Deutsche Bank
Chief Investment Office

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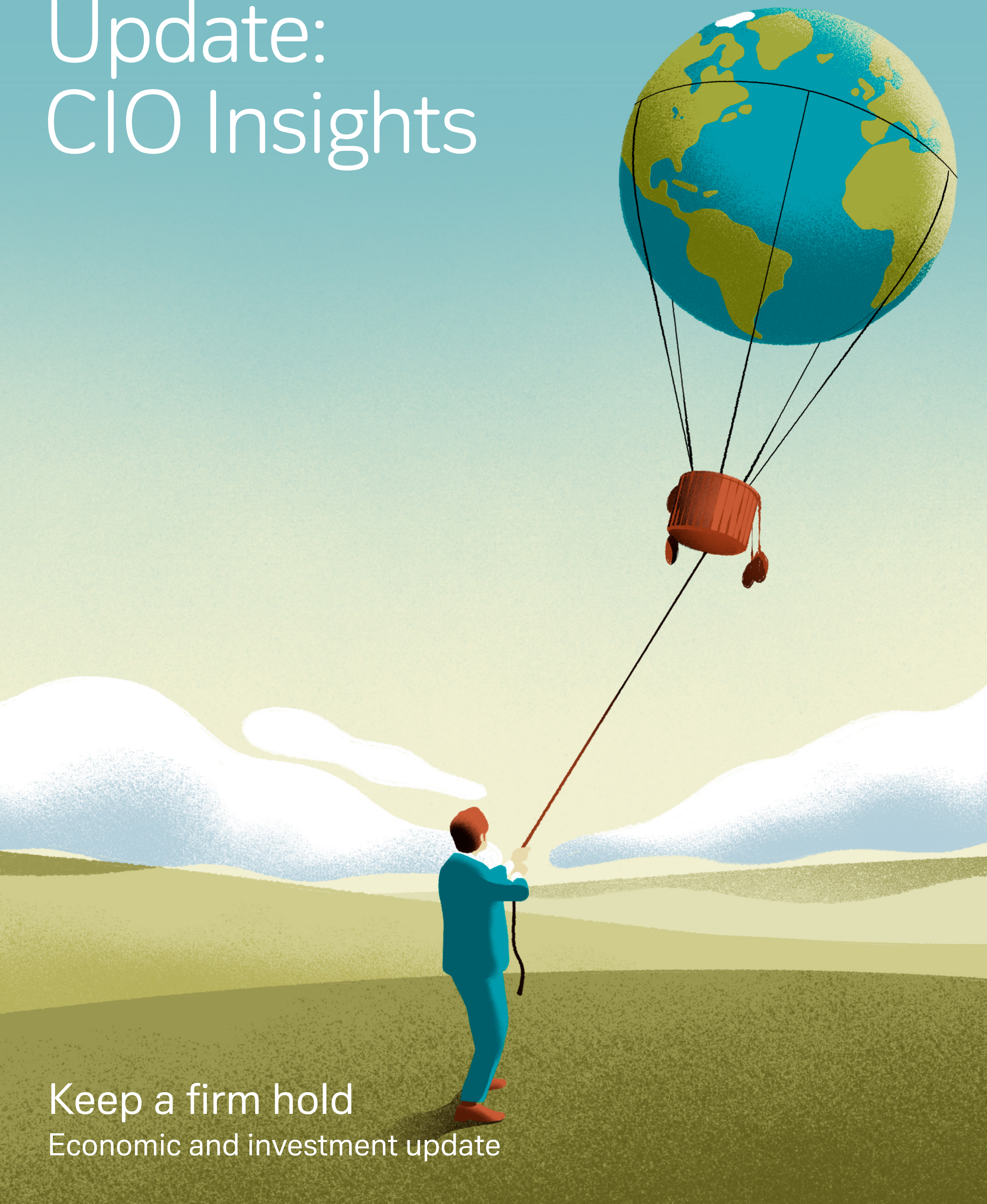
Update: CIO Insights



Keep a firm hold

Economic and investment update

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Letter to Investors

Christian Nolting
Global CIO

Keep a firm hold

Financial markets are driven by sentiment – but this sentiment always reflects an underlying logic. Understanding this logic becomes particularly important at a time when uncertainty is high.

We are only halfway through 2022 and this has already been a year to remember in terms of geopolitics, macroeconomics, and monetary policy shifts. As Shakespeare so memorably observed: "when sorrows come, they come not single spies, but in battalions". Uncertainty is still at high levels on many issues including future inflation levels, global supply disruption, economic growth, policy responses and, importantly, coronavirus.

As always, market pricing reflects a variety of assumptions about what will happen next. These assumptions may of course change in future. It is possible, for example, that markets start to expect less aggressive monetary policy tightening than they do now – which will have multiple impacts on the relative attractiveness of asset classes. It is also important to remember that market pricing also represents a composite view of multiple risks – not a simple assessment of a single problem.

What can we take from this in terms of portfolio management?

First, that high levels of uncertainty do not mean that portfolio decision making can be put on hold. It may be difficult to foresee the future, but market logic is still continuously trying to predict it – and portfolios need to acknowledge these shifting market expectations.

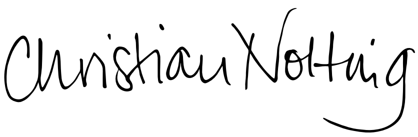
Second, that it is very important to look beyond the headlines. If markets are pricing in a composite assessment, it makes sense to understand the different factors contributing to it. But, as part of this more granular assessment, we need to look at both long and short-term price drivers.

We can also, I believe, be reasonably confident about certain parameters. So, while expectations around future interest rate levels will doubtless shift again, the era of ultra-low nominal interest rates now appears to be behind us – although it is certainly premature to talk about policy "normalisation". Higher rates will encourage a reappraisal of the relative appeal of different asset classes. With "income" now back on the agenda, fixed income's appeal as an asset class may now be increasing – despite the possibility of default rates rising from current very low levels. This, in turn, might dilute the "there is no alternative" (or TINA) case for equities – but it does not remove it. Overall equity valuations are still attractive, and our forecasts see 12-month gains, albeit with volatility in the interim.

At a granular level, assumptions on interest rate rises will have an impact within asset classes, for example on the relative appeal of different equity styles and sectors – as we have seen in the performance of "growth" and "value" stocks in recent months. A continuing focus on immediate risk management will be necessary. But, going back to the second conclusion above, it remains important to stay disciplined, look beyond immediate market moves and keep a firm hold on long-term objectives, asset allocation and investment themes.

