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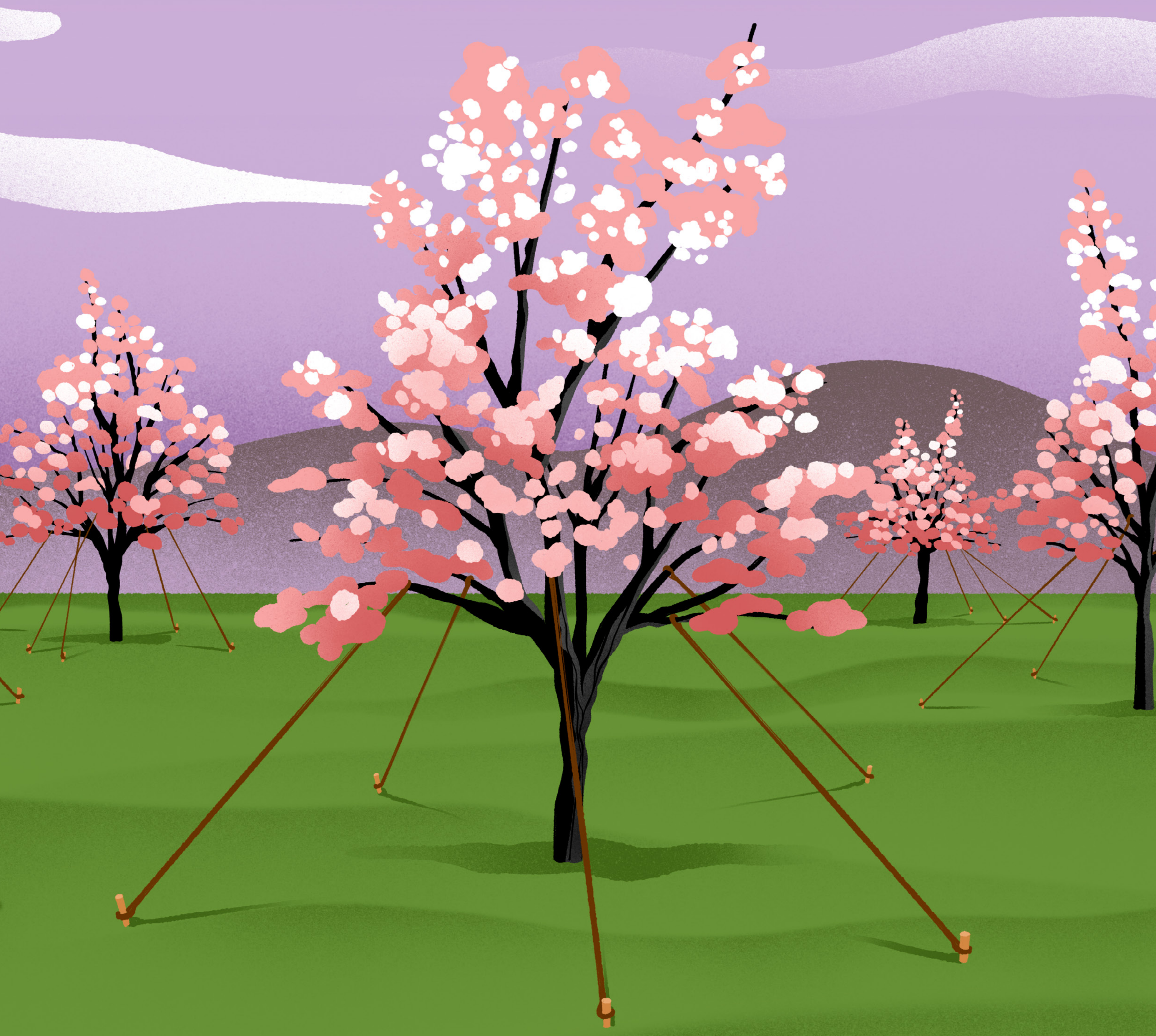
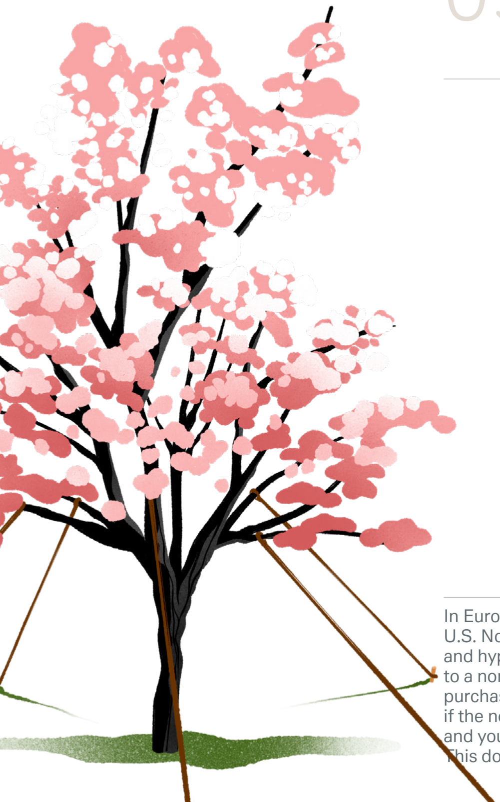
CIO Insights



Inflation remains sticky

Economic and investment update

Contents



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This document was produced in March 2023.

Letter to Investors

Christian Nolting
Global CIO

Inflation remains sticky

Spring is nearly here, for the northern hemisphere at least. Light and warmth can often bring a natural optimism, particularly after a difficult winter. Economic and investment terminology can itself support this seasonal optimism: talking of the "green shoots of recovery", for example.

Nevertheless, as recent events have made clear, this remains a very difficult investment environment that needs to be navigated with great care. Inflation, the central banks' response to it and the economic and corporate implications of this remain key. Even after recent declines, current market valuations still implicitly assume that an economic "hard landing" can be avoided – in other words, that the Fed and other central banks can maintain an appropriate monetary policy approach, tight enough to cool economies without tipping them into recession or prompting major sectoral setbacks.

