

OUR MONTHLY MARKET ANALYSIS AND POSITIONING



Stefan Kreuzkamp
Chief Investment Officer and Head
of Investment Division

IN A NUTSHELL

- Inflation worries dominated at the beginning of May, but they are now being accompanied by growth worries.
- The stabilization of real yields helped the equity markets to avoid another month of heavy losses.
- We expect that nervousness could soon take hold of the markets again, as the central banks continue to tackle inflation.

1 / Market overview

May was the month of peaks, most of them in the first half. Trends that had been in place for months came to a head and then began reversing. The market scaled the peak of interest rate worry and then saw ahead another peak, called growth worry.

That was evident first and foremost in what were once again the key drivers of the stock markets: interest rates, yields and inflation expectations. But the paths of the U.S. and Europe forked. In the U.S. inflation concerns culminated at the turn of the month, depending on the index one chooses. Implied inflation expectations for inflation-protected 10-year Treasuries, for example, fell from 2.9% to below 2.6% at one point. As a result, expectations about the level of the Fed funds rate at the end of 2022 also fell slightly in the course of the month for the first time in ten months. Thanks to verbal interventions by U.S. Federal Reserve (Fed) members, market concerns about a 0.75% hike by the Fed also faded. Ten-year Treasury yields peaked at 3.2% intraday on May 9 and ended the month at 2.85%.

In Europe bund yields told a different story, rising from 0.94 to 1.12% in May. Since the European Central Bank (ECB) apparently noticed the threat of inflation even later than the Fed, market expectations too differed. The market expected the ECB to raise interest rates by 120 basis points at the end of May, a rise from an expectation of around 90 basis points at the beginning of May. Given that Eurozone inflation rose to 8.1% in May, and we assume inflation could climb still higher, this is certainly not an assumption that monetary tightening will be over-zealous. The slight divergence in central bank policy between the U.S. and Europe may also have been an important driver for the dollar, which lost over two cents against the euro.

The fact that interest rate expectations in the U.S. stabilized somewhat and, in particular, that real yields no longer rose, probably helped equities, as did the fact that volatility across markets (equities, bonds, currencies) also peaked at the beginning of May. Whether it was the S&P 500 or the MSCI AC World, both indexes ended the month virtually where they began it. In the case of the S&P 500, however, that still means the worst performance for the first five months of the year since 1970, with a 13.3 percent drop in share prices. In currency-adjusted terms, the Dax fared even slightly worse in the first five months, but in euro terms it lost "only" 9.1%, thanks in part to a 2.4% gain in May.¹

Globally, the energy sector once again led the way with a price increase of 12.7% - hardly surprising given the further 12.4% increase in the price of Brent crude. Oil is likely up due to China's gradual Covid easing and EU oil sanctions against Russia.

¹ Source: Bloomberg Finance L.P.; as of: 5/31/22

In addition to oil stocks, financials also did quite well in May, with the Stoxx Banks +4.7% up, and S&P Financials up by 2.6%.² Overall, this meant that value stocks again outperformed growth stocks in May (+1.7% vs -2.4%), despite the slight dampening of interest rate concerns.

The mix of declining inflation expectations, high inflation figures, worsening growth concerns and spikes in volatility also left their mark on alternative investments. Gold and silver fell by 3.1% and 5.4%, respectively, but that was nothing compared to the slump in crypto assets. Their cumulative market value fell by about one-sixth, from \$1.7 trillion to \$1.4 trillion, and individual "currencies" lost more than half their value. Above all, the fact that so-called stable coins were unable to maintain their ("guaranteed") value against the dollar probably damaged confidence in this asset class considerably.

2 / Outlook and changes

As this is the edition of the Traffic Lights following DWS's quarterly strategic review, we will be focusing on 12-months targets and views rather than the tactical outlook. Financial markets are currently digesting a very broad range of interconnected risks: the war in Ukraine, commodity price inflation, China's zero-Covid policy, supply-chain problems, and falling real wages, among others. Central banks are torn between having to tame the highest inflation in decades and preparing for an economic slowdown that is already beginning: consensus forecast for global GDP growth in 2022 have decreased from 4.4% to 3.3% this year³.

