

U.S. Property Performance Monitor

Second Quarter 2023

IN A NUTSHELL

- The second quarter of 2023 saw a quarterly total return of -2.0%. This was driven by a capital return of -3.0% that was cushioned by a 1.0% income return. Trailing four-quarter returns trended downwards to -6.6% from -1.6% in the prior quarter.
 - Retail surfaced as the best performing sector in the index, followed by industrial and apartment. Office lagged significantly behind the NCREIF Property Index (NPI).
 - Regional trends remained unchanged. Sun Belt and Mountain West markets generally outperformed while New York, Chicago, Washington, DC, and San Francisco struggled.
-

Private Real Estate Property Returns¹

- On a trailing four-quarter basis, private core real estate realized a total return of -6.6%. This is a 500 bps decline relative to the last quarter. The primary driver of negative performance was deteriorating capital returns. The index continues to reflect adjustments in valuations as a result of a higher cost of capital.
- The systematic nature of rate hikes has led to negative returns across property types over the trailing four quarters. Retail took the lead for the first time since 2015 with a total return of -0.9%. This was followed by the industrial sector, which printed a total return of -4.0%, negative for the first time since the Global Financial Crisis (GFC). Apartment total return (-5.1%), though negative, continued to beat the NPI. Office, challenged by weak fundamentals, was the biggest drag on benchmark performance, generating a total annual return of -14.5%.
- A recovery in bonds (-0.9%) and broad equities (19.6%) over the last year led them to outperform private real estate.
- While valuations adjusted, fundamentals generally remained strong. Vacancy for the benchmark (5.5%) was near its historic low, largely thanks to the industrial sector (1.8%). Net Operating Income (NOI) increased 4.3% (trailing four quarters), a moderation from the previous quarter (7.5%) but healthy relative to historical norms, led by industrial (11.6%) and apartment (5.1%).
- Geographic trends were largely unchanged. Regional markets generally benefitting from lower costs and in-migration (e.g., Sun Belt and Mountain West) remained resilient. Gateway markets with comparatively higher costs (e.g., New York, Chicago, Washington, DC, and San Francisco) generally underperformed.

¹ Past performance is not indicative of future returns.

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

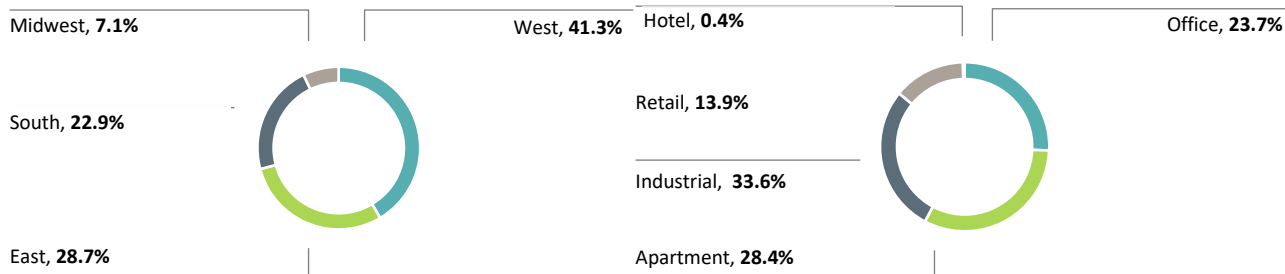
Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflects our current views only, is subject to change, and is not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

Marketing Material. In EMEA for Professional Clients (MiFID Directive 2014/65/EU Annex II) only; no distribution to private/retail customers. In Switzerland for Qualified Investors (art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). In APAC and LATAM for institutional investors only. In Australia and New Zealand for Wholesale Investors only.

In the Americas for Institutional Client and Registered Rep use only, not for public viewing or distribution. In Israel for Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda.

NPI Market Capitalization

Index market value U.S. \$ 895.0 billion – Property count 10,892



Source: NCREIF (NPI). As of June 2023.

Recent Performance Trends

	Quarter	12 months trailing	
	2Q 2023	2Q 2023	1Q 2023
Private Real Estate (NPI)	-2.0%	-6.6%	-1.63%
Broad Equities (large cap)	8.7%	19.6%	-7.73%
Bonds	-0.8%	-0.9%	-4.78%
Listed Real Estate	1.2%	-4.4%	-19.40%
10-Year Treasury ²	3.8%	3.8%	3.47%
12-Month LIBOR ³	6.0%	6.0%	5.31%
CPI (SA)	0.7%	3.1%	4.99%

¹ These figures represent annual yields.