Despite their knowledge and skills, central banks could still struggle to get this policy "flight path" right. Sticky inflation in major economies in early 2023 and the recent deterioration in financial conditions now make their task even more difficult. These factors compound the three pre-existing questions over monetary policy. First, what will the size of the impact from policy tightening be? Second, how quickly will this impact materialise? Third, can existing policy structures manage this process?

Many factors still argue for central banks keeping policy tight in order to lower stubbornly high core inflation. It is now widely accepted that a given amount of monetary policy tightening now has less of an impact than in previous financial cycles: still strong labour markets may also delay its impact, as could lingering effects from pandemic fiscal stimulus. Technical questions also remain about the future changes to policy approaches and structures, as may first be attempted by the Bank of Japan.

Ultimately, nonetheless, central banks will prevail: our forecast is for inflation to fall back over the next year, although it will stay above target levels. Our central scenario remains for Fed and ECB policy rates to reach "terminal" (peak) levels quite soon. But recent market expectations of Fed rate cuts in the second half of 2023, as a result of regional banking distress in the U.S. and associated concerns about market liquidity, seem overdone. We see no systemic risk, given that the decisive response of the Fed so far and the robust measures already implemented in the Eurozone following past financial crises.

Financial markets may stay wary, however. Even under the assumption that the rate cycle can be managed, the potential for higher yields will keep riskier corporate bond assets under the spotlight, although we do not expect major spread widening. Equities' gains seem likely to be modest over the next 12 months, held down both by higher interest rates and the likelihood that corporate earnings expectations have further to fall. As investors will be aware, there are now plenty of alternatives to equities as an asset class.

Policy risks are, of course, not the whole story. Geopolitical risks are clearly still major. Downbeat recent corporate earnings results also suggest that many firms are reaching the limit of their abilities to boost revenues and profits as falling real wages moderate volumes and pricing power: as always, the consumer is ultimately king.

We also need to be careful not to let a focus on immediate market trends distract our attention from larger-scale structural change. Recent history should remind us that long-term issues (e.g. demographics) can start to be relevant much sooner than you think – note China, for example. One red thread running through structural market and economic change is ESG investment. This will continue to have an impact on immediate and future investment practice and risks, and cannot safely be ignored, whatever one's individual priorities. Tech is another issue of major continuing relevance, irrespective of the ebbs and flows of sectoral stock prices. These two issues of ESG and tech are now increasingly intertwined. It is notable that our long-term investment themes, summarised later in this publication, fall naturally into three groups: resource transition, population support and next-phase technology.

In summary, we stick to the overall view presented in our 2023 outlook. Spring may be here, but sticky inflation and shifting monetary policy expectations – prompted for example by earlier-than-expected rate cuts – could continue to trigger short-term volatility in bond and equities markets. This will be a case of recovery constrained. Structural economic and market changes add further to the need for portfolios to be managed with great care and attention: we aim to help you to do this.

Christian Nolting

Christian Nolting
Global CIO

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02 Risks in our sights

Geopolitics and the sanctions nexus. In response to Russia's war on Ukraine, developed western nations and their allies have imposed sanctions on Russia, disrupting supply chains and driving up food and energy prices. With the conflict unlikely to be resolved over the next twelve months and a further escalation possible, not only are additional sanctions quite likely but geopolitical considerations will also drive changes to business models and supply chains going forward.

One area to watch is how the political and economic ties between Russia and China develop as any kind of Chinese military support for the invasion might trigger additional sanctions to those recently expanded by the U.S. to weaken China's position in their bilateral technology arms race. Such additional sanctions cannot be completely ruled out after the U.S. recently convinced European and Japanese allies to also impose controls on exports of high-performance semiconductors to China despite these allies' usual caution given their close economic ties with China.

Inflation and central bank policy. Supply chain disruptions as well as high food and energy prices are the drivers of high inflation – the primary concern of financial markets and central bankers. While supply chains have been recovering and are being diversified, food and energy prices are prominent 'known unknowns' with regard to the extent and duration of their impact. Inflation at persistently elevated levels combined with robust economic data form the backdrop for the continuing tight monetary policies of the Fed and the ECB. Data-dependent decisions may be reflected in the swings of bond markets and interest rate sensitive stocks.

Stability of the financial system. Rising interest rates can be a destabilising factor for financial markets, as observed in the first half of March. when a lack of liquidity resulted in the closure of a number of regional U.S. banks and threatened to cause contagion on a global scale.

Worries regarding banking sector stability currently overshadow inflation and geopolitical concerns.

