

KINGSTONE
REAL ESTATE

Research & Insights

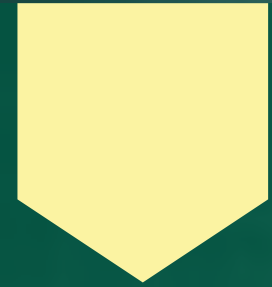
THE KINGSTONE Market View

Evaluations of Real Estate Investments in the Balancing Area between Cash Flow and Interest Rate Effects

KINGSTONE Market Views – Chartbook

Q4 2023

**FAMILY VALUES
MEET INSTITUTIONAL VALUES**



Introduction & the Phenomenon of Wealth Illusion

Introduction to the Subject Matter

- Real estate prices have risen sharply over the last ten years. But does this imply that (real and nominal) increases in value have also been evident? Is there actually a difference between value and price? And what are the underlying mechanisms?
- As a result of spiraling inflation, the European Central Bank (ECB) has raised short-term key interest rates at a record pace.
- Due to the disproportionately low effect on long-term interest rates, an inverse interest rate structure can be observed. What effect has this had on real estate prices in the recent past?
- However, real estate values are also driven by the development of future rental cash flows. Can this development counteract the long-term interest rate effects?

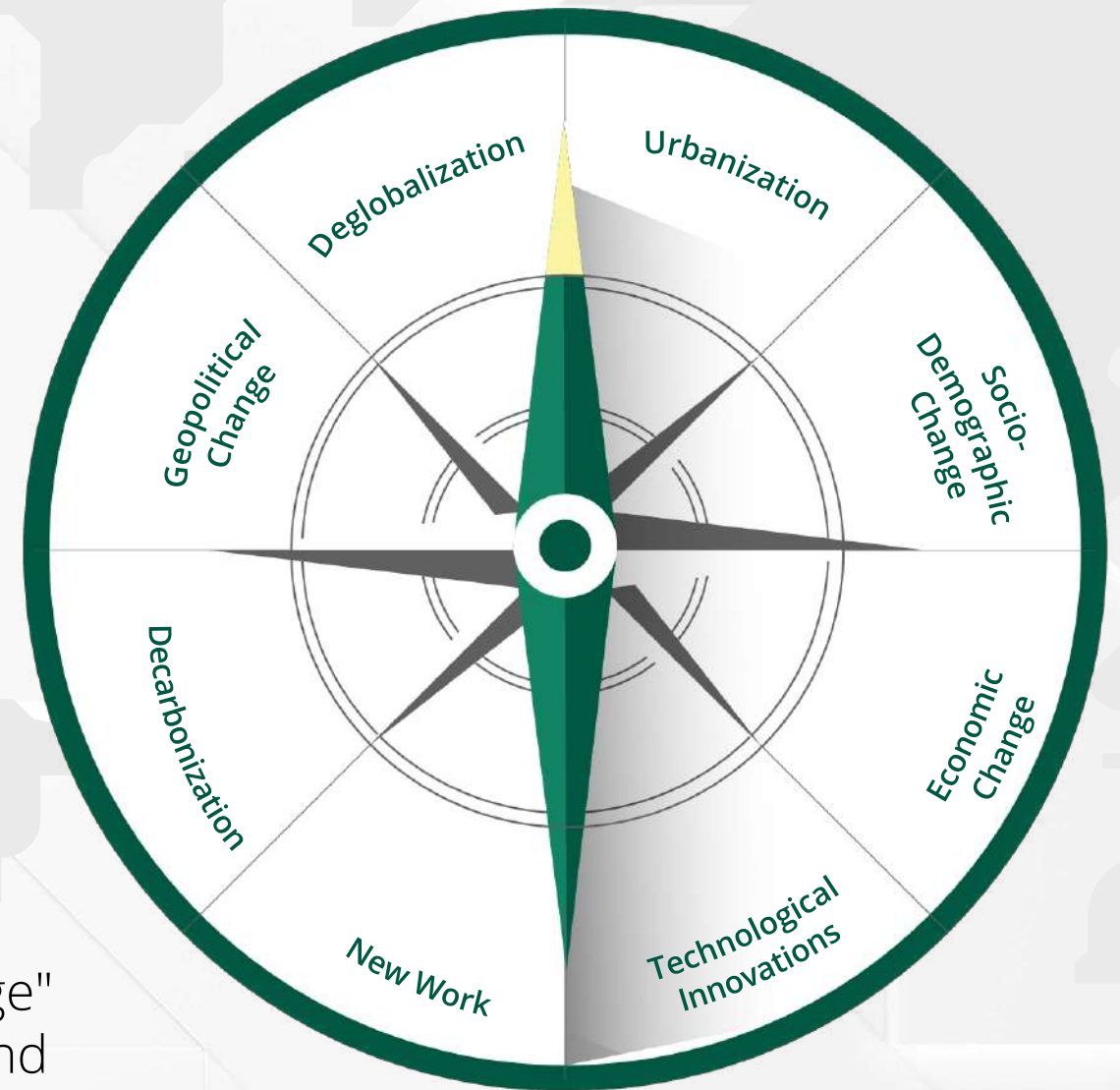


KINGSTONE Investment Compass

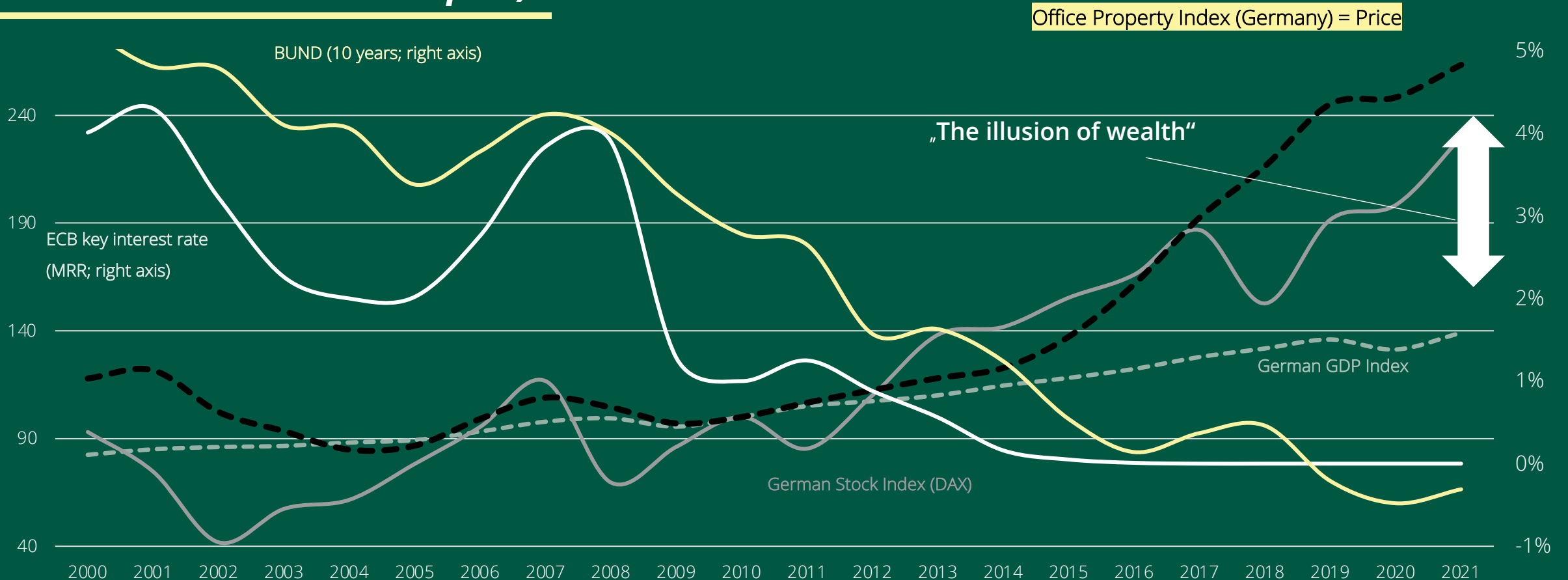
Investing in Megatrends through Essential Real Estate



The megatrends "Urbanization", "Socio-Demographic Change" and "Economic Change" influence both the underlying capital costs and the long-term cash flows.



By 2021 - Significant Price Increases for Real Estate in Germany and Europe (using the German Office Market as an Example)



- Significant asset price inflation: Some economists claim -> bubble development already with widening of the price-rent (GDP) gap (yield compression).
- "The illusion of wealth" = higher prices do not imply an improvement in future consumption opportunities (divergence between price and value).

The Reason for the Wealth Illusion - possible discrepancies in price and value



*„Price is what you pay; value is what you get“
(Benjamin Graham; 1894 – 1976)*



Bundesgerichtshof (BGH)

Judgement of 25 October 1967

"The price of an item does not have to correspond to its value. It [...] is negotiated between buyer and seller. Market price and objective market value do not play a decisive role, rather [...] often also the personal ideas and wishes of the prospective buyer." (BGH, judgement of 25.10.1967 - VIII ZR 215/66)



Price vs. Value – Theoretical Principles

Price vs. Value – Terms and Differences

Difference between Value and Price

Value

Value is an objectified, intersubjectively verifiable concept that results from the functional relationship between supply and demand on the market.

Estimation of a Transaction Price

Price

In each individual case, the price of an item lies between the subjective value judgements of the buyer and seller, whereby the final determination of the price can be influenced by different negotiating positions and other subjective factors.

Actual Transaction Price

§ 194 BauGB

The market value (market value) is determined by the price that could be realised in the ordinary course of business at the time to which the valuation relates, taking into account the legal circumstances and actual characteristics, the other properties and the location of the property or other object of the valuation without taking into account unusual or personal circumstances.