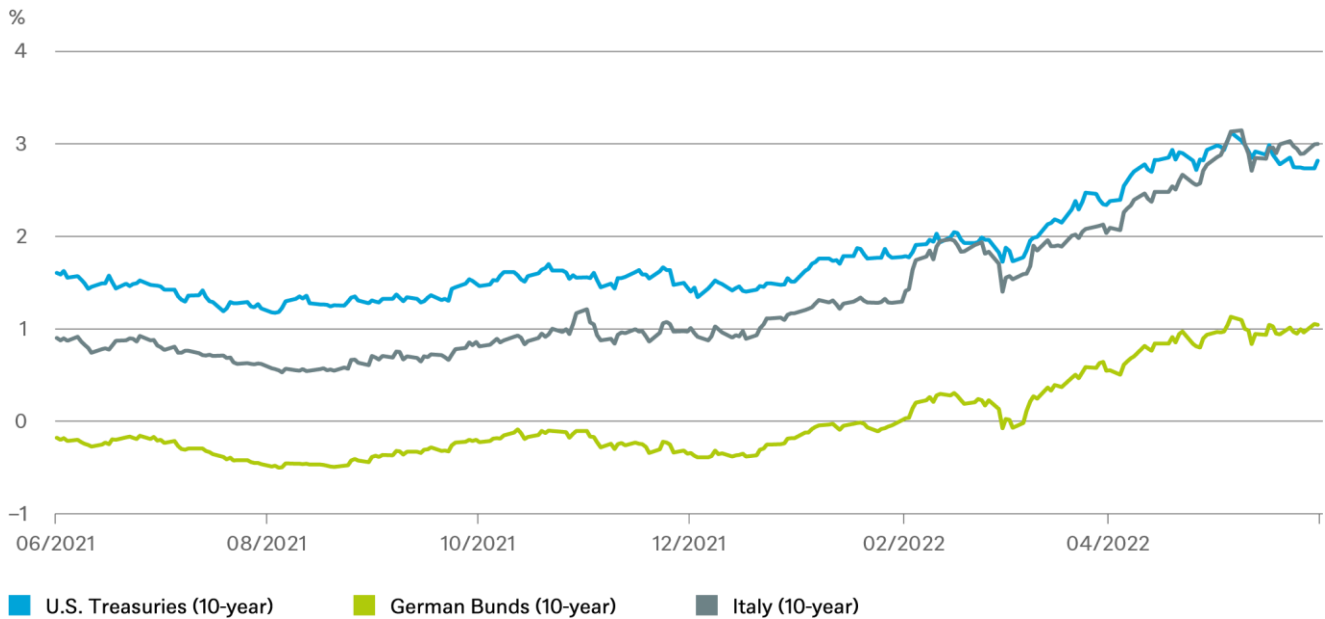
Fixed income markets are also in turmoil, switching from peak inflation fear to rising recession fear within weeks. Bad economic news is interpreted as good by markets which hope central banks might become less eager to hike rates. That might also be seen as still taking inflation too lightly. The Fed at first called inflation "transitory" but it is a problem that has once again, as in the past, proven hard to understand and manage. Goods inflation was already bad enough, though its causes are relatively easy to trace. Services inflation might be still more difficult. In addition to this there is the risk that the U.S. will fall into recession, which we put as high as 40% for 2023. Europe could fall into recession as early as this year if energy supply from Russia is seriously disrupted before alternative sources are available. In short, we feel the path to an economic soft landing has become very narrowed but it remains our base case assumption. In capital markets, however, we believe nervousness could increase this year, the first for many years in which, in all probability, the so-called 'Fed Put' will no longer be available to protect markets. Next year, however, we expect volatility to abate, producing a more optimistic outlook that would allow for decent returns over a 12-month period.

² Source: Bloomberg Finance L.P.; as of 5/31/22

³ Bloomberg consensus forecasts as of 5/31/22

2.1 Fixed income

THE RAPID RISE IN YIELDS SINCE END 2021 HAS STALLED SOMEWHAT SINCE MID-MAY



Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 5/31/22

U.S.: The Fed appears to be on track for a series of rate hikes to fight inflation and from the summer onwards is also expected to implement QT (Quantitative Tightening). We expect the Fed to remain in inflation-fighting mode and to hike rates to a high of 3.25-3.50% by Q2 2023. That peak rate might be lower if economic momentum fades. U.S. Treasuries have already strongly discounted this tightening cycle and the 3-10 year curve is now fully flat. USD Investment Grade and High Yield credit should, however, face some further spread widening which could provide a new entry opportunity at some point in the summer. In our baseline scenario, which foresees recession being avoided, fundamentals such as earnings growth and low default rates argue for Credit vs. Treasuries in spite of the Fed rate hike cycle.

Europe: We also expect the ECB to hike rates multiple times over the forecast horizon to a deposit rate of 0.75% and a main refinancing rate of 1.00% by Q2 2023. The pandemic emergency purchase program (PEPP) has ended. The more established asset purchasing program (APP) is still running but will be reduced in Q3. The ECB's rate hike cycle is behind the Fed's and we don't expect quantitative tightening in our forecast period. Therefore, EUR investment grade (IG) credit will continue to receive some central bank support, albeit at a lower level than before. Inflation fears have nevertheless pushed Bund and other eurozone government yields higher; we expect the steeper curves to flatten from now on as ECB rate hikes begin in July. Sovereign bonds in Europe's periphery will be receiving less ECB support, but we do not expect any further dramatic spread widening from here. Increased EU fiscal integration and/or a potential new monetary policy tool might help to ease the pressures from asymmetric shocks on spreads.

Emerging markets: Emerging markets (EM) have remained under pressure due to the Ukraine war, tighter monetary conditions globally and inflation pressures, but issuers and regions are impacted to different degrees. Commodity exporters and regions that are less exposed to geopolitical risk, such as Latin America, are doing better. In EM corporate bonds fundamentals have strengthened back to pre-pandemic levels in terms of leverage and liquidity in our view, thanks to rebounding earnings and recovering global demand. We expect high yield default rates of around 6% in 2022 to be driven by idiosyncratic and country or sector-specific issues (such as Chinese real estate or the Ukraine war). Issuers with solid export revenues or strong local demand (for example in Asia and the Middle East) provide stability. Moderate duration, residual spread buffers and a high prevalence of committed investors are further mitigating factors against volatility in core rates.

