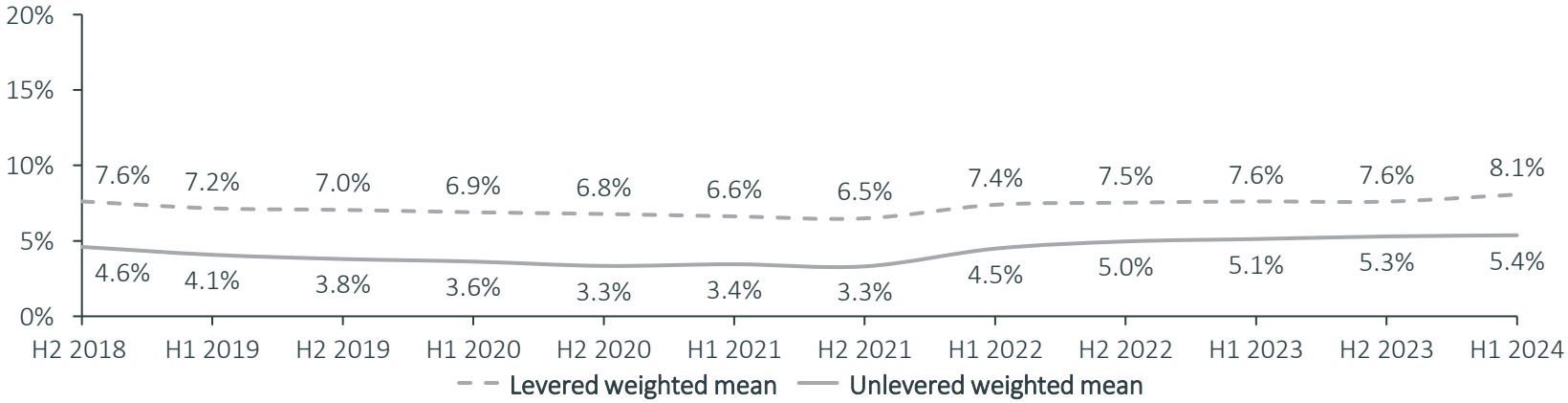

## Consumer Cyclicals



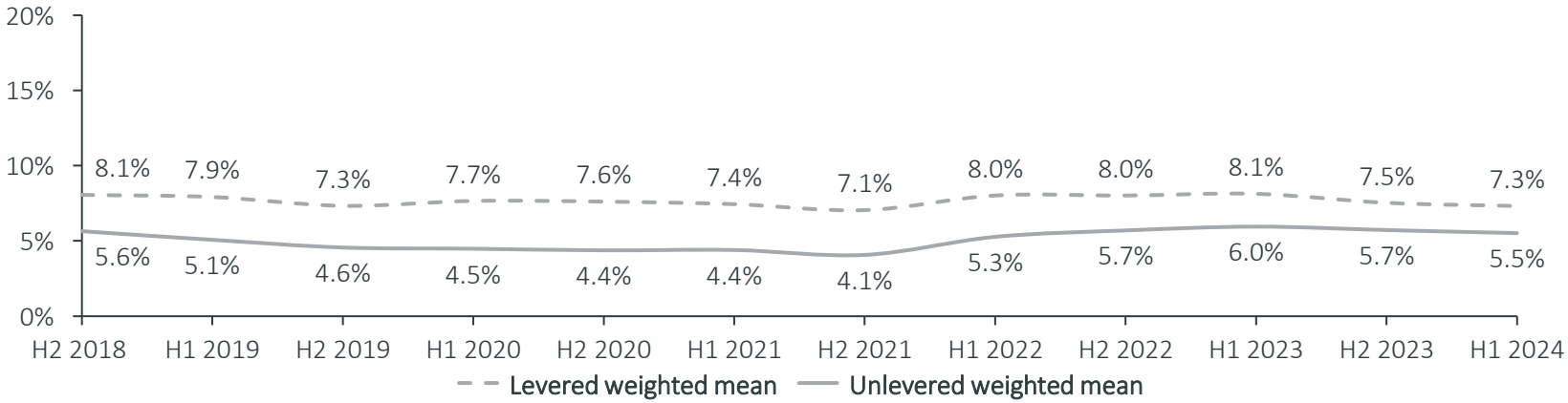
# Implied sector returns for Consumer Non-Cyclicals remained stable, while the Healthcare sector experienced a slight decline due to an increase of prices over the past six months

Implied levered and unlevered sector returns since June 2018

Consumer Non-Cyclicals



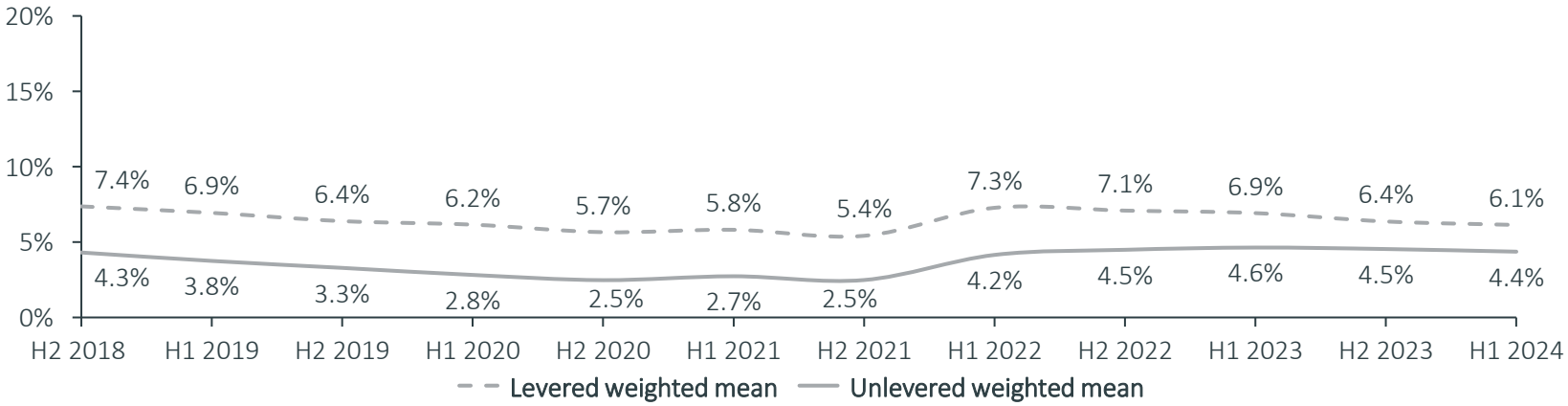

Healthcare



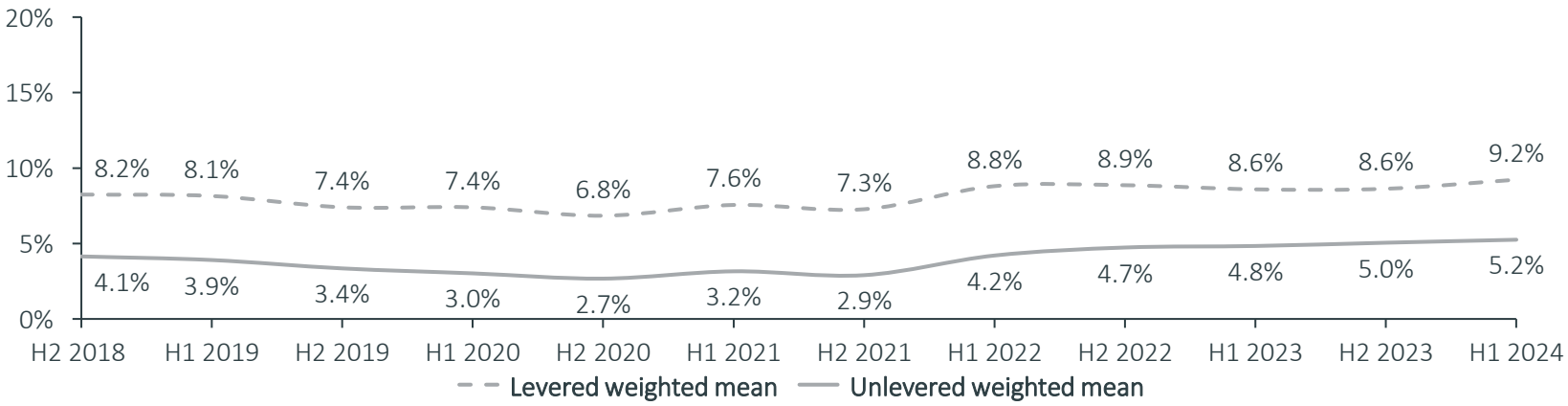
# The implied levered returns decreased in the Technology sector in H1'2024 due to higher prices relative to earnings estimates driven by AI stocks, whereas the Utilities sector increased 60 bps