International Accounting Standards Board (IASB) – IFRS 13

Fair value is the amount for which an asset could be sold in an arm's length transaction between market participants on the measurement date [...].

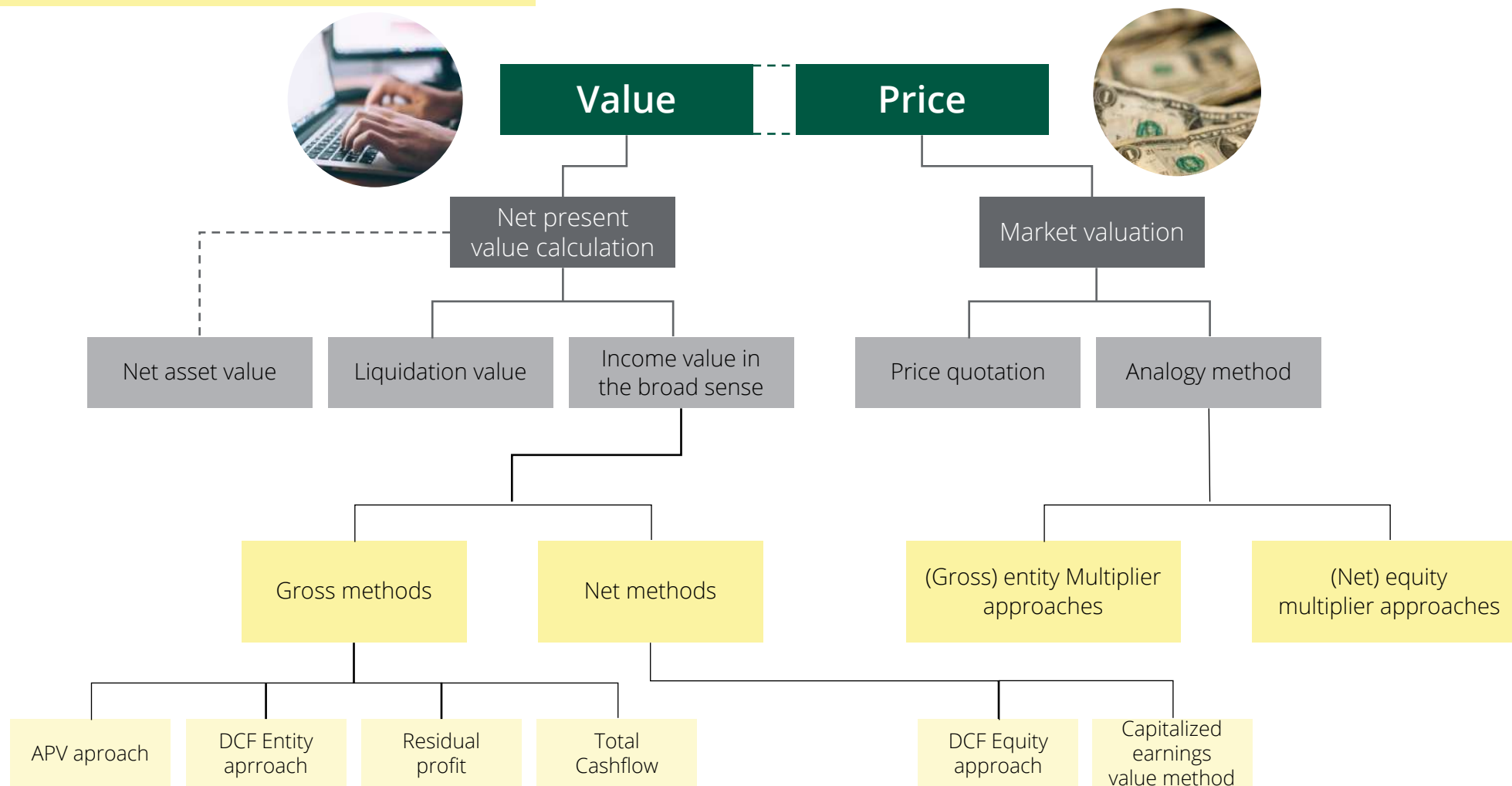
International Valuation Standards (IVS) – IVS Framework para 29

Market value is the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion.

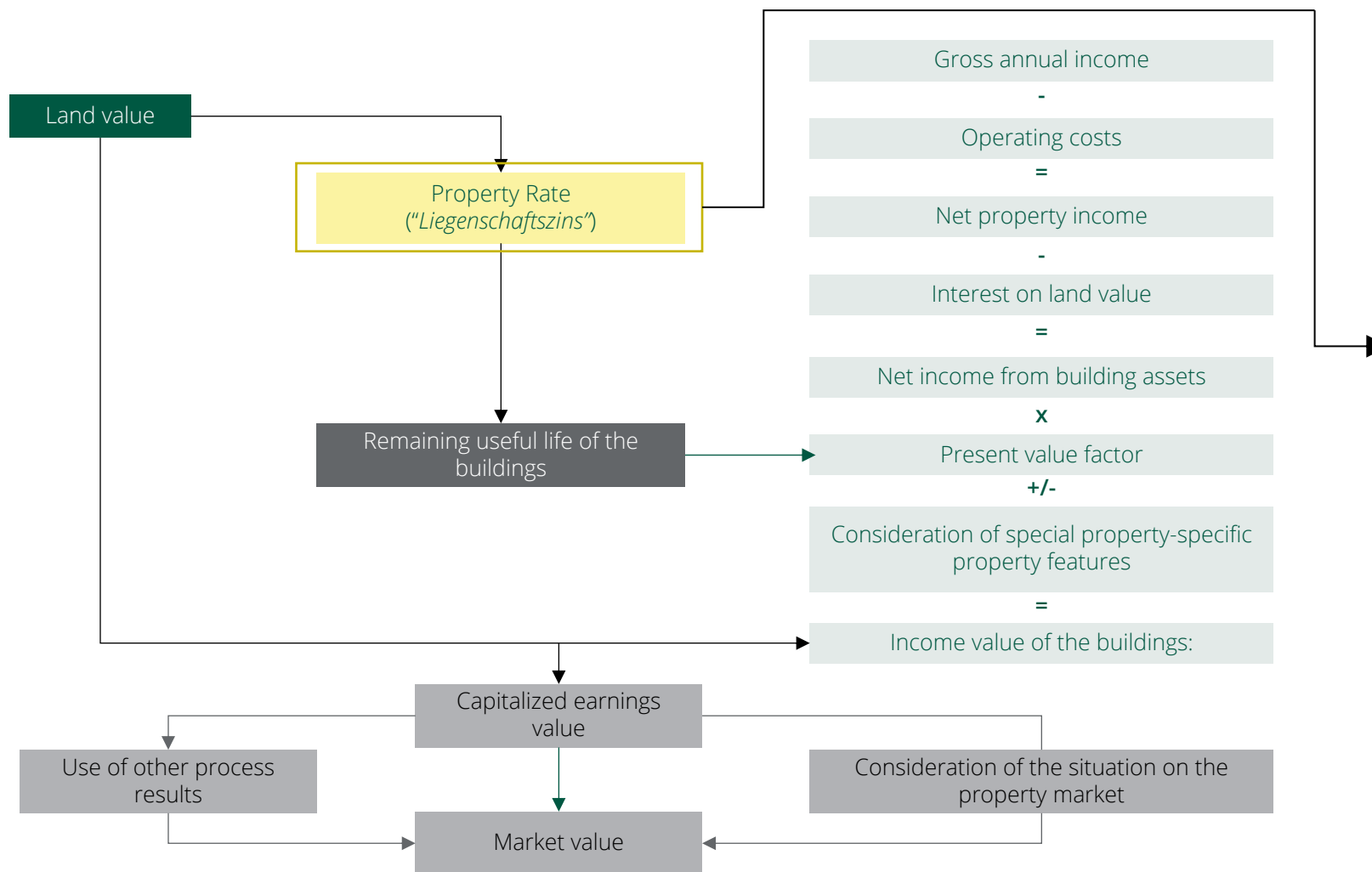
International Valuation Standards (IVS) – IVS Framework para 36

The individual investment value is the value of an investment asset for the owner or a future owner with regard to an individual investment or specific investment objectives.

Price vs. Value - Gross (*Entity*) and Net (*Equity*) Methods of the Net Present Value Calculation



"Many roads lead to Rome" - but doesn't the *German Ertragswertverfahren* end up in the dead end?



- The value of a property is usually determined using the income capitalisation approach codified in the ImmoWertV.
- Central premise and possibly also problem ("more IFRS and less HGB"): Determination of the property interest rate from realised prices of comparable properties.
- „Self-fulfilling Prophecy“?
- Alternative: Application of the Discounted Cash Flow Method (DCF), as the risk content of the uncertain cash flows can then be explicitly recognised via the discount rate.
- Definition and qualification of risk sources.
- Quantification of the premiums for risk compensation.