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03

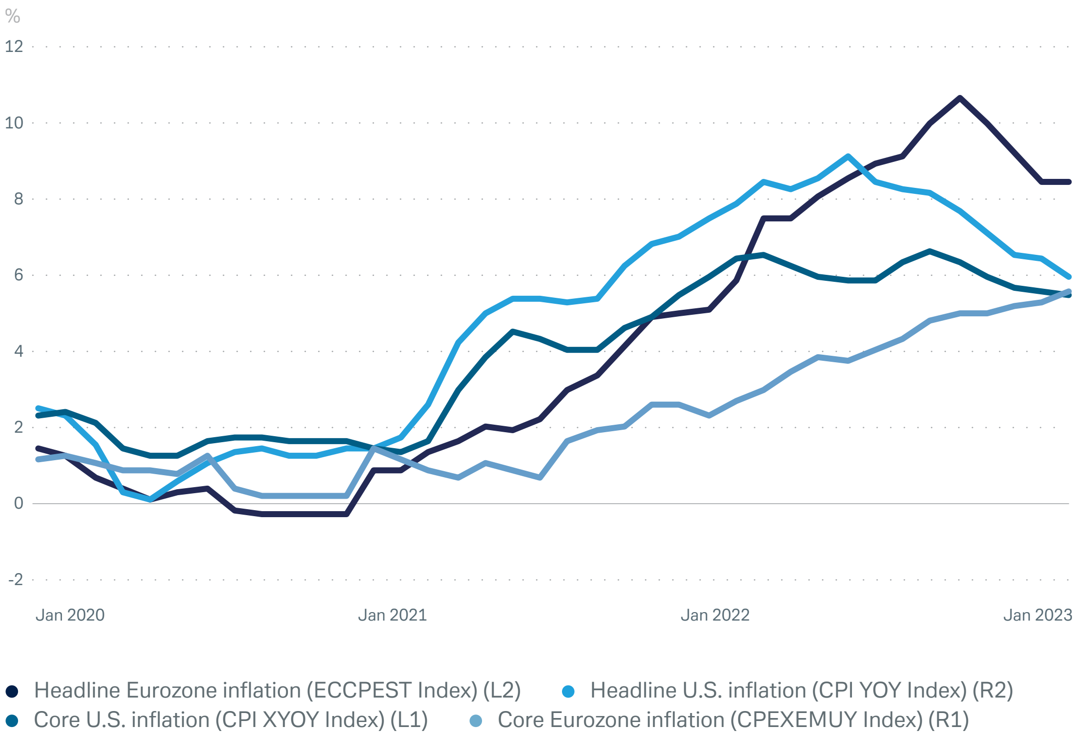
Macroeconomic and asset class update

Macroeconomics

Prior to the recent turmoil in the banking sector, inflation remained centre stage for both central banks and markets. However, recent market volatility may prompt monetary policy decision-makers to opt for a more moderate rate path than they would have based exclusively on recent data showing resilient consumption and ongoing price pressures. Once market confidence is restored, containing inflation should return to the forefront. Easing supply-side price pressures due to cheaper energy and supply chains returning to normal have dampened headline inflation in particular.

Figure 1: (Core) inflation remains stubbornly high in the U.S. and Eurozone

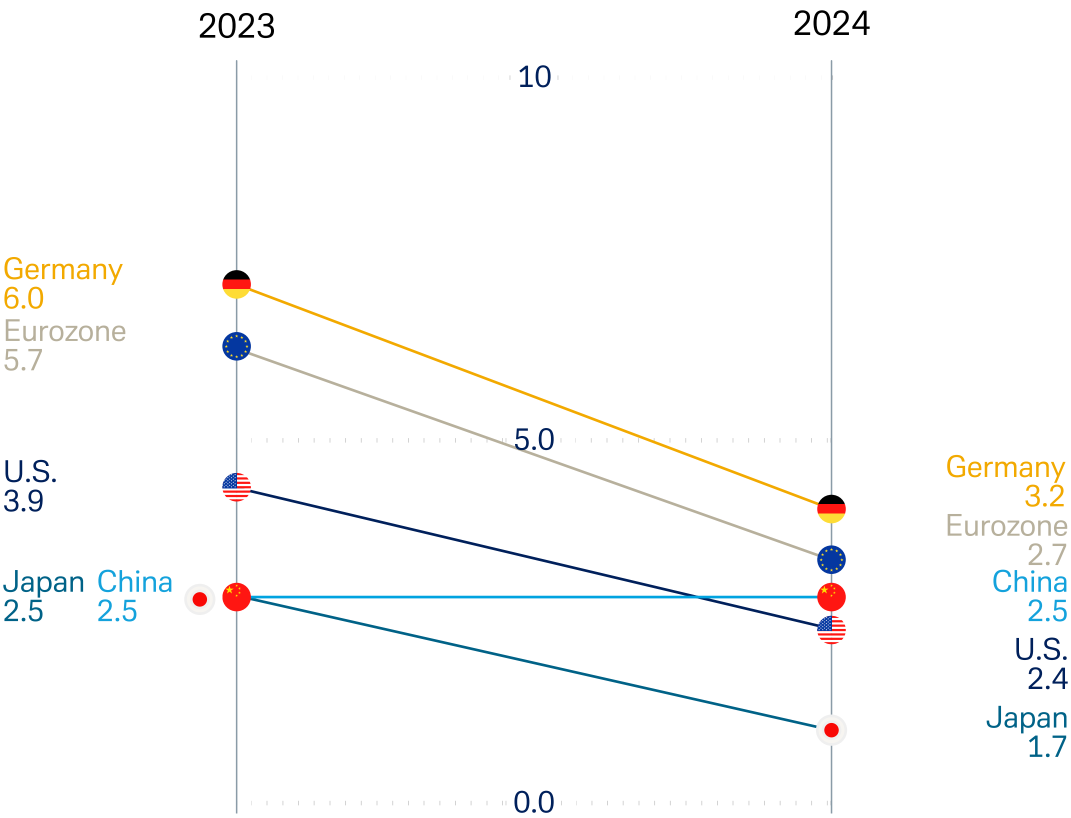
Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of February 28, 2023.



However, in the aftermath of the pandemic, the transmission mechanisms of major central banks' tightening have had a sluggish impact on aggregate demand so far – mainly due to the still lingering effects of strong fiscal stimuli, the slow reduction in companies' order backlogs, and imbalanced labour markets in many advanced economies. As a result, core inflation in particular remains at stubbornly too high levels. This will encourage major central banks to keep rates firmly in check for as long as necessary until lower aggregate demand diminishes the underlying price pressures and brings inflation back to desired levels.

Figure 2: Consumer price inflation forecasts (%)

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.



Due to the mostly warm winter in Europe and the U.S., the continuing robust development of labour markets and private demand – which is still decent despite high inflation rates – we now expect more resilient economic performance than three months ago. While the global economy is expected to grow by 2.7% in 2023, both the U.S. and the Eurozone should be able to expand over the full year 2023 by 0.7% and 0.8% respectively. By contrast, this year we expect the UK economy to contract by -0.5%. We are more optimistic with regards to this year's GDP growth in Japan (1.0%) and China (5.5%). To conclude, we consider the likelihood of a severe, prolonged recessionary trend in any of the large industrialised countries to be relatively remote.