Forecasting the future is, of course, not a matter of simply extrapolating the past. The global economy could look very different in 12 months' time. But I think that we need to work on the basis that the macroeconomic and investment environment will remain potentially very fragile. Recovery will not be simple and, even on the most optimistic assumptions (for example on Chinese economic reopening), issues such as supply chain disruption will take time to fix. I also remain very concerned about social and humanitarian stresses in many countries arising from the pandemic, inflation, or the disruption of food supplies from the Ukraine – these stresses could get worse before they get better.

But I think that the key lessons remain: do not delay portfolio decision-making, use risk management strategies appropriately, and keep a firm hold of long-term objectives. This is how to navigate through the second half of 2022, and beyond. We always look forward to guiding you.



Christian Nolting
Global CIO

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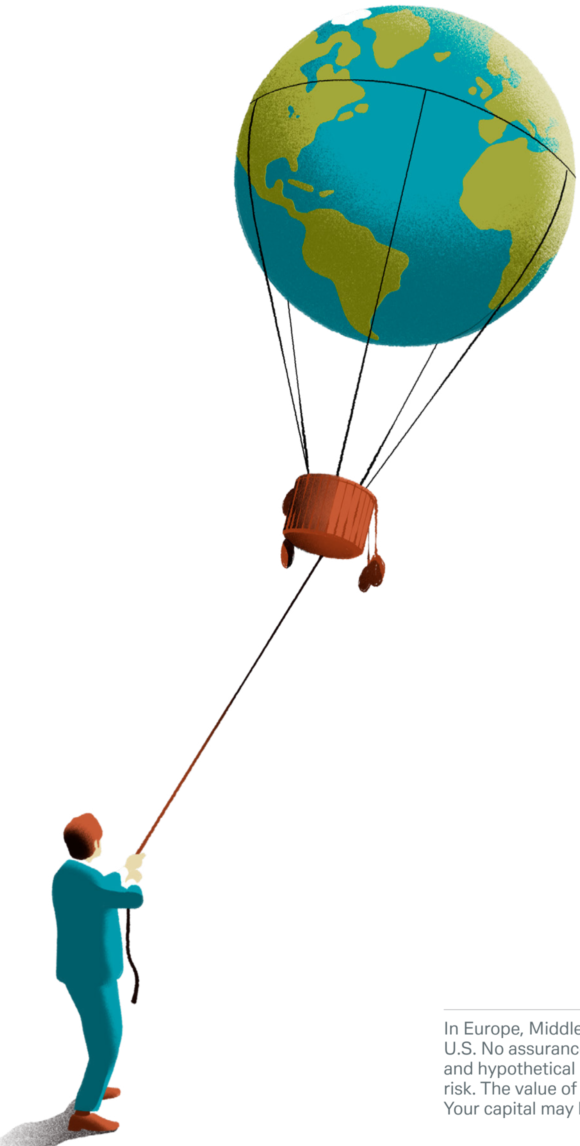

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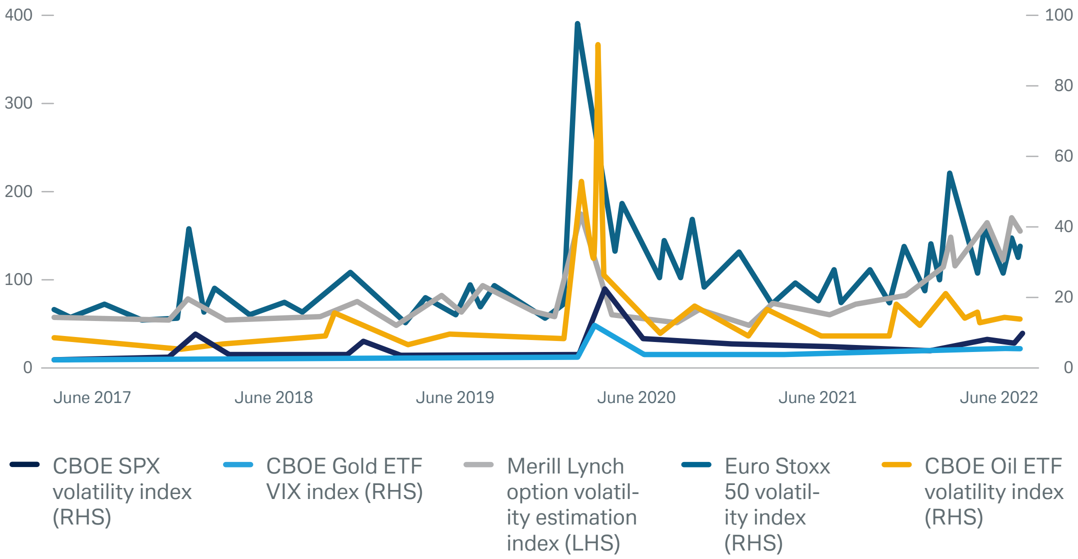
Four risks to monitor

Russia-Ukraine conflict. With no resolution to the conflict in sight, Western nations' pivot away from Russian energy imports has already driven up energy prices. Since an immediate switch to renewables is impossible, the need to secure supplies means that oil and gas inventories have to be refilled, which has pushed prices higher and may keep them elevated. On the other hand, Russia's blocking of agricultural exports by Ukraine (one of the world's biggest exporters of wheat and corn) has sent global food prices rising sharply. Additional Western sanctions and retaliatory measures are to be expected – both of which would increase inflationary pressures.

Inflation and economic hard landings. The spotlight on central banks' response to elevated inflation has led to concerns about high-speed hiking and hard economic landings, a major contributor to market volatility (Figure 1).

Figure 1: Markets in motion – Volatility 2017-2022

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of July 1, 2022.



U.S. midterm elections. Fiscal and political responses to inflation are also a major topic in the run-up to these elections. Democrats have struggled so far to implement their policy agenda and electoral reverses would further restrict the Biden Administration's room for manoeuvre.

China and global growth. Given that China's economic output is crucially important for global growth, the country's dynamic zero-Covid policy not only hit domestic consumption (in one of the world's key markets), but has also prolonged or exacerbated disruptions to international supply chains. We now seem to be approaching a partial exit from restrictions, and with hints of a more pragmatic economic policy, but financial markets will continue to scrutinise the country's lockdown exit path. Reopening could boost demand for energy and stimulate the economy, thus speeding global economic recovery. If Chinese growth does pick up as expected in H2, however, this could trigger further energy price rises.

03

Macroeconomic and asset class update

Macroeconomics

The macroeconomic outlook for 2022 has deteriorated since the start of the year. Already-elevated global energy prices have risen still further due to the Russia-Ukraine war. Household consumption has suffered not only from this but also from higher inflation generally, notably in food prices. At the same time companies are holding back on investment, due to the macroeconomic uncertainty. With the increasingly robust response of the Federal Reserve to high inflation rates likely to hit the brakes on the U.S. economy, we have therefore scaled back our GDP growth forecasts for 2022 to 2.0% for the U.S. and 2.9% for the Eurozone (Figure 2). The Eurozone remains at risk of a technical recession should natural gas imports from Russia be halted at short notice.

