

MONTHLY MARKET REVIEW

Monthly Market Review and Developers' Research Benchmark

May 2023



Overview

The FTSE EPRA Nareit (FEN) Global Developed Real Estate Index lost 1.0% compared to gains from global equities (3.5%) and bonds (1.3%) in May. In terms of regional performance, Europe (-7.3%) and Asia (-1.3%) returned negative, while North America posted relatively limited but positive return of 31 bps. Emerging markets also slipped 5.4% for the month.

Focusing on sector performance, data centres (6.9%) was top performer followed by lodging/resorts (3.7%) and industrial (1.7%). The remaining sectors returned negative which speciality (-4.5%), industrial/office (-3.6%) and diversified (-3.4%) were bottom performers in May.

At the end of May, **the FEN Developed Index** totalled **375** constituents, representing a free float market capitalisation of around **EUR 1.39 trillion** and **the FEN Emerging Index** totalled **129** constituents, representing a free float market capitalisation of around **EUR 115 billion**.

EPRA Developers Research Benchmark

The EPRA Developers Research Benchmark is a non-commercial benchmark designed to allow its constituents to assess themselves against each other. As of 31/05/2023, the benchmark lost 6.7% (m-o-m) and brought the YTD return to 12.8%. The benchmark now has 29 constituents from 12 different countries in Developed Europe (18 out of the UK) representing an aggregated full market cap of **EUR 40,583 million** (31/05/2023). A high-level computation can be found in the relevant section (page 5).

Highlights of the Month

The ECB raised the three key ECB interest rates by 25 basis points at the latest meeting in May and now the main refinancing operations stands at 3.75%. The ECB also signalled more tightening to come to fight against inflation even though the pace of interest rate hikes has slowed, the markets expect two further hikes in the forthcoming periods. Headline inflation has declined over recent months, and the Eurozone inflation is expected to down to 6.1% in May, but underlying price pressures remain strong.

The Bank of England (BoE) also delivered another 25bp rate hike on its May meeting, raising its interest rate to 4.5%. Although the UK inflation dropped 8.7%- less than expected, food price remained close to 45-year high.

The stubborn inflation creates concerns on current tight monetary policies when the end of the tightening cycle might come. The latest article by IMF highlights that some factors threaten overall financial stability, after a long period of low and stable inflation and interest rates which gave a comfort to companies with maturity and liquidity mismatches. Indeed, rapidly rising interest rates create stress in the balance sheets of the companies through declining values of their fixed-income assets and increased funding costs which require related risks mitigation.

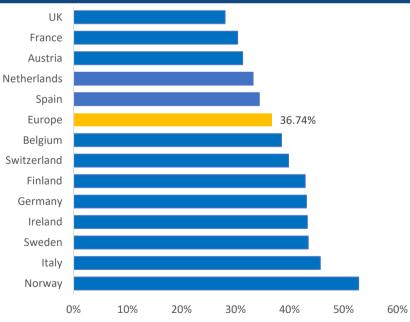
The FEN Developed Europe index posted a negative 7.3% monthly return in May, and YTD stands at -6.3%. Focusing on sector performances, all sectors posted negative returns in May that industrial (-3.3%) was top performer with relatively lower but still negative monthly return and lodging/resort (-10.7%) was the bottom performer. Self-storage (4.1%) and industrial (7.0%) are only sectors providing positive YTD returns.

The European average LTV stands at 36.7% with the lowest in the UK and quite above the EU average in Germany, Italy and the Nordics that tightened credit conditions might be challenge in the forthcoming period.