Figure 3: GDP growth forecasts for 2023 and 2024 (%)

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

	2023	2024
U.S.*	0.7	1.1
Eurozone	0.8	1.1
Germany	0.3	1.2
France	0.7	0.8
Italy	0.7	0.9
Spain	1.2	1.5
Japan	1.0	0.8
China	5.5	5.3
World	2.7	3.1

Note: *For the U.S., GDP growth Q4/Q4 is -0.1% in 2023 and 1.8% in 2024.

Macroeconomics

Market and portfolio implications:

- Stubbornly sticky price pressures provoking "higher rates for longer" in major developed market economies
- Overall, in 2023, resilience likely to prevail over recession...
- ... with U.S. and euro area slightly expanding, while the UK lags behind

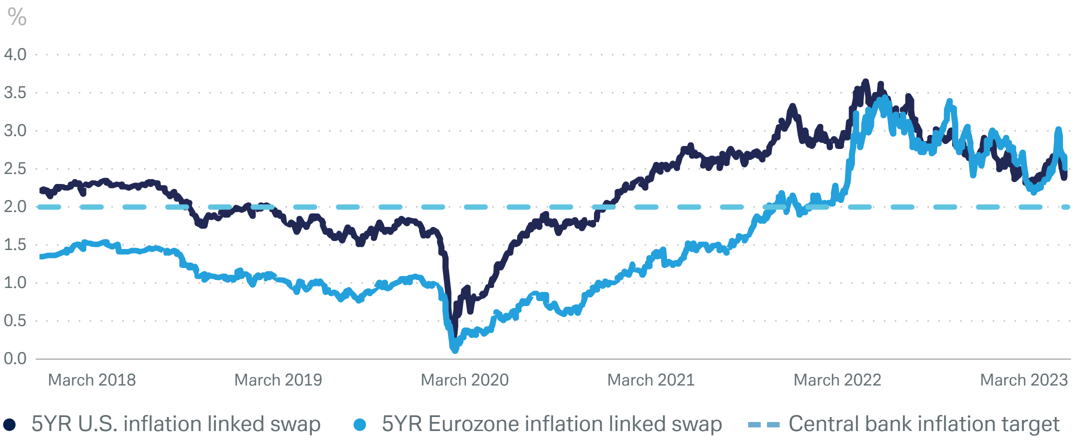
Fixed income

The recent credit event in the U.S. banking sector has induced considerable uncertainty regarding the outlook for policy rates. The financial authorities have reacted forcefully, however. Additionally, the U.S. labour market remains strong and inflation is proving to be sticky. In our view, this still warrants a "higher for longer" policy rate outlook. Despite U.S. 2-year Treasury yields coming down from its cycle high, they along with 10-year yields still remain close to their recent peaks. The possibility of the U.S. economy retaining its strength for longer than anticipated is expected to keep these yields at elevated levels.

The downward trend in inflation expectations during the last quarter has seen a reversal on the back of elevated inflation prints this year. Although recent market upheaval has already partially upended this change, further increases are expected to be limited given that inflation is unlikely to return to previous highs. Nominal yields moving even higher should therefore also push real yields upwards.

Figure 4: Sticky inflation still warrants a "higher for longer" scenario

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of March 16, 2023.



With the magnitude of the energy crisis declining, European activity data has shown signs of an improving economic outlook. At the same time inflation is expected to remain far off the ECB's 2% target for a prolonged period. The ECB is therefore now expected to raise its deposit rate to levels even higher than the 3.25% level seen during the 2008 financial crisis. This should keep 10-year Bund yields at elevated levels. The spreads over Bunds for Italian and Spanish 10-year bonds should see some mild widening as the reinvestments from the ECB asset purchase programme are rolled back.

Government bonds

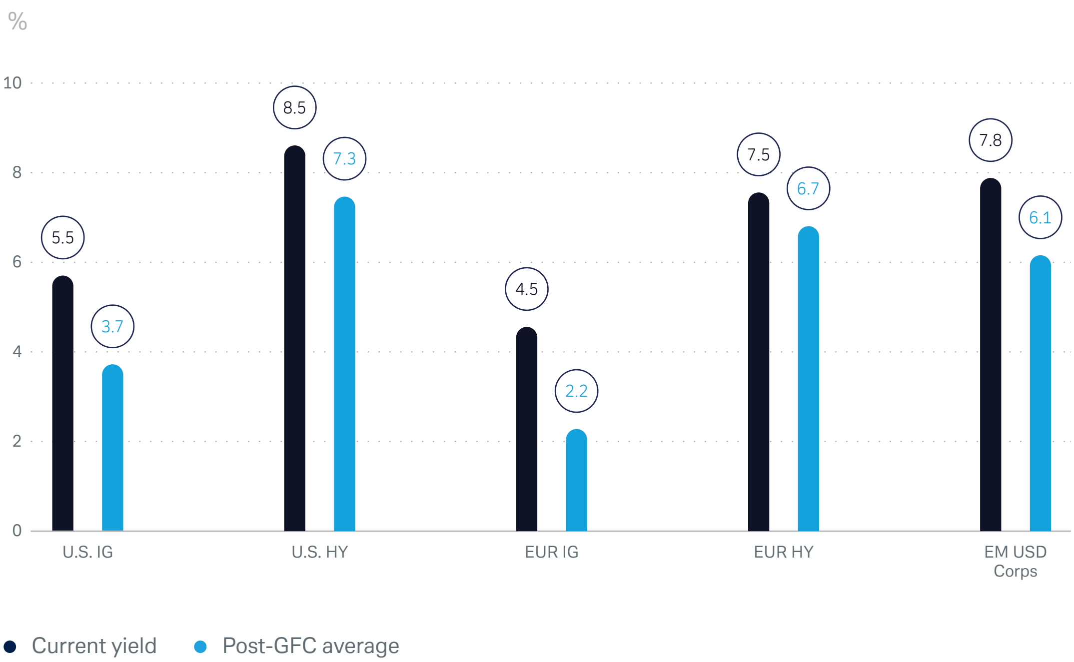
Market and portfolio implications:

- Core inflation proving stickier than expected
- Higher yields can be expected in the U.S. and the Eurozone
- Mild widening of spreads for Italian and Spanish bonds

The outlook for growth outside the U.S. is also positive due to Chinese reopening and the fears of a severe energy crisis in Europe fizzling out. The current yield on U.S. investment grade (IG) paper has been higher only around 2% of the period since the global financial crisis, while for EUR IG it has been higher for only 5% of the time. At these levels there should be strong demand from pension funds and insurance companies. Despite the recent noise surrounding the financial sector, the high proportion of more stringently regulated banks should continue to be well received by investors – especially EUR IG – given that the sector will continue to benefit from higher net interest income. Further narrowing of spreads can therefore be expected.

Figure 5: Credit yields

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of March 6, 2023.



The high yield fundamentals are likely to remain strong despite some expected deterioration during the year. Although higher than last year, supply is likely to remain lower than the past five-year average. Nevertheless, default rates are unlikely to stay at the benign levels seen last year and are expected to rise closer towards their long-term averages. This should partially offset the recovery potential in spreads.

China reopening has lifted sentiment on the EM credit segment. We are expecting to see lower default rates compared to the elevated levels of last year and the one-off loss from the exclusion of Russian issuers will not drag down the performance. The supply picture should remain favourable as issuers move to local currency debt markets. Like other credit classes the current yield provides a strong carry opportunity. However, given the front-loaded improvement in spreads already seen, further potential for improvement appears limited.

Corporate credit

Market and portfolio implications:

- IG segment yields at the high end of post-GFC levels
- Higher default rates to partially offset the recovery potential in spreads
- EM credit segment likely to see better sentiment than last year

Figure 6: Fixed income forecasts for end-March 2024

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

United States (2-year Treasuries)	4.40%	110bp	USD IG Corp (BarCap U.S. Credit)
United States (10-year Treasuries)	4.30%		
United States (30-year Treasuries)	4.40%	450bp	USD HY (Barclays U.S. HY)
Germany (2-year Bunds)	3.20%		
Germany (10-year Bunds)	2.90%	110bp	EUR IG Corp (iBoxx Eur Corp all)
Germany (30-year Bunds)	2.90%	420bp	EUR HY (ML Eur Non-Fin HY Constr.)
United Kingdom (10-year Gilts)	3.60%		
Japan (2-year JGB)	0.15%	250bp	Asia Credit (JACI)
Japan (10-year JGB)	0.75%		

EM Sovereign (EMBIG Div.)	EM Credit (CEMBI Broad)
470bp	350bp

"Higher for longer" policy rate outlook appears warranted with core inflation proving stickier than expected.

Equities (developed markets)

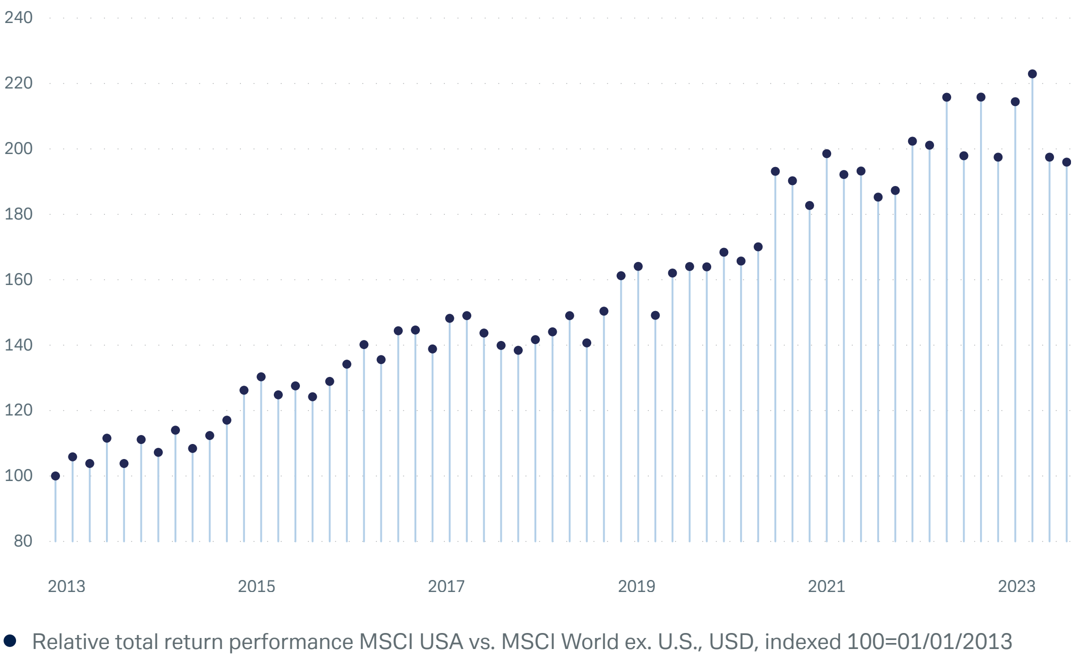
Developed stock markets rallied strongly in January but have lost most of their YTD gains since then due to returning recession fears and concerns regarding the stability of the financial system following the failure of some regional U.S. banks.

In the short term we expect stock market volatility to remain high as financial stress spills over from the U.S. to Europe and investors gauge how central banks will respond to the turmoil at the same time as fighting inflation. However, we do not currently see heightened risks of a banking crisis.