Currencies: We have lowered our EUR/USD target to 1.10 as Europe is more directly exposed to the repercussions of the Ukrainian war, while we also believe that the Euro weakness might have reached its lows for this year.

MANY DRIVERS ARE MOVING CORPORATE BONDS: RATE HIKES, UKRAINE, SLOWING ECONOMIC GROWTH

Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 5/31/22

2.2 Equities

Rising U.S. real yields and geopolitical and macroeconomic uncertainty have pulled down the MSCI AC World index by almost 20% YTD. Long duration stocks are particularly hurt by higher discount rates as investors switch their preference from growth stocks into companies that appear to be safe havens as they offer strong cash flows not in the distant future but now. As real yields have turned positive again equity investors have said good-bye to “TINA” (there is no alternative): certain bond segments do now offer an investment alternative to equities again. We believe the near-term risk to markets remains to the downside as market sentiment moves from fear of inflation to fear of recession. The unwinding of valuation excesses in some segments is still ongoing. However, unlike a year ago, elevated PE multiples have become less of a concern. Structural equity bears are now focusing on profit margins that they see as having become unsustainably high over the past decade in the U.S.. We disagree and believe that today is different to the dotcom bubble that formed in the late 1990s. Most of the large digital platforms have strong business models and high, sustainable margins.

We believe an S&P level of 5,000 points is now out of reach but we remain constructive on equities over a 12-month basis. Most of the upside should come from a falling risk premium. Over time we expect fears about geopolitical, inflation and recession risks to ease from their peak level, helping to lift PE multiples again. In our June 2023 forecasts we assume that a decline in the VIX volatility index from 35 towards 15 will trigger a relief rally of 10-15% in global equity markets. We embed this assumption in our twelve-month S&P target of 4,400 points.

For the Stoxx600 and Dax40 our targets of 460 and 14,600, respectively, remain unchanged. We include a 10% Ukraine discount to reflect the risk of further military escalation and possible Russian gas cuts. We are worried that elevated energy prices may confront many European industries with a serious competitive challenge. Overall, we try to capture the upcoming weaker economic growth by assuming earnings per share (EPS) growth of 5-8% below consensus.

In Emerging Markets, we have cut our target and EPS assumptions to reflect the exclusion of Russian equities from the index, lower Chinese growth and the strains on EM currencies. This still leaves scope for returns in the mid-teens over the next year. EM equities, too, are weighed down by high levels of uncertainty, particularly in China. While we expect economic stimulus to boost China’s post-Covid growth, many questions remain unanswered regarding the housing market and corporate governance.

Healthcare remains our preferred sectors and we continue to highlight the attractiveness of agricultural and oil service companies given that commodity prices are high.

EUROPEAN STOCKS OUTPERFORMED THEIR MORE INTEREST-RATE SENSITIVE U.S. PEERS

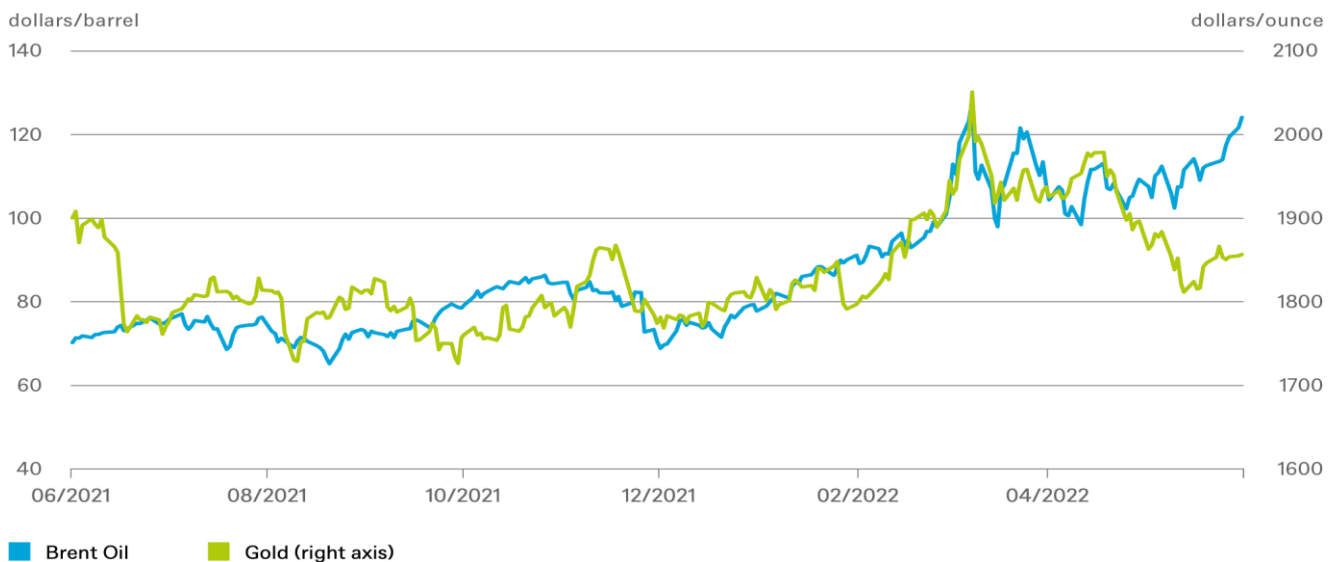


Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 5/31/22

2.3 Alternatives

We expect gold to continue at elevated levels given the current geopolitical risks and demand for portfolio hedges. We see scope for it to rise to a price of \$2,100 per ounce by Q2 2023, also as the rise in real rates has abated. For oil we expect a continued structurally short market over the forecast horizon and expect a price of around \$110 per barrel for Brent crude. We currently prefer infrastructure investments to Real Estate, given their long-term nature and resilience to a possible downturn.