DCF as a risk-based Valuation Method

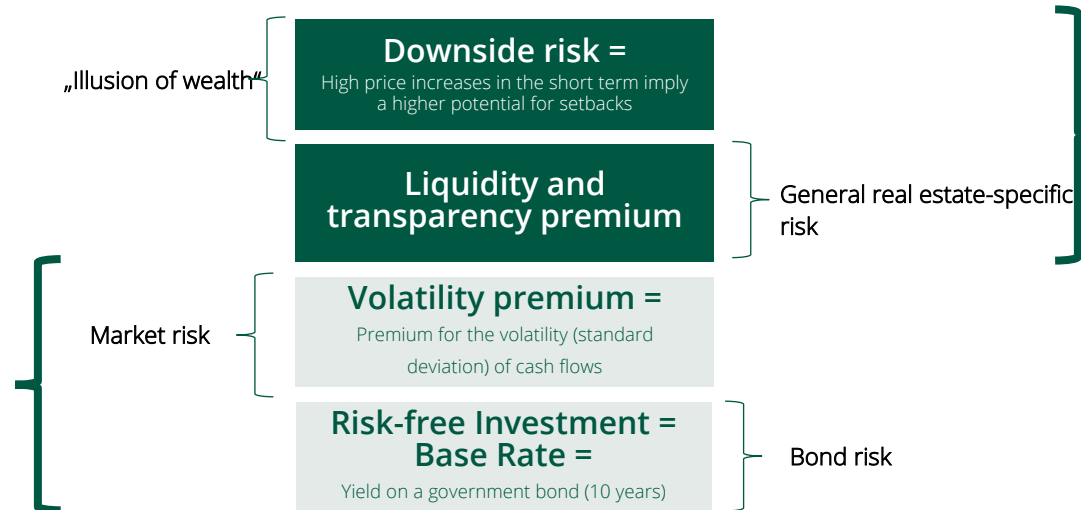
Our Valuation Approach - DCF Method by Identifying Risk Sources and Postulating Premiums

Value of the property (according to DCF method)

$$= \frac{\text{Operating income}}{\text{Discount rate}}$$



Harry Max Markowitz
(US economist; founder of Portfolio Selection & CAPM theories; 1927 - 2023)



Composition of **discount rate** from the individual risk premiums for ...



Minimum required rate of return for the investor ...



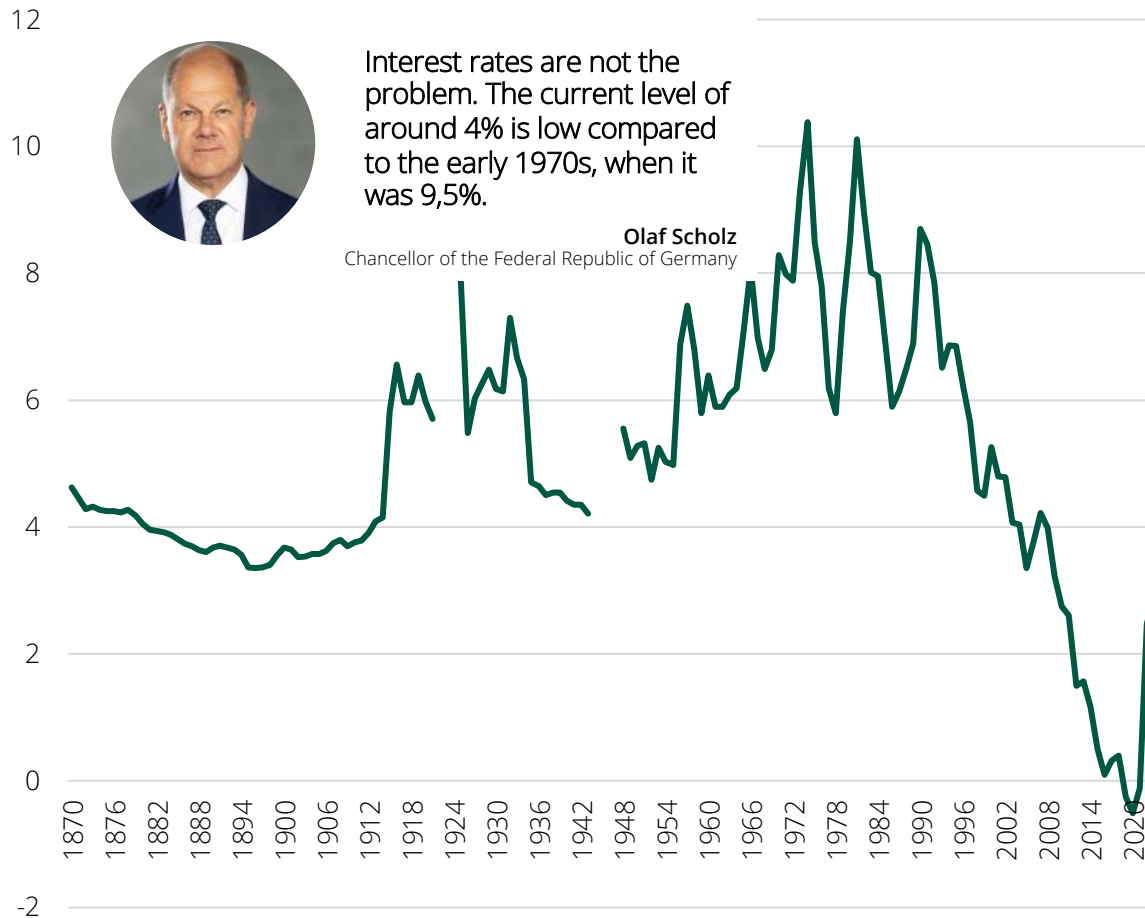
Eugene Fama und Kenneth French
(Fama-French three-factor model as an extension of the capital asset pricing model)

DCF Method by Identifying Risk Sources and Postulating Premiums – Detailed Explanations

- While the price is transparent, the value as a model-based parameter results from the equivalent of an asset's uncertain cash flows to the risk-free investment.
- The application of the discounted cash flow (DCF) method enables the risk content of uncertain cash flows to be captured by the discount rate.
- An issue with the DCF method is that the discount rate with the support of the capital asset pricing model (CAPM) and thus only the volatility is recognized.
- However, other sources of risk must also be taken into account for real estate investments. Illiquidity, the risk of not being able to find a buyer on an illiquid market, and the lack of transparency, the risk of finding insufficient information for determining value and price, must be considered as further risk premiums. Furthermore, a downside risk must be taken into account as a momentum effect, according to which high price increases in the short term entail a high potential for setbacks. Corresponding exchange rate premiums must be considered for investments in non-euro countries.
- The risk premiums should be taken into account in the DCF discount rate. The calculated discount rate represents the total cost of capital (WACC = weighted average cost of capital) in accordance with the irrelevance theorem of the capital structure according to Franco Modigliani and Merton Miller, and the values can be calculated using the perpetual annuity method.
- According to the Greek myth of Sisyphus, the search for the exact right discount rate is expected to be unlikely successful. The values for the risk premiums cannot be taken from a technical guide, but rather have to be determined individually by the investor (*principle*) or by the mandated investment manager (*agent*). In the following, both market-based surveys and calculations are used.

1) Component – Risk-free Investment ("Base Rate") in a Historical Context - a Problem?

Long-term interest rates (BUND; 10 years) in Germany (1879 to 2023)

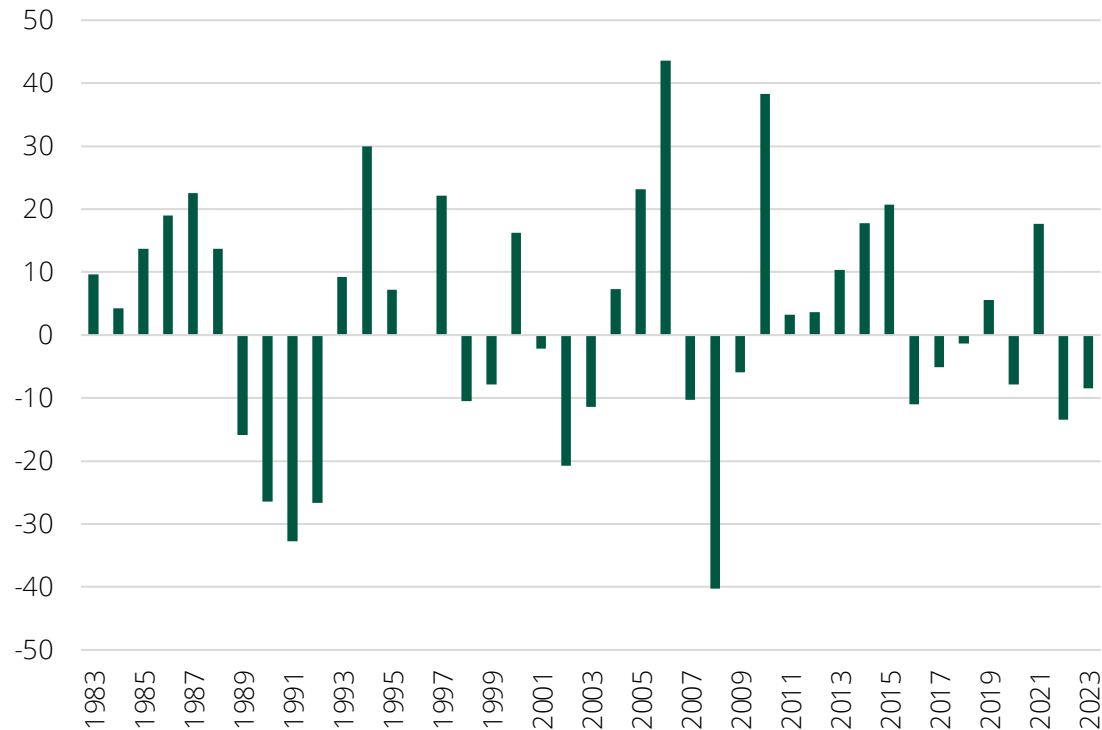


Relative change in interest rates for mortgage loans (in %)