Figure 2: GDP growth forecasts for 2022 and 2023 (%)

Source: Deutsche Bank AG. Forecasts as of June 28, 2022.

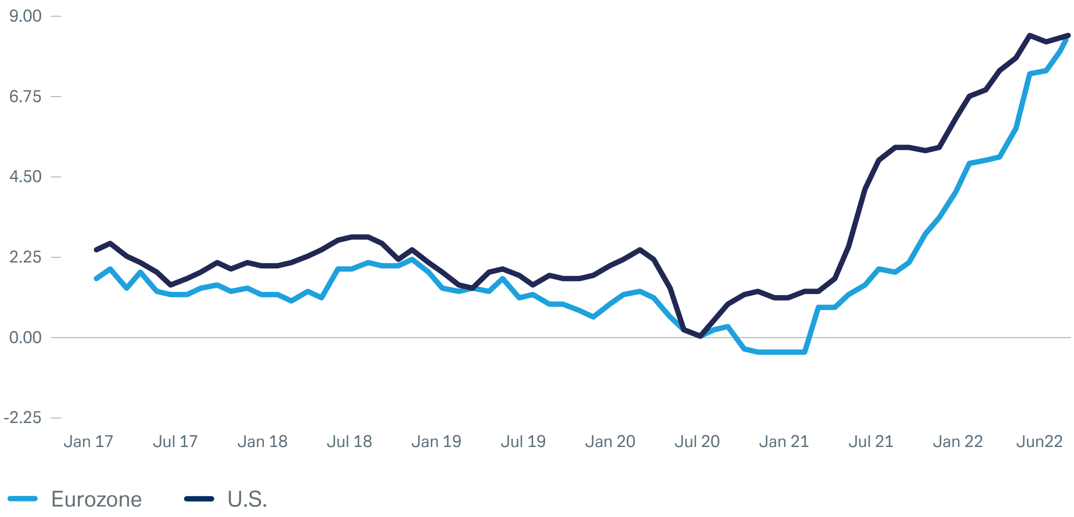
	2022	2023
U.S.*	2.0	0.8
Eurozone	2.9	1.8
Germany	1.9	2.2
France	2.6	1.6
Italy	2.8	1.4
Spain	4.5	2.4
UK	3.5	0.7
Japan	1.7	1.8
China	3.8	5.3
India	7.0	6.0
Brazil	1.0	1.5
Russia	-6.0	-1.0
World	3.1	3.1

* For the U.S., GDP growth Q4/Q4 % is 0.6% in 2022 and 1.6% in 2023.

China is likely to be a drag on growth, globally and in other emerging markets, among other things because of its still restrictive Covid lockdowns and an ailing real estate market. Although we expect some reopening, we forecast Chinese GDP growth of just 3.8% this year, well short of the official target.

Figure 3: U.S. and Eurozone inflation rates

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of June 30, 2022.



In the U.S. inflation may already have peaked, but another increase in Eurozone inflation is likely because of base effects materialising later. (Figure 3 gives historical rates for both regions.) Nevertheless, the stresses caused by rising energy prices should also recede in H2 2022. Recovery should be supported by the release of pent-up demand as the pandemic recedes, easing supply chain problems (especially in European countries) and fiscal relief. In 2023, GDP growth could turn out lower, at 1.8% in the Eurozone (with high energy prices largely to blame). We have lowered our U.S. GDP growth rate forecast to 0.8% in 2023 and now expect a mild recession there in the first half of 2023, but inflation should decline sharply from its current elevated levels.

Macroeconomics

Market and portfolio implications:

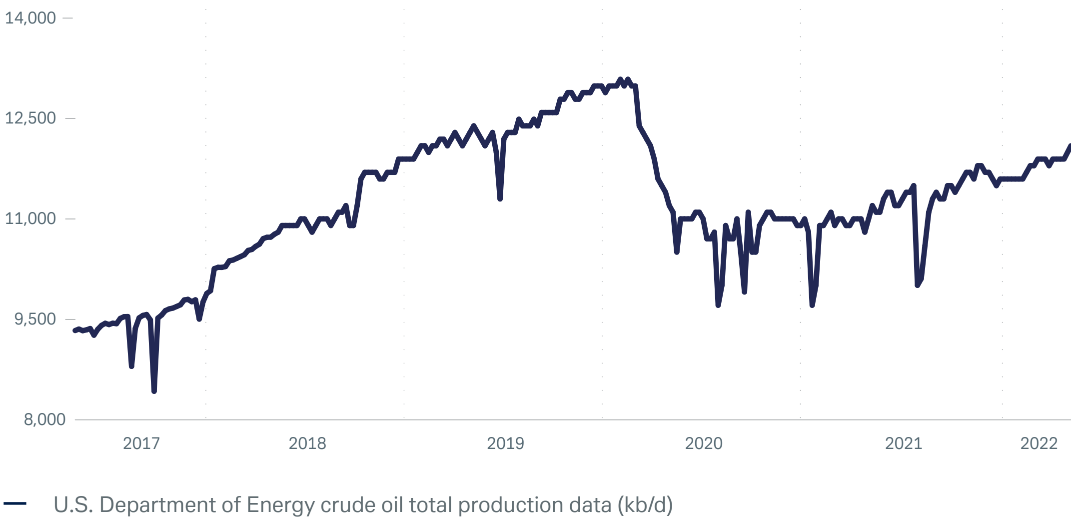
- From the macro side, headwinds for cyclical and rate-sensitive sectors
- Pick-up in growth may help cyclicals to recover as the year progresses
- Macroeconomic uncertainty is stoking market volatility

Commodities

Oil: Despite lockdowns in China (the world's largest oil importer) holding back domestic oil demand the price of oil has remained above USD100/b. With these lockdowns being scaled back, we expect Chinese demand to recover quickly, particularly given likely policy stimulus. Meanwhile, restrictions on Russian supplies are set to remain in place and boosts to global supply look unlikely, especially with the EU agreeing to ban most seaborne imports of Russian crude oil by November as well as oil product imports from January 2023. Continued capital discipline in the U.S. means that only a limited increase in U.S. production looks likely over the next 12 months and production remains below pre-Covid levels (Figure 4). OPEC+ output has been falling short of its own targets. Reduced investment in recent years has constrained capacity in some smaller OPEC+ member countries and this is preventing the bloc from increasing its output significantly. We therefore expect OECD inventories will take some time to claw their way back to pre-Covid levels.