² These figures represent annual yields.

Sources: NCREIF (NPI), S&P 500 (Broad Equities), Barclay's U.S. Aggregate Bond Index (Bonds), NAREIT (Listed Real Estate), BLS (CPI) and Federal Reserve (10 yr Treasury, LIBOR). As of June 30, 2023.

NCREIF Property Index (NPI) Performance by Sector and Region

- Industrial performed well on a relative basis. Total returns of -4.0% (trailing four quarters), down from 2.0% in the first quarter, were 260 bps above the overall index. Despite declining valuations, industrial fundamentals remain impressive. Vacancies hovered near historic lows at 1.8% well below the historical average since 1988 (7.6%). This continued to fuel double-digit NOI growth (11.5% year-over-year), the highest seen in the NPI for the quarter.
- Retail surfaced as a strong performer, ending Industrial's seven-year streak as the leading property type. Total returns were -0.9% in the second quarter of 2023 (trailing four quarters), outperforming the benchmark by 570 bps. Neighborhood (0.0%) and community (1.0%) centers outperformed while regional (-3.6%) and super regional malls (-1.7%), collectively making up more than half of all retail, underperformed the subindex. Vacancy for neighborhood and community centers (6.3%) was below their long term average (7.2%), while vacancy for malls (12.4%), though moderating, remained above (9.1%).
- Apartment total returns declined from -0.4% to -5.1% on a trailing four quarter basis. However, they still beat the benchmark by 150 bps. Negative returns were primarily driven by high-rise (-6.2%), which makes up more than half of the subindex, while garden (-3.6%) and low rise (-3.9%) properties fared better. Vacancy stood at 6.1%, below its long-term average (6.5%). NOI growth moderated to 3.7% but remained strong by historical standards.
- Office performance continued to struggle, delivering total returns of -14.5% (trailing four quarters). CBD office properties (-17.6%) fared worse than those in the suburbs (-10.8%), although both suffered. The sector as a whole produced a -18.4% capital return for the trailing four quarters. NOI growth for the quarter (0.9% year-over-year) was 195 bps below the long term average (2.9%), as vacancy nudged higher (13.1%).
- The South (-3.1%), benefitting from in-migration and demographic tailwinds, was relatively resilient. The Midwest (-6.0%) followed with returns outperforming the benchmark by 60 bps. West (-7.4%) and East (-8.3%) underperformed the index.

Detailed Property Type NPI Performance

	No. of props.	Market value U.S.\$ (Mil)	Trailing four quarters (2Q 2023)		
			Total return	Income	Apprec.
Apartment					
Garden	925	86,271	-3.6%	3.9%	-7.3%
High Rise	1,171	141,578	-6.2%	3.7%	-9.6%
Low Rise	276	26,204	-3.9%	3.9%	-7.5%
Industrial					
R&D	28	1,680	-0.1%	3.8%	-3.8%
Flex	167	5,710	-2.5%	4.1%	-6.4%
Warehouse	4,914	284,361	-4.2%	3.2%	-7.2%
Office					
CBD	473	112,189	-17.6%	4.3%	-21.2%
Suburban	1,316	100,301	-10.8%	4.8%	-15.0%
Retail					
Community	188	13,043	1.0%	5.3%	-4.1%
Neighborhood	564	23,130	0.0%	5.1%	-4.9%
Power	177	13,618	1.2%	5.7%	-4.3%
Regional	45	12,339	-3.6%	4.8%	-8.1%
Super Regional	70	45,710	-1.7%	5.0%	-6.5%