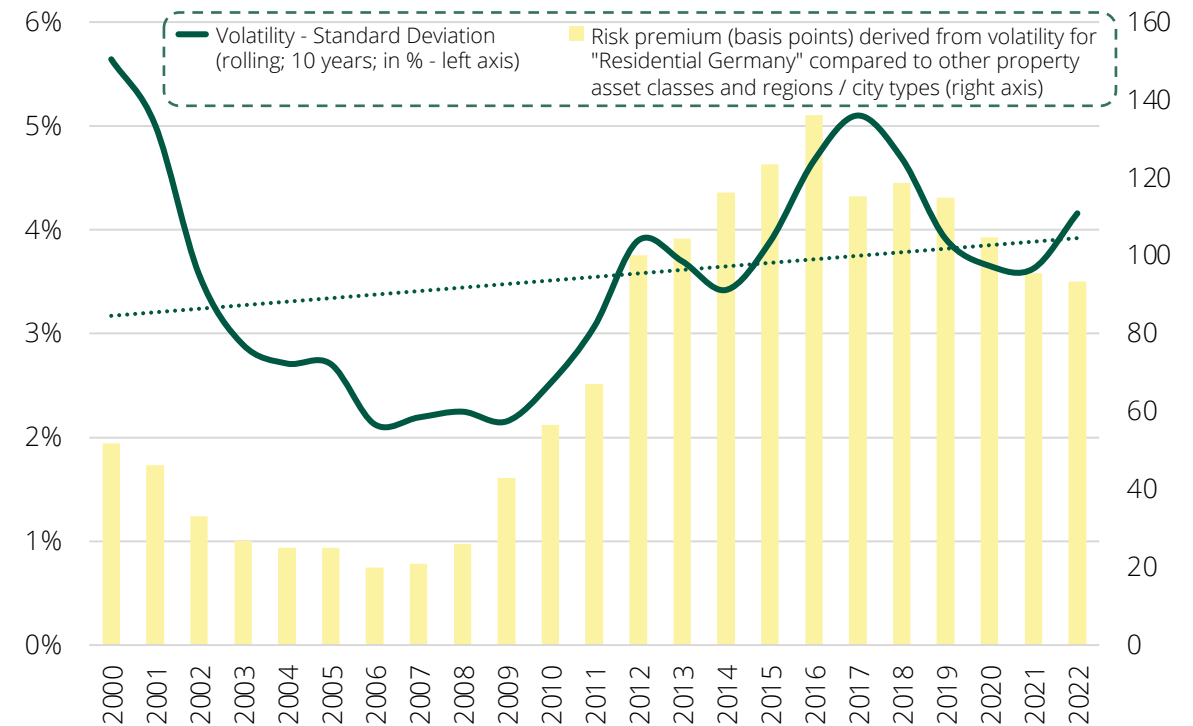


2) Component – Volatility (*Market Risk*): the Beta Risk

Change in Prices (Capital values) - London Office Market (in %)



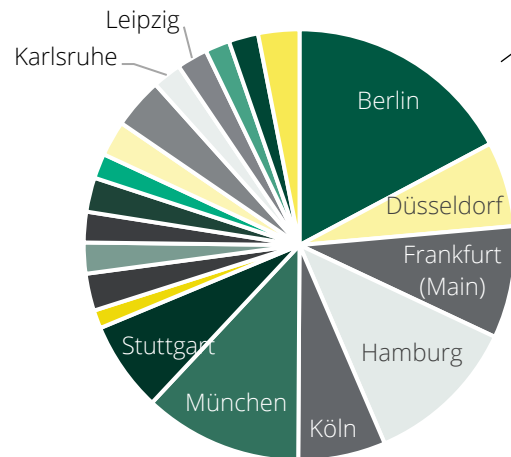
Germany - Residential Real Estate Market



- In line with Markowitz's ideas on the theory of capital markets, the volatility of cash flows is included as a measure of risk to determine the market risk premium - as the second component of the CAPM model.
- Criticism that fluctuations in both directions are included: Incorporation of semi-variance.
- Volatility premium on average: 100 basis points (survey-based insights).

3) Component – General real estate-specific Risks - Liquidity & Transparency

German - Office Stock by City (sqm)



- Berlin
- München
- Dortmund
- Karlsruhe
- Düsseldorf
- Stuttgart
- Dresden
- Leipzig
- Frankfurt (Main)
- Bochum
- Duisburg
- Mannheim
- Hamburg
- Bonn
- Essen
- Münster
- Köln
- Bremen
- Hannover
- Nürnberg

In line with the ideas of Fama, French and Carhart (extension of the CAPM model to include further factors), it is thus necessary to identify further real estate-specific risks and quantify these as part of the premium setting process. In general, the smaller the relevant markets are, the more pronounced the two risk variables. In general, the relatively smaller the relevant markets concerned, the more pronounced the two risk variables. Furthermore, established real estate asset classes exhibited lower transparency risks.



Liquidity Risk

Illiquidity, the risk of not finding a buyer in an opaque market.

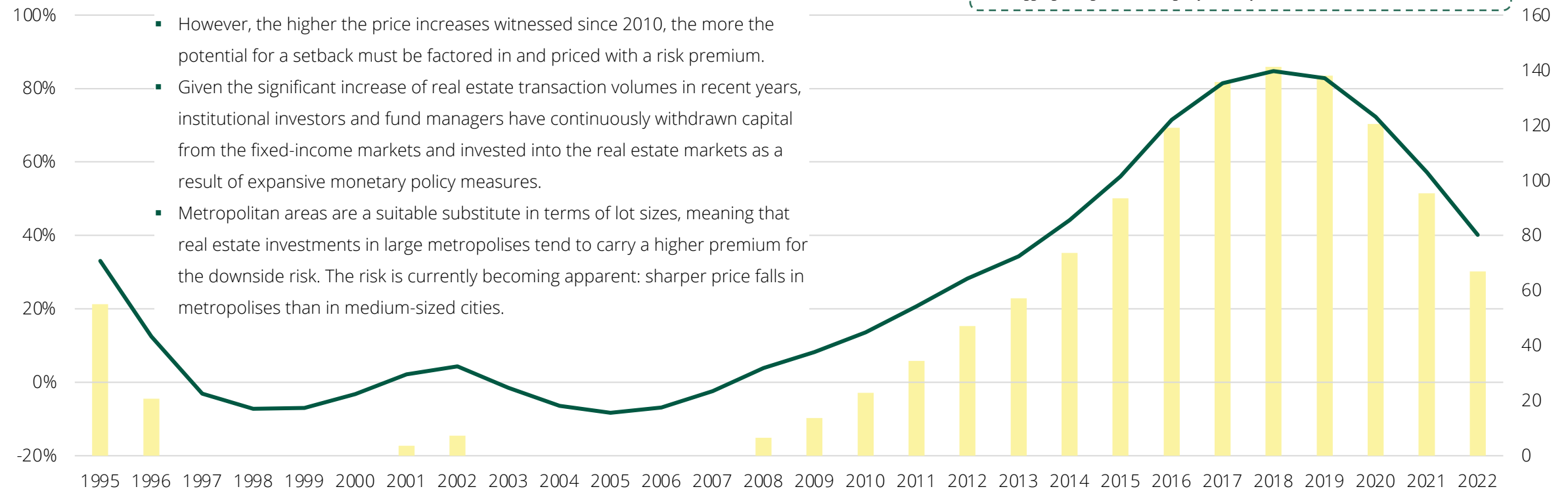


Risk of Transparency

Lack of transparency, the risk of finding only insufficient information for determining value and price.

4) Component – Downside Risk Premium - Consideration of the Drop Heights

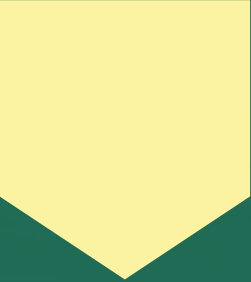
Germany - Residential Real Estate Market



- However, the higher the price increases witnessed since 2010, the more the potential for a setback must be factored in and priced with a risk premium.
- Given the significant increase of real estate transaction volumes in recent years, institutional investors and fund managers have continuously withdrawn capital from the fixed-income markets and invested into the real estate markets as a result of expansive monetary policy measures.
- Metropolitan areas are a suitable substitute in terms of lot sizes, meaning that real estate investments in large metropolises tend to carry a higher premium for the downside risk. The risk is currently becoming apparent: sharper price falls in metropolises than in medium-sized cities.



Wealth illusion is accompanied by an underestimation of the risk for a downside scenario. A further risk premium for this risk type is intended to take account of the massive increases in market value due to expansionary monetary policies; the premium is currently falling due to the turnaround in interest rates.



Price vs. Value analysis - using the example of the Berlin Residential Real Estate Market

Price vs. Value - a Practical Test of the Outlined Analysis Methodology

A graphic comparing 'Price' and 'Value'. The word 'Price' is on the left, 'Value' is on the right, and 'vs.' is in a white circle in the center. The background is split: the left side shows a close-up of US dollar bills, and the right side shows hands typing on a laptop keyboard.

Price

vs.