Figure 4: U.S. oil production disappointing

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of June 24, 2022.



Industrial metals: Given China's huge importance – it accounts for over 50% of global demand for most industrial metals – we expect base metals to find some support as economic activity in China revives. High energy costs are already supporting the argument for decarbonisation, enhancing the outlook for those industrial metals required to produce future technologies.

Gold: Rising real yields are a headwind for gold. However, we feel the market is already pricing in peak hawkishness in terms of the rates outlook. To date, investors have been using gold to supply liquidity rather than for hedging purposes. However, with the elevated odds of a mild recession, persistent inflationary concerns and continued geopolitical tensions, gold may start to showcase its safe-haven characteristics again and be supported by investor demand. Figure 5 gives our end-June 2023 commodity forecasts.

Little prospect of a significant increase in global oil production.

Figure 5: Commodity forecasts for end-June 2023

Source: Deutsche Bank AG. Forecasts as of June 28, 2022.

Gold (USD/oz)	Copper (USD/t)	Crude Oil (Brent Spot, USD/b)
1,950	11,000	110

Commodities

Market and portfolio implications:

- A weak supply response and tight inventories to keep oil prices elevated
- Reviving Chinese demand and decarbonisation to support metals such as copper
- Hedging demand amidst market volatility likely to push gold prices higher

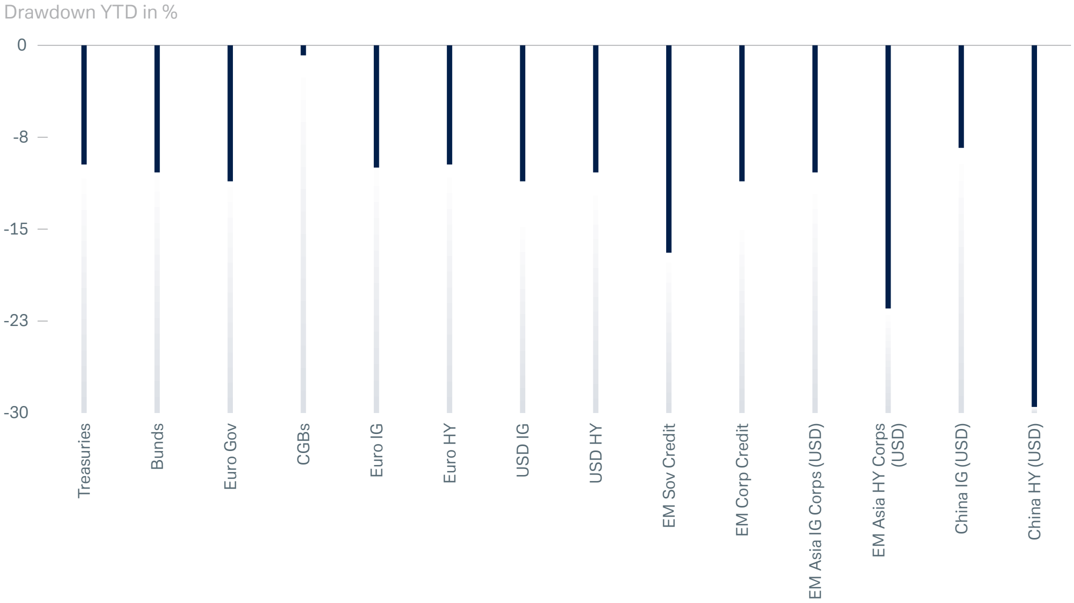
Fixed income

Government bonds in developed markets have had a bumpy ride this year. Volatility has continued to edge higher, and while yields have risen overall in the U.S. and the Eurozone, there have been periods where yields have fallen sharply due to growth concerns. Government bonds, across all maturities, have generated negative real returns. Figure 6 shows drawdowns year-to-date.

> Following their bumpy start to the year bonds should regain investor interest as absolute yield levels return to an attractive range.

Figure 6: Bond drawdowns: No hiding place for negative returns

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of June 30, 2022.



Most, but not all of the rise in yields may now be behind us. Inflation may peak in the U.S. in the 3rd quarter and slowing GDP growth should also take some pressure off central bank officials then. Absolute yield levels are also now back in a range where investors will again consider bonds as an investable and income-generating asset class. Nevertheless, central bank policy tightening will affect government bond yield levels going forward, especially at the short end of the curve. In particular, a key factor for the rest of the year for U.S. Treasuries could be the reduction in the Fed's balance sheet.

Nominal government bond yields appear to be reaching their peak in this cycle later than previously expected. We expect real yields to rise modestly from today's levels, as we do not foresee an increase in inflation expectations over the forecast horizon.

Government bonds

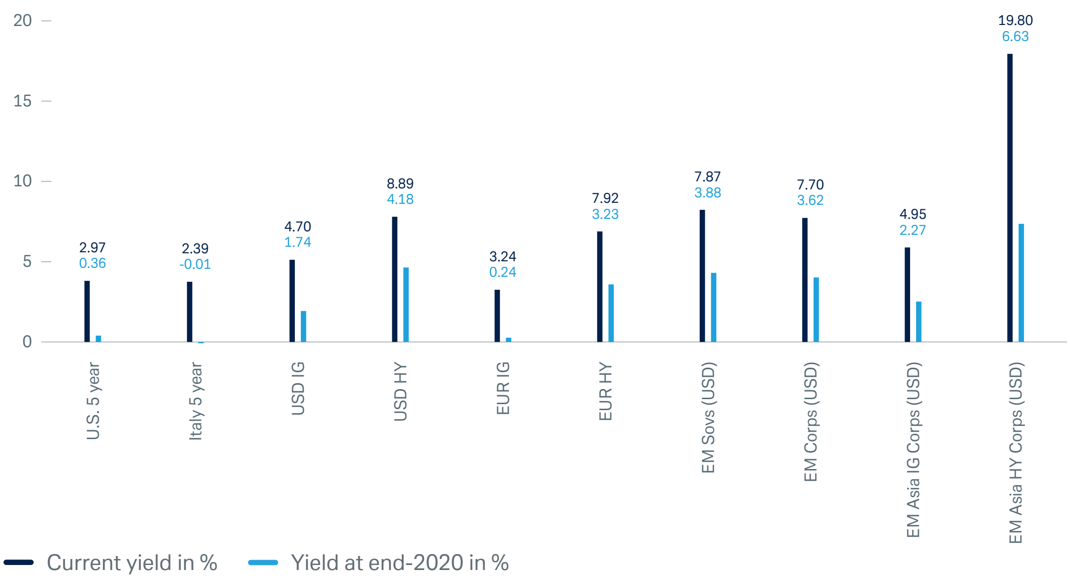
Market and portfolio implications:

- Government bonds (particularly at the long end) will become more attractive from a risk-return perspective
- We do not expect a recession in 2022, so the yield curve is likely to remain sloping gently upwards
- Real yields are expected to rise and stay positive in the U.S.