Implied levered and unlevered sector returns since June 2018

Technology



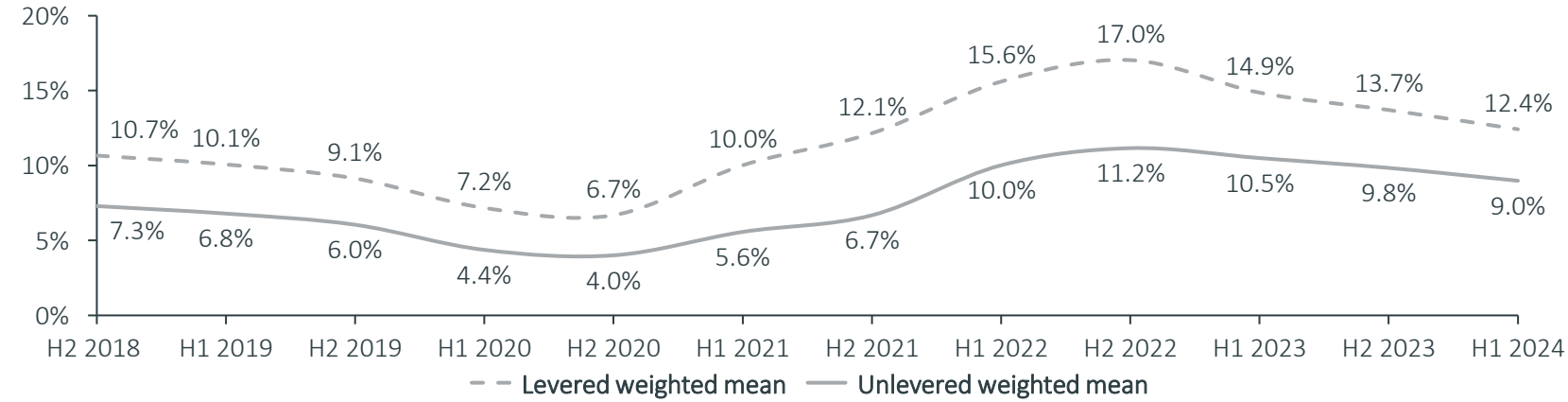

Utilities



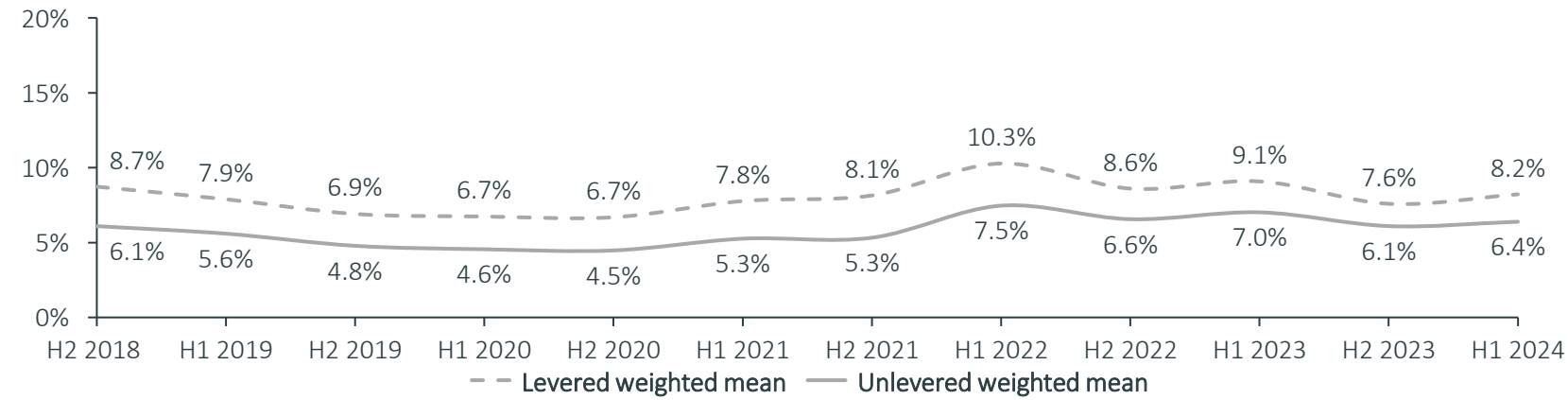
# Implied levered sector returns continued to decrease in the Energy sector from its peak in 2022 due to lower earnings estimates; the Basic Materials sector showed an increase of 60 bps

Implied levered and unlevered sector returns since June 2018

Energy



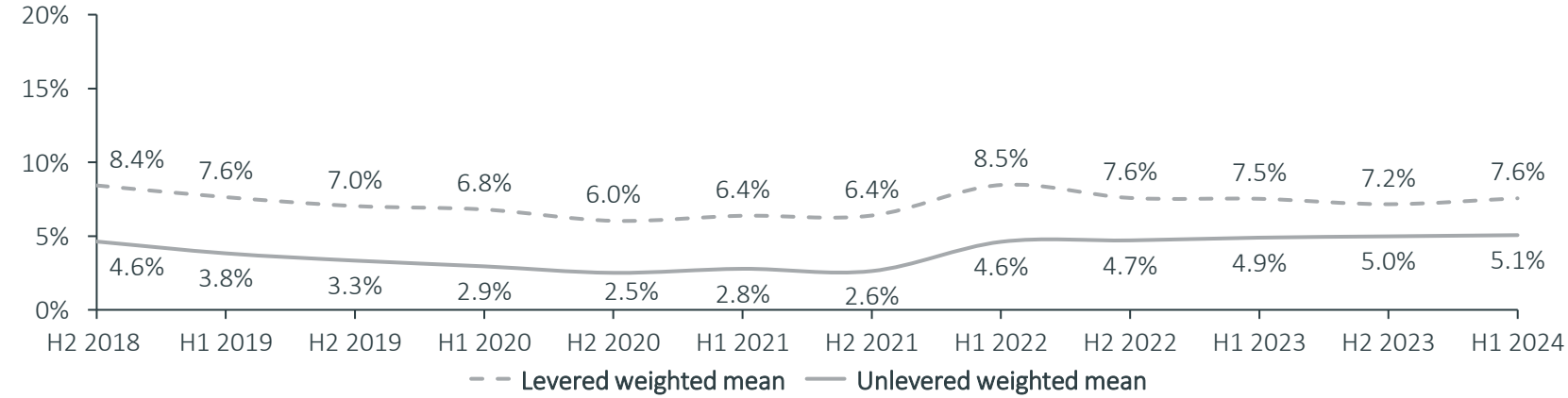

Basic Materials



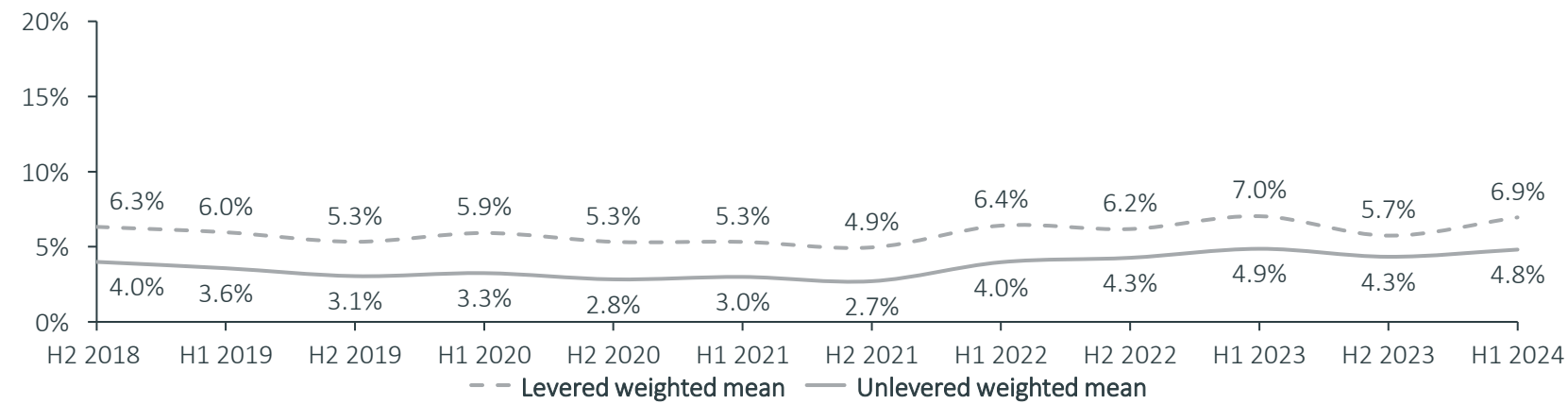
# The implied sector returns increased for both Industrials and Real Estate Sectors in the first half of 2024; 40 bps for the Industrials and 120bps for the Real Estate Sector as prices decreased

Implied levered and unlevered sector returns since June 2018

## Industrials




## Real Estate



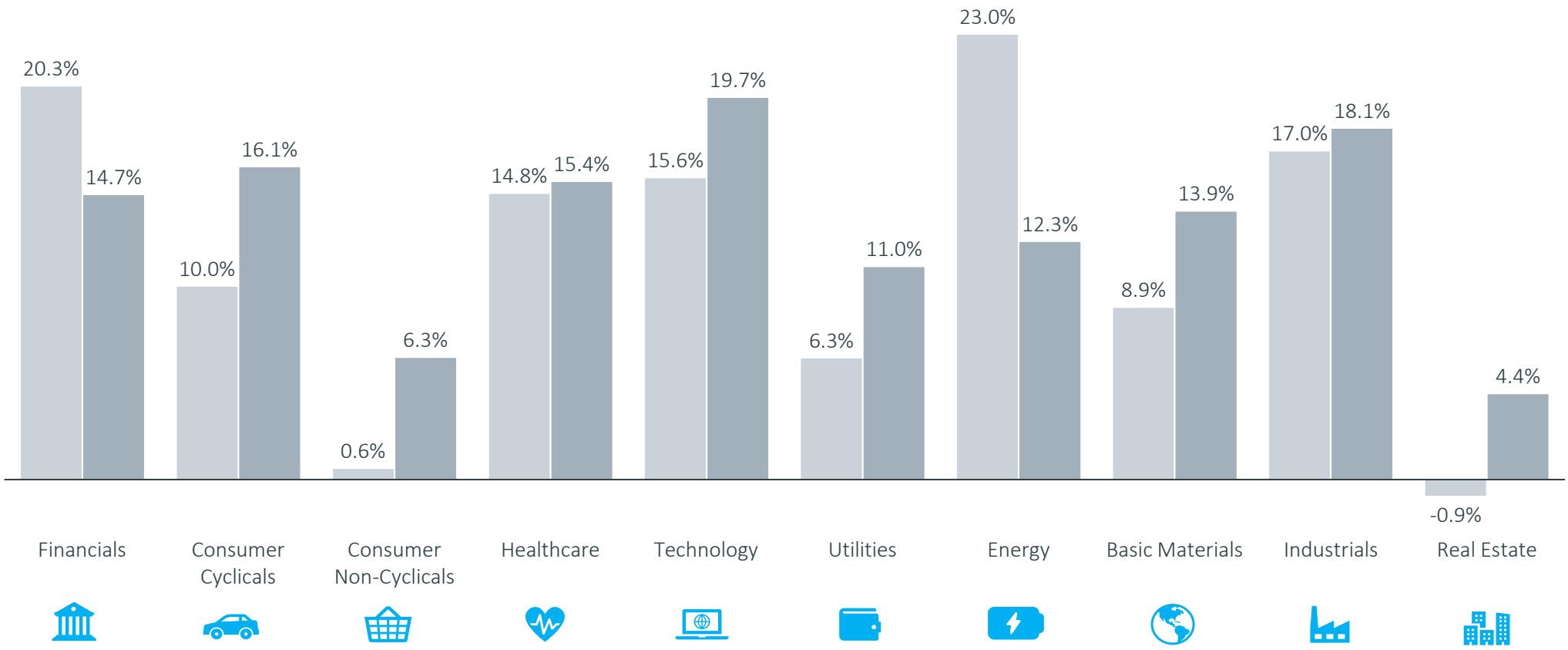
# 05

# Sector returns

## b. Historical returns (ex-post analysis)

# Historical returns show varying impacts of interest rate hikes on sectors; the Energy and Financials sectors showed strong returns, and the Real Estate sector had negative returns over the last 3 years

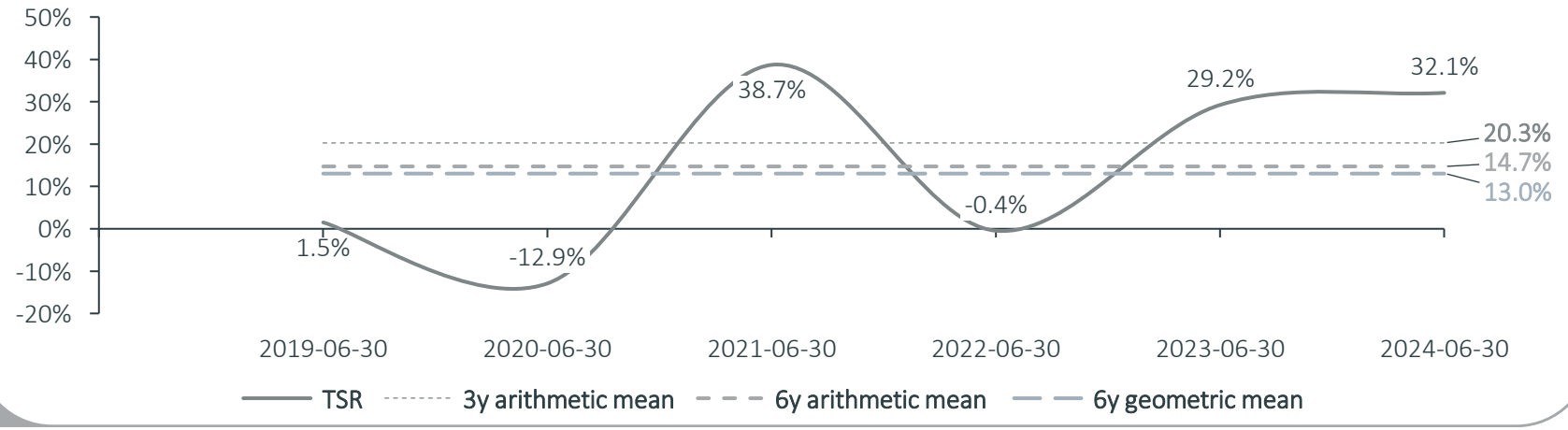
Three- and six-year-average historical sector returns as of 30 June 2024