FTSE EPRA Nareit Global Index Total Return

		May-23	YTD		3	5	10
% Total Returns (EUR)	_			1 yr	yrs*	yrs*	yrs*
Global Real Estate		-1.0	-1.4	-14.1	5.6	2.4	5.2
Global Equities (FTSE)		3.5	9.1	3.8	13.0	6.9	8.8
Global Bonds (JP Morgan)		1.3	1.3	-5.1	-4.9	1.9	2.2
Europe Real Estate	▼	-7.3	-6.3	-30.9	-6.7	-5.8	2.4
Europe Equities (FTSE)		-2.6	8.3	6.1	11.2	5.9	7.0
Europe Bonds (JP Morgan)		3.3	2.2	-7.2	-5.4	-0.3	2.9
Asia Real Estate	▼	-1.3	-3.7	-9.4	2.8	0.0	2.9
Asia Equities (FTSE)		4.0	6.5	3.1	10.6	6.2	9.0
Asia Bonds (JP Morgan)		3.3	3.4	0.1	-0.3	1.7	3.2
North America Real Estate		0.31	0.4	-12.0	9.8	5.4	6.9
North America Equities (FTSE)		4.09	10.3	3.6	14.1	12.8	13.9
North America Bonds (JP Morgan)		2.5	3.1	-1.2	-3.1	2.6	3.1
Emerging Real Estate	V	-5.4	-9.5	-17.2	-6.6	-6.7	0.1
Emerging Equities (FTSE)		1.3	0.3	-7.0	6.1	2.6	4.7
Emerging Bonds (JP Morgan)		2.8	2.5	-0.1	-1.0	2.1	3.9
(*) Annualised.							

Fig. 1. Developed Europe : LTV

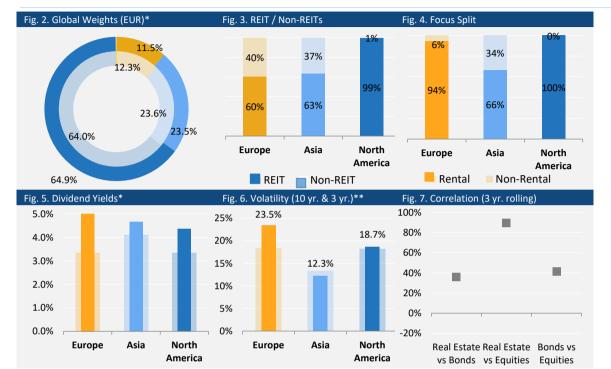


Source: EPRA, as of May 31, 2023.

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(*) Shaded bars are last month's (**) Shaded bars are 10 yr.

FTSE EPRA Nareit Developed Europe - Country Indices							
% Total Returns	May-23	YTD	1 yr	3 yrs*	5 yrs*	10 yrs*	
UK (GBP)	-5.9	-1.2	-25.6	-1.4	-3.8	2.3	
France (EUR)	-8.3	-2.1	-11.8	2.4	-5.2	1.3	
Netherlands (EUR)	-2.6	-1.2	-23.1	4.2	-18.5	-7.4	
Germany (EUR)	-9.8	-19.2	-50.6	-24.3	-13.7	1.9	
Sweden (SEK)	-14.1	-15.7	-34.0	-5.9	1.8	9.9	
FTSE EPRA Nareit Asia	- Country Ir	ndices					
Hong Kong (HKD)	-8.9	-9.5	-10.5	3.6	-4.4	0.9	
Japan (JPY)	0.1	3.7	-1.9	7.4	3.5	3.1	
Australia (AUD)	-3.5	0.8	-2.2	7.1	1.8	6.4	
Singapore (SGD)	-4.0	0.1	-7.6	2.3	3.2	4.2	
South Korea (KRW)	1.7	-4.0	-46.8	na	na	na	
FTSE EPRA Nareit Devel	oped North	America	- Country I	ndices			
United States (USD)	-3.1	0.2	-12.2	8.2	3.6	5.1	
Canada (CAD)	-3.2	1.3	-10.5	8.7	3.1	4.9	

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Company	Sector	Country	Tota	al Returr
ProLogis USA	Industrial	USA	▼	-0.6%
Equinix Inc	Data Centers	USA		3.4%
Public Storage, Inc.	Self-Storage	USA	▼	-3.9%
Realty Income Corp.	Retail	USA	▼	-4.6%
Welltower	Healthcare	USA	▼	-5.1%
Simon Property Group, Inc.	Retail	USA	▼	-7.2%
/ici Properties Inc	Specialty	USA	▼	-8.9%
Digital Realty Trust	Data Centers	USA		3.3%
AvalonBay Communities, Inc.	Residential	USA	▼	-3.5%
Equity Residential Properties Trust	Residential	USA	▼	-3.9%
FTSE EPRA Nareit Developed Index – Top	0 10 Performers			
Company	Sector	Country	Tota	al Returr
Civitas Social Housing plc	Residential	UK	A	52.4%
mpact Healthcare REIT plc	Healthcare	UK		36.1%
CT Property Trust Limited	Ind./Office	UK		25.8%
Triple Point Social Housing REIT plc	Residential	UK		16.9%
The Necessity Retail REIT Inc	Retail	USA		16.0%
Omega Healthcare Investors, Inc.	Healthcare	USA		13.9%
	Office	USA		11.0%
Office Properties Income Trust				
Office Properties Income Trust ESR Kendall Square REIT	Industrial	KOR		10.8%