The debt servicing capacity of U.S. corporates remains strong as the median interest coverage ratio for investment grade (IG) remains above 12x, around 2x above the pre-Covid levels, whereas in the high yield (HY) space the ratio has also climbed to its highest since 2008. However, balance sheet fundamentals have already started to unwind as companies have started spending on buybacks, dividends and capital expenditures, which is reducing cash levels. The recent episodes of yield curve inversions will continue to cause anxiety amongst investors who will continue to expect weakened economic activity over the next 12 months. Now, with an expectation of a mild recession being thrown into the mix, we are likely to see recurring episodes of volatility in the U.S. credit space as investors also start pricing in their concerns about higher default rates in the coming years.

Figure 7: Bond yields

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of June 30, 2022.



The debt servicing capacity of EUR credit issuers also remains strong. Balance sheet fundamentals also remain strong despite signs of peaking. However, the increasing hawkishness of the ECB and the end of the Asset Purchase Programme (APP), under which the central bank has made gross purchases averaging more than EUR7bn per month since 2020, have been on investors' minds. The Bund widening and the war in Ukraine have been similarly unkind towards EUR HY with macro uncertainty keeping investors sceptical of risk assets. But the pessimism has now largely been priced in. The significant widening of spreads suggests some room for pullback.

The outlook for EM corporates is clouded by the effects of geopolitics and higher yields in developed markets. However, this is largely offset by high commodity prices and improved fundamentals. While there are likely to be country-specific risks (e.g. around Chinese real estate) the high diversification of the asset class should be able to contain the risks and keep spreads stable. Figure 7 compares yields across credit sub-asset classes with those prevailing at the end of 2020.

Debt servicing capacity remains strong in the U.S. and Eurozone credit markets, while EM spreads should remain stable.

Figure 8: Fixed income forecasts for end-June 2023

Source: Deutsche Bank AG. Forecasts as of June 28, 2022.

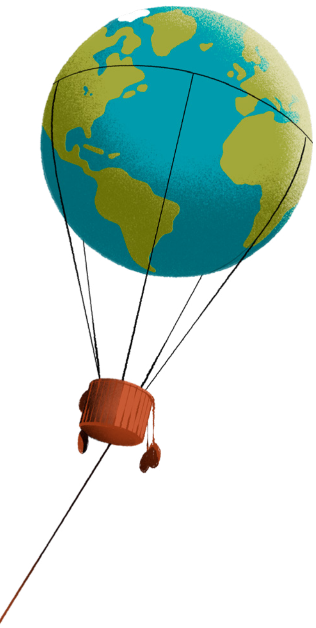
Government bonds	Forecast	Credit	Forecast
United States (10-year Treasuries)	3.25%	USD IG Corp (BarCap U.S. Credit)	180bp
United States (30-year Treasuries)	3.40%	USD HY (Barclays U.S. HY)	570bp
Germany (2-year Bunds)	2.00%	EUR IG Corp (iBoxx Eur Corp all)	150bp
Germany (10-year Bunds)	2.25%	EUR HY (ML Eur Non-Fin HY Constr.)	505bp
Germany (30-year Bunds)	2.50%		
United Kingdom (10-year Gilts)	2.70%		
Japan (2-year JGB)	0.00%	Asia Credit (JACI)	320bp
Japan (10-year JGB)	0.20%		

EM Sovereign (EMBIG Div.)	EM Credit (CEMBI Broad)
500bp	370bp

Corporate credit

Market and portfolio implications:

- Investment grade bonds have re-rated and remain a key portfolio component
- High yield risks should be rewarded if a recession is avoided, as we expect
- EM concerns largely offset by higher commodity prices and fundamentals



FX

Due to capital market volatility, the first rate hikes by the Fed and the geopolitical uncertainties, the USD is still sought after by investors as a safe-haven currency. The projected rate hike path of the Fed compared to that of the European Central Bank (ECB) is another supporting factor.

However, while the USD should remain in demand in the short term, it could depreciate in the medium term given that the course of monetary policy in the U.S. is already largely priced in. There is also still potential for a more restrictive Eurozone monetary policy stance than currently priced in, especially in 2023. We therefore forecast EUR/USD at 1.10 for the end of June 2023.

The widening of yield differentials between Japan and the U.S. sent the JPY to a 24-year low in June. By the end of June 2023, we expect the yen to have appreciated only slightly to USD/JPY 130.

The continued rise in inflation rates in connection with already slowing economic growth is generating headwinds for the GBP and concerns for the Bank of England. Market expectations of UK interest rate hikes could be too high. GBP/USD is forecast at 1.20 in June 2023.

The yield differential between China and the U.S. could widen due to the weakening of the Chinese economy. However, China's government is likely to use fiscal support to prevent the economic dip from becoming too severe. We therefore expect the CNY to be around current levels at USD/CNY 6.75 in June 2023. Figure 9 summarises our end-June 2023 FX forecasts for the major currency pairs.

Figure 9: FX forecasts for end-June 2023

Source: Deutsche Bank AG. Forecasts as of June 28, 2022.

EUR vs. USD	1.10
USD vs. JPY	130
EUR vs. JPY	143
EUR vs. GBP	0.92
GBP vs. USD	1.20
USD vs. CNY	6.75

FX

Market and portfolio implications:

- USD strength could start to peter out in the coming months
- Scope for Eurozone policy tightening could eventually bolster EUR
- CNY may now stay near current levels after recent pullback

Equities (developed markets)

Global equity markets have sold off significantly in recent months amid accelerated monetary policy tightening, sharply rising bond yields, slower growth, the protracted Russia/Ukraine war and repeated Covid lockdowns in China.

Investor sentiment has been poor, with the global equity market already pricing in the mild U.S. recession we envisage in 2023. Figure 10 focuses on the problems faced by European cyclicals and Figure 11 looks at overall drawdowns so far.

At current levels, however, overall equity valuations look reasonable in the U.S. and cheap elsewhere. However, against the backdrop of the deteriorating macro background we think consensus analysts' earnings estimates are too high and will be downgraded over the coming months. While Institutional Brokers' Estimate System (I/B/E/S) consensus expects S&P 500 earnings to grow almost 10% annually until 2025, we think index earnings per share (EPS) are more likely to remain flat over the next year, propped up by resilient earnings from digital platform companies. Outside of the U.S., however, earnings are likely to fall due to the relatively higher weighting of cyclical stocks and the absence of large IT companies.