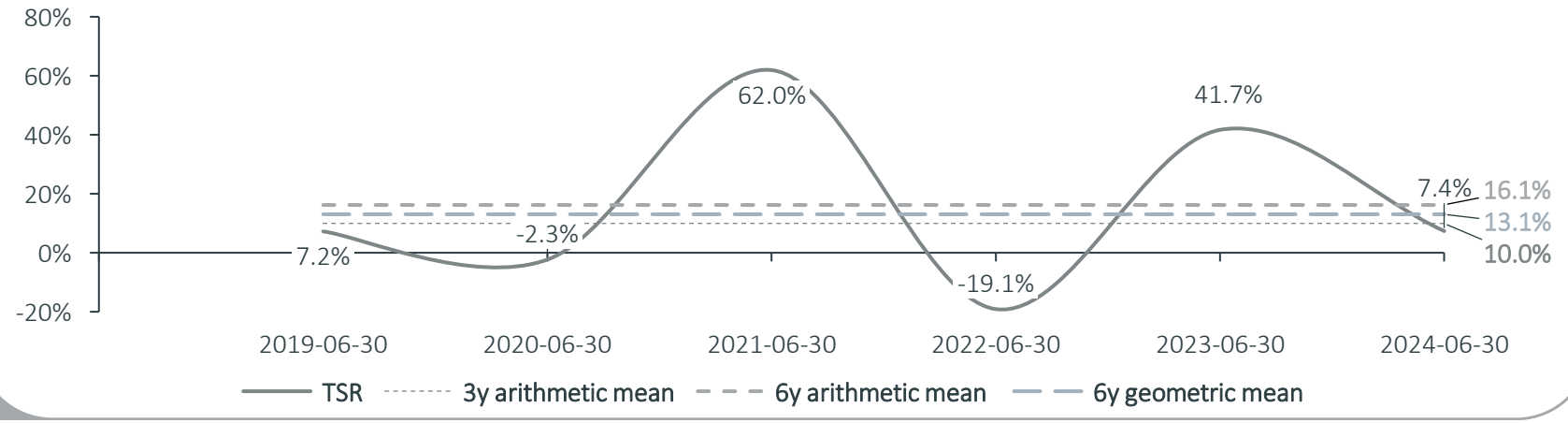
# The Financial Sector surged by 32.1% over the past 12 months, benefiting from higher interest rates, whereas the Consumer Cyclical sector's returns fell short of the previous year's performance

Historical sector returns since 2019

Financials



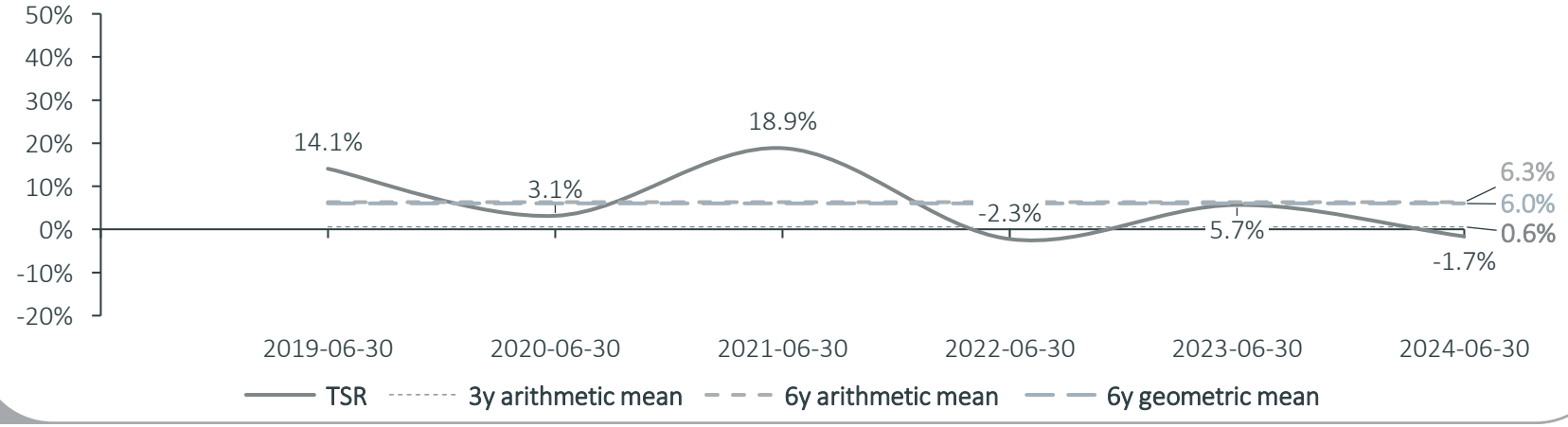

Consumer Cyclicals



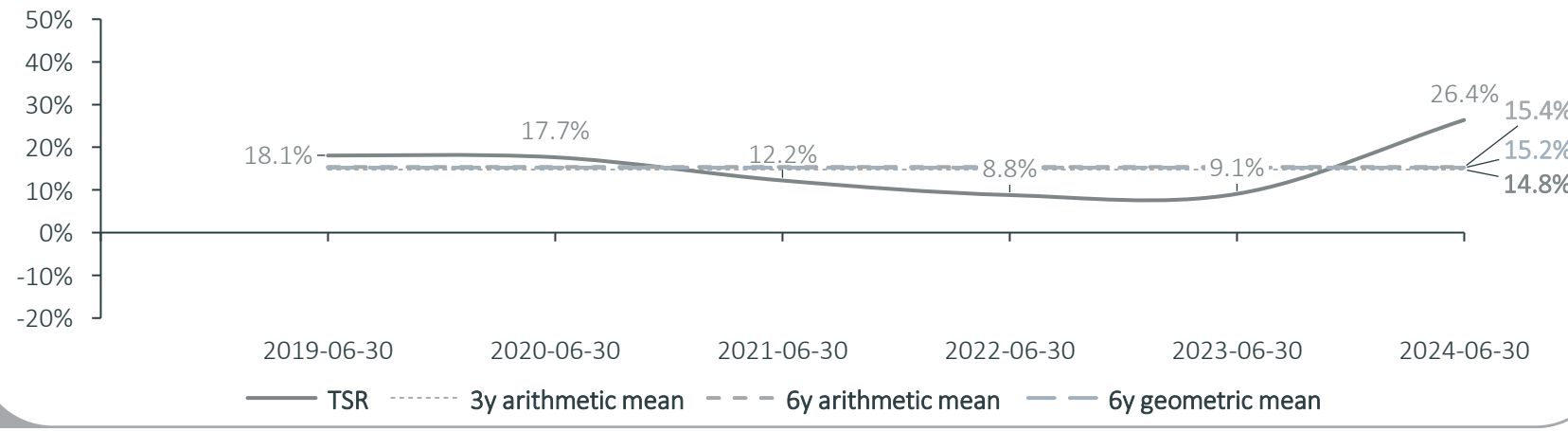
# The Healthcare sector had higher positive performance over the last 12 months than in previous 5 years; the Consumer Non-Cyclicals sector returns were volatile and turned negative again

Historical sector returns since 2019

Consumer Non-Cyclicals



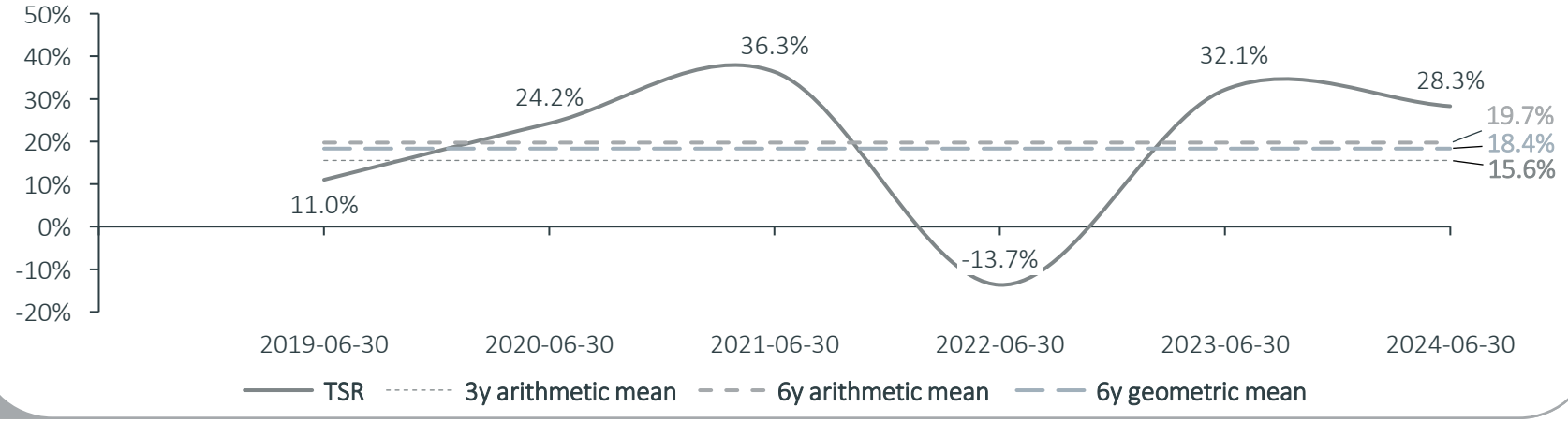

Healthcare



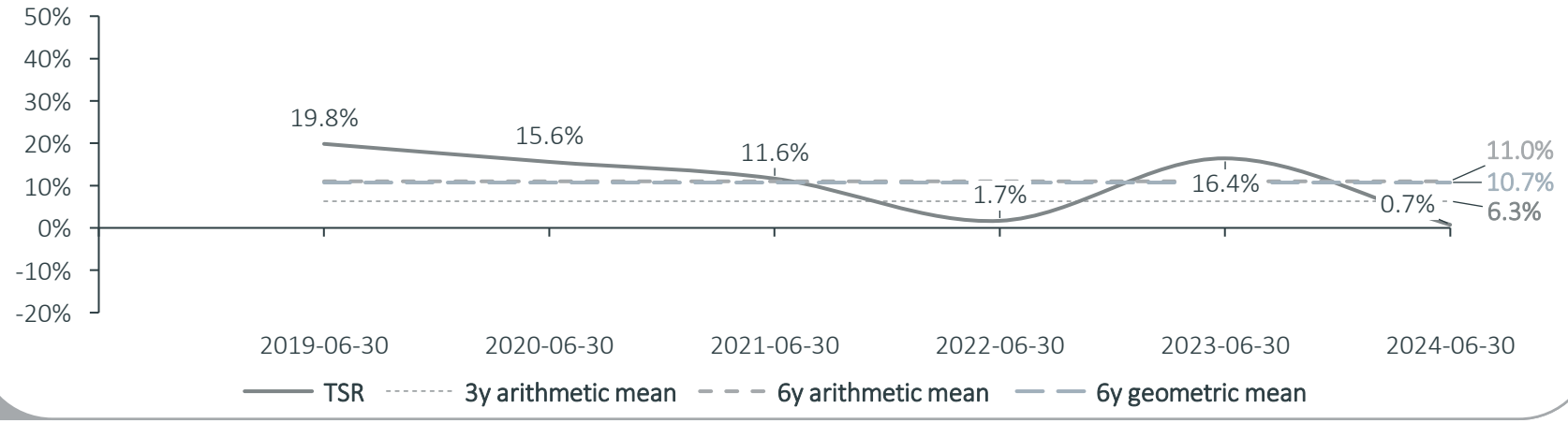
# The Technology sector once again posted high returns, driven by AI stocks, while the less volatile Utilities sector saw below-average 1-year returns