ALMOST NOTHING BEATS OIL (AND GAS) THIS YEAR



Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 5/31/22

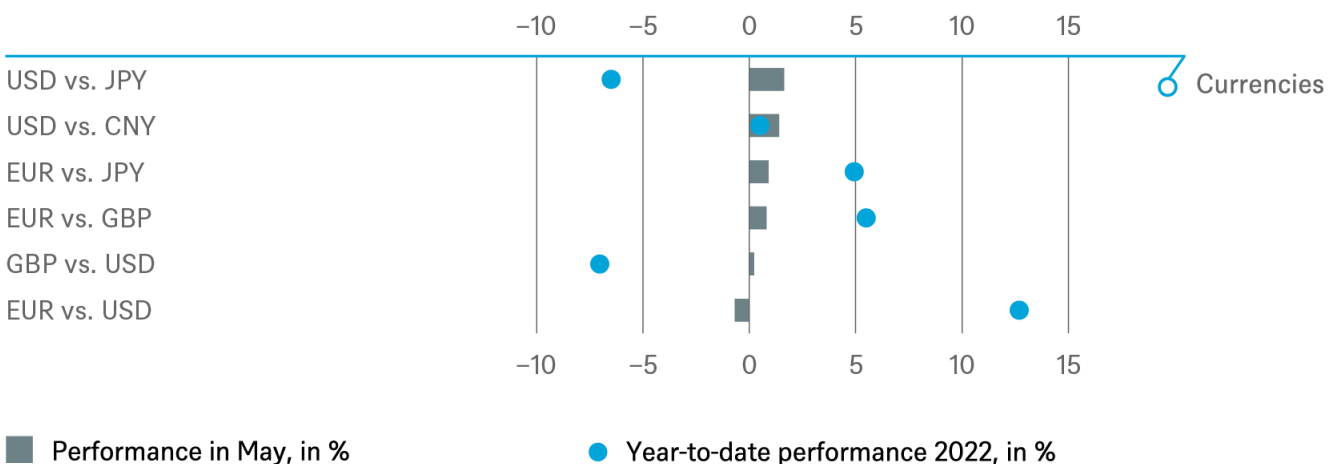
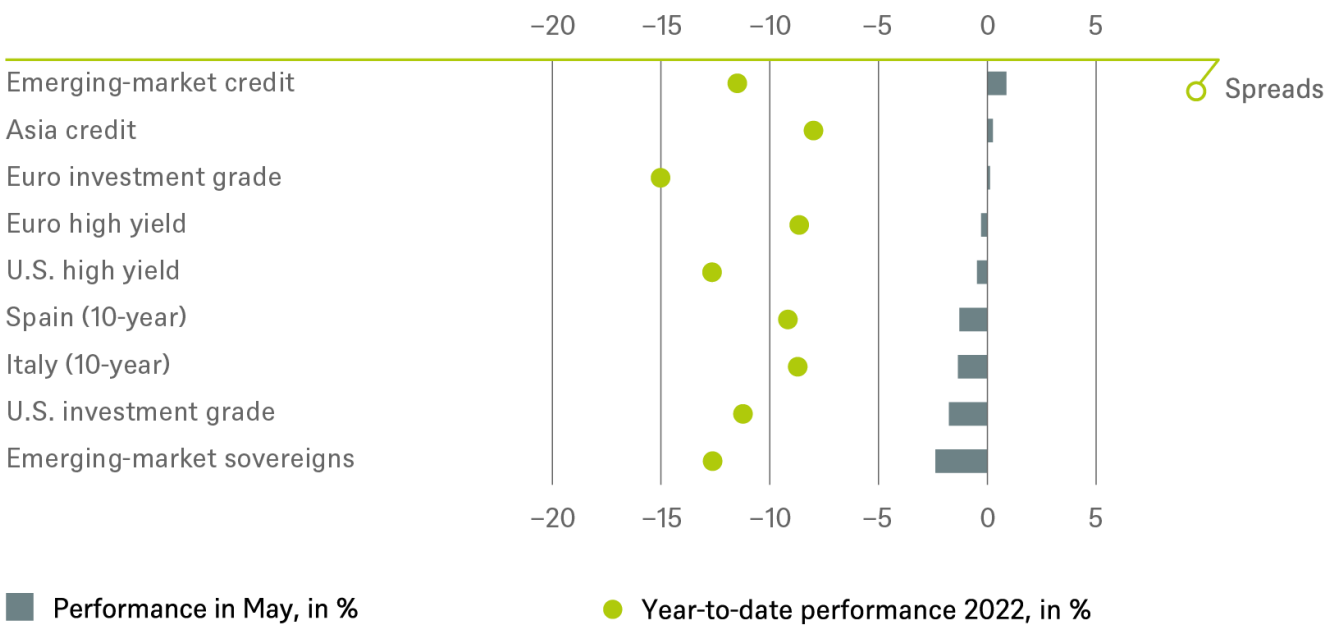
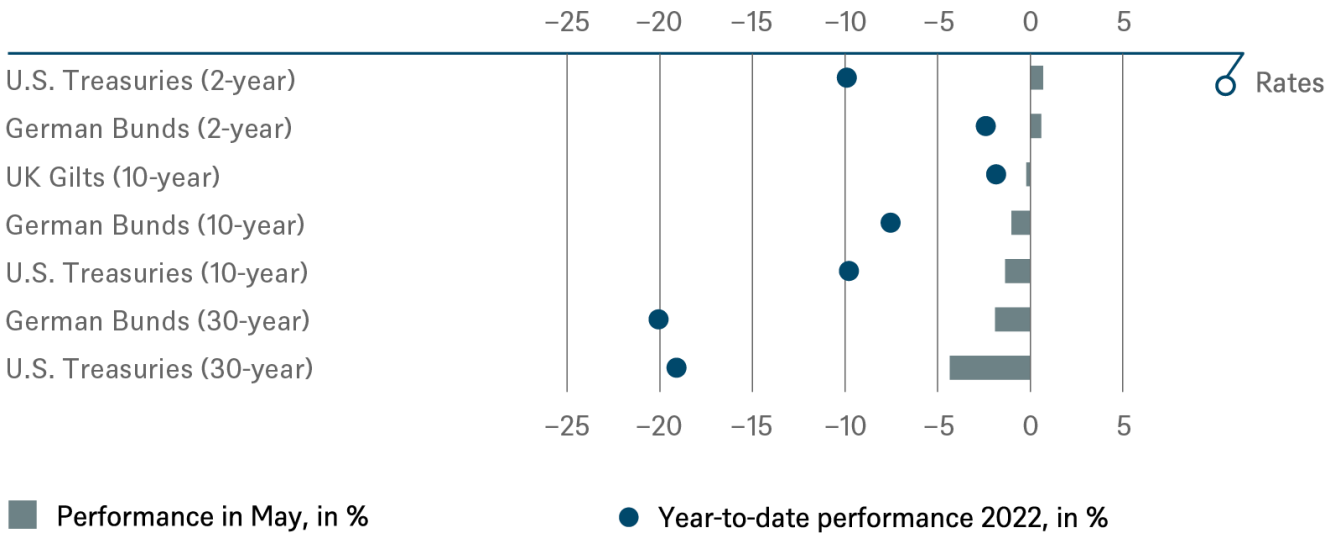
2.4 ESG developments

