A cross-country comparison of the Danish, Swedish and German real estate markets

2023 Q1

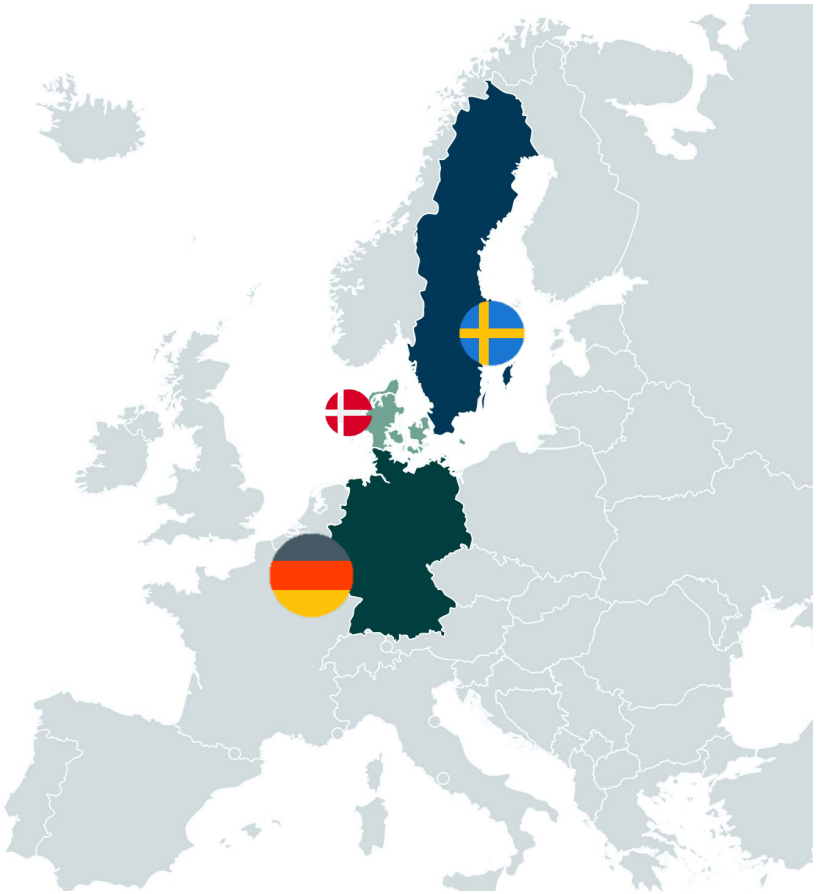
VIGA
REAL ESTATE

What makes the Danish real estate market attractive?

A comparison with the Swedish and German markets

Executive summary

Resilient economy	▪ The Danish economy has proven resilient through recent economic turmoil with strong performance both on a macro level and in the property sector. ▪ Denmark outperformed Germany and Sweden in terms of GDP growth with a 2022 rate of **3.6%.**
Low interest rate exposure	▪ Nearly half of the Danish real estate sector debt is comprised by mortgage bonds with mid/long-fixed interest rates. This effectively creates an interest rate hedge in the current uncertain economic environment. ▪ High leverage and imminent refinancing of corporate bond debt makes Sweden exposed to increasing interest rates.
Revenue-side hedge	▪ For properties built after 1991 in Denmark initial rent can be determined on a free-market basis and rental levels can be regulated according to NPI. This is deemed more favorable than German and Swedish rental regulations which are subject to costly negotiations with the current tenants. ▪ The transparent Danish system is viewed as a hedge against inflation and potential adverse regulatory impact on future rental levels.
Attractive financing and interest rate hedge	▪ Potential for capital gains on fixed rate loans if interest rates rise. ▪ Danish mortgage financing market is often ranked amongst the most attractive in the world due to liquidity, option to convert and lower margins than comparable peers.
High net entry yields	▪ Prime residential initial yields in Copenhagen and Stockholm contain a premium to corresponding yields in the 7 largest German cities. ▪ Residential prime yields increased in all considered cities by 20-100 bps.



Market overview (2022)

Highlights

Denmark

- The Danish economy has proved relatively resilient in the recent turbulent economic environment. This is reflected in a strong GDP growth rate of 3.6% in 2022 despite a global economic downturn and an inflation rate (9.7%) lower than that in Germany and Sweden.
- Compared to other countries, the global economic downturn has had comparatively small impact on the Danish property market; reflected in a decrease in the transaction volume of 17% and an 11% drop in the property index.