Historical sector returns since 2019

Technology



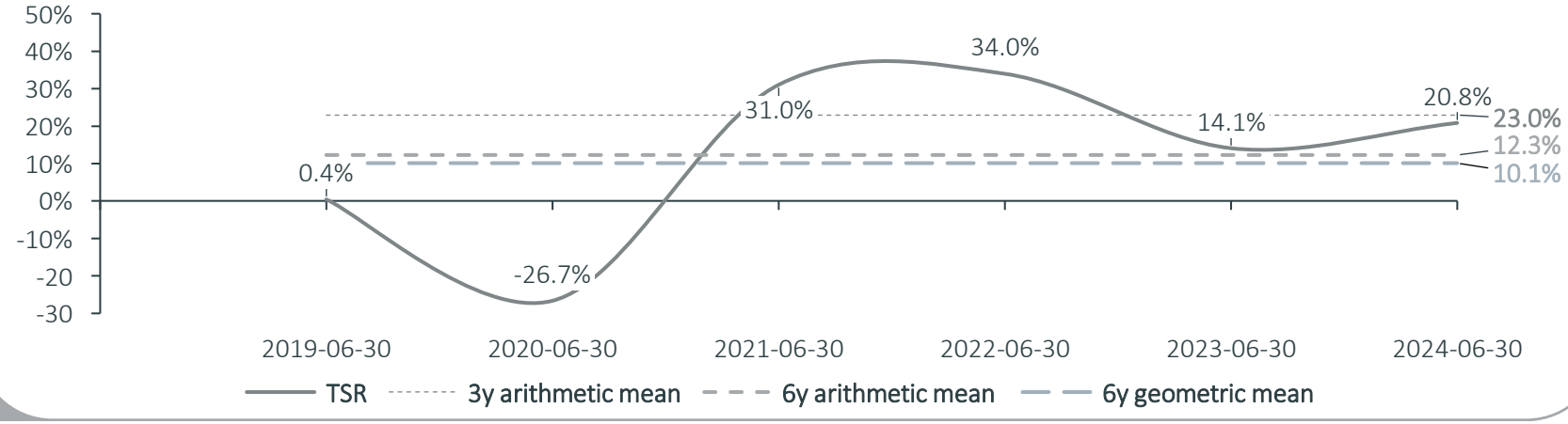

Utilities



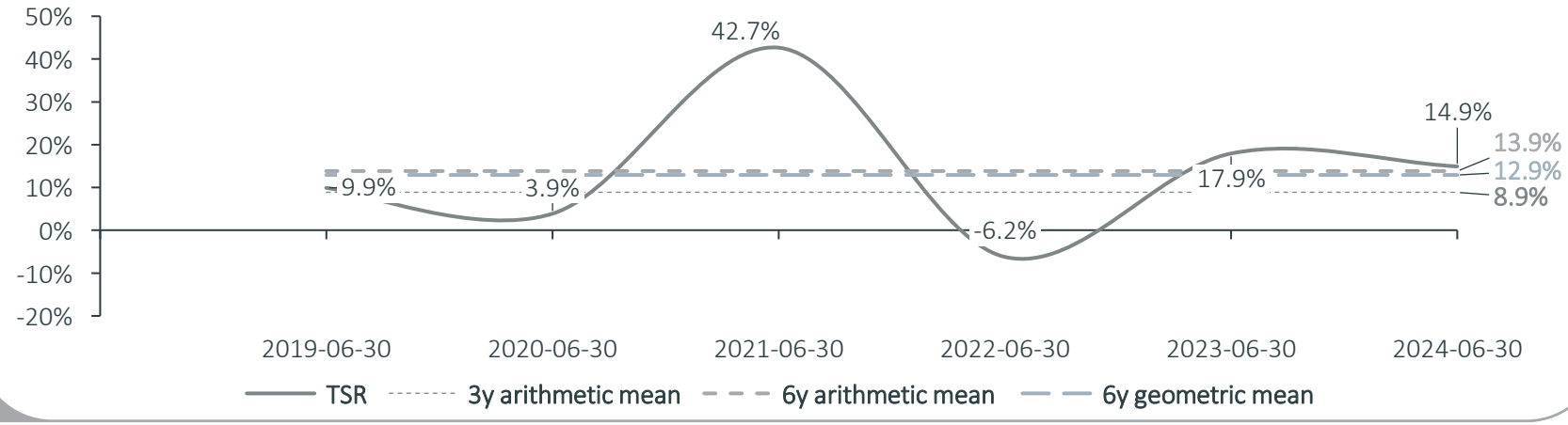
# The Energy sector's returns improved due to falling inflation and higher energy prices, while the Basic Materials sector maintained stable and above-average returns

Historical sector returns since 2019

Energy



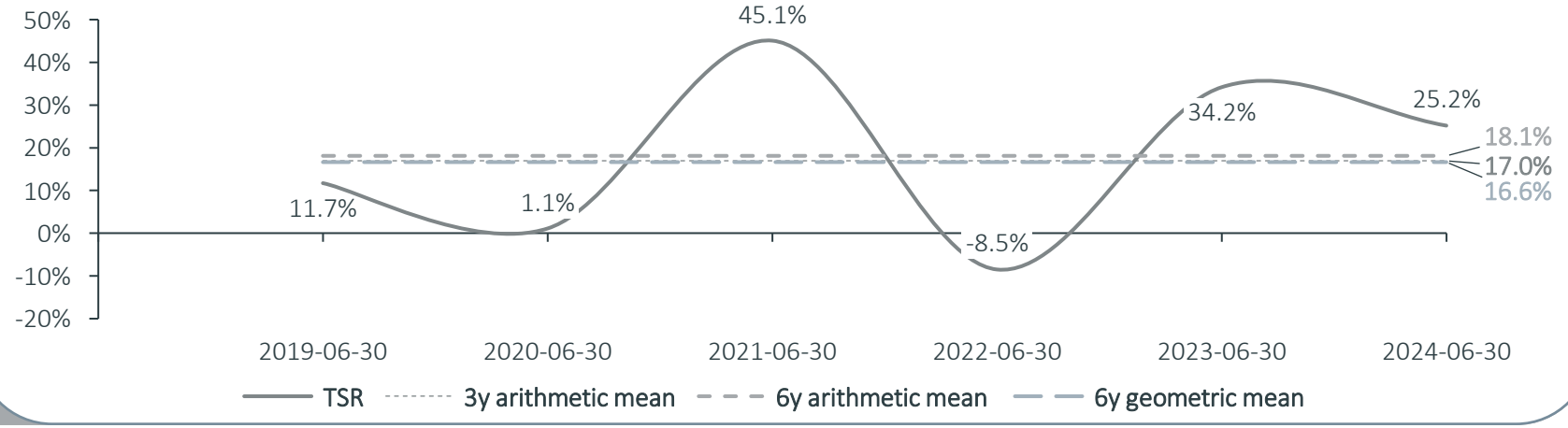

Basic Materials



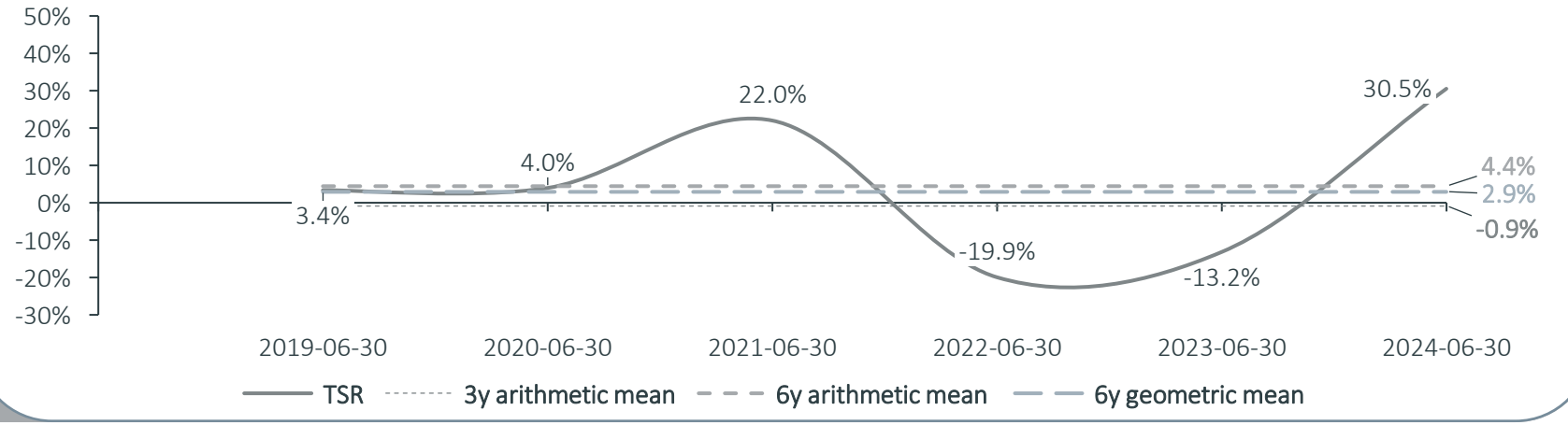
# Real Estate sector return surged 30.5% after a major decline in 2022 and 2023, whereas the Industrials sector recorded another strong positive return

Historical sector returns since 2019

Industrials




Real Estate



# 06 Trading multiples

# The Healthcare and Technology sectors' P/E multiples increased, due to a stronger increase of market capitalizations than earnings estimates over the past 6 months