Research conducted by the DWS Research House shows that companies with high climate transition risks tend to be less profitable and trade at a sizable discount compared to companies with lower climate risk. For high-emitting sectors, carbon prices pose a significant threat to profitability. Passing on these costs to the consumer can potentially generate material inflationary pressure.

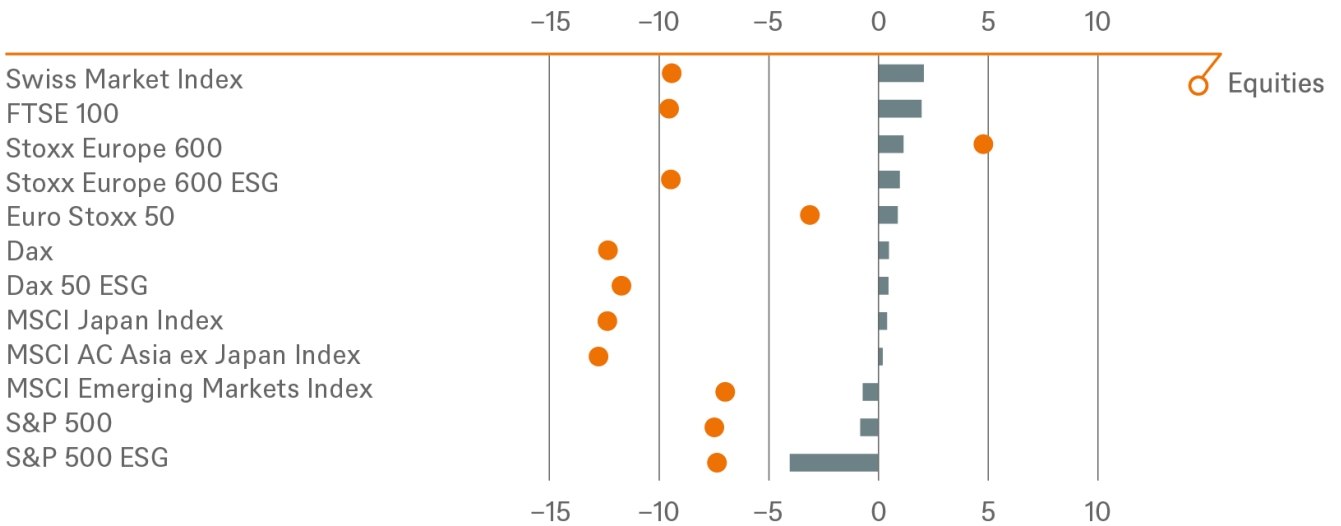
This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Alternative investments may be speculative and involve significant risks including illiquidity, heightened potential for loss and lack of transparency. Alternatives are not suitable for all clients.