Value

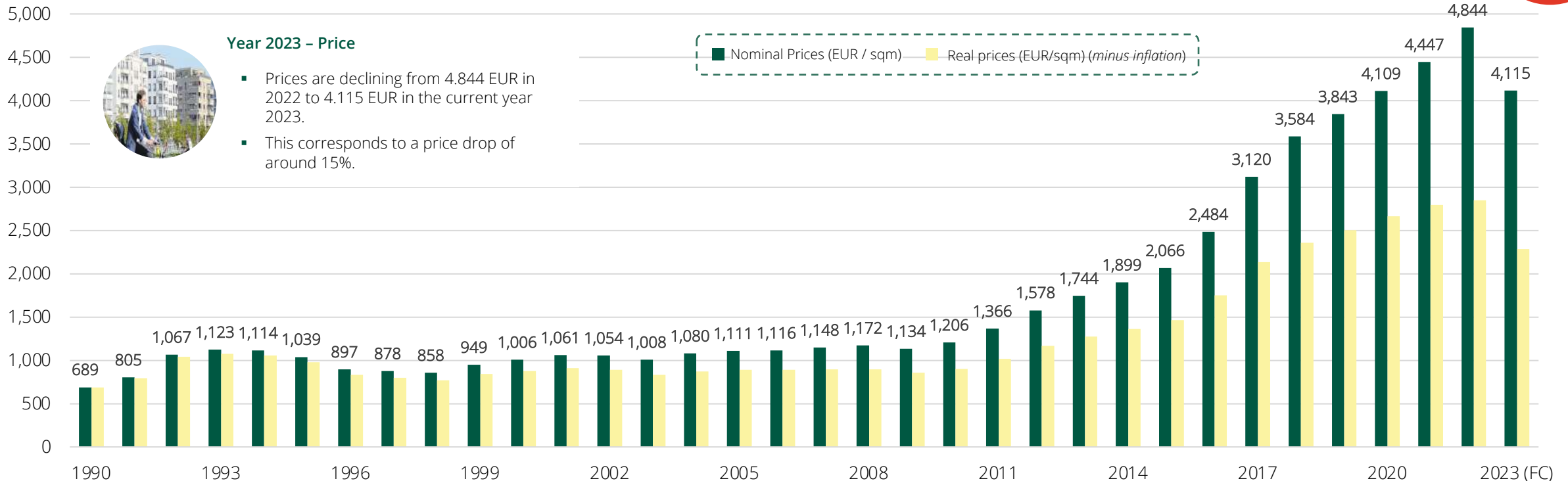


- Once again, in a nutshell, what is the PRICE? → precisely the effective and observable price on the market; but in technical jargon also referred to as CAPITAL VALUE.
- And the VALUE? → determined in accordance with the German income capitalization approach (*Ertragswertverfahren*)? Not at all -> but rather according to the preferences of an investor who has to factor all sources of risk into his value expectations via return premiums.

Price Trends - for Residential Real Estate in Berlin

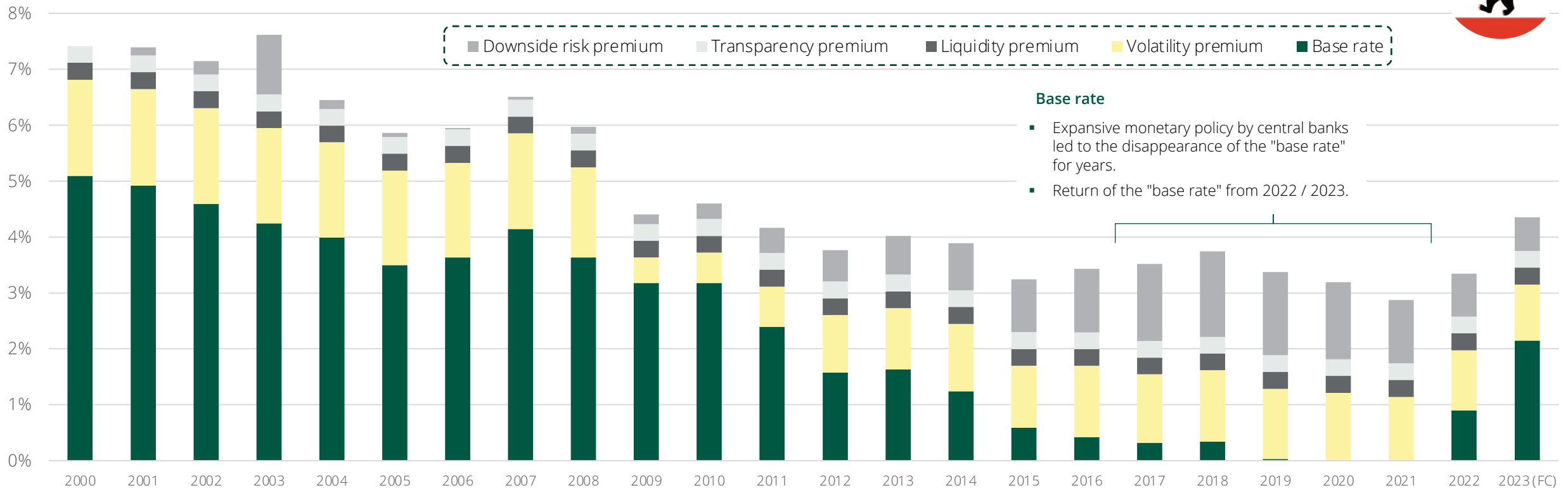


Prices (Capital Values) for Residential Stock in Berlin (EUR / sqm)



- From the beginning of the 1990s to 2010, prices (capital values) tended to remain stable; both nominal and real development.
- From 2010 to 2022, clearly positive price trends are discernible. Even during the coronavirus crisis, the high demand for housing and further expansive monetary measures continued to drive prices upwards.
- Given the turnaround in interest rates, a reduction in prices can be seen in 2023; but is this adequate? (*Remark: Low transaction volumes in 2023 only provide limited empirical evidence.*)

DCF Method: Illustration of the Risk Premiums & Resulting Determination of the Discount Rate over Time

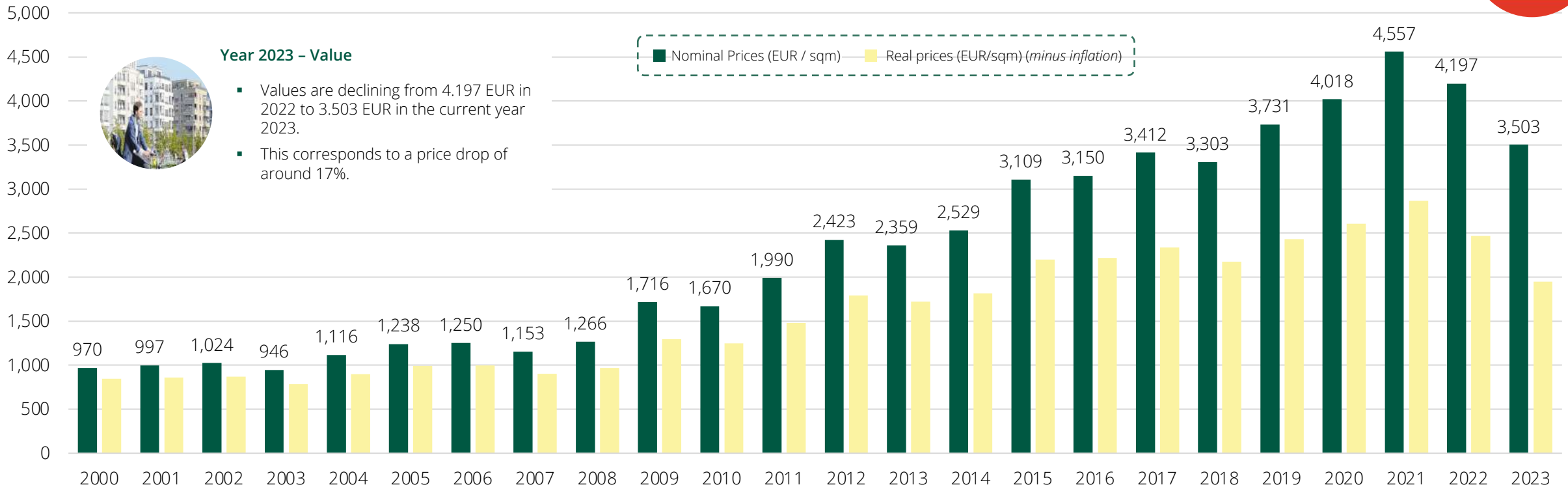


- The discount rate is determined in particular by the prime rate and has fallen sharply in recent years. However, investors must also give greater weight to the "downside risk premium" in the risk calculation. Increased volatility also contributes more significantly to the discount rate.
- The higher base rate is currently also driving up the discount rate, while the downside risk premium is evaporating slightly.

Value Trends - for Residential Real Estate in Berlin



Modeled DCF values (EUR / sqm) for Residential Stock in Berlin (EUR / sqm)



Year 2023 - Value

- Values are declining from 4.197 EUR in 2022 to 3.503 EUR in the current year 2023.
- This corresponds to a price drop of around 17%.