Median forward multiples by sector, 30 June 2024, and 31 December 2023

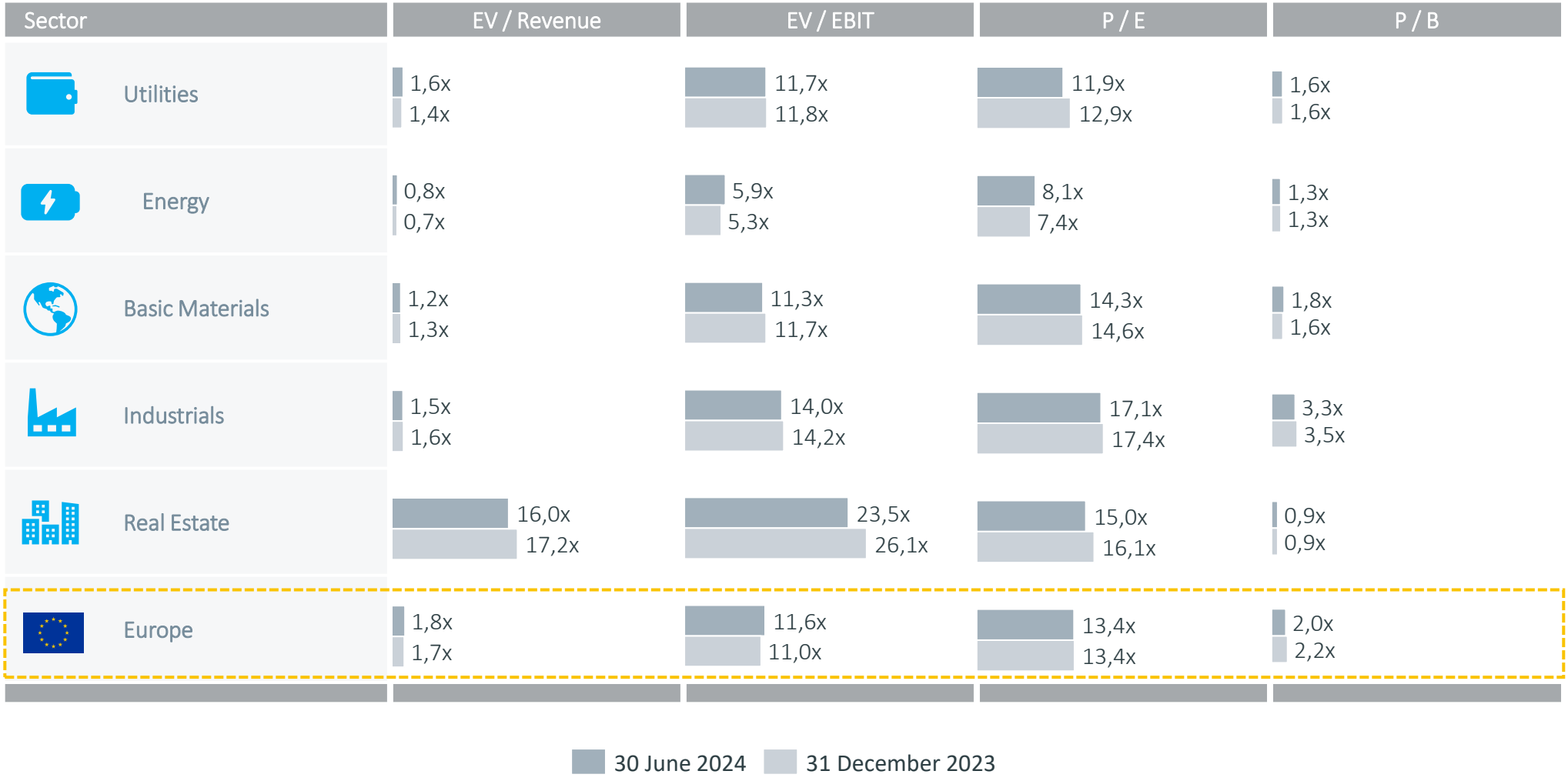
| Sector | EV / Revenue | EV / EBIT | P / E | P / B |
|---|---|---|---|---|
| Financials[1)] | n.a. | n.a. | 8,5x<br>10,1x | 1,0x<br>1,5x |
| Consumer Cyclicals | 1,3x<br>1,3x | 11,7x<br>11,2x | 13,4x<br>12,9x | 2,1x<br>2,1x |
| Consumer Non-Cyclicals | 1,7x<br>1,8x | 13,2x<br>13,9x | 15,4x<br>16,1x | 3,1x<br>3,2x |
| Healthcare | 3,7x<br>3,4x | 14,6x<br>13,9x | 18,2x<br>16,8x | 4,3x<br>4,8x |
| Technology | 3,3x<br>2,9x | 18,3x<br>16,6x | 22,9x<br>19,7x | 3,5x<br>2,9x |

30 June 2024 31 December 2023

1. For companies in the Financials sector, Revenue- and EBIT-Multiples are not meaningful and thus are not reported.

# The Real Estate and Utilities sector's P/E multiple decreased as earnings estimates increased slightly while prices decreased over the past 6 months

Median forward multiples by sector, 30 June 2024, and 31 December 2023



# Overall, based on median sector multiples, Technology ranks highest and Financials together with Energy rank lowest, while Real Estate shows a mixed picture

Sector multiples ranking based on median, 1yf as of 30 June 2024

| | EV/Revenue 1yf | EV/EBIT 1yf | P/E 1yf | P/B LTM | Ø Ranking |
|---|---|---|---|---|---|
| Financials | n.a. | n.a. | 9 | 9 | 9.0 |
| Consumer Cyclicals | 7 | 7 | 7 | 5 | 6.9 |
| Consumer Non-Cyclicals | 4 | 5 | 4 | 4 | 4.4 |
| Healthcare | 2 | 3 | 2 | 1 | 2.3 |
| Technology | 3 | 2 | 1 | 2 | 2.1 |
| Utilities | 5 | 6 | 8 | 7 | 6.7 |
| Energy | 9 | 9 | 10 | 8 | 9.0 |
| Basic Materials | 8 | 8 | 6 | 6 | 6.6 |
| Industrials | 6 | 4 | 3 | 3 | 4.4 |
| Real Estate | 1 | 1 | 5 | 10 | 2.9 |

The Technology sector has the highest valuation level of all sectors

The P/B multiple of the Utilities sector ranks 7th highest in a sector comparison. Overall, the average ranking of the Utilities sector is 6.7, indicating a medium valuation level.

1. Multiples are ranked from highest to lowest values: 1 – highest (dark green), 9/10 – lowest (red).

# Appendix

## Background and approaches

# Government bonds of European countries with AAA-rating (Germany, Luxembourg and the Netherlands) are used to derive risk-free rates for Europe

## Risk-free rate

The **risk-free rate** is a return available on a security that the market generally regards as free from risk of default. It serves as an input parameter for the **CAPM** in order to determine the risk-adequate cost of capital.

The risk-free rate is a yield which is obtained from **long-term government bonds** of European countries with top-notch ratings. As of the reference date, the AAA-rated countries in the Eurozone included Germany, Luxembourg and the Netherlands. The European Central Bank (ECB) publishes – on a daily basis – the parameters needed to determine the yield curve using the **Svensson method**.[1)] By using interest rate data from different maturities, a **yield curve** can be estimated for fictitious zero-coupon bonds (spot rates) for a period of up to 30 years. Based on the respective yield curve, a **uniform risk-free rate** is derived under the assumption of present value equivalence to an infinite time horizon.

To compute the risk-free rate for a specific reference date we used an average value of the daily yield curves of the **past three months.** This method **avoids a misleading semblance of precision** and is recognized in court proceedings.[2)]

1. European Central Bank (https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/euro_area_yield_curves/html/index.en.html)
2. The Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) in Germany also recommends this approach.

# The concept of implied cost of capital recently gained momentum

## Market returns and market risk premium: Implied returns

The **future-oriented** computation of **implied market returns** and **market risk premiums** is based on profit estimates for public companies and return calculations. This approach is called ex-ante analysis and allows us to calculate the "**implied cost of capital**".

The **ex-ante method** offers an **alternative** to the **ex-post approach** of calculating the cost of capital by means of a regression analysis through the **CAPM**. The ex-ante analysis method seeks cost of capital which represent the **return expectations of market participants**. The approach assumes that the estimates of financial analysts reflect the expectations of the capital market.

The concept of **implied cost of capital** recently gained momentum. For example, when it was recognized by the German *Fachausschuss für Unternehmensbewertung* "**FAUB**".[1] It is acknowledged that implied cost of capital capture the **current capital market situation** and are thus able to reflect the effects of the current **low interest rate environment**.

Furthermore, recent **court rulings** with regards to appraisal proceedings appreciate the forward-looking nature of **implied cost of capital**. As of the **reference date**, it offers a more insightful perspective compared to the exclusive use of ex-post data.

In the analysis, we use – a simplified annual formula – the formula of the Residual Income Valuation Model by *Babbel*:[2]

$$r_t = \frac{NI_{t+1}}{MC_t} + \left(1 - \frac{BV_t}{MC_t}\right) * g$$

With the following parameter definitions:

$r_t$ = Cost of equity at time t

$NI_{t+1}$ = Expected net income in the following time period t+1[3]

$MC_t$ = Market capitalization at time t

$BV_t$ = Book value of equity at time t

g = Projected growth rate

By solving the model for the cost of capital, we obtain the implied return on equity.[4] Since *Babbel's* model does not need any explicit assumptions except for the growth rate it turns out to be **robust**. We source all data (i.e. expected annual net income, market capitalization, and book value of equity, etc.) of the analyzed companies from the data supplier Refinitiv Eikon. As a typified growth rate, we apply the European Central Bank target inflation rate of **2.0% as a typified growth rate**.

We determine the **implied market returns** for the STOXX Europe 600. We consider this index as a valid approximation for the European market. Subtracting the risk-free rate from the implied market returns results in the implied market risk premium.

To determine the appropriate market risk premium for valuation purposes, it is also important to take into account historical returns and volatility. Especially in times of crisis it may make sense to apply an average market risk premium over several periods instead of a reference date value.

1. cf. Castedello/Jonas/Schieszl/Lenckner, Die Marktrisikoprämie im Niedrigzinsumfeld – Hintergrund und Erläuterung der Empfehlung des FAUB (WPg, 13/2018, p. 806-825).
2. cf. Babbel, Challenging Stock Prices: Share prices and implied growth expectations (Corporate Finance, n. 9, 2015, p. 316-323, especially p. 319).
3. Analyst consensus forecasts for the next twelve months are applied.
4. cf. Reese, 2007, Estimation of the cost of capital for evaluation purposes; Aders/Aschauer/Dollinger, Die implizite Marktrisikoprämie am österreichischen Kapitalmarkt (RWZ, 6/2016, p. 195 – 202); ValueTrust, DACH Capital Market Study 30 June 2023.

# Betas are calculated based on regressions and adjusted to take the capital structure into account

## Betas

**Beta** is used in the **CAPM** and also referred to as beta coefficient or beta factor. Beta is a measure of **systematic risk** of a security of a specific company (**company beta**) or a specific sector (**sector beta**) in comparison to the market. A beta of less than 1 means that the security is theoretically less **volatile** than the market. A beta of greater than 1 indicates that the security's price is more volatile than the market.

Beta factors are estimated based on **historical returns of securities** in comparison to an **approximate market portfolio**. Since a company valuation is **forward-looking**, it has to be examined which risk factors from the past also apply to the future, and to which extent. In valuing non-listed companies or companies without meaningful share price performance, it is common practice to use a beta factor from a group of comparable companies ("**peer group beta**"), a suitable sector ("**sector beta**") or one single listed company in the capital market with a similar business model and similar risk profile ("**pure play beta**"). Within this Capital Market Study, we have used **sector betas** which are computed as **arithmetic means of the statistically significant beta factors of all companies** of a particular sector.