3 / Past performance of major financial assets

TOTAL RETURN OF MAJOR FINANCIAL ASSETS YEAR-TO-DATE AND PAST MONTH

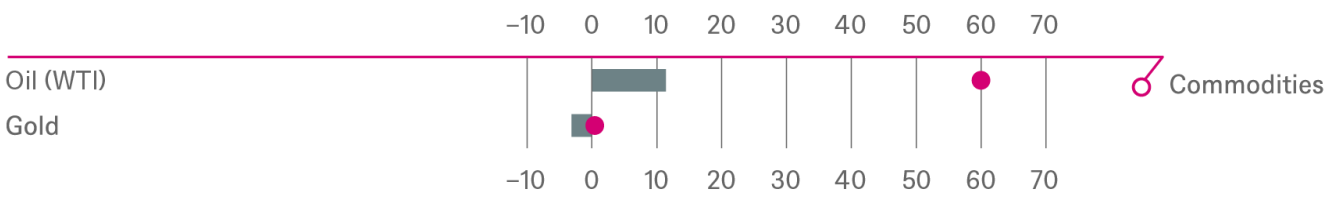


This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Alternative investments may be speculative and involve significant risks including illiquidity, heightened potential for loss and lack of transparency. Alternatives are not suitable for all clients.



■ Performance in May, in %

● Year-to-date performance 2022, in %



■ Performance in May, in %

● Year-to-date performance 2022, in %

Past performance is not indicative of future returns.
Sources: Bloomberg Finance L.P. and DWS Investment GmbH as of 5/31/22

4 / Tactical and strategic signals

THE FOLLOWING EXHIBIT DEPICTS OUR SHORT-TERM AND LONG-TERM POSITIONING

4.1 Fixed income

Rates	1 to 3 months	until June 2023	Spreads	1 to 3 months	until June 2023
U.S. Treasuries (2-year)	●	●	Spain (10-year) ¹	●	●
U.S. Treasuries (10-year)	●	●	Italy (10-year) ¹	●	●
U.S. Treasuries (30-year)	●	●	U.S. investment grade	●	●
German Bunds (2-year)	●	●	U.S. high yield	●	●
German Bunds (10-year)	●	●	Euro investment grade ¹	●	●
German Bunds (30-year)	●	●	Euro high yield ¹	●	●
UK Gilts (10-year)	●	●	Asia credit	●	●
Japanese government bonds (2-year)	●	●	Emerging-market credit	●	●
Japanese government bonds (10-year)	●	●	Emerging-market sovereigns	●	●
Securitized / specialties	1 to 3 months	until June 2023	Currencies	1 to 3 months	until June 2023
Covered bonds ¹	●	●	EUR vs. USD	●	●
U.S. high yield municipal bonds	●	●	USD vs. JPY	●	●
U.S. mortgage-backed securities	●	●	EUR vs. JPY	●	●
			EUR vs. GBP	●	●
			GBP vs. USD	●	●
			USD vs. CNY	●	●

4.2 Equities

Regions	1 to 3 months ²	until June 2023	Sectors	1 to 3 months ²
United States ³	●	●	Consumer staples ¹²	●
Europe ⁴	●	●	Healthcare ¹³	●
Eurozone ⁵	●	●	Communication services ¹⁴	●
Germany ⁶	●	●	Utilities ¹⁵	●
Switzerland ⁷	●	●	Consumer discretionary ¹⁶	●
United Kingdom (UK) ⁸	●	●	Energy ¹⁷	●
Emerging markets ⁹	●	●	Financials ¹⁸	●
Asia ex Japan ¹⁰	●	●	Industrials ¹⁹	●
Japan ¹¹	●	●	Information technology ²⁰	●
			Materials ²¹	●
Style	1 to 3 months			
U.S. small caps ²²	●			
European small caps ²³	●			

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 based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Alternative investments may be speculative and involve significant risks including illiquidity, heightened potential for loss and lack of transparency. Alternatives are not suitable for all clients.

4.3 Alternatives

Alternatives	1 to 3 months	until June 2023
Commodities ²⁵	●	●
Oil (WTI)	●	●
Gold	●	●
Infrastructure	●	●
Real estate (listed)	●	●
Real estate (non-listed) APAC ²⁶		●
Real estate (non-listed) Europe ²⁶		●
Real estate (non-listed) United States ²⁶		●

¹ Spread over German Bunds, ² Relative to the MSCI AC World Index (only for the tactical signals), ³ S&P 500, ⁴ Stoxx Europe 600, ⁵ Euro Stoxx 50, ⁶ Dax, ⁷ Swiss Market Index, ⁸ FTSE 100, ⁹ MSCI Emerging Markets Index, ¹⁰ MSCI AC Asia ex Japan Index, ¹¹ MSCI Japan Index, ¹² MSCI AC World Consumer Staples Index, ¹³ MSCI AC World Health Care Index, ¹⁴ MSCI AC World Communication Services Index, ¹⁵ MSCI AC World Utilities Index, ¹⁶ MSCI AC World Consumer Discretionary Index, ¹⁷ MSCI AC World Energy Index, ¹⁸ MSCI AC World Financials Index, ¹⁹ MSCI AC World Industrials Index, ²⁰ MSCI AC World Information Technology Index, ²¹ MSCI AC World Materials Index, ²² Russell 2000 Index relative to the S&P 500, ²³ Stoxx Europe Small 200 relative to the Stoxx Europe 600, ²⁴ Relative to the Bloomberg Commodity Index, ²⁵ Long-term investments

4.4 Legend

TACTICAL VIEW (1 TO 3 MONTHS)

– The focus of our tactical view for fixed income is on trends in bond prices.