Dev. Europe:Total R	Return	Weekly 1	otal Ret	urn by Sect	or	YTD	Ukraine war	Covid-19
	May-23	5-May	12-May	19-May	26-May	May-23	23-Feb-22	19-Feb-20
Developed Europe	-7.3%	-1.7%	-3.8%	0.4%	-2.4%	-6.3%	-35.4%	-40.8%
Self-Storage	-4.6%	0.5%	-5.1%	1.6%	-3.5%	4.1%	-17.7%	5.7%
Industrial	-3.3%	-0.4%	-2.4%	0.4%	-2.3%	7.0%	-33.2%	-7.8%
Healthcare	-7.3%	0.5%	-2.2%	0.0%	-4.6%	-8.5%	-24.6%	-36.1%
Office	-5.6%	-1.3%	-4.5%	1.5%	-1.4%	-3.9%	-23.0%	-40.3%
Diversified	-9.7%	-1.7%	-5.0%	0.2%	-2.9%	-9.0%	-31.5%	-41.0%
Retail	-7.5%	-3.5%	-3.0%	-0.1%	-1.8%	-3.9%	-21.7%	-44.9%
Lodging/Resorts	-10.7%	-3.8%	-5.9%	1.8%	-2.0%	-6.5%	-26.2%	-52.6%
Residential	-7.1%	-2.9%	-2.5%	0.8%	-1.7%	-13.7%	-52.6%	-53.3%

Retail

KOR

8.6%

Source: EPRA Research. Data is compiled from the FEN Index series (as of May 31, 2023).

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FTSE EPRA Nareit Developed Europe Index	FTSE EPRA Nareit Developed Asia Index	FTSE EPRA Na
The FEN Developed Europe Index lost 7.3% during May. European equities lost 2.6% compared to a gain of 3.3% from European bonds.	The FEN Developed Asia Index slipped 1.3% compared to gains of 4.0% from Asian equities and 3.3% from Asian bonds.	The FEN North North Americar
Germany (-9.8%), the UK (-5.9%), France (-8.3%) and Sweden (-14.1%)	South Korea (1.7%) and Japan (9 bps) returned positive, while Hong	respectively.
and Netherlands (-2.6%) indexes posted negative monthly return.	Kong (-8.9%), Australia (-3.5%), and Singapore (-4.0%) indexes	Both the US in
There was no major corporate action in Developed Europe region.	posted negative returns in Asia (in local currencies).	negative for the
	There was no major corporate action in Developed Asia region.	There was no n
Sector Performance: All sectors returned negative, industrial (-3.3%)		region.
was top performer with relatively lower but still negative monthly	Sector Performance: Residential (99 bps), industrial/office (89 bps),	
returns. Self-storage (-4.%) and office (-5.6%) also returned negative,	office (79 bps), lodging/resorts (69 bps) were top performers	Sector Perform
while lodging/resort (-10.7%) was the bottom performer.	relatively lower but still positive monthly returns. The remaining	followed by lod

Performance of top 3 constituents: Civitas Social Housing plc (52.4%. UK, Residential), Impact Healthcare REIT plc (36.1%, UK, Healthcare), CT Property Trust Limited (25.8%, UK, Industrial/Office).

relatively lower but still positive monthly returns. The remaining sectors returned negative which retail (-2.6%) as the bottom performer.

Performance of top 3 constituents: ESR Kendall Square REIT (10.8%. South Korea, Industrial), Lotte REIT (8.6%, South Korea, Retail), Japan Excellent Asset Management (7.1%, Japan, Office).