The calculation of beta factors is usually accomplished through a **linear regression analysis**.

It is important to set a time period over which the data is collected (**benchmark period**), and whether daily, weekly or monthly returns (**return interval**) are analyzed. In practice, it is common to use **observation periods of two years** with the regression of **weekly returns** or **five years** with the regression of **monthly returns**.

In the CAPM, company specific **risk premiums** include **business** risk, and financial **risk**. The beta factor of levered companies ("**levered beta**") is usually higher compared to a company with an identical business model but without debt (due to financial risk). Hence, **changes in the capital structure** require an **adjustment of the betas** and therefore of the company specific risk premiums.

Various adjustment formulas are available to calculate the **unlevered beta**. We prefer to use the **adjustment formula by Harris/Pringle** which assumes a value-based financing policy, stock-flow adjustments without time delay, uncertain tax shields and a so-called **debt beta**. We calculate the debt beta based on the respective company's rating or the average sector rating (if a company's rating is not available) through the application of the **credit spread** derived from the expected cost of debt. We do not adjust the credit spread for unsystematic risks. Capital market data, in particular historical market prices, is provided by the data supplier Refinitiv Eikon and its Aggregates App. Due to data availability, we only apply the five-year observation period.

# Implied sector returns simplify the calculation of the levered cost of equity

Sector returns: Implied returns

Besides the future-oriented calculation of **implied market returns**, we also calculate **implied returns for sectors**. This offers an **alternative** to and a simplification of the **ex-post analysis** of the subject company's cost of capital via the **CAPM**. Using this approach, the calculation of sector betas via regression analyses are not necessary.

The **implied sector returns** can be used as an **indicator** for the **sector specific levered cost of equity, which** already consider **sector specific leverage**.

The following return calculations are again based on the Residual Income Valuation Model by *Babbel.*[1)] The required data (i.e. net income, market capitalization, and book value of equity) are sourced from the data provider S&P Capital IQ. With regards to profit growth, we assume a growth rate of 2.0%.

We unlever the implied returns with the following **equation** for the **cost of equity**[2)] to take into account the specific leverage[3)]:

$$r_E^L = r_E^U + \left(r_E^U - R_f\right) * \frac{D}{E}$$

with:

$r_E^L$ = Levered cost of equity
$r_E^U$ = Unlevered cost of equity
$R_f$ = Risk-free rate
$\frac{D}{E}$ = Debt[4)] -to-equity ratio

The **implied unlevered sector returns** serve as an indicator for the **aggregated** and **unlevered cost of equity** for **specific sectors**. The process of relevering a company's cost of capital to reflect a company specific debt situation (cf. calculation example on the next slide) can be accomplished without using the CAPM.

1. cf. Babbel, Challenging Stock Prices: Share prices and implied growth expectations (Corporate Finance, n. 9, 2015, p. 316-323, especially p. 319); cf. Aders/Aschauer/Dollinger, Die implizite Marktrisikoprämie am österreichischen Kapitalmarkt (RWZ, 6/2016, p. 195-202).
2. In situations in which the debt betas in the market are distorted, we would have to adjust these betas to avoid unsystematic risks. For simplification reasons, we deviate from our typical analysis strategy to achieve the enterprise value (Debt beta > 0) and assume that the cost of debt are at the level of the risk-free rate. This process is designed by the so-called Practitioners formula (uncertain tax shields, debt beta = 0), cf. Pratt/Grabowski, Cost of Capital, 5th ed., 2014, p. 253.
3. We assume that the cash and cash equivalents are used entirely for operational purposes. Consequently, we do not deduct excess cash from the debt.
4. "Debt" is defined as all interest-bearing liabilities. The debt illustration of the companies in the Financials sector only serves an informational purpose. We will not implement an adjustment to these companies' specific debt (unlevered) because their indebtedness is part of their operational activities and economic risk.

# An exemplary calculation of relevered cost of equity to adjust for the company specific capital structure

## Sector returns: Implied returns

Calculation example:

As of the reference date 30 June 2024, we observe the sector specific, levered cost of equity of **8.2%** (market-value weighted mean) in the European Basic Materials sector. Taking the sector-specific leverage into account, we derive an unlevered cost of equity of **6.4%.** For the exemplary company X, which operates in the European Basic Materials sector, the following assumptions were made:

- Debt-to-equity ratio of X: **40%**
- Risk-free rate: **2.6%**

Based on these inputs, we can calculate the relevered cost of equity for company X with the adjustment formula:

$$r_E^L = 6.4\% + (6.4\% - 2.6\%) * 40\% = 7.92\%$$

**7.92%** is the company's relevered cost of equity. In comparison, the levered cost of equity of the Basic Materials sector is **8.2%**, reflecting the sectors' higher average leverage.

# Historical sector returns are calculated using market-weighted aggregated sector indices

## Sector returns: Historical returns

In **addition** to **historical market returns**, we calculate **historical sector returns**. Our analysis contains **total shareholder returns** including **share price development** and the **dividend yield**.

We calculate **total annual shareholder returns as of 30 June** for every market-value weighted sector index of STOXX Europe 600. Our calculations comprise the time period between 2019 and 2024.

Since total annual shareholder returns tend to fluctuate to a great extent, their explanatory power is limited. Therefore, we do not only calculate the 1-year market-value weighted means, but 3-year (2022-24) as well as the 6-year (2019-24) averages.

# The multiples approach can be used for company valuation

## Trading multiples

Besides income-based valuation models (earnings value, DCF), the **multiples approach** offers a practical approach for an enterprise value estimation. The multiples method estimates a subject company's value **relative** to another company's value. The enterprise value is derived by multiplying a reference value (revenue or earnings values are frequently used) of the company by the respective multiples of **comparable companies**.

Within this Study, we calculate the following **multiples for the sectors indices** as well as **for the European market**:

- Revenue-Multiples ("**EV**[1]**/Revenue**")
- EBIT-Multiples ("**EV**[1]**/EBIT**")
- Price-to-Earnings-Multiples ("**P/E**")
- Price-to-Book Value-Multiples ("**P/B**")

Multiples are presented for the reference dates 31 December 2023 and 30 June 2024. The reference values are based on one-year forecasts of analysts (so called forward multiples, **"1yf"**). Solely the Price-to-Book Value-Multiples are calculated with book values as of the reference dates. We present **median** values.

We present historical multiples starting as of 30 June 2018 in the appendix and update the applied multiples **semi-annually at the predefined reference date (as of 31 December and as of 30 June)**.

For the purpose of **simplification**, we exclude negative multiples and multiples in the highest quantile (95%). The multiples in the lowest quantile (5%) build the lower limit.

We source the data (i.e. market capitalization, revenue, EBIT, etc.) from the data provider Refinitiv Eikon. Based on the availability of data, especially in terms of forecasts, the number of companies underlying each specific multiple varies.

Additionally, we present a **ranking table** of the sector multiples. Sector multiples are sorted from highest to lowest for each analyzed multiple. The resulting score in the ranking is displayed in the table and visualized by a color code that assigns a dark **green color** to the **highest rank** and a **red color** to the **lowest rank**. Thus, a green colored high rank indicates a high valuation level, whereas a red colored low rank suggests a low valuation level. We then aggregate the rankings and calculate an average of all single rankings for each sector multiple. This is shown in the right column of the ranking table. This **average ranking** indicates the overall **relative valuation levels** of the sectors when using multiples.

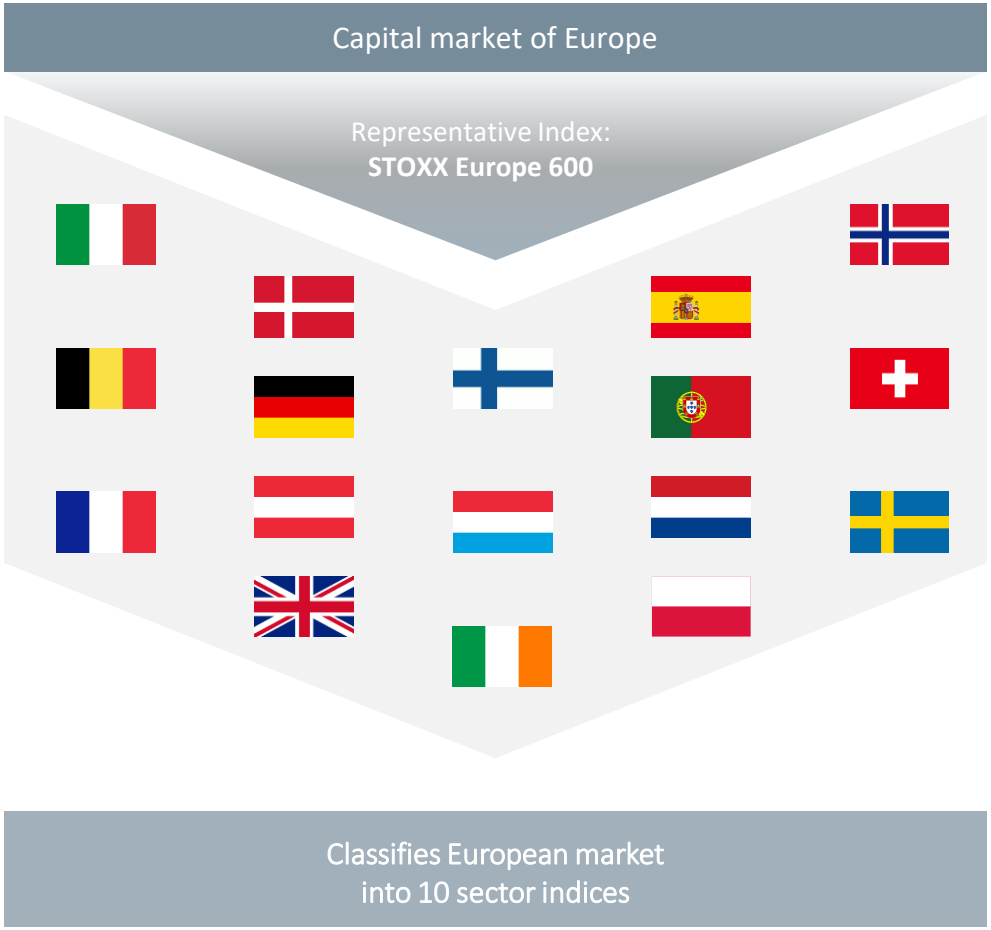
1. Enterprise value

# Appendix

## Composition of the sectors as of 30 June 2024

# The chosen capital market index for Europe comprises 600 listed companies that are allocated to ten sector indices

## Sector indices for Europe




The sector indices aim to cover the **entire capital market of Europe**. Therefore, this Study contains all equities of the **STOXX Europe 600** as listed in the Refinitiv Eikon Aggregates App.[1)] The STOXX Europe 600 Index represents large, mid and small capitalization companies across **17 countries of the European region**: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The **ten sector indices** for this Study are:

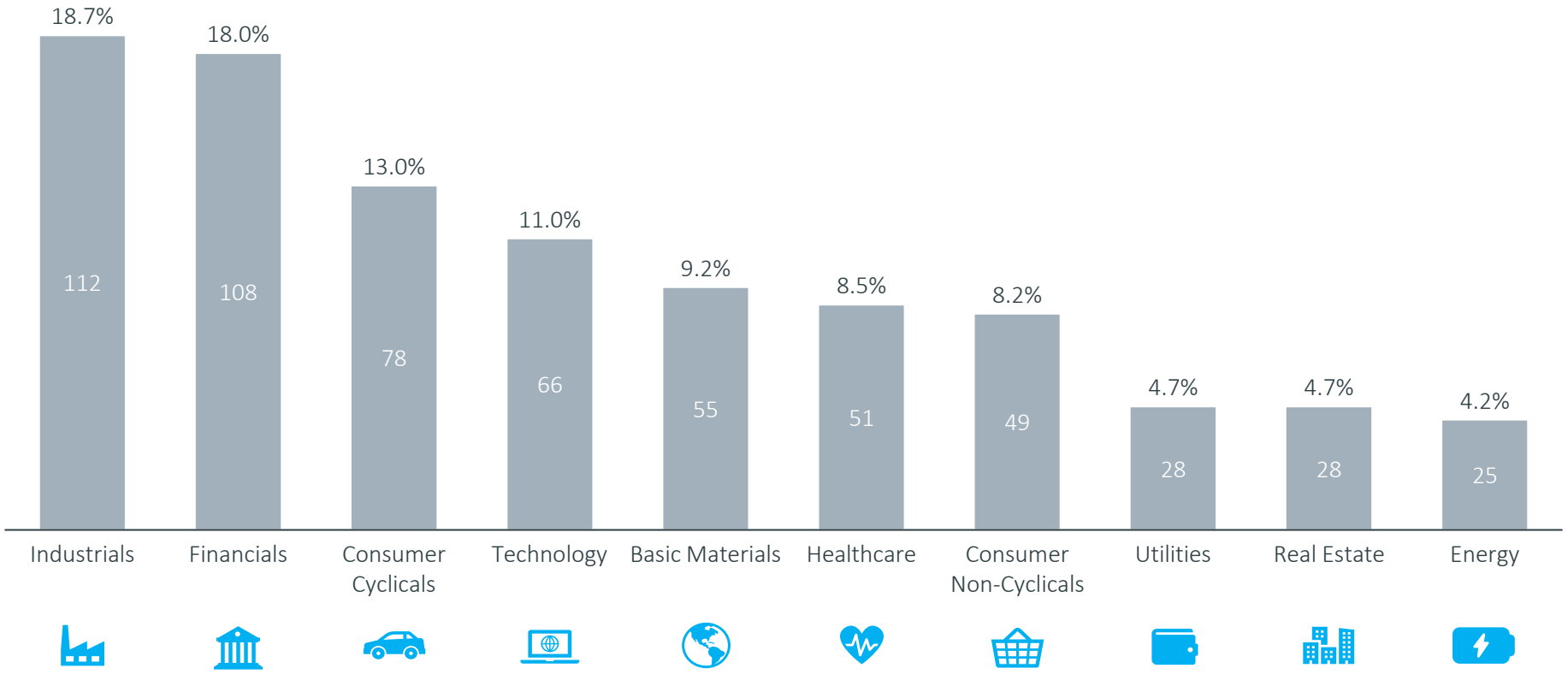
- Financials
- Consumer Cyclicals
- Consumer Non-Cyclicals
- Healthcare
- Technology
- Utilities
- Energy
- Basic Materials
- Industrials
- Real Estate

sector indices

1. The Refinitiv Eikon Aggregates App offers analyst forecasts and historical values of key financials on an aggregated sector level

# The Industrials, Financials and Consumer Cyclicals sectors represent about half of the European companies included in the STOXX Europe 600

Sector indices of STOXX Europe 600 as of 30 June 2024 (Number and percentage distribution of the 600 companies)



# Financials and Consumer Cyclicals

## Europe Capital Market Study

### Financials

3I GROUP PLC.
ABN AMRO BANK NV
ABRDN PLC.
ADMIRAL GROUP PLC.
AEGON LTD.
AGEAS SA
AIB GROUP PLC.
ALLIANZ SE
AMUNDI
ASR NEDERLAND
ASSICURAZIONI GENERALI
AVANZA BANK HOLDING AB
AVIVA PLC.
AXA
AZIMUT HOLDING SPA
BALOISE HOLDING AG
BANCA MONTE DEI PASCHI
BANCO DE SABADELL SA
BANCO POPOLARE
BANCO SANTANDER SA
BANK OF IRELAND
BANK PKA.KASA OPIEKI SA
BANKINTER SA
BANQUE CANTON.VE.
BARCLAYS PLC.
BAWAG PSK BK.AG
BBV.ARGT.SA
BEAZLEY PLC.
BNC.COMERCIAL PORTUGUES
BNP PARIBAS
BPE.DSNDRO.SPA
BPER BANCA
CAIXABANK SA
CEMBRA MONEY BANK N ORD
COMMERZBANK AG
CREDIT AGRICOLE SA
DANSKE BANK A/S
DEUTSCHE BANK AG
DEUTSCHE BOERSE AG
DIRECT LINE IN.GP.PLC.
DNB ASA
EQT AB
ERSTE GROUP BANK AG
EURAZEO SE
EURONEXT
FINECOBANK SPA
GJDG.FORSIKRING ASA
GROEP BRUSSEL LAMBERT NV
HANNOVER RUCK.AG
HARGREAVES LANSDOWN PLC.
HELVETIA HOLDING AG
HISCOX DI LTD.
HSBC HOLDINGS PLC.
IG GROUP HOLDINGS PLC.
INDUSTRIVARDEN AB
ING GROEP
INTERMEDIATE CAP.GP.PLC.
INTESA SANPAOLO
INVESTEC PLC.
INVESTMENT AB LATOUR
INVESTOR AB
JULIUS BAER GRUPPE AG
JYSKE BANK AS
KBC GROEP NV
KINNEVIK 'B'
LEGAL & GENERAL GP.PLC.
LLOYDS BANKING GP.PLC.
LONDON STOCK EX.GP.PLC.
LUNDBERGFORETAGEN AB
M&G PLC.
MAN GROUP PLC.
MEDIOBANCA BC.FIN SA
MUNICH RE
NATWEST GROUP PLC.
NN GROUP
NORDEA BANK AB
NORDNET AB
PARTNERS GROUP HOLDING
PHNX.GHG.PLC.
PKO BANK SA
PRUDENTIAL PLC.
PZU GROUP SA
RAIFFEISEN BANK INTL.AG
RINGKJOBING LANDBOBANK
SAMPO OYJ
SANTANDER BANK POLSKA SA
SCHRODERS PLC.
SCOR SE
SEB 'A' SA
SOCIETE GENERALE SA
SOFINA SA
ST JAMES S PLACE PLC.
STD.CHARTERED PLC.
STOREBRAND ASA
SVENSKA HANDBKN.'A' PLC.
SWEDBANK AB
SWISS LIFE HOLDING AG
SWISS RE AG
SWISSQUOTE GP.HLDG.LTD.
SYDBANK A/S
TALANX AKTGSF.
TRYG A/S
UBS GROUP
UNICREDIT
UNIPOL GRUPPO SPA
VIRGIN MONEY UK PLC.
WENDEL
ZURICH INSURANCE GP.AG

Source: Refinitiv

# Consumer Cyclicals (cont'd) and Consumer Non-Cyclicals

## Europe Capital Market Study

### Consumer Cyclicals

ACCOR
ADIDAS AG
ALLEGRO EU SA
ASSA ABLOY AB
AVOLTA AG
B&M EUR.VAL.RET.PLC.
BARRATT DEVS.P L C
BELLWAY PLC.
BERKELEY GROUP HDG.PLC.
BMW AG.
BOLLORE SE
BRUNELLO CUCINELLI SPA
BURBERRY GROUP PLC.
CHRISTIAN DIOR SA
CMPG.DES ETS.MICH.SCA
COMPASS GROUP PLC.
CONTINENTAL AG
D IETEREN GROUP SA
DR ING HC F PORSCHE AG
ELECTROLUX AB
ENTAIN PLC.
EVOLUTION AB
FERRARI NV
FLUTTER ENTM.PLC.
FORVIA SE
GAMES WORKSHOP GP.PLC.
GEBERIT AG
GRAFTON GROUP UTS.PLC.
GREGGS PLC.
H&M HENNES & MAURITZ AB
HERMES INTERNATIONAL
HOWDEN JOINERY GP.PLC.
HUGO BOSS AG
HUSQVARNA AB
ICTL.HOTELS GROUP PLC.
INCHCAPE PLC.
INDITEX SA
IPSOS SA
ITV PLC.
JD SPORTS FASHION PLC.
KERING SA
KINGFISHER PLC.
KINGSPAN GROUP PLC.
LA FRANCAISE DES JEUX SA
LPP SA
LVMH
MERCEDES-BENZ GROUP AG
MONCLER
NEXT PLC.
OCADO GROUP PLC.
PANDORA A/S
PEARSON PLC.
PERSIMMON PLC.
PORSCHE AML.HLDG.SE
PUBLICIS GROUPE SA
PUMA SE
RATIONAL AG
RENAULT SA
RICHEMONT N SA
ROCKWOOL A/S
SAINT GOBAIN
SEB SA
SIGNIFY NV
SODEXO
STELLANTIS NV
SWATCH GROUP AG
TAYLOR WIMPEY PLC.
THULE GROUP
TRAVIS PERKINS PLC.
TUI AG
UNIVERSAL MUSIC GROUP NV
VALEO SE
VISTRY GROUP PLC.
VIVENDI SE
VOLKSWAGEN AG
VOLVO CAR AB
WHITBREAD PLC.
WPP PLC.

### Consumer Non-Cyclicals (1/2)

AARHUSKARLSHAMN AB
ADDTECH AB
ANHEUSER-BUSCH INBEV SA
ASSOCIATED BRIT.FDS.PLC.
AXFOOD AB
BAKKAFROST ASA
BARRY CALLEBAUT AG
BEIERSDORF AG
BRITISH AMER.TOB.PLC.
BRITVIC PLC.
CARLSBERG AS
CARREFOUR SA
CHOC.LINDT &SPRUENGLI AG
COCA COLA HBC AG
CRANSWICK PLC.
DANONE
DAVIDE CAMPARI MILANO NV
DCC PLC.
DIAGEO PLC.
DINO POLSKA SA
DSM FIRMENICH
ESSITY AB
GALDERMA GROUP AG
GLANBIA PLC.
HEINEKEN HOLDING PLC.
HEINEKEN NV
IMPERIAL BRANDS PLC.
JDE PEETS NV
JERONIMO MARTINS SA
KERRY GROUP PLC.
KESKO OYJ
KON.AHOLD DLHZ.NV
LAGERCRANTZ GROUP 'B' AB
LIFCO B
L'OREAL

Source: Refinitiv

# Consumer Non-Cyclicals (cont'd), Healthcare and Technology

Europe Capital Market Study

## Consumer Non-Cyclicals (2/2)

LOTUS BAKERIES NV
MARKS & SPENCER GP.PLC.
MOWI ASA
NESTLE AG
ORKLA ASA
PERNOD-RICARD
RECKITT BENCKISER GP.PLC
ROYAL UNIBREW A/S
SAINSBURY J PLC.
SALMAR ASA
SMITHS GROUP PLC.
TATE & LYLE PLC.
TESCO PLC.
UNILEVER PLC.