Germany and Sweden

- The property markets in Germany and Sweden have not proved as resilient as the Danish during recent economic downturn. Both transaction volumes and property indices nearly halved in value for both Germany and Sweden.

Summary

- On each evaluated indicator the Danish economy has proved to be more resilient to recent economic uncertainty than Germany and Sweden. The resilience of the Danish property market is attributed to factors such as political stability, favorable financing conditions and better inflation hedges (rent indexation and financing).

Four factors contributing to a resilient Danish property market



Political stability: "Safe haven".



Favorable financing conditions

#1

Number one investment friendly country (World Bank 2021)



Resilient Danish Macro environment

2022 annual growth rates	Denmark	Sweden	Germany
GDP (Q4)	3.6% (0.9%) 1	2.4 (-0.9%) 2	1.8% (-0,4%) 3
Inflation* (2023 Forecast)	9.7% (3.3%) 1	11.2% (3.5%) 3	10.1% (6.3%) 2
Transaction volume	-17% 1	-42% 3	-41% 2
All-share index**	-6% 1	-16% 3	-12% 2
Property index***	-11% 1	-47% 2	-55% 3

* OECD CPI, 2022 Q4
** Denmark: OMX Copenhagen, OMX Sweden, DAX Germany
*** COREX Denmark, COREX Sweden, Germany: iSTOXX Germany Real Estate Capped 20 index

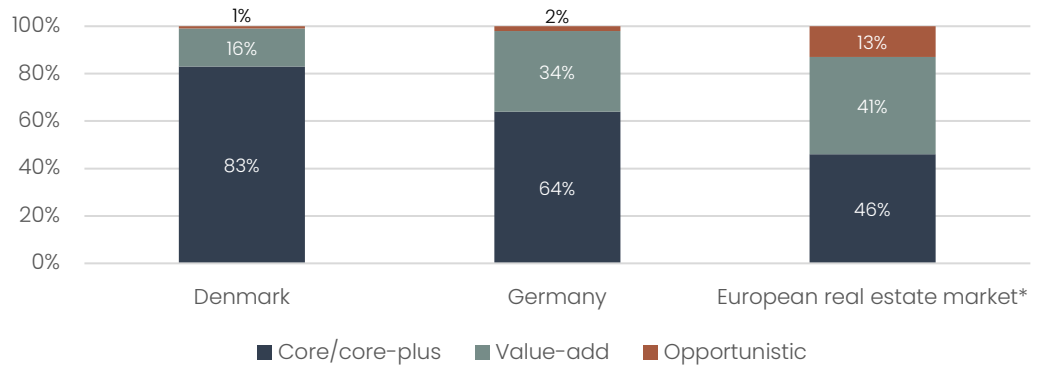
Source: Colliers Research, OECD, Eurostat, Stoxx, Nasdaq, World Bank

Market composition comparison (2022 snapshot)

Origin of capital (share of total transaction volume)

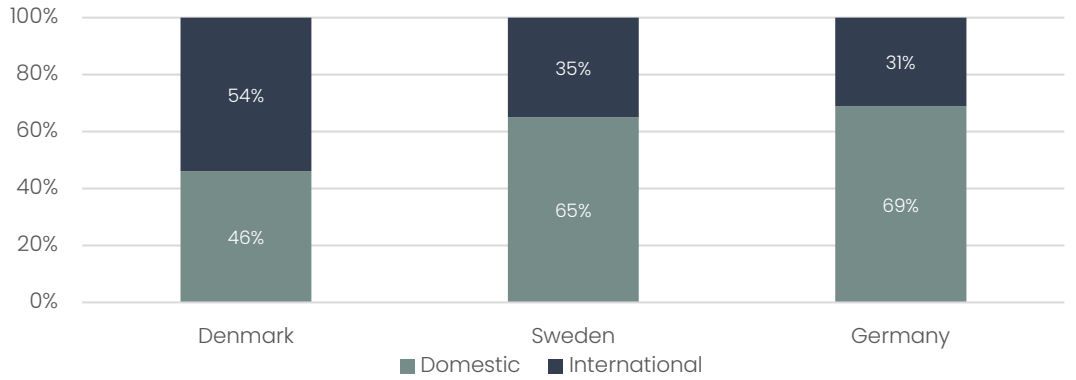
- **Origin of capital:** Denmark has a high relative share of international investors. This is an indication of a property market that is attractive from an international perspective.
- **Risk profile:** The core/core-plus segment is the most liquid market in Denmark and constitutes a high relative share of the total transaction volume compared to Germany and Europe in general. This could be attributed to the relative high share of foreign investors, with a lower risk-appetite than domestic investors.
- **Segment:** The residential segment dominates the property market in Denmark with a share of total transaction volume of ~40%. In Germany, the office segment accounts for 1/3 of the total transaction volume while the Swedish market is more fragmented across segments. The residential segment is deemed more stable and lower risk than the commercial segment.