This leaves us with only mid-single-digit upside for the major stock markets on a 12-month horizon, as shown by our forecasts in Figure 12. We think that concerns over economic growth, inflation and earnings are likely to keep market volatility elevated in the near term. However, if markets were to test recent lows again, long-term investors should first rebalance portfolios and may then consider adding risk once the situation stabilises.

In general, consider pricing power and cost structures (energy, labour) when selecting stocks in the current inflationary environment, and diversify across value and growth at reasonable prices as well as across regions.

Developed market equities

Market and portfolio implications:

- Overall valuations look reasonable but earnings expectations remain too optimistic
- Expect elevated stock market volatility to persist
- Look to pricing power and cost structures when selecting stocks

Figure 10: European cyclicals trading at previous recession levels

Source: Refinitiv Datastream, Deutsche Bank AG. Data as of June 29, 2022.

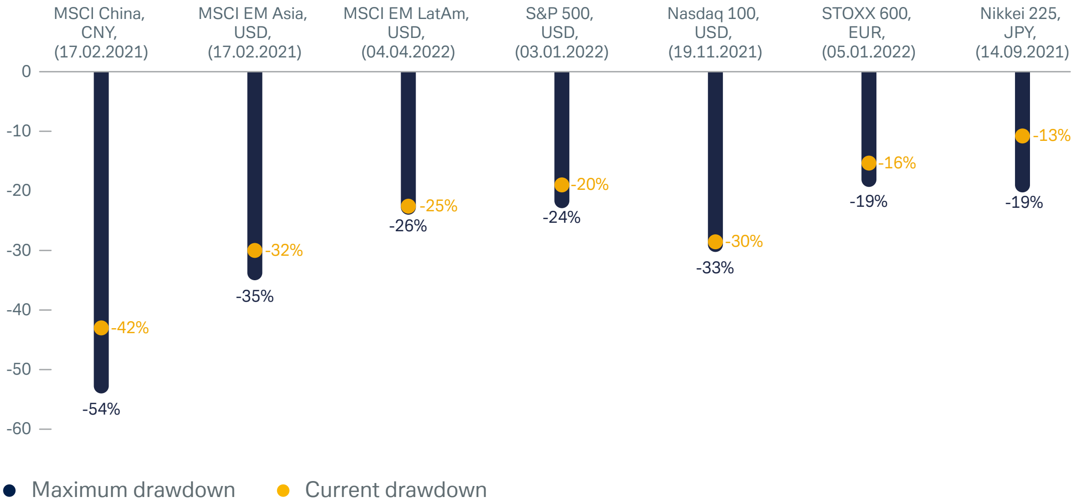
*Cyclicals: Materials, Industrials, Discretionary, Energy and Banks
**Defensives: Staples, Health Care, Utilities

Equities (emerging markets)

Chinese equities have struggled due to a lockdown-induced slump in domestic demand and economic activity, as well as fears that the U.S. will delist Chinese American Depositary Receipts (ADRs) over transparency issues. Since the start of 2022 the average valuations (12-month forward P/E ratio) of Hong Kong-listed H-shares and mainland A-shares have fallen by around 7% and 19% respectively. For the MSCI China we see scope for a single-digit percentage recovery from current levels on a 12-month horizon. Although the Chinese ADR issue could be resolved this summer, thereby boosting market sentiment, Chinese equities are unlikely to regain international investor favour fully until lockdowns are largely over.

Figure 11: Equity market drawdowns from previous highs

Source: Refinitiv Datastream, Deutsche Bank AG. Data as of June 29, 2022.



With intra-regional trade set to benefit from Covid restrictions being relaxed across EM Asia and all our preferred sectors of financials, materials, and energy trading below their respective 10-year median valuations, we see perceptible upside potential for MSCI EM Asia on a 12-month basis.

Some EM LatAm energy and materials stocks offer elevated dividend yields – with industry averages of 22% and 7% respectively. We are cautiously constructive on a single-digit recovery of MSCI EM LatAm over a 12-month horizon. Investors should however consider regional political and social uncertainties as well as local currency depreciation risks.

Global equity markets have sold off significantly with investor sentiment poor, but overall valuations look reasonable and we see attractive upside on a 12-month horizon.

Figure 12: Equity index forecasts for end-June 2023

Source: Deutsche Bank AG. Forecasts as of June 28, 2022.

Equity index forecasts

S&P 500	4,200
DAX	13,900
EuroStoxx 50	3,650
Stoxx Europe 600	430
MSCI Japan	1,150
SMI	11,250
FTSE 100	7,250
MSCI EM	1,060
MSCI Asia ex Japan	695
MSCI Australia	1,350

Emerging market equities

Market and portfolio implications:

- Chinese valuations to recover gradually on the back of easing COVID restrictions
- Upside potential for MSCI EM Asia on a 12-month basis
- Cautiously constructive on LatAm but note multiple risks

Real estate

Real estate generally maintained strong momentum in the first half of 2022 on prices and rents. The exceptions are Eastern Europe (given the war in Ukraine) and China (pulled down by developers' indebtedness and lockdown-induced weak demand). However, we could see a sustainable recovery in China within the next 12 months, should the Chinese government loosen its zero-Covid policy and implement a longer-term strategy to promote growth. Elsewhere, in the U.S. and Europe, financing conditions have now tightened significantly. In the U.S. the average 30-year mortgage rate rose to nearly 6%, its highest level since 2008, as the Fed started to hike and run off its balance sheet. In the Eurozone the ECB will end its net asset purchases in July and we expect the deposit rate to be raised to almost 1% by the end of the year, making funding more expensive.

But even though declining affordability may weigh on property demand, strong labour markets and rising wages in nominal terms should prevent prices from falling. High commodity prices are also driving up construction costs, thereby fuelling price rises while lowering supply. Existing supply-demand imbalances, most apparent in the residential and logistics segments, could therefore continue for longer. Experience from the 1970s and 1980s (Figure 13 illustrates U.S. residential performance) suggests that property can perform well even in a recessionary environment and provide a hedge against inflation. Investors should prefer market segments that offer low vacancy rates or inflation-indexed leases in order to capitalise fully on persistently elevated inflation.