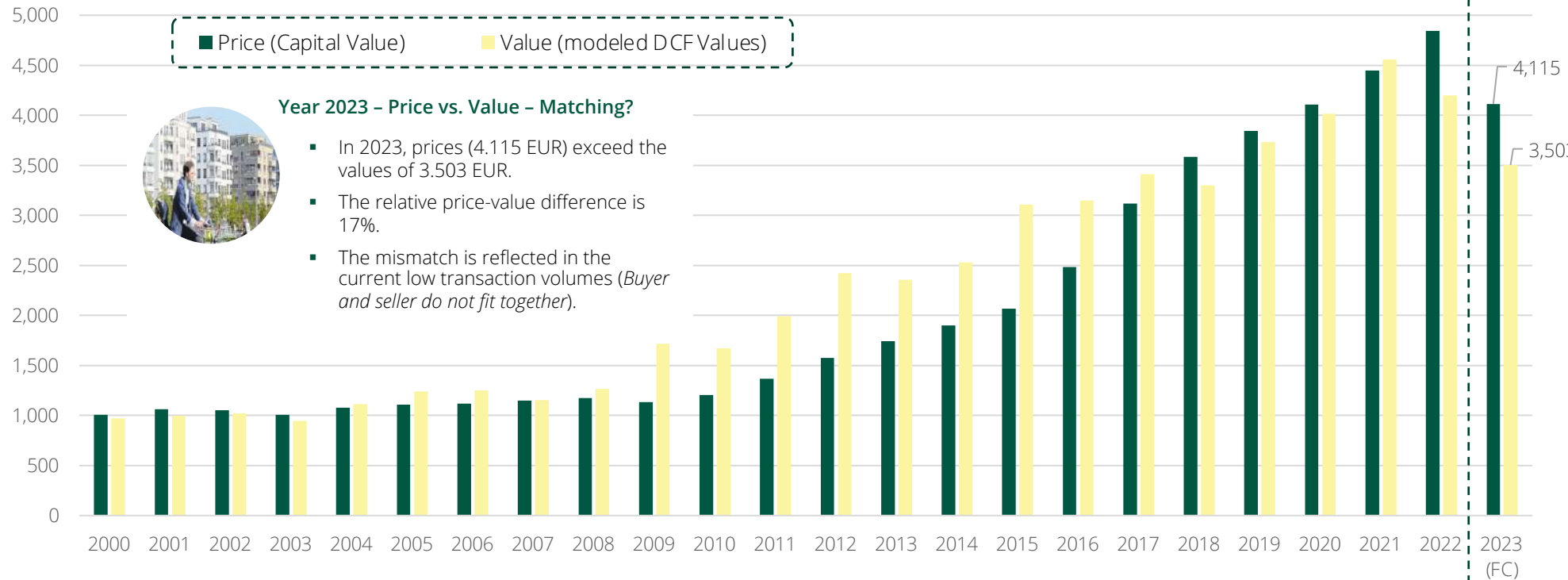


- In consideration of the explanations relating to the falling discount rate and the simultaneous increase of the rental cash flow, it is not surprising that the values (nominal & real) have also risen significantly.
- The significant increase in the "base rate" overcompensates the rental growth, with the result that our model also shows losses in value in 2022 and 2023.

Price vs. Value – do the both Variables fit together?



Modeled DCF values (EUR / sqm) for Residential Stock in Berlin (EUR / sqm)



Year 2023 – Price vs. Value – Matching?



- In 2023, prices (4.115 EUR) exceed the values of 3.503 EUR.
- The relative price-value difference is 17%.
- The mismatch is reflected in the current low transaction volumes (*Buyer and seller do not fit together*).

- From 2000 to 2008, prices and values were at a similar level; the market was priced fairly.
- From 2009 to 2017, the Berlin market offered an ideal market entry point: values above the prices.
- From 2018, the market was already quite expensive; prices above the model value were particularly apparent in the new-build segment.
- Currently: prices above the values.





A View into the Future - how will Values Develop in the coming Years?

Using Statutory vs. Dynamic Valuation Approaches

The valuation is time-based - however, a real estate investment must take a long-term view.

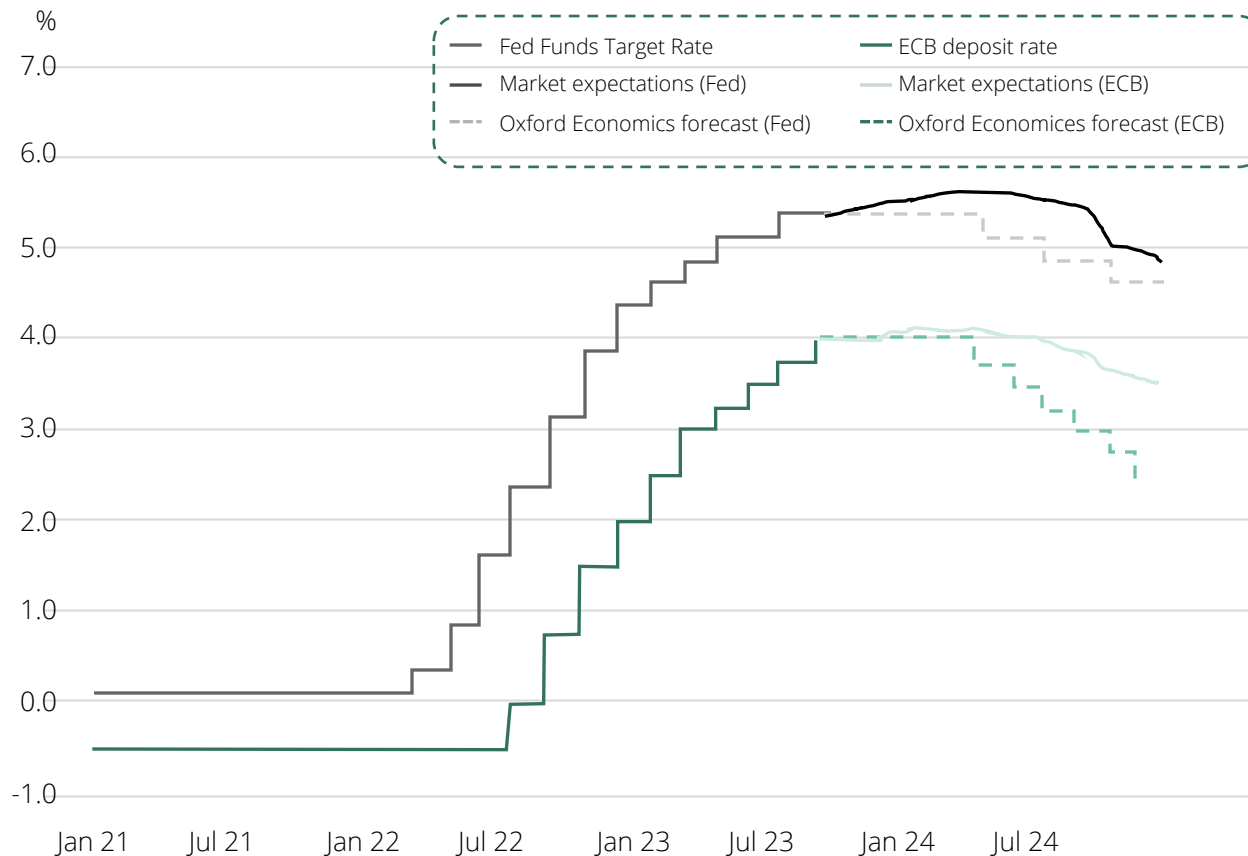
Main Focus

Development Of Interest Rates & Real Rental Growth.



Excursus - Monetary Policy: Monetary Policy Turnaround since 2022 – but the Downward Pressure Increases

USA - Eurozone - Forecast of relevant central bank interest rates (in %)



Monetary Policies in Europe and the USA - Views & Sentiment

Erik Nielsen (UniCredit)

I think it is extremely likely that the ECB has raised interest rates too much.

Marion Höllinger (CEO Hypo-Vereinsbank)

The willingness to undertake large-scale real estate projects is currently very low. However, this is also due to the fact that many companies are assuming that interest rates will decrease again in the year ahead.

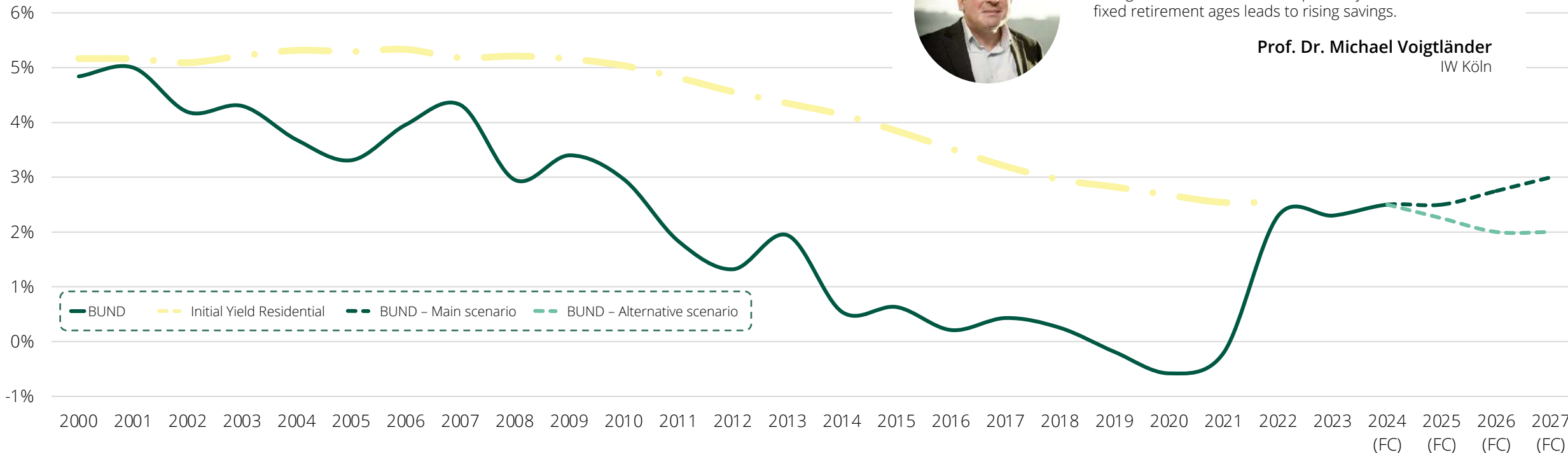
Jeffrey Grundlach (US-Investor – CEO; Double Line Capital)

The high level of debt in the USA is causing concerns. If the US slides into recession, the Fed will cut interest rates significantly. In short: the Fed is taking the stairs up and the elevator to the bottom.

Long-term interest rates are more relevant for the DCF valuation; in this case, demographic effects have the effect to reduce interest rates.