Residential risk profile (share of total transaction volume)

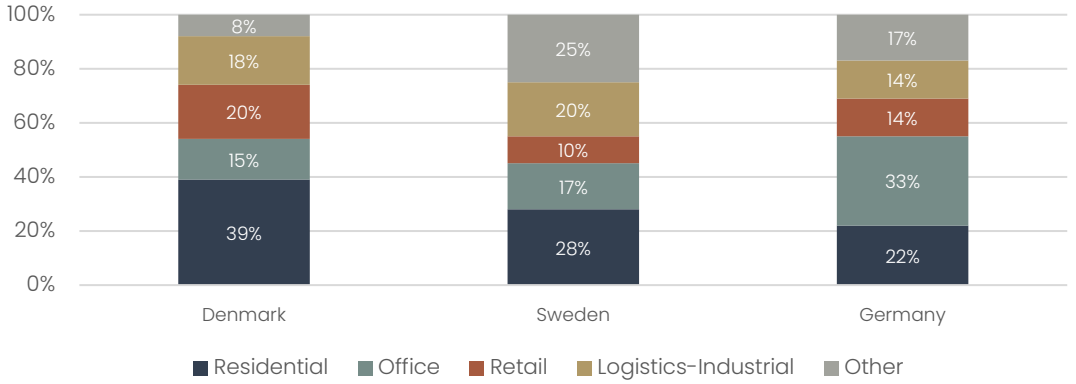


*The risk profile for the European real estate market is based on investor preferences and not realized residential deals as for Germany and Denmark.

Origin of capital (share of total transaction volume)



Segmentation (share of total transaction volume)



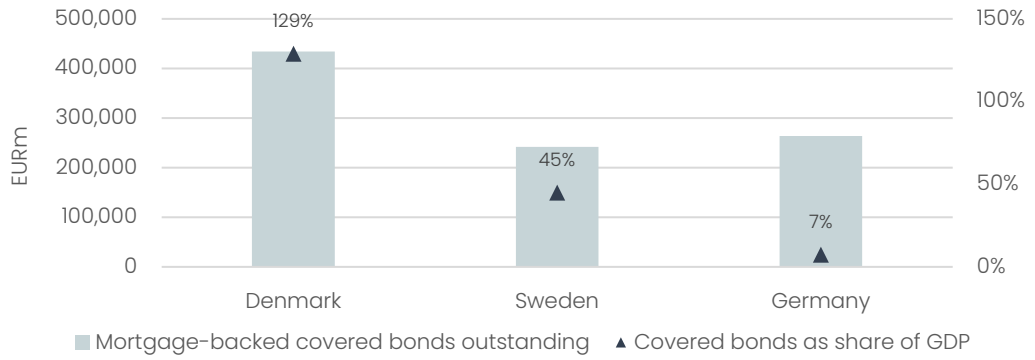
Source: Colliers Research, CBRE Research, PNB Paribas Research.
Note: The 2022 snapshot is deemed to be a realistic representation of the market composition in the last 5 years.