FTSE EPRA Nareit North America Index

h America Index posted 31 bps return for the month. can equities and bonds also gained 4.1% and 2.5%,

index (-3.1%) and Canada (-3.2%) indexes returned he month (in local currencies).

major corporate action in Developed North America

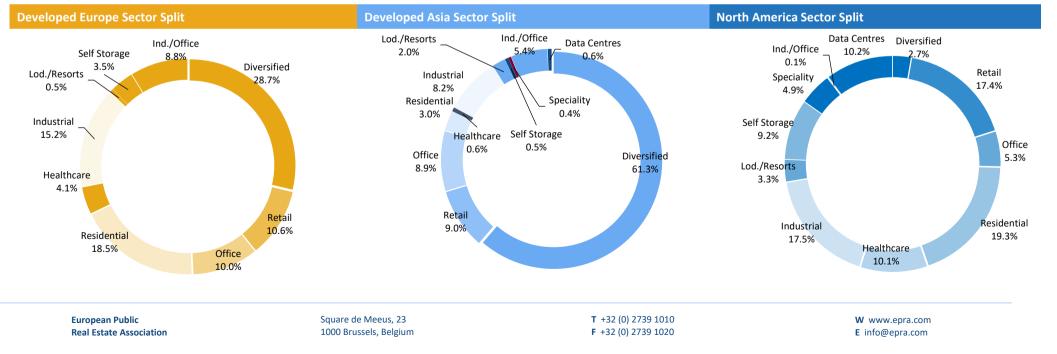
rmance: Data centres (7.1%) was outperformer followed by lodging/resorts (4.9%), industrial (2.9%) and residential (39 bps). The remaining sectors returned negative which industrial/office (-7.8%) as the bottom performer.

Performance of top 3 constituents: The Necessity Retail REIT Inc. (15.9%, USA, Retail), Omega Healthcare Investors Inc. (13.9%, USA, Healthcare), Office Properties Income Trust (11.0%, USA, Office).

Developed Europe representing a free float MCap of around EUR 160 billion with 109 constituents

Developed Asia representing a free float MCap of around EUR 327 billion with 136 constituents

Developed North America representing a free float MCap of around EUR 903 billion with 128 constituents





EPRA Developers Research Benchmark



Historical Performance	Last Month	1 Year	3 Years	5 Years
Total Return	-6.7%	-13.7%	-1.9%	-15.2%
Total Return (Annualized)		-13.7%	-0.6%	-3.0%

Return	3 Months	6 Months	Year to Date	5 Years
Total Return	-4.2%	9.4%	12.8%	-15.2%
Maximum Return	2.9%	4.7%	4.7%	11.6%
Minimum Return	-5.4%	-5.4%	-5.4%	-13.1%
Mean Return (Annualized)	-18.0%	33.8%	56.7%	2.4%
Maximum Drawdown	-8.5%	-10.8%	-10.8%	-55.2%
Maximum Drawdown Length	9	36	36	690

Risk	3 Months	6 Months	Year to Date	5 Years
Standard Deviation (Annualized)	22.8%	24.1%	24.5%	31.6%
Downside Risk (Annualized)	17.2%	16.7%	17.2%	22.3%
Kurtosis	2.38	1.68	1.96	6.44
Skewness	-0.82	0.01	-0.09	0.09
Semivariance (Annualized)	23.7%	22.5%	23.2%	31.4%
VaR (ex-post)	-1.77	-2.22	-2.16	-2.99
Risk-Adjusted Performance	3 Months	6 Months	Year to Date	5 Years
Sharpe Ratio	-0.71	0.86	1.44	0.06

The EPRA Developers Research Benchmark is an equity index aiming to represent the aggregated performance of the most significant and liquid real estate developers in Europe, including both residential and commercial developers.

This is a benchmark developed for research purposes only, using free float market cap as the main input for computing index weights. The final list of constituents has been filtered applying a comprehensive methodology that combines both market and real estate criteria to determine the best companies to represent the sector. Two subindexes are also computed: 1) Liquid Developers (FFMC > EUR 500M) and 2) Residential Developers

Key Features

Benchmark Type: Equity Index Industry: Real Estate Developers Launch Date: 31/Dec/2021 Geography: Developed Europe Weights Input: FF Market cap Base Currency: EUR Base Date: 30/Sep/2016 Base Value: 1,000 Review Dates: April, October 5