Risk-free Investment ("Base Rate") - the Fundament of the Valuation: Formulation of two Scenarios

Development of long-term Interest Rates (Bund; 10 years) & Initial Yield Residential (A-Cities)



- Empirical analysis indicates that interest rates could fall in the long term due to demographic trends.
- Background: Increase in life expectancy in combination with fixed retirement ages leads to rising savings.

Prof. Dr. Michael Voigtländer
IW Köln



- According to the CAPM (Capital Asset Pricing Model), the basis of an adequate discount rate is the risk-free interest rate. In the economic models, the interest rate of a long-term - usually a 10-year - government bond represents the standard risk-free reference investment.
- The development of this interest rate depends significantly on conventional and unconventional monetary policy measures, which have been very expansionary in recent years; monetary policy turnaround since 2022; soon to be completed?
- Higher base rate as the main component for adjusting prices and values.

The both Scenarios - an Argumentation Path for Future Interest Rate Movements

Short-term Trends & Drivers

- The ECB's primary objective is price stability. In the face of rising inflation, the central bank has significantly increased its key interests' rates.
- Inflation rates in Germany and the Eurozone are currently falling sharply (*more significantly than expected*).
- The latest forecasts from research institutes indicate that inflation will fall further. It is expected to fall well below the ECB's 2% target by the end of 2024.
- As the central bank's key interest rates are closely linked to inflation, a reduction in the ECB's central interest rates is expected; first rate cut in Q1 2024.
- For real estate investors, this means that their borrowing costs, which are linked to the 5-year Euribor swap rates, will stabilize at a markedly lower level.

Long-term Trends & Drivers

- For the majority of people, it is relevant whether interest rates will rise, because their consumption and saving decisions are based on such a trend.
- However, the possibility of permanently higher or lower interest rates depends on long-term trends such as demographic developments.
- Demographic factors, such as increasing life expectancy, ageing societies and low population growth, also contribute to a decline in real interest rates.
- Higher life expectancy requires a relatively large savings rate in order to maintain consumption after retirement.
- Should savings therefore grow faster than investments (an assumption that is very realistic), this would exert downward pressure on real interest rates.

Future Value Development with Stable Rental Growth - Two Scenarios

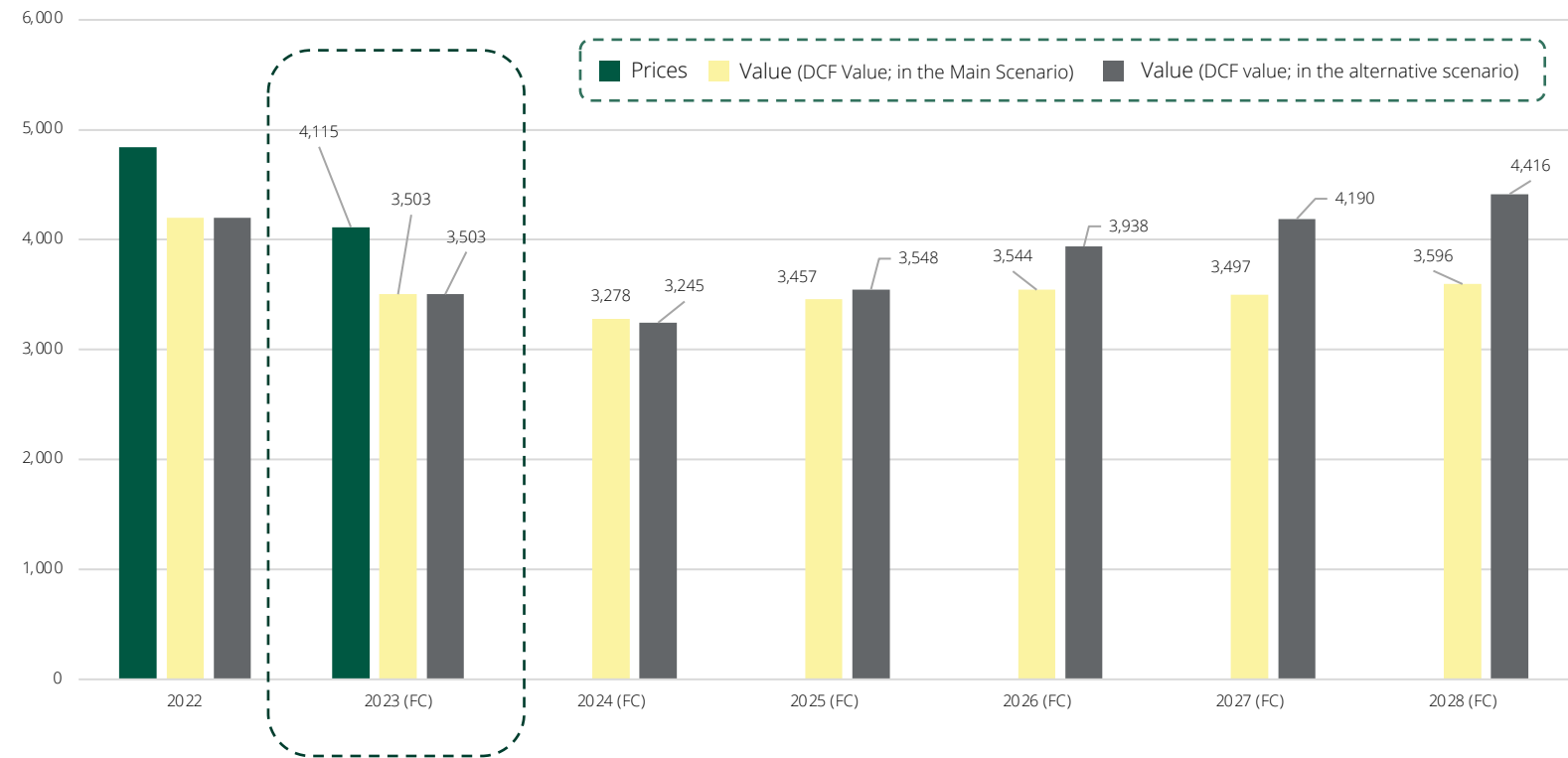


- Real rental growth of 2,5% p.a
- Significant reduction of inflation rates over the next few years.

Expectations & Assumptions



Nominal Prices and Values (EUR / sqm)

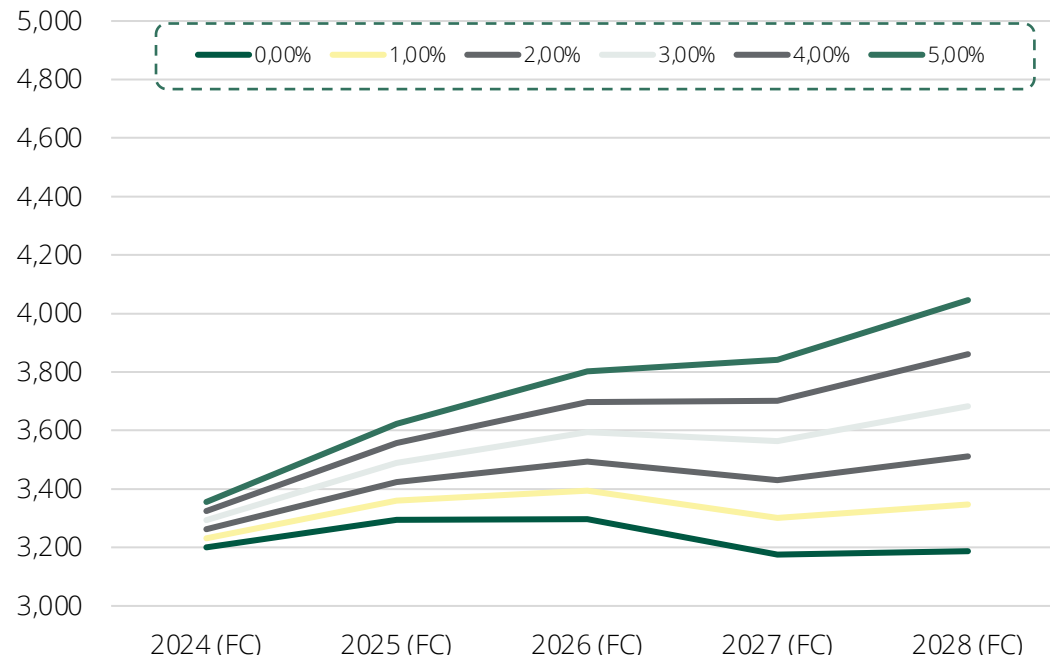


- Expected termination of the value correction in the first half of 2024.
- Even against the backdrop of slightly rising long-term interest rates (reversal of the inverse interest rate structure), rental growth is gaining headway again.