- ● Positive view
- ● Neutral view
- ● Negative view

STRATEGIC VIEW UNTIL JUNE 2023

– The focus of our strategic view for sovereign bonds is on bond prices.

– For corporates, securitized/specialties and emerging-market bonds in U.S. dollars, the signals depict the option-adjusted spread over U.S. Treasuries. For bonds denominated in euros, the illustration depicts the spread in comparison with German Bunds. Both spread and sovereign-bond-yield trends influence the bond value. For investors seeking to profit only from spread trends, a hedge against changing interest rates may be a consideration.

– The colors illustrate the return opportunities for long-only investors.

- ● Positive return potential for long-only investors
- ● Limited return opportunity as well as downside risk
- ● Negative return potential for long-only investors

GLOSSARY

The **asset purchase programme (APP)** refers to purchases of marketable debt instruments by the ECB.

One **basis point** equals 1/100 of a percentage point.

The **Bloomberg Commodity Index (BCOM)** traces 23 commodities and reflects commodity futures price movements.

Brent crude is a grade of crude oil dominant in the European market.

Bunds is a commonly used term for bonds issued by the German federal government with a maturity of 10 years.

The **CBOE Volatility Index (Vix)** is a trademarked ticker symbol for the Chicago Board Options Exchange Market Volatility Index. It is a popular measure of the volatility of the S&P 500 as implied in the short-term option prices on the index.

A **crypto asset** is the digital representation of a value or contractual right that is created, transferred, and stored using distributed ledger technology (blockchain) and authenticated through cryptography.

The **Dax** is a blue-chip stock-market index consisting of the 40 major German companies trading on the Frankfurt Stock Exchange.

The **dotcom bubble** refers to the rapid rise and eventual collapse of equity market valuations of technology stocks from the late 1990s to 2001.

Duration is a measure expressed in years that adds and weights the time periods in which a bond returns cash to its holder. It is used to calculate a bond's sensitivity towards interest-rate changes.

Earnings per share (EPS) is calculated as a company's net income minus dividends of preferred stock, all divided by the total number of shares outstanding.

Emerging markets (EM) are economies not yet fully developed in terms of, amongst others, market efficiency and liquidity.

The **euro (EUR)** is the common currency of states participating in the Economic and Monetary Union and is the second most held reserve currency in the world after the dollar.

The **Euro Stoxx 50** is an index that tracks the performance of blue-chip stocks in the Eurozone.

The **European Central Bank (ECB)** is the central bank for the Eurozone.

The **Eurozone** is formed of 19 European Union member states that have adopted the euro as their common currency and sole legal tender.

The **federal funds rate** is the interest rate, set by the Fed, at which banks lend money to each other, usually on an overnight basis.

The **gross domestic product (GDP)** is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

Growth stocks are stocks from companies that are expected to grow significantly above market average for a certain period of time.

High-yield bonds are issued by below-investment-grade-rated issuers and usually offer a relatively high yield.

Inflation is the rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling.

Investment grade (IG) refers to a credit rating from a rating agency that indicates that a bond has a relatively low risk of default.

The **MSCI AC World Communication Services Index** captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Communications Services sector.

The **MSCI AC World Consumer Discretionary Index** captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Consumer Discretionary sector.

The **MSCI AC World Consumer Staples Index** captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Consumer Staples sector.

The **MSCI AC World Energy Index** captures large- and mid-cap securities across 23 developed-markets classified in the Energy sector.

The **MSCI AC World Financials Index** captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Financials sector.

The **MSCI AC World Health Care Index** captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Health Care sector.

The [MSCI AC World Index](#) captures large- and mid-cap companies across 23 developed- and 24 emerging-market countries.

The [MSCI AC World Industrials Index](#) captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Industrials sector.

The [MSCI AC World Information Technology Index](#) captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Information Technology sector.

The [MSCI AC World Materials Index](#) captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Materials sector.

The [MSCI AC World Utilities Index](#) captures large- and mid-cap securities across 23 developed- and 26 emerging-markets classified in the Utilities sector.

The [MSCI AC Asia ex Japan Index](#) captures large- and mid-cap representation across 2 of 3 developed-market countries (excluding Japan) and 8 emerging-market countries in Asia.

The [MSCI Emerging Markets Index](#) captures large- and mid-cap representation across 23 emerging-market countries.

The [ECB's Pandemic Emergency Purchase Programme \(PEPP\)](#) is a non-standard monetary-policy measure initiated in March 2020 to counter the serious risks to the monetary-policy transmission mechanism and the outlook for the Eurozone posed by the coronavirus outbreak.

The term "[Powell-Put](#)" derives from the more flexible monetary policy announced by Fed Chairman Jerome Powell to lower key interest rates in the light of declining capital markets.

The [price-to-earnings \(P/E\) ratio](#) compares a company's current share price to its earnings per share.

[Quantitative Tightening \(QT\)](#), as opposed to Quantitative Easing, describes the process of a Central Bank reducing its monetary stimulus by shrinking its balance sheet.