When banking sector concerns subside, corporate earnings and bond yields should become the main drivers of stock markets again. Unfortunately, U.S. earnings are trending down already, as companies struggle to translate rising revenues into profits. We believe earnings are also set to decline in Europe and Japan after holding up relatively well.

Figure 7: U.S. stocks starting to underperform

Source: Deutsche Bank AG, Refinitiv Datastream; Data as of March 8, 2023.



At the same time our fixed income forecasts imply that bonds will remain an attractive alternative to equities for the foreseeable future, limiting valuation expansion. Currently, U.S. stocks are trading around their long-term valuation average level and we do not expect any significant increase. By contrast, European and Japanese stocks still have some room for valuation rerating.

Against this backdrop we see single-digit upside for U.S. stock markets over the next 12 months. We believe that European stocks could do rather better due to their larger exposure to fast-growing China and relatively attractive valuations. We still see buying opportunities in sectors with low valuations and positive gearing towards interest rates, such as energy and materials, as well as small caps.

European and Japanese stocks have some room for valuation rerating, in contrast to U.S. stocks.

Developed market equities

Market and portfolio implications:

- Stocks set to stay volatile for the time being due to investor concerns about systemic stability
- Earnings declining as margins recede from record levels
- We continue to see buying opportunities in specific segments

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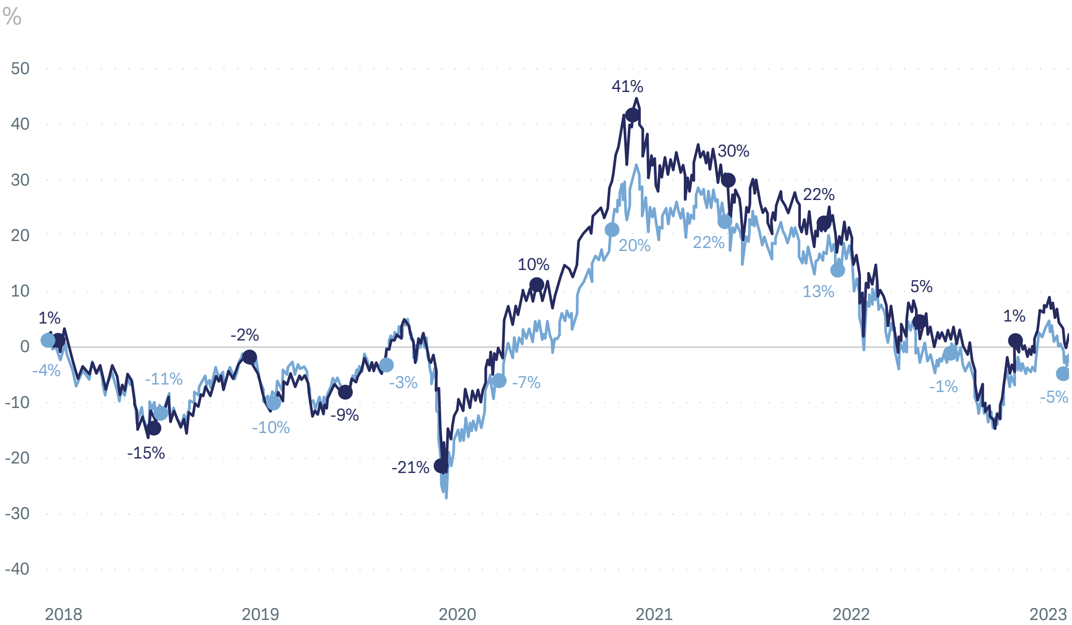
Equities (emerging markets)

Emerging market (EM) equities broadly carried on their resounding Q4 rally into January 2023. However, with major developed markets (DMs) beginning to price in "higher rates for longer" in February, EM equities again started feeling the headwinds from tighter financial conditions in DMs and foreign investors' fading risk appetite. In addition, the resurgence of tensions between Beijing and Washington, which weighed primarily on Chinese equities, also impacted Asian and global EM indices given their large market cap exposure to Chinese stocks. We do not expect EM equities to decouple broadly from global equity trends – particularly not during times of global risk-off sentiment, as recently experienced. However, risk-taking investors could look for market-specific fundamental differences within the EM universe that offer opportunities for relative outperformance going forward.

Figure 8: MSCI EM vs. MSCI EM Asia index performance (USD terms incl. dividends)

Source: Bloomberg Finance L.P., Deutsche Bank AG. Data as of March 3, 2023.



● MSCI Emerging Market Index ● MSCI Emerging Market Asia Index

After three years of Covid restrictions, we expect China's V-shaped recovery – mainly on the back of pent-up domestic consumption demand – to generate upside for Chinese companies' earnings growth. While we do not see China's reopening providing a major boost to the global economy, positive spillover effects are likely to be felt by markets in general and especially by companies with closer China trade ties both in Asia and elsewhere. Goods trade should expand particularly between Taiwan, South Korea, ASEAN and China, while Thailand, The Philippines, and Vietnam should benefit from Chinese tourist flows, and ASEAN may see a rise in Chinese direct investment due to reopening. All this would improve both corporate earnings expectations and investor sentiment and pave the way for a revaluation of those EM equities still trading at a valuation discount to U.S. stocks. We maintain our constructive medium-term view on Indian equities given India's dynamic structural growth prospects as one the main beneficiaries of global supply chain restructuring. In the short term, though, Indian stocks might be one funding source for investors rebalancing their positions in North Asian markets.