Mortgage financing (1/2): The residential mortgage markets

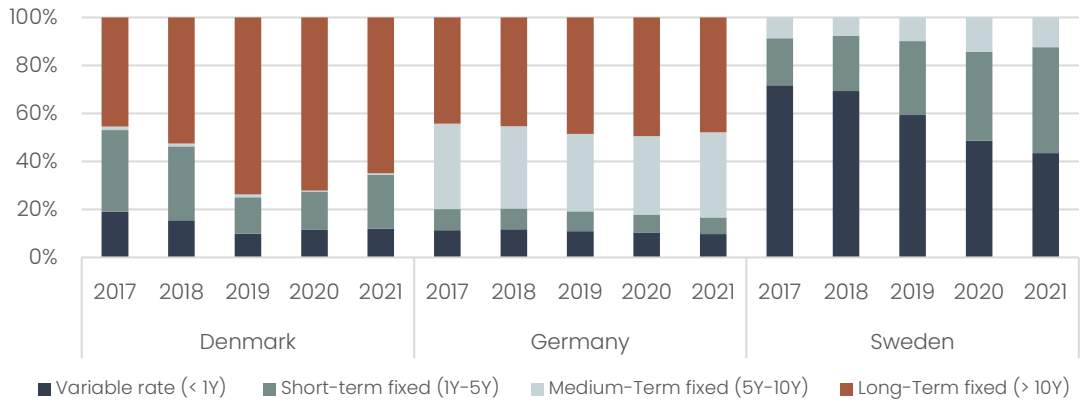
Highlights

- A majority share of newly issued residential mortgage loans in Denmark have a long maturity profile (many of these are callable at par for the issuers) effectively creating an interest rate hedge in the current market. Sweden is looking into a refinancing of a relatively large share of outstanding mortgage loans implying substantial interest rate risk for. Germany – like Denmark - is skewed towards a longer maturity profile.
- The Danish market for covered mortgage bond is one of the largest and most liquid in the world. This is a direct consequence of the construction of the Danish model giving Danish covered mortgage an attractive risk/return-profile.
- Denmark reports significantly lower lending margins than its European peers. This is especially due to the the balance principle* governing the Danish mortgage model as the mortgage institutions do not have to price in the same risk into operations.

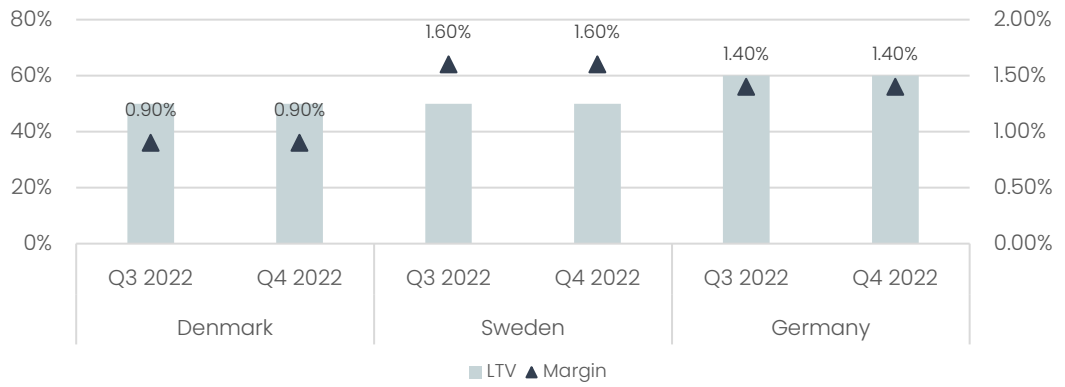
Liquidity of the covered bond market (ultimo 2021)



Maturity profile of new residential covered mortgage loans



LTV and margins as reported by credit institutes (prime residential)



Source: EMF, CBRE Research
*The balance principle states that there should be a 1:1 relationship between the properties of the mortgage loan and the underlying bond

Mortgage financing (2/2): Financial intermediaries

Universal banks

- Universal banks with a broad range of business areas.
- Loans are financed by deposits, short-term loans and bond issuance.
- Deposits are allowed for financing → Systemic risk for the bank sector.
- No direct relation between the loan issued and the banks' financing of the loan.
- The price of the bond at repayment is determined by the bank **and not the market.**