Returns by Property Type and Region

	Annual returns								Standard deviation	
	Total	Income	Apprec.	3 years	5 years	10 years	20 years	Since inception ⁴	20 years	Since inception ⁵
Property type										
Apartment	-5.1%	3.8%	-8.6%	8.1%	6.6%	7.7%	8.0%	10.0%	9.2%	7.7%
Industrial	-4.0%	3.2%	-7.1%	20.4%	17.0%	15.2%	11.5%	10.6%	11.7%	9.1%
Office	-14.5%	4.5%	-18.4%	-2.2%	0.7%	4.7%	6.4%	7.6%	9.5%	9.4%
Retail	-0.9%	5.1%	-5.8%	1.8%	0.3%	5.1%	7.8%	8.6%	8.9%	7.0%
Total Index	-6.6%	4.0%	-10.3%	6.8%	5.9%	7.8%	8.2%	8.8%	8.8%	7.5%
Region										
East	-8.3%	4.0%	-11.9%	3.9%	3.7%	5.7%	7.3%	9.3%	9.2%	8.9%
Midwest	-6.0%	4.6%	-10.2%	3.9%	2.8%	5.7%	6.4%	7.5%	7.2%	6.0%
South	-3.1%	4.3%	-7.1%	9.2%	7.3%	8.7%	8.5%	8.2%	8.2%	6.9%
West	-7.4%	3.7%	-10.8%	8.2%	7.5%	9.5%	9.3%	9.5%	9.7%	8.4%
Total Index	-6.6%	4.0%	-10.3%	6.8%	5.9%	7.8%	8.2%	8.8%	8.8%	7.5%

Source: NCREIF Property Index as of June 30, 2023. Past performance is not indicative of future returns.

⁴ Index returns start in 1978, equivalent to a 45 year calculation.

⁵ Index returns start in 1978, equivalent to a 45 year calculation.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can fall as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS International GmbH.

Market Analysis – Benchmark Insights and Portfolio Implications

The NCREIF Property Index is a value-weighted index of property returns and as such, a large portion of the index is located in just 20 markets. Local economic growth will affect properties located in the same market similarly, so we can estimate the effect of property geographical location on the overall index. Large metros, by value, will likely have the largest impact on the index, although small metros with particularly strong or weak performance may boost or weigh on returns from time to time. The tables on the following page list out which markets had the strongest positive and negative effect on returns during the past four quarters.

Apartments

Markets that benefited from post-pandemic demographic trends continued to outperform. Over the past 12 month, markets in the Sun Belt (e.g., Dallas, Austin, Fort Lauderdale, Miami) were positive contributors to total return. However, those facing large incoming supply (Phoenix, Denver) were a drag on total return. Major tech markets on the West Coast (e.g., Seattle, San Jose, San Francisco) were some of the biggest laggards, reflecting the impact of tech layoffs in these high-cost markets. San Diego (-2.9%) was an exception as it joined some of the leading sunbelt markets in having a large positive impact on total return. Performance in gateway markets was relatively dispersed; New York (-2.9%), Washington, DC (-4.5%), and Chicago (-4.2%) outperformed the subindex while Boston (-5.4%) and Los Angeles (-10.3%) underperformed.

Industrial

Overall performance declined, as all markets, with the exception of Miami, posted negative returns. Riverside (-2.3%) and Miami (3.8%) outperformed the subindex, having an outsized impact on overall performance. Markets that are seeing increased availability (Seattle, Dallas), as a result of completions and sublease space hitting the market, underperformed. Chicago (-5.4%), Denver (-9.8%), and New York (-5.5%) were some other major markets that lagged the subindex.

Office

While all markets recorded deteriorating returns amidst challenged fundamentals, some fared better than others. Sun-Belt markets benefiting from corporate relocations and demographic tailwinds (e.g., Dallas, Miami and Charlotte) outperformed the subindex. Tech concentrated West Coast markets (e.g., Seattle, San Francisco) and gateway markets remained at the bottom of the pack (e.g., New York, Washington DC, Chicago). San Diego (-7.2%) had the largest positive impact on office returns, an exception on the west-coast across property types.

Retail

Markets with significant mall constituents and gateway markets experiencing out-migration (e.g., San Francisco, Washington, DC, New York, Chicago) generally underperformed the subindex. Those with more neighborhood and community centers, benefitting from demographic tailwinds (e.g., Las Vegas, Atlanta, and Dallas), fared better. On the West Coast, Seattle (1.7%) and San Diego (0.9%) outperformed, while San Francisco (-8.1%) lagged significantly.