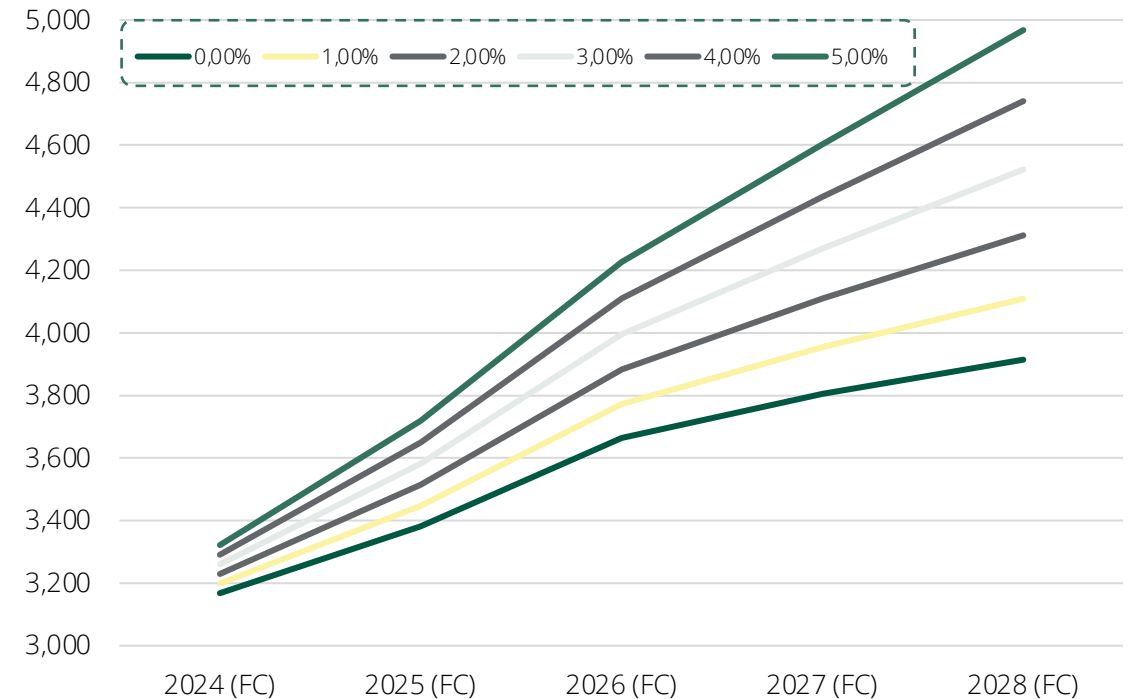


The Development of the Values for different Variations of Real Rent Growth

Values (DCF values) (EUR / sqm) - MAIN SCENARIO



Values (DCF values) (EUR / sqm) - ALTERNATIVE SCENARIO



- Depending on real rental price growth, significant increases in value can be realized again.
- The question of the relevant scenario is more a question of the intensity of growth, rather than whether value growth will occur at all.



Summary & Assessment of the Results

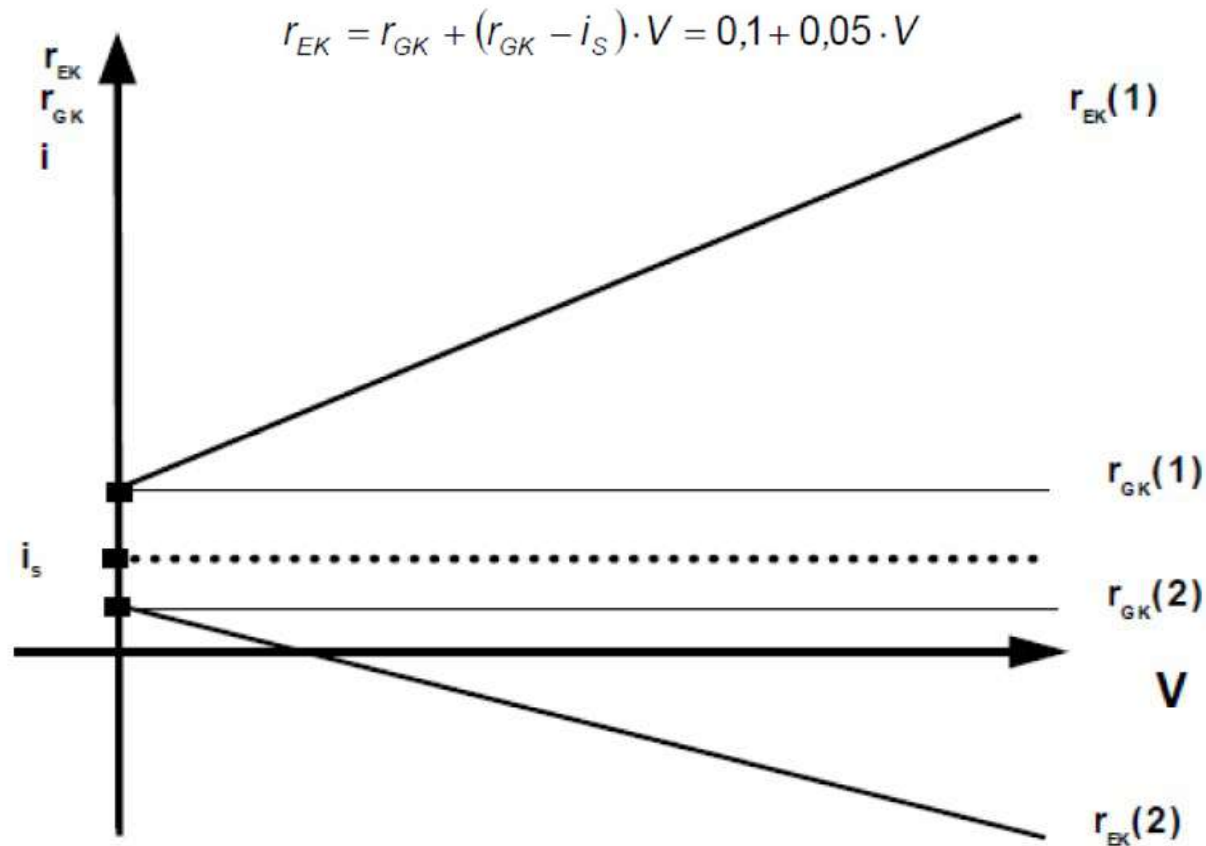
Summary & Assessment of the Results

- The sharp rise in real estate prices as an asset led to an illusion of wealth for many investors and market players: increase in prices and not of the inherent cash flow. Reason enough to consider the price-value equation.
- Methodological issues with the German "*Ertragswertverfahren*" in the event of low market liquidity lead to the application of the DCF method based on (*individual*) risk preferences.
- The base rate is an important factor in the analysis of the various sources of risk and elements of the discount rate.
- Analysis of the base rate: Demographics play an important role for the long-term development of real interest rates.
- Lasting rents and thus long-term cash flows are driven by demographics and also by urbanization as an expression of the economic attractiveness of metropolitan areas.
- The results of the value analysis based on the example of the market for existing residential properties in Berlin show the attractiveness of the market in the last 10 years; however, it also shows that in the recent past prices have risen sharply and in some cases even exceeded values.
- For 2023, the prices are above the values; this results in a low transaction volume.
- In view of the upcoming peak in interest rates - presented in scenarios 1) & 2) - a favorable entry into the market is again obtained at the appropriate value. In 2022 and 2023, the interest rate effect will be offset by the real rent increases. Even if interest rates continue to rise slightly (base scenario), future rental growth will lead an acceleration of real estate values due to the housing shortage.



Attachment

Gross (*Entity*) or Net (*Equity*)? - Doesn't really matter.



Merton H. Miller & Franco Modigliani
(Irrelevance of capital structure)

$$WACC_{TCF} = k_{EK}^V \frac{EK}{GK} + k_{FK} \frac{FK}{GK}$$

$$E[R_s] = r_f + \beta_s^{Mkt} E[R_{Mkt}] + \beta_s^{SMB} E[R_{SMB}] + \beta_s^{HML} E[R_{HML}] + \beta_s^{PR1YR} E[R_{PR1YR}]$$

In-House Research Approach

»» **Constantly evolving macroeconomic trends increase the complexity of investment decisions in the property market - megatrends offer both opportunities and challenges.**

- Ongoing analysis of macroeconomics, microeconomics, monetary policy and the impact on the property markets.
- Gaining economic insights for new product ideas and for the management of existing funds.
- Established and growing local teams enable a strategic understanding of the drivers and developments of the local real estate markets.

“In-depth research is essential for the development and definition of our investment strategies with clear references to our selected megatrends.”



Maximilian Radert, LL.M., EMBA
Head of Product Development & Research



The banner features a hand holding a compass against a green background. It includes the Kingstone Real Estate logo, a book titled 'MARKET VIEW', and a laptop displaying 'REAL ESTATE BLOG'. Two speakers are highlighted: Prof. Dr. Bofinger and Maximilian Radert.

Immobilienmärkte & Megatrends –
Thematisches Investieren im Lichte ökonomischer Spannungsfelder

WEBINARS

MACRO MATTERS –
The KINGSTONE
Real Estate View

MARKET VIEW

REAL ESTATE BLOG

Prof. Dr. Bofinger
Seniorprofessor für VWL, Geld & Internationale Wirtschaftsbeziehungen, Uni Würzburg

Maximilian Radert, LL.M., EMBA
Head of Product Development & Research, KINGSTONE Real Estate

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MACRO Matters – The KINGSTONE Real Estate View – the last three Editions



Which Financing Structures for Real Estate Developments function in the Current Market Environment? (November 2023)

The real estate financing market has been extremely successful in recent years. However, developers and financiers are currently facing growing concerns. This is not only due to rising interest rates and construction costs. Rather, numerous property asset classes are currently undergoing transformation processes with the corresponding potential for uncertainty and opportunities. Reason enough to address the question "Which financing structures for property developments work in the current market environment?"

Evaluations of Real Estate Investments in the Balancing Area between Cash Flow and Interest Rate Effects (October 2023)

EXPO REAL Special 2023 - the real estate industry has lost its inherent "dealmaker" mentality. At this year's EXPO REAL, the question of the cause was an integral part of the expert talks and discussions between trade fair visitors. As a result, we focused on the interaction between capital and property markets in a special "Macro Matters" edition on the last day of the expo and explained the different effects of rental growth potential and interest rate effects on real estate values.

Affordable Construction and Housing in the Crisis (September 2023)

The German residential property market is currently undergoing numerous stress tests: The interest rate turnaround, rising construction costs, high ancillary costs ("new secondary rent") and changing regulatory conditions are influencing the market balance for owners, landlords and tenants. But what is the desired market outcome? And does this require intervention by politicians?

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