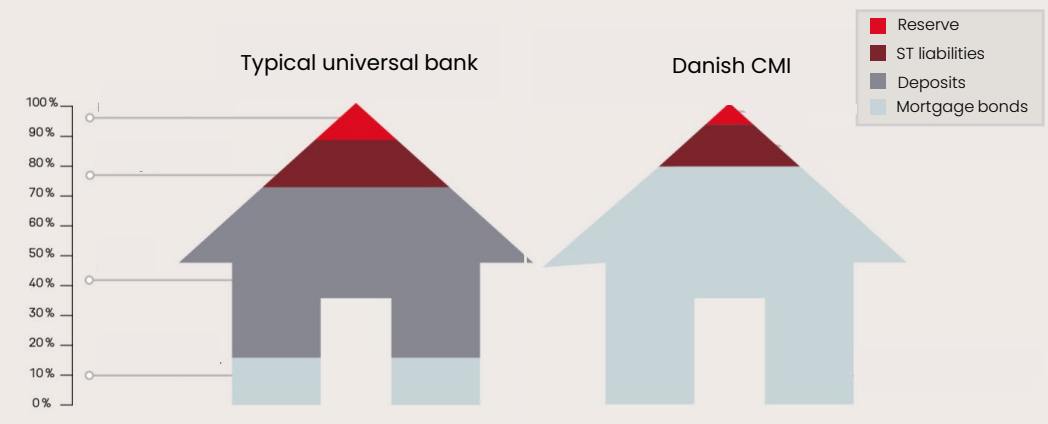
Credit mortgage institute (CMI)

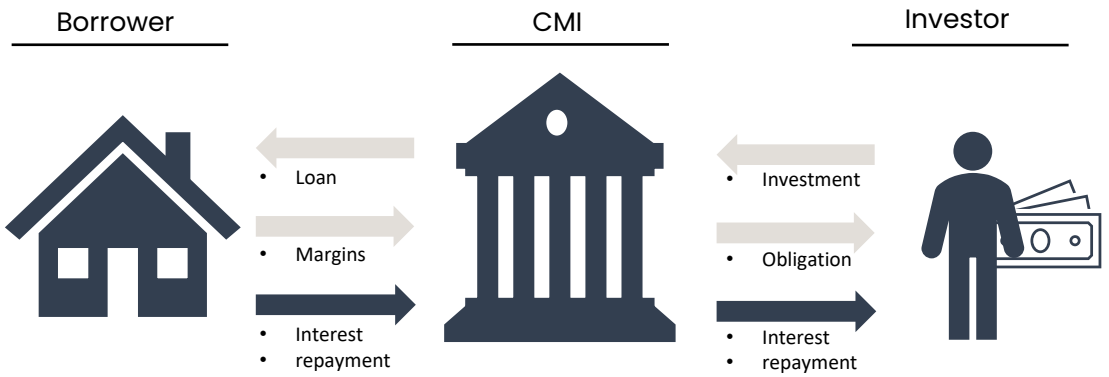
- Specialized institutes with a limited area of business: Mortgage-backed loans.
- Loans are financed by mortgage bonds (RO, SDO, SDRO).
- Deposits are prohibited: **Limited** systemic risk for the sector.
- Loans can be refinanced or repaid at the market value of the underlying bond at any given time.
- **1:1 relationship between the underlying bond and the**

The balance principle

The Danish credit mortgage institutes (CMI) are regulated within a legislative framework to define the market risk that the facilities may undertake.

- 1:1 relationship between the terms of the loan and the underlying bond that is issued to finance the loan: The CMI finances a given loan by issuing bonds that represent the underlying loan terms.
- CMIs typically finance loans continuously meaning that the bonds are issued at the same time as the loan is granted: This ensures that current bond market prices determine the interest rate on the loan.





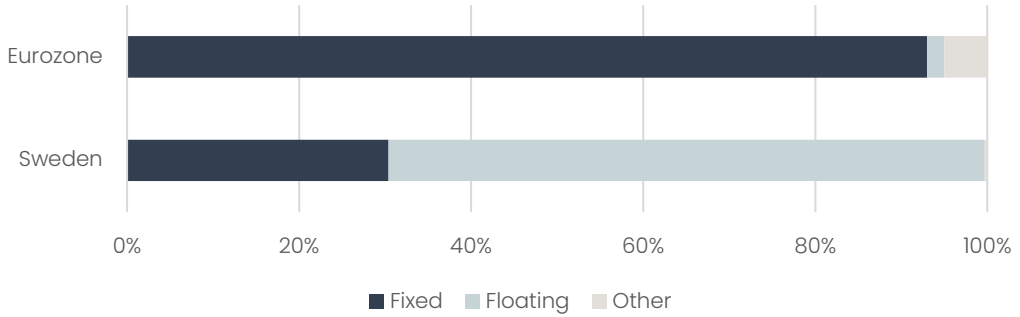
Source: Finans Danmark, Viga Real Estate's own creation