Apartment			Industrial			Office			Retail		
Metro	Metro returns ⁶	Impact on sector returns	Metro	Metro returns ⁷	Impact on sector returns	Metro	Metro re- turns ⁸	Impact on sector re- turns	Metro	Metro re- turns ⁹	Impact on sector re- turns
Dallas	-0.5%	28	Riverside	-2.3%	26	San Diego	-7.2%	16	Dallas	5.7%	28
New York	-2.9%	18	Miami	3.8%	25	Dallas	-8.1%	14	Las Vegas	1.0%	12
Miami	0.3%	13	Baltimore	-0.1%	8	San Jose	-11.5%	11	Los Angeles	1.1%	11
Fort Lauderdale	0.7%	12	Atlanta	-2.5%	5	Atlanta	-8.7%	10	Houston	0.7%	10
San Diego	-2.9%	6	Portland	-1.4%	4	Miami	-5.2%	10	San Diego	0.9%	8
West Palm Beach	-2.3%	5	San Diego	-2.1%	3	Oakland	-9.6%	9	Atlanta	2.0%	7
Washington, DC	-4.5%	5	Phoenix	-2.7%	2	Austin	-12.0%	6	Seattle	1.7%	7
Chicago	-4.2%	5	Orange County	-3.5%	2	Nashville	-6.2%	5	Riverside	2.3%	6
Austin	-4.3%	3	Boston	-2.9%	1	Charlotte	-9.2%	4	Baltimore	-0.5%	1
Houston	-4.1%	3	Philadelphia	-3.4%	1	Orange County	-13.3%	2	Orange County	-0.6%	1
Atlanta	-5.1%	0	Los Angeles	-3.9%	1	Boston	-14.4%	2	Boston	-0.6%	1
Charlotte	-6.1%	-2	Las Vegas	-6.4%	-3	Denver	-13.8%	2	Orlando	-0.7%	0
Boston	-5.4%	-2	Houston	-5.7%	-3	Chicago	-14.8%	-1	San Jose	-1.1%	-1
Orange County	-6.1%	-3	Charlotte	-6.5%	-4	Houston	-16.3%	-5	Phoenix	-2.7%	-6
Phoenix	-8.7%	-10	Chicago	-5.4%	-8	Washington, DC	-15.1%	-7	Oakland	-4.7%	-12
Denver	-7.2%	-12	Denver	-9.8%	-9	Portland	-22.6%	-8	Miami	-5.8%	-13
San Jose	-11.3%	-13	Oakland	-6.6%	-9	Los Angeles	-16.4%	-14	San Francisco	-8.1%	-16
Seattle	-9.0%	-19	Dallas	-5.7%	-11	San Francisco	-17.4%	-32	New York	-4.8%	-18
San Francisco	-13.4%	-26	New York	-5.5%	-13	Seattle	-20.3%	-36	Chicago	-5.5%	-28
Los Angeles	-10.3%	-33	Seattle	-7.4%	-17	New York	-16.8%	-39	Washington, DC	-6.5%	-43

Source: NCREIF Property Index as of June 30, 2023.

⁶ Four-quarter cumulative returns ending fourth quarter 2022.

⁷ Four-quarter cumulative returns ending fourth quarter 2022.

⁸ Four-quarter cumulative returns ending fourth quarter 2022.

⁹ Four-quarter cumulative returns ending fourth quarter 2022.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can fall as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS International GmbH.

Appendix – Historical Performance

	12 months trailing				
	6/30/2023	6/30/2022	6/30/2021	6/30/2020	6/30/2019
Private Real Estate (NPI)	-6.6%	21.5%	7.4%	2.7%	6.5%
Broad Equities (large cap)	19.6%	-10.6%	40.8%	7.5%	10.4%
Bonds	-0.9%	-10.3%	-0.3%	8.7%	7.9%
Listed Real Estate	-4.4%	-5.9%	32.8%	-6.5%	13.0%
10-Year Treasury ¹⁰	3.8%	3.0%	1.5%	0.7%	2.0%
12-Month LIBOR ¹¹	6.0%	3.6%	0.2%	0.5%	2.2%
CPI (SA)	3.1%	8.9%	5.3%	0.7%	1.6%

Sources: NCREIF (NPI), S&P 500 (Broad Equities), Barclay's U.S. Aggregate Bond Index (Bonds), NAREIT (Listed Real Estate), BLS (CPI) and Federal Reserve (10 yr Treasury, LIBOR). As of June 30, 2023.