## Healthcare

ALCON AG
ALK-ABELLO A/S
AMBU 'B'A/S
AMPLIFON SPA
ARGENX SE
ASTRAZENECA PLC.
BACHEM HOLDING AG
BAYER AG
BIOMERIEUX SA
CARL ZEISS MEDITEC AG
COLOPLAST A/S
CONVATEC GROUP PLC.
DEMANT A/S
DIASORIN
ELEKTA AB
ESSILORLUXOTTICA SA
EUROFINS SCIENTIFIC AG
FMC.AG
FRESENIUS
GALENICA SANTE
GENMAB A/S
GERRESHEIMER AG
GETINGE AB
GRIFOLS SA
GSK PLC.
HALEON
HIKMA PHARMS.PLC.
INDIVIOR PLC.
IPSEN SA
KON.PHILIPS ELTN.NA
LONZA GROUP AG
MERCK KGAA
NOVARTIS AG
NOVO NORDISK A/S
ORION OYJ
QIAGEN NV
RECORDATI INDUA.CHIMICA
ROCHE HOLDING AG
SANDOZ GROUP AG
SANOFI
SARTORIUS AG
SARTORIUS STEDIM BIOTECH
SECTRA AB
SIEGFRIED HOLDING AG
SIEMENS HEALTHINEERS
SMITH & NEPHEW PLC.
SONOVA HOLDING AG
STRAUMANN HOLDING AG
SWED.ORPHAN BIOVITRUM AB
UCB SA
ZEALAND PHARMA AS

## Technology (1/2)

ADYEN NV
AIXTREN SE UNSP.ADR 1:2
ALLFUNDS GROUP PLC.
ALTEN
AMADEUS IT GROUP
ASM INTERNATIONAL
ASML HOLDING NV
AUTO TRADER GROUP PLC.
BE SEMICONDUCTOR INDS.
BECHTLE AG
BT GROUP PLC.
CAPGEMINI SE
CD PROJECT RED SA
CELLNEX TELECOM
COMET HOLDING AG
COMPUTACENTER PLC.
CTS EVENTIM AG
DARKTRACE
DASSAULT SYSTEMES SE
DELIVERY HERO AG.
DEUTSCHE TELEKOM AG
ELISA OYJ
FORTNOX AB
FREENET AG
GN STORE NORD A/S
HALMA PLC.
HEMNET GROUP AB
HEXAGON AB
INFINEON TECHNOLOGIES AG
INFRASTRUTTURE WIRELESS
JUST EAT TAKEAWAY COM NV
KONINKLIJKE KPN NV
LOGITECH INTL.SA
MILLICOM INTL.CELU.SA
MYCRONIC AB

Source: Refinitiv

# Technology (cont'd), Utilities, Energy and Basic Materials

Europe Capital Market Study

## Technology (2/2)

NEMETSCHEK AG
NOKIA OYJ
ORANGE SA
PROSUS NV
RELX PLC.
REPLY SPA
RIGHTMOVE PLC.
RS GROUP PLC.
SAP AG
SCOUT24 SE
SES SA
SOFTCAT PLC.
SOITEC
SOPRA STERIA GROUP
SPECTRIS PLC.
STMICROELECTRONICS NV
SWISSCOM
TECAN GROUP AG
TELAB.LM ERIC.
TELE2 AB
TELECOM ITALIA
TELEFONICA SA
TELENOR ASA
TELIA COMPANY AB
TEMENOS AG
THE SAGE GROUP PLC.
TIETOEVRY OYJ
UBISOFT ENTERTAINMENT SA
VODAFONE GROUP PLC.
WORLDLINE
ZALANDO

## Utilities

A2A SPA
BKW
CENTRICA PLC.
DRAX GROUP PLC.
E ON SE
EDP RENOVAVEIS
EDP SA
ELIA GROUP SA
ENDESA SA
ENEL SPA
ENGIE
FORTUM OYJ
HERA SPA
IBERDROLA SA
ITALGAS
NATIONAL GRID PLC.
NATURGY ENERGY GROUP SA
NEOEN SA
OERSTED A/S
PENNON GROUP PLC.
REDEIA CORPORACION SA
RWE AG.
SEVERN TRENT PLC.
SSE PLC.
TERNA RETE ELETTRICA NAZ
UNITED UTILITIES GP.PLC.
VEOLIA ENVIRONNEMENT
VERBUND AG

## Energy

AKER BP ASA
BP PLC.
ENAGAS SA
ENI
EQUINOR ASA
FRONTLINE PLC.
FUGRO C DUTCH CERT NV
GALP ENERGIA SGPS
GTT
NESTE
OMV AG
ORLEN SA
REPSOL YPF SA
RUBIS
SAIPEM
SHELL PLC
SIEMENS ENERGY AG
SNAM SPA
SUBSEA 7 SA
TECHNIP ENERGIES NV
TENARIS SA
TOTALENERGIES SE
VALLOUREC
VAR ENERGI ASA
VESTAS WINDSYSTEMS A/S

## Basic Materials (1/2)

AKZO NOBEL NV
ANGLO AMERICAN PLC.
ANTOFAGASTA PLC.
ARCELORMITTAL
ARKEMA
AURUBIS AG
BASF SE
BOLIDEN AB
BRENNTAG SE
BUZZI SPA
CLARIANT AG
COVESTRO AG
CRODA INTERNATIONAL PLC.
EMS-CHEMIE HOLDING AG
EVONIK INDUSTRIES AG
FLSMIDTH & CO.'B' A/S
FUCHS SE
GIVAUDAN SA
GLENCORE PLC
HEIDELBERG MATERIALS AG
HENKEL PREFERENCE AG.
HEXPOL AB
HOLCIM AG
HOLMEN AB
HUHTAMAKI OYJ
IMCD GROUP
JOHNSON MATTHEY PLC.
K+S AG
KEMIRA OYJ
KGHM POLSKA MIEDZ SA
L AIR LQE.SC.ANYME.POUR
LANXESS AG
MONDI PLC.
NORSK HYDRO ASA
NOVOZYMES

Source: Refinitiv

# Basic Materials (cont'd) and Industrials

Europe Capital Market Study

## Basic Materials (2/2)

OCI NV
RIO TINTO PLC.
SIG GROUP AG
SIKA AG
SMITH (DS) PLC.
SSAB AB
STORA ENSO OYJ
SVEN.CELL.AB.SCA
SYENSQO SA
SYMRISE AG
THYSSENKRUPP AG
UMICORE SA
UPM-KYMMENE OYJ
VERALLIA SA
VIDRALA SA
VISCOFAN SA
VOESTALPINE AG
WACKER CHEMIE AG
WIENERBERGER AG
YARA INTERNATIONAL ASA

## Industrials (1/2)

A P MOLLER - MAERSK A/S
AALBERTS NV
ABB LTD N
ACCELLERON INDUSTRIES AG
ACCIONA SA
ACKERMANS & VAN HAAREN
ACS ACTIV.CONSTR.Y SERV.
ADECCO SA
ADP
AENA SME SA
AIRBUS SE
ALFA LAVAL AB
ALSTOM SA
ANDRITZ AG
ARCADIS NV
ASHTEAD GROUP PLC.
ATLAS COPCO AB
AZELIS GROUP NV
BAE SYSTEMS PLC.
BALFOUR BEATTY PLC.
BEIJER REF AB
BELIMO HOLDING AG
BOUYGUES SA
BUCHER INDUSTRIES AG
BUNZL PLC.
BUREAU VERITAS INTL.
CARGOTEC CORP.
DAIMLER TRUCK HOLDING AG
DASSAULT AVIATION
DEUTSCHE LUFTHANSA AG
DEUTSCHE POST AG
DIPLOMA PLC.
DKSH HOLDING AG
DSV A/S
EASYJET PLC.
EDENRED SE
EIFFAGE
ELIS
EPIROC AB NPV A
EXOR
EXPERIAN PLC.
FERROVIAL SE
FLUGHAFEN ZURICH AG
GEA GROUP AG
GEORG FISCHER AG
GETLINK SE
HAYS PLC.
HOCHTIEF AG
IMI PLC.
INDUTRADE AB
INFICON HOLDING AG
INFORMA PLC.
INPOST SA
INTERPUMP GROUP
INTERTEK GROUP PLC.
INTL.CONS.AIRL.GROUP SA
INTL.DS.SVS.PLC.
ISS AS
IVECO GROUP
KION GP.AG PREREIN.
KNORR BREMSE AG
KONE OYJ
KONECRANES OYJ
KONGSBERG GRUPPEN ASA
KUEHNE+NAGEL INTL.G
LEGRAND
LEONARDO SPA
MELROSE INDUSTRIES
METSO OYJ
MTU AERO ENGINES HLDG.AG
MUNTERS GROUP LTD.
NEXANS SA
NEXI SPA
NIBE INDUSTRIER AB
NKT A/S
POSTE ITALIANE
PRYSMIAN
QINETIQ GROUP PLC.
RANDSTAD NV
RENTOKIL INITIAL PLC.
REXEL
RHEINMETALL AG
ROLLS-ROYCE HOLDINGS PLC
ROTORK PLC.
RYANAIR HOLDINGS PLC.
SAAB AB
SAFRAN SA
SANDVIK
SCHINDLER HOLDING AG
SCHNEIDER ELECTRIC SE
SECURITAS AB
SERCO GROUP PLC.
SFS GROUP AG
SGS SA
SIEMENS AG
SKANSKA AB
SKF AB
SPIE SA
SPIRAX GROUP PLC.
SWECO AB
TELEPERFORMANCE
THALES SA
TOMRA SYSTEMS ASA
TRELLEBORG AB
VALMET OYJ

Source: Refinitiv

# Industrials (cont'd) and Real Estate

## Europe Capital Market Study

### Industrials (2/2)

VAT GROUP
VINCI SA
VOLVO AB
WARTSILA OYJ ABP
WEIR GROUP PLC.
WISE PLC.
WOLTERS KLUWER NV

### Real Estate

AEDIFICA NV
ALLREAL HOLDING AG
BIG YELLOW GROUP PLC.
BRITISH LAND COMPANY PLC
CASTELLUM AB
COFINIMMO
COVIVIO SA
DERWENT LONDON PLC.
FASTIGHETS BALDER AB
GECINA
KLEPIERRE
LAND SECURITIES GROUP PLC.
LEG IMMOBILIEN SE
LONDONMETRIC PROPERTY PLC
MERLIN PROPERTIES REIT
PSP SWISS PROPERTY AG
SAFESTORE HOLDINGS PLC.
SAGAX AB
SEGRO PLC.
SWISS PRIME SITE
TAG IMMOBILIEN AG
TRITAX BIG BOX REIT PLC.
UNITE GROUP PLC.
VONOVIA SE
WALLENSTAM AB
WAREHOUSES DE PAUW NV
WFD UNIBAIL RODAMCO NV
WIHLBORGS FASTIGHETER AB

Source: Refinitiv

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