The unique case of Sweden

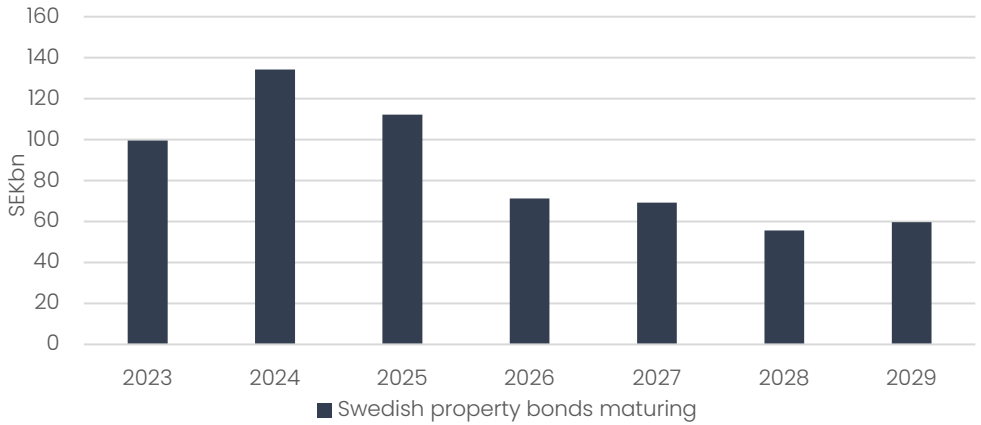
Highlights

- Sweden has a large listed property sector which is characterized by a high degree of leverage compared to European peers.
- From being a negligible real estate financing source 10 years ago, corporate property bonds constitute approx. 1/3 of Sweden's total outstanding debt in the listed property sector by the end of 2021.
- Within the next two years, listed Swedish property firms need to refinance SEK 301 billion ($29 billion) worth of corporate bonds. Significantly higher financing costs are likely to prove a challenge for refinancing in the credit markets.
- As the Swedish corporate bond market is skewed towards floating interest rates, the property sector faces substantial interest rate risk in the imminent future.

Sweden's interest rate risk



Sweden is facing a wall of debt (SEKbn)



Top 10 highest levered listed real estate companies in Europe

Company	HQ	Loan to value (LTV), %
Wihlborgs Fastigheter	Sweden	49
Fastighets AB Balder	Sweden	48
Sagax	Sweden	45
Wallenstam	Sweden	45
Kojamo	Finland	44
Vonovia	Germany	43
Primary Health Properties	UK	43
LEG Immobilien	Germany	42
Castellum	Sweden	42
Unibail-Rodamco-Westfield	France	41