¹⁰ These figures represent annual yields.

¹¹ These figures represent annual yields.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can fall as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS International GmbH.

Real Estate Research Team

Office Locations

Chicago

222 South Riverside Plaza
34th Floor
Chicago
IL 60606-1901
United States
Tel: +1 312 537 7000

Frankfurt

Mainzer Landstrasse 11-17
60329 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London

Winchester House
1 Great Winchester Street
London EC2N 2DB
United Kingdom
Tel: +44 20 754 58000

New York

875 Third Avenue
26th Floor
New York
NY 10022-6225
United States
Tel: +1 212 454 3414

San Francisco

101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore

One Raffles Quay
South Tower
20th Floor
Singapore 048583
Tel: +65 6538 7011

Tokyo

Sanno Park Tower
2-11-1 Nagata-cho
Chiyoda-Ku
18th Floor
Tokyo
Japan
Tel: +81 3 5156 6000

Teams

Global

Kevin White, CFA
Global Co-Head of Real Estate Research

Simon Wallace
Global Co-Head of Real Estate Research

Americas

Brooks Wells
Head of Research, Americas

Liliana Diaconu, CFA
Office Research

Ross Adams
Industrial Research

Sharim Sohail
Property Market Research

Europe

Ruben Bos, CFA
Head of Real Estate Investment Strategy, Europe

Tom Francis
Property Market Research

Siena Golan
Property Market Research

Rosie Hunt
Property Market Research

Carsten Lieser
Property Market Research

Martin Lippmann
Head of Real Estate Research, Europe

Asia Pacific

Koichiro Obu
Head of Real Estate Research, Asia Pacific

Seng-Hong Teng
Property Market Research

Hyunwoo Kim
Property Market Research

AUTHORS



Kevin White, CFA
Global Co-Head of Real Estate Research



Sharim Sohail
Property Market Research

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can fall as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS International GmbH.

Important information

For North America:

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for DWS or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither DWS nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the DWS, the issuer or any office, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person.

The views expressed in this document constitute DWS Group's judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

Investments are subject to risk, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time.

An investment in real assets involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/units and their derived income may fall or rise.

War, terrorism, sanctions, economic uncertainty, trade disputes, public health crises and related geopolitical events have led, and, in the future, may lead to significant disruptions in US and world economies and markets, which may lead to increased market volatility and may have significant adverse effects on the fund and its investments.

For Investors in Canada. No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein and any representation to the contrary is an offence. This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group. Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction you are considering, and not the document contained herein. DWS Group is not acting as your financial adviser or in any other fiduciary capacity with respect to any transaction presented to you. Any transaction(s) or products(s) mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand such transaction(s) and have made an independent assessment of the appropriateness of the transaction(s) in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DWS Group, you do so in reliance on your own judgment. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates, and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Any projections are based on a number of assumptions as to market conditions and there can be no guarantee that any projected results will be achieved. Past performance is not a guarantee of future results. The distribution of this document and availability of these products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission.

For EMEA, APAC & LATAM:

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they do business. The DWS legal entities offering products or services are specified in the relevant documentation. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively "DWS") are communicating this document in good faith and on the following basis.

This document is for information/discussion purposes only and does not constitute an offer, recommendation, or solicitation to conclude a transaction and should not be treated as investment advice.

This document is intended to be a marketing communication, not a financial analysis. Accordingly, it may not comply with legal obligations requiring the impartiality of financial analysis or prohibiting trading prior to the publication of a financial analysis.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models, and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness, or fairness of such information. All third-party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast, or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid.

DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS's written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country, or other jurisdiction, including the United States, where such distribution, publication, availability, or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

© 2023 DWS International GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated by the Financial Conduct Authority (Reference number 429806).

© 2023 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited and the content of this document has not been reviewed by the Securities and Futures Commission.

© 2023 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited and the content of this document has not been reviewed by the Monetary Authority of Singapore.

© 2023 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640) and the content of this document has not been reviewed by the Australian Securities Investment Commission.

© 2023 DWS Investments Australia Limited

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

For investors in Taiwan: This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed, and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction, or transmission of the contents, irrespective of the form, is not permitted.