Emerging market equities

Market and portfolio implications:

- Earnings growth potential on the back of V-shaped China recovery
- Positive spillovers for companies and markets with close trade ties to China
- However, EM equities unlikely to decouple from global trend

Figure 9: Equity index forecasts for end-March 2024

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

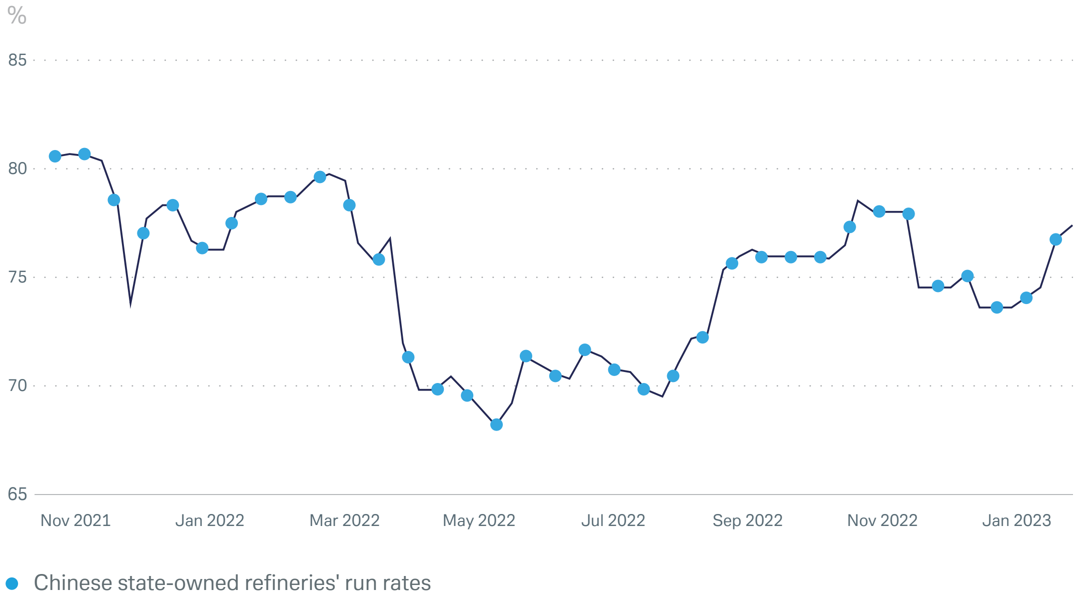
S&P 500	4,100
DAX	16,300
EuroStoxx 50	4,350
Stoxx Europe 600	480
MSCI Japan	1,250
SMI	11,100
FTSE 100	8,100
MSCI EM	1,020
MSCI Asia ex Japan	670
MSCI Australia	1,450

Commodities

Oil prices have declined from the peaks of last year but are still likely to remain elevated. Chinese demand, which fell by around 400,000 b/d last year is likely to recover. OPEC+ should continue to provide a floor while U.S. production is unlikely to materially take off. An end to the drawdown from U.S. strategic petroleum reserves should provide further tailwinds. In addition, even a small decline in Russian supply should further support tight oil supply/demand.

Figure 10: Higher Chinese refinery output points to higher crude demand

Source: Refinitiv Eikon, Deutsche Bank AG. Data as of February 22, 2023.



The potential for a recovery in demand for copper is strong. Statements by a major Chinese state-owned grid operator and the targets announced by the National Energy Administration of China point to strong demand from grid and renewables installation. In addition, the quota for local government special bond issuance is expected to remain at elevated levels. However, the positive picture will only gradually feed into physical demand.

After gold prices reached the USD 1,960/ounce mark in January, they fell significantly in February due to the pricing-in of a much more restrictive monetary policy by the Fed. With the G10 central banks and the Fed likely to have reached terminal rates by the middle of this year and central banks likely to continue to exert strong demand, we believe gold prices should remain strong.

Oil prices are down from last year but are likely to remain elevated.

Figure 11: Commodity forecasts for end-March 2024

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

Gold (USD/oz)	Copper (USD/t)	Crude Oil (Brent Spot, USD/b)
1,940	9,250	100

Commodities

Market and portfolio implications:

- Tight oil markets likely to lead to higher oil prices
- Physical demand for copper expected to increase gradually
- Central banks to play a key role for gold

FX

Due to the favourable winter weather the FX market has priced out the previous excessively pessimistic Eurozone growth outlook. This was the main driver of USD depreciation versus the EUR from November until January. The improving growth prospects should still attract inflows into Eurozone assets and support the single currency. Markets repriced the rate path in February, the USD was able to regain some ground. Not only the ECB but also the Fed are committed to their respective inflation targets.

The ongoing discussion about a mild recession in the U.S. should dampen risk sentiment, thus supporting the USD as a safe-haven currency. As we expect inflation in the Eurozone to be more structural than in the U.S., the ECB should keep rates high for longer than the Fed. We therefore expect moderate upside for the euro versus the USD, with the EUR/USD trading at 1.10 at the end of March 2024.

In Japan we expect a re-assessment of the ultra-loose monetary policy after Kazuo Ueda becomes BoJ governor in April. A slow but gradual increase in the policy rate should follow the ending of the unsustainable yield curve control policy and support the JPY. By the end of March 2024 we expect the yen to appreciate to USD/JPY 125.

Like the Eurozone, the UK should avoid a severe recession. An expected warming of the relationship with the EU – signalled by negotiations on the Northern Ireland protocol – should improve sentiment regarding the GBP. GBP/USD could trade at 1.25 in March 2024.

The high U.S. yield remains negative for CNY. However, positive Chinese growth dynamics and a potentially less restrictive Fed at the beginning of 2024 could result in a CNY below USD/CNY 7.00 at the end of Q1 2024.