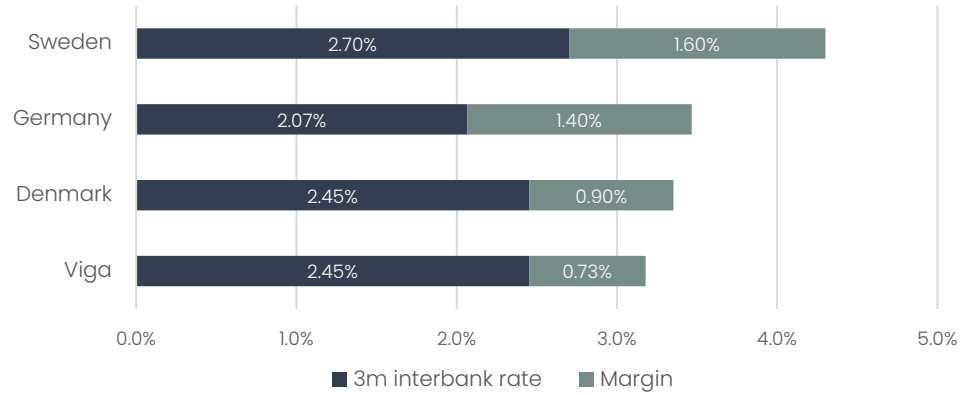
Source: Bloomberg, Moody's

Residential yields and financing costs

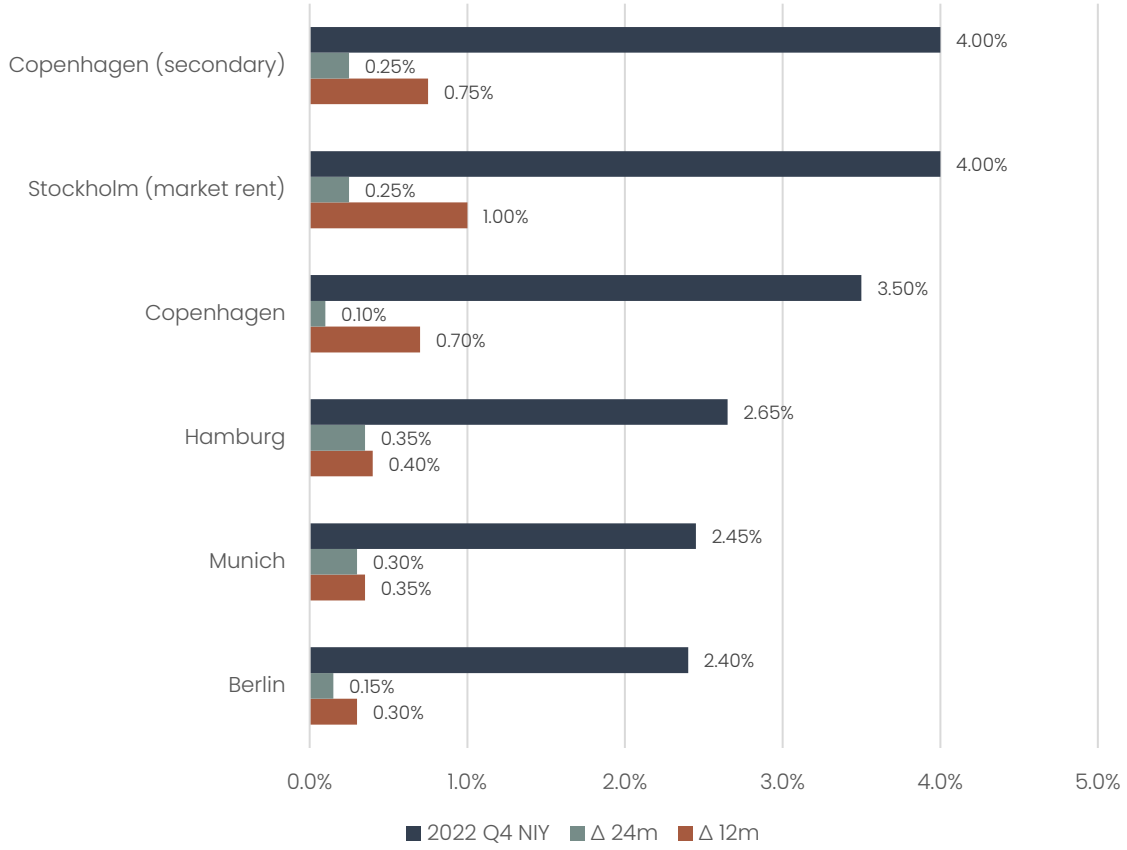
Highlights

- While Stockholm and Copenhagen have similar residential yields, comparable German cities have seen lower yields in recent years.
- In Q4 2022 the top 3 German cities reported residential yields of 1.90%-2.60%, while corresponding yields for Copenhagen and Stockholm were averaging at 3.50%-4.00%.
- High relative entry yields and low relative all-in financing costs make Copenhagen an attractive business case seen in a cross-country context. These are also contributing factors to the high relative share of international capital in the Danish commercial real estate investment market.

All-in rate (3m interbank rate + margins), 2022 Q4



Residential prime yields



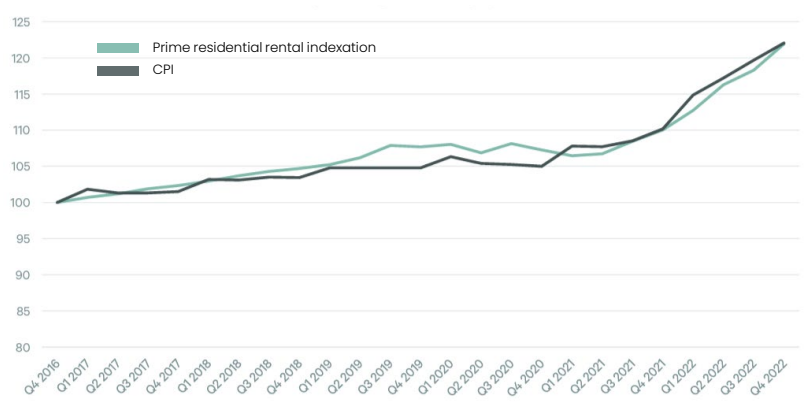
Source: CBRE (https://www.cbre.co.uk/insights/viewpoints/european-yield-sheets), Trading Economics