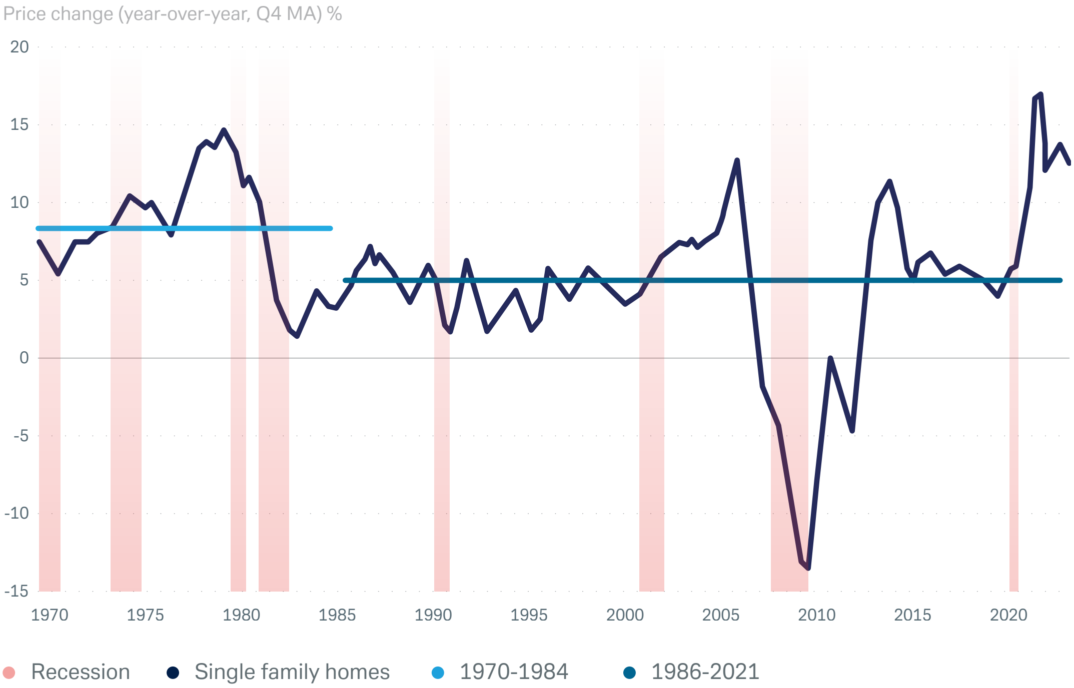
Real estate

Market and portfolio implications:

- Property price and rent development expected to remain robust
- Increasing finance costs offset by rising nominal wages
- Prefer market segments with low vacancy rates and/or inflation-indexed leases

Figure 13: U.S. residential sector performed well in the 1970s

Source: National Association of Realtors, Moody's Analytics, National Bureau of Economic Research. Data as of June 30, 2022.



04 Key investment themes

ESG

ESG investing is becoming steadily more nuanced and complex. Measurement and transparency are key words – progress on regulation (e.g. MiFID II), taxonomy (ESMA), and disclosures (TNFD) will help here. But more fundamental changes to assessment and priorities may be needed to allow us to move beyond "do not harm" approaches to achieve true sustainability: "nature as capital" will be a key concept.

Blue economy

The diversity of the sector means that regulatory and financing progress has been limited so far. The UN Ocean Conference and the upcoming COP27 (November) should increase investor focus on the blue economy but we need greater clarity around public/private funding principles and methods (e.g. blue bonds). We need innovation in both new areas and established sectors (e.g. maritime transport).

Hydrogen

Clean hydrogen can reduce greenhouse gas emissions and has obvious potential in some hard-to-decarbonise industries (chemicals, steel), long-haul transport and electricity storage. It is expensive to produce but test schemes are proliferating, often in conjunction with renewable energy sources. Government funding is increasing, and recent technological advances could eventually reduce costs.

Resource stewardship

Interest in resource stewardship will grow as ESG methodology becomes more sophisticated. Effective management of natural resources has to be accompanied by efficient production and recycling of manufactured goods as we move towards a circular economy. Short-term economic pressures on some recycling facilities should not distract investors from underlying longer-term trends.

Water

Climate change is exacerbating water supply problems at the same time as demand is being pushed up by population growth, urbanisation and higher living standards in emerging economies. Traditional utilities-based views around water investment need to change as the sector becomes more technologically and financially innovative in response to stringent environmental targets.

Artificial intelligence (AI)

Rapid growth in AI investment reflects continued faith in its problem-solving ability across multiple sectors (healthcare, mobility, fintech etc.). Momentum will only increase as artificial general intelligence ("deep AI") comes closer. The regulatory response to AI risks (e.g. surveillance, personal data) is however still in its infancy and the investment landscape is likely to change continually and rapidly.

Cyber security

Cyber security needs are growing and advances in AI and other related technology mean that techniques will change. Areas such as healthcare are in focus and working from home creates other challenges. Industry consolidation is likely to continue as firms seek to fill gaps in existing protection product suites and aim for economies of scale (e.g. via combining data feeds).

Healthcare and MedTech

The coronavirus pandemic has proved that new approaches are possible and desirable – while underlining the need for fair access to holistic care and the effective management of data sharing and privacy issues. Budget constraints will remain, but technology will offer a way forward in many areas. Venture capital and other investment remains high in anticipation of further rapid change.

Industry X.0 (including 5G)

Technology stocks' weakness does not dilute the key drivers behind Industry X.0 (digitally-driven radical reinvention of industrial and other processes). Shortages of skilled labour are one short-term “push” factor. Longer-term “pull” factors include continued rapid technological change in many areas and the ability to coordinate such advances via better data communication.

Infrastructure

Traditional (physical) infrastructure has been re-examined as economies have re-opened post Covid; better digital infrastructure is a priority, particularly in emerging markets. Coronavirus, cybersecurity concerns and the war in Ukraine have shown the need for infrastructure resilience, possibly through diversification. Substantial infrastructure investment needs will prompt new financing approaches.

Millennials and Generation Z

Spending preferences among these two groups remain important for housing markets and immediate consumption areas such as technology and entertainment. Their political and policy views (as voters and legislators) will have a growing impact on issues such as taxation and pension provision, with potentially major economic implications.

Smart Mobility

Technological and social drivers of transport system change are now being reinforced by high energy prices. These will affect many aspects of the mobility infrastructure, even though self-driving vehicles may take some time to become viable. Falling costs for electric vehicles are combining with better connectivity (5G) to encourage implementation of complementary advances in software and other technology.

05 Long-term capital market assumptions (LTCMA)

Long-term asset return forecasts are one of three necessary inputs for an effective strategic asset allocation (SAA). They need to be accompanied by estimates for volatility and likely correlations between asset classes. Returns are, however, the primary driver for performance and are therefore subject to particular attention. Note, however, that such forecasts will always have varying degrees of uncertainty and portfolios need to be designed around this. High expected returns should not necessarily translate into high portfolio allocations.