In economics, a [real](#) value is adjusted for inflation.

The [Russell 2000 Index](#) is an index that captures the 2,000 smallest stocks of the Russell-3000 index, which again comprises 3,000 small- and mid-cap U.S. listed stocks.

The [S&P 500](#) is an index that includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

[Sovereign bonds](#) are bonds issued by governments.

The [spread](#) is the difference between the quoted rates of return on two different investments, usually of different credit quality.

The [Stoxx Europe 600](#) is an index representing the performance of 600 listed companies across 18 European countries.

The [Swiss Market Index \(SMI\)](#) is Switzerland's most important equity index, consisting of the 20 largest and most liquid large- and mid-cap stocks.

[Treasuries](#) are fixed-interest U.S. government debt securities with different maturities: Treasury bills (1 year maximum), Treasury notes (2 to 10 years), Treasury bonds (20 to 30 years) and Treasury Inflation Protected Securities (TIPS) (5, 10 and 30 years).

The [U.S. Federal Reserve](#), often referred to as "[the Fed](#)," is the central bank of the United States.

[Value stocks](#) are stocks from companies that are trading at prices close to their book value and that are therefore cheaper than the market average on that metric.

[Volatility](#) is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk.

[Yield](#) is the income return on an investment referring to the interest or dividends received from a security and is usually expressed annually as a percentage based on the investment's cost, its current market value or its face value.

IMPORTANT INFORMATION – 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.

For institutional / professional 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.

© 2022 DWS Investment GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2022 DWS Investments UK Limited

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

© 2022 DWS Investments Hong Kong Limited

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

© 2022 DWS Investments Singapore Limited

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

© 2022 DWS Investments Australia Limited

as of 5/31/22; 082325_15 (06/2022)

IMPORTANT INFORMATION – 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 document has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. Before making an investment decision, investors need to consider, with or without the assistance of an investment adviser, whether the investments and strategies described or provided by DWS, are appropriate, in light of their particular investment needs, objectives and financial circumstances. Furthermore, this document is for information/discussion purposes only and does not and is not intended to constitute an offer, recommendation or solicitation to conclude a transaction or the basis for any contract to purchase or sell any security, or other instrument, or for DWS to enter into or arrange any type of transaction as a consequence of any information contained herein and should not be treated as giving investment advice. DWS, including its subsidiaries and affiliates, does not provide legal, tax or accounting advice. This communication was prepared solely in connection with the promotion or marketing, to the extent permitted by applicable law, of the transaction or matter addressed herein, and was not intended or written to be used, and cannot be relied upon, by any taxpayer for the purposes of avoiding any U.S. federal tax penalties. The recipient of this communication should seek advice from an independent tax advisor regarding any tax matters addressed herein based on its particular circumstances. Investments with DWS are not guaranteed, unless specified. Although information in this document has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness, and it should not be relied upon as such. All opinions and estimates herein, including forecast returns, reflect our judgment on the date of this report, are subject to change without notice and involve a number of assumptions which may not prove valid.

Investments are subject to various risks, including market fluctuations, regulatory change, counterparty risk, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you may not recover the amount originally invested at any point in time. Furthermore, substantial fluctuations of the value of the investment are possible even over short periods of time. Further, investment in international markets can be affected by a host of factors, including political or social conditions, diplomatic relations, limitations or removal of funds or assets or imposition of (or change in) exchange control or tax regulations in such markets. Additionally, investments denominated in an alternative currency will be subject to currency risk, changes in exchange rates which may have an adverse effect on the value, price or income of the investment. This document does not identify all the risks (direct and indirect) or other considerations which might be material to you when entering into a transaction. The terms of an investment may be exclusively subject to the detailed provisions, including risk considerations, contained in the Offering Documents. When making an investment decision, you should rely on the final documentation relating to the investment and not the summary contained in this document.

This publication contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. The forward looking statements expressed constitute the author's judgment as of the date of this material. Forward looking statements involve significant elements of subjective judgments and analyses and changes thereto and/or consideration of different or additional factors could have a material impact on the results indicated. Therefore, actual results may vary, perhaps materially, from the results contained herein. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements or to any other financial information contained herein. We assume no responsibility to advise the recipients of this document with regard to changes in our views.

No assurance can be given that any investment described herein would yield favorable investment results or that the investment objectives will be achieved. Any securities or financial instruments presented herein are not insured by the Federal Deposit Insurance Corporation ("FDIC") unless specifically noted, and are not guaranteed by or obligations of DWS or its affiliates. We or our affiliates or persons associated with us may act upon or use material in this report prior to publication. DB may engage in transactions in a manner inconsistent with the views discussed herein. Opinions expressed herein may differ from the opinions expressed by departments or other divisions or affiliates of DWS. This document may not be reproduced or circulated without our written authority. The manner of circulation and distribution of this document may be restricted by law or regulation in certain countries. 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.

Past performance is no guarantee of future results; nothing contained herein shall constitute any representation or warranty as to future performance. Further information is available upon investor's request. All third party data (such as MSCI, S&P & Bloomberg) are copyrighted by and proprietary to the provider.

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 – may need to identify] 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 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.

© 2022 DWS Investment GmbH, Mainzer Landstraße 11-17, 60329 Frankfurt am Main, Germany.

All rights reserved.

as of 5/31/22; 082326_15 (06/2022)