Rental levels: Regulatory comparison

Generations of legislative rental regulation in Europe

Generation of control	Initial rent	Rental increase
1st generation	Directly determined	Directly determined
2nd generation	Regulated	Regulated
3rd generation	Free market	Regulated

Correlated prime residential rent growth and CPI in Denmark



Source: CBRE Research

	Denmark	Sweden	Germany
Generation	▪ Pre 1991: 2nd generation 2nd generation ▪ Post 1991: 1st generation 3rd generation	2nd generation	3rd generation
Description	After 1991: ▪ **Initial rent:** Free market basis. ▪ **Rent increases:** Once a year up until NPI. Before 1991: ▪ **Initial rent:** cost-based rent /comparison with other tenancies/value of the premises. ▪ **Rent increases:** According to changes in the costs or value.	▪ **Initial rent:** Utility value system in which apartments are compared to apartments with a similar utility value. ▪ **Rent increases:** Negotiations with tenant representative associations. Automated regulations prohibited.	▪ **Initial rent:** Comparable rental determination ▪ **Rent increases**: rent can be revised to max. local rent level and only possible with indexation clause in the contract. Or after renovations. There is a substantial amount of discrepancy in regulations across German cities which adds to the regulatory risk (example Berlin).
Regulatory risk	▪ For properties built after 1991 Danish level of regulation is low and transparent.	▪ Absence of a transparent rule of indexation can incur negotiation costs. The Swedish rental regulation system is deemed more complicated, costly and uncertain than its peers.	▪ Absence of a transparent rule of indexation can incur negotiation costs and uncertainty. Discrepancy in regulations across cities adds regulatory risk.
	• Regulatory risk: **Low**	• Regulatory risk: **High**	• Regulatory risk: **Medium**

Source: CBRE Research, ejd.com, Whitehead et al. (2012): *The Private Rented Sector in the New Century – A Comparative Approach.*

Disclaimer

This document has been prepared by and distributed by Viga RE Management ("Viga"). This document is only directed at professional investors.

This document does not constitute, and is not intended to constitute, an offer, invitation or inducement for investment or the sale or purchase of securities or business, asset, financial, tax or other advice. This document has not been independently verified. Interested parties should form their own views. This document and its contents are confidential and it is being supplied to you solely for your own information.

Viga reserves the right to change information in this document at any time without notice. All investments risk the loss of capital and the value of investments may go down as well as up.

Past performance should not be used as a guide to future performance. No guarantee or representation is made that investment objectives will be met.
While this information has been prepared in good faith, no representation or warranty, express or implied, is or will be made and no responsibility or liability is or will be accepted by Viga, or by any of its respective officers, employees or agents in relation to the accuracy or completeness of this document and any such liability is expressly disclaimed.

In particular, but without limitation, no representation or warranty is given as to the reasonableness of future projections, management estimates, prospects or returns contained in this document.

Recipients of this document should observe applicable legal requirements and take the appropriate advice.

Additional information for Swiss investors:
This is an advertising document. The legal documentation (e.g. the Shareholders' Agreement and any supplements thereto etc.) as well as the annual and semi-annual reports of the Fund, if any, are available only to Qualified Investors free of charge from the Representative.

In respect of the Shares Offered in Switzerland to Qualified Investors, the place of performance is at the registered office of the Swiss Representative. The place of jurisdiction is at the registered office of the Swiss Representative or at the registered office or place of residence of the investor.

Swiss Representative: FIRST INDEPENDENT FUND SERVICES LTD, Klausstrasse 33, CH-8008 Zurich.
Swiss Paying Agent: NPB Neue Privat Bank AG, Limmatquai 1 / am Bellevue, CH-8024 Zurich.