Over time, economic conditions, regulation and even natural developments (e.g. climate change, population growth) change the overall environment and thus the return potential of the different asset classes. We therefore adjust our long-term asset return forecasts every year or so to reflect this. The most important changes since we published our last set of forecasts in July 2021 have been related to Covid-19. In essence, solid private demand (due to government support) was met by lower goods supply (due to Covid-related disruption) causing inflation. Central banks have shifted to more hawkish monetary policy guidance faster than anticipated. Higher bond yields have weighed above all on interest rate-sensitive and long-term growth-oriented equities like companies from the technology sector. Due to demographic shifts and the need for deep structural changes in our way of producing and consuming goods (to ameliorate climate change and other environmental issues), global growth prospects are likely to remain challenged over a long-term time horizon. We have therefore adjusted our long-term asset return forecasts by reducing the respective returns for equities and real estate and increasing return forecasts for bonds and alternative assets ex real estate (see Figure 14).

Figure 14: Selected 10-year average return forecasts

Source: DWS Investments UK Limited, Deutsche Bank AG. Data as of December 31, 2021. All forecasts are in local currency.

	Return forecasts (per annum) 2022-2031)
U.S. Equities (MSCI USA)	4.4%
Europe Equities (MSCI Europe)	4.0%
UK Equities (FTSE 100)	5.9%
Japan Equities (MSCI Japan)	3.2%
U.S. Treasuries (Bloomberg Barclays US Treasury)	1.4%
EUR Treasuries (Bloomberg Barclays Euro Treasury)	-0.2%
U.S. Corporates (Bloomberg Barclays US Corp.)	1.8%
U.S. High Yield (Bloomberg Barclays US High Yield)	3.0%
EUR High Yield (Bloomberg Barclays Pan-Euro HY (Euro))	2.4%
EM USD Sovereigns (Bloomberg Barclays EM USD Sov.)	4.5%
Commodities (Bloomberg Commodity)	0.6%

Glossary

An American depositary receipt (ADR) is a U.S. bank-issued certificate that allows foreign companies to list their shares on U.S. stock exchanges.

The Bank of England (BoE) is the UK central bank.

Brent is a grade of crude oil used as a benchmark in oil pricing.

Bunds are longer-term bonds issued by the German government.

CBRE is a provider of commercial real estate services and a publisher of related research.

COP27 is the 27th United Nations Climate Change Conference, scheduled to be held in Egypt in November 2022.

The DAX is a blue-chip stock-market index consisting of the 40 major German companies trading on the Frankfurt Stock Exchange; other DAX indices include a wider range of firms.

Democrats is short for the Democratic Party in the U.S., one of the two major parties.

A drawdown is the decline in an investment or fund from its highest level to its lowest level during a specific period, and it is usually expressed as a percentage.

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

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

An emerging market (EM) is a country that has some characteristics of a developed market in terms of market efficiency, liquidity and other factors, but does not meet all developed market criteria.

European Securities and Markets Authority (ESMA) is the European Union’s securities markets regulator.

EUR is the currency code for the euro, the currency of the Eurozone.

The EuroStoxx 50 Index tracks the performance of blue-chip stocks in the Eurozone and includes the super-sector leaders in terms of market capitalisation.

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

The Fed funds rate is the interest rate at which depository institutions lend overnight to other depository institutions.

The Federal Reserve (Fed) is the central bank of the United States. Its Federal Open Market Committee (FOMC) meets to determine interest rate policy.

The FTSE 100 index tracks the performance of the 100 major companies trading on the London Stock Exchange.

GBP is the currency code for the British pound/sterling.

Government bonds are issued by a government to support government spending, mostly in the country's domestic currency and are backed by the full faith of the government.

High yield (HY) bonds are higher-yielding bonds with a lower credit rating than investment-grade corporate bonds, Treasury bonds and municipal bonds.

I/B/E/S (Institutional Brokers' Estimate System) compiles individual analysts' estimates of future company earnings.

Glossary

An investment grade (IG) rating by a rating agency such as Standard & Poor's indicates that a bond is seen as having a relatively low risk of default.

JPY is the currency code for the Japanese yen, the Japanese currency.

Midterms are general elections held near the midpoint of a president's four-year term of office for seats in both the House and Senate chambers of the United States Congress.

MiFID II is the generic term for the revision of the Markets in Financial Instruments Directive, a legislative framework instituted by the European Union (EU) to regulate financial markets in the bloc via measures such as strengthening pan-European regulatory supervision and cooperation between national competent authorities, enhancing investor protection, facilitating access to capital and boosting trading transparency.

The MSCI 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 Australia Index measures the performance of 60 large and mid-cap stocks that constitute approximately 85% of the free float-adjusted market capitalisation in Australia.

The MSCI EM Index captures large and mid cap representation across 23 emerging markets countries.

The MSCI Japan Index measures the performance of 259 large and mid-cap stocks that account for about 85% of Japanese market capitalisation.

The NASDAQ index is a market-capitalisation weighted index of around 3,000 equities listed on the Nasdaq exchange.

The National Bureau of Economic Research founded in 1920 in the U.S. conducts and disseminates non-partisan economic research.

The Organisation for Economic Co-operation and Development (OECD) has 35 member countries and has the objective of encouraging economic progress and world trade.

The Organization of the Petroleum Exporting Countries (OPEC) is an international organization with the mandate to "coordinate and unify the petroleum policies" of its 12 members. The so-called "OPEC+" brings in Russia and other producers.

Price/earnings (P/E) ratios measure a company's current share price relative to its earnings per share.

Real rates adjust changes of values for factors such as inflation.

Risk premia refer to the return in excess of the risk-free rate of return that an investment is expected to yield. It is a form of compensation to investors for tolerating the extra risk.

The S&P 500 Index includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

The Stoxx Europe 600 is a broad-based index that tracks the performance of 600 companies of various sizes from 17 European countries.

The Swiss Market Index (SMI) includes 20 large and mid-cap stocks.

A spread is the difference in the quoted return on two investments, most commonly used in comparing bond yields.

A strategic asset allocation process involves setting preferred allocations for asset classes on a medium to long-term time horizon.

Glossary

Taskforce on Nature-related Financial Disclosures (TNFD) aims to develop and deliver a risk management and disclosure framework for organisations to report and act on evolving nature-related risks, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes.

TOPIX stands for the Tokyo Stock Price Index, a free-float adjusted market capitalization-weighted index.

Treasuries are bonds issued by the U.S. government.

The UN Ocean Conference, co-hosted by the Governments of Kenya and Portugal from 27 June to 1 July 2022 in Lisbon, Portugal, sought to promote science-based innovative solutions for conserving and sustainably developing oceans, seas and marine resources.

USD is the currency code for the U.S. dollar.

Volatility is the degree of variation of a trading-price series over time.

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.

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