EPRA Developers Research Benchmark

V	Vednesday	y, 31 Ma	y 2023

Constituent	ISIN	Weight	Country	Currency
BARRATT DEV	GB0000811801	15.20%	UK	GBp
BERKELEY GROUP	GB00BLJNXL82	13.81%	UK	GBp
TAYLOR WIMPEY PL	GB0008782301	13.22%	UK	GBp
PERSIMMON	GB0006825383	12.97%	UK	GBp
BELLWAY PLC	GB0000904986	9.50%	UK	GBp
VISTRY GROUP PLC	GB0001859296	8.46%	UK	GBp
REDROW PLC	GB00BG11K365	5.02%	UK	GBp
CREST NICHOLS	GB00B8VZXT93	1.95%	UK	GBp
HARWORTH GROUP P	GB00BYZJ7G42	0.73%	UK	GBp
MJ GLEESON PLC	GB00BRKD9Z53	0.71%	UK	GBp
WATKIN JONES PLC	GB00BD6RF223	0.51%	UK	GBp
NEXITY	FR0010112524	2.62%	France	EUR
KAUFMAN & BROAD	FR0004007813	1.26%	France	EUR
ALTAREA	FR0000033219	1.44%	France	EUR
NEINOR HOMES SA	ES0105251005	0.89%	Spain	EUR
AEDAS HOMES SA	ES0105287009	0.43%	Spain	EUR
METROVACESA SA	ES0105122024	1.37%	Spain	EUR
IMMOBEL	BE0003599108	0.47%	Belgium	EUR
ATENOR	BE0003837540	0.30%	Belgium	EUR
GLENVEAGH PROPER	IE00BD6JX574	1.70%	Ireland	EUR
CAIRN HOMES	IE00BWY4ZF18	1.77%	Ireland	GBp
DEVELIA SA	PLLCCRP00017	1.10%	Poland	PLN
DOMDEV	PLDMDVL00012	0.69%	Poland	PLN
INSTONE REAL EST	DE000A2NBX80	0.41%	Germany	EUR
YIT OYJ	FI0009800643	0.76%	Finland	EUR
CHAM GROUP AG	CH0001931853	0.57%	Switzerland	CHF
SELVAAG BOLIG AS	NO0010612450	0.29%	Norway	NOK
JM AB	SE0000806994	1.42%	Sweden	SEK
HUSCIET A/S	DK0061412855	0.43%	Denmark	DKK

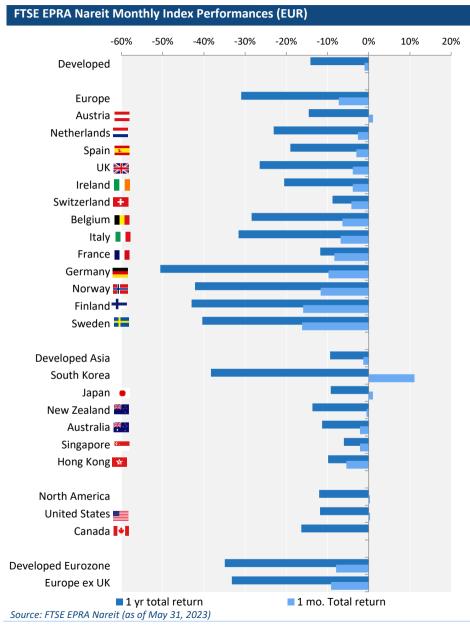
Developers Sub-Indexes: Risk and Return	3 Months	6 Months	Year to Date	5 Years
Liquid Developers: Total Return	-4.73%	9.33%	12.90%	-16.94%
Liquid Developers: Standard Deviation (Annualized)	23.86%	24.74%	25.26%	32.63%
Residential Developers: Total Return	-4.90%	9.03%	12.88%	-16.63%
Residential Developers: Standard Deviation (Annualized)	22.90%	23.86%	24.32%	32.13%



Raw data accessible on demand at research@epra.com



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Monthly Statistical Bulletin

Monthly Published NAV Bulletin

Monthly LTV Report

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Ground Rule Update (April-23)

Property Portfolio Analysis (end of 2021)

Emerging Markets 2022

Sector Analysis: Residential

Sector Analysis: Office (Aug-21)

Total Markets Table 2023-Q1



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An online programme dedicated to understanding the listed real estate market, the third edition will start in October 2023.

For more information about the Education programmes, contact: education@epra.com.

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Inflation and short-term impact on listed property companies

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