Figure 12: FX forecasts for end-March 2024

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

EUR vs. USD	1.10
USD vs. JPY	125
EUR vs. JPY	138
EUR vs. CHF	1.05
EUR vs. GBP	0.89
GBP vs. USD	1.25
USD vs. CNY	6.95

FX

Market and portfolio implications:

- The EUR should appreciate moderately against the USD as the ECB is likely to keep rates high for longer than the Fed
- The JPY should benefit from a re-assessment of the ultra-loose monetary policy under the new BoJ governor Ueda and from China's reopening
- In the medium term, the CNY could trade against the USD near the current level

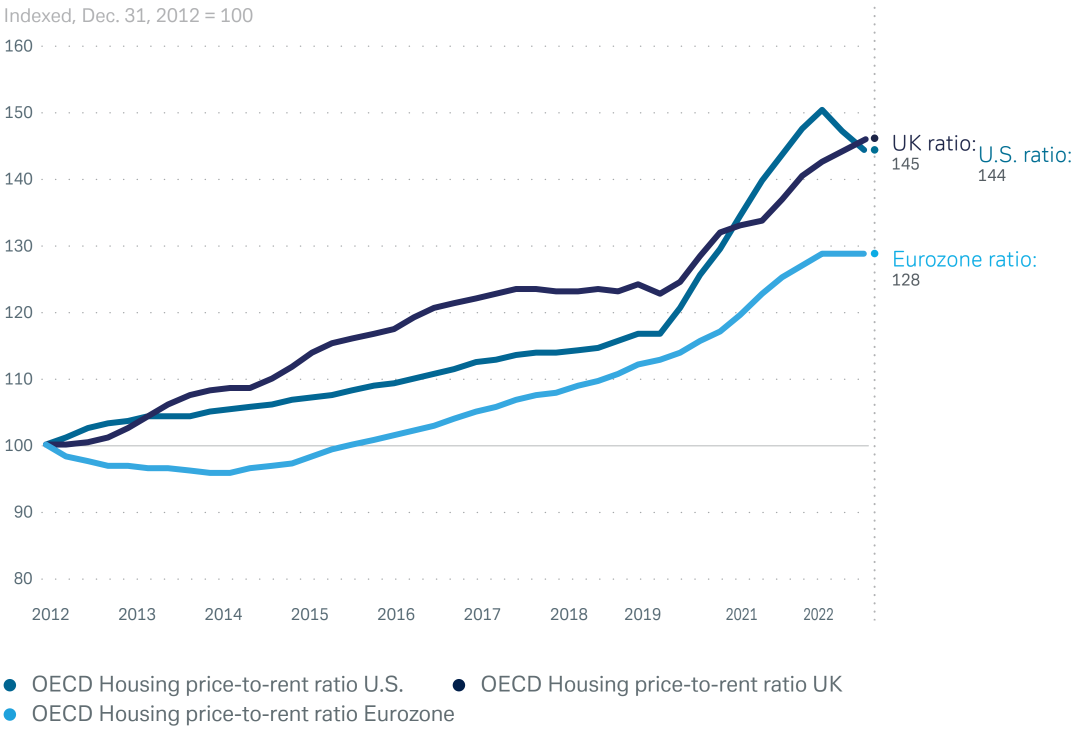
Improving Eurozone growth outlook should attract asset inflows and support the EUR.

Real estate

Real estate markets have generally continued on the same trend as at the end of 2022. Central banks around the world are still busy fighting high inflation, while surprisingly robust economies point to more relentless inflationary pressures than previously thought. Accordingly, central bank rate expectations have risen in lockstep with financing costs in most major markets, weighing on property prices. Even though financial market turmoil has recently weighed on rate expectations, a stabilisation of the ailing banking sector may shift the focus back on to inflation with central banks resuming their hiking trajectories. At the same time, inflation – which is feeding into rents and translating into higher cap rates – and construction activity, which continues to be inhibited by high costs, are counteracting a sharper value decline. Property prices in the U.S. and much of Europe are still slightly up year-on-year, although they are now falling sequentially. Only a few countries with above-average household debt and a high proportion of variable rate loans, such as Sweden or Australia, are experiencing an outright slump. In addition, China, which lifted its zero-Covid measures at the end of last year, is probably on the verge of a rapid economic recovery that should support its crisis-ridden real estate sector. The correction on global real estate markets could continue briefly, but the bottom should be reached before long and a recovery should set in.

Figure 13: Housing: Price-to-rent ratios rolling over

Source: OECD, Deutsche Bank AG. Data as of December 31, 2022.



Across sectors, fundamentals remained in line with their historical averages, with vacancy rates in residential and industrial real estate remaining the bright spots. Due to the structural shift towards more home-based work and e-commerce, occupancy rates in the office and retail sectors continue to lag, hampering these segments' ability to pass on inflation increases and making them more vulnerable to an eventual economic slowdown. Lastly, real estate investors are paying increasing attention to ESG factors. Growing evidence suggests that the energy-efficient building segment is far less impacted by the current rising interest rates and slowing of growth, offering scope for active management and energy retrofits.

Real estate

Market and portfolio implications:

- Real estate faltered as it headed into 2023 but bottom could be near
- Robust economies, rising rents and subdued construction activity bolstering property values
- Residential and industrial real estate remain in focus

04 Update on long-term investment themes

Our long-term investment themes (LTIT) are grouped into three areas: resource transition, population support and next-phase technology. These are the key global challenges: how to properly manage and conserve our global resources; how to provide for the global population; and how to develop key technologies to help us all do this.

Resource transition

Land Resources:

This theme is about reducing consumption and encouraging conservation and recycling through technological as well as nature-based solutions. Climate change – with unpredictable impacts on land, mineral, water, plant and animal natural resources – is driving sustainability efforts and greater awareness of problems around economic growth and urbanisation.

Energy Transition:

Major changes must be made to the production, distribution, and consumption of energy to meet net-zero CO_2 targets. The theme also considers the enhancement of existing renewable technologies (e.g., solar, wind), and potential new energy sources (e.g. "green" hydrogen). Security as well as environmental concerns are making this an important focus of government policy.

Blue Economy:

The Ocean is a major natural resource, both in terms of economic output and environmental protection – it absorbs around 30% of the world's total carbon emissions. But sustaining marine ecosystems will require the transformation of existing maritime industry value chains. The race for marine resources constitutes an increasing threat.

The Resource transition challenge encompasses the proper management and conservation of land, energy and the Ocean.

Population support

Infrastructure:

Much investment is needed in traditional areas such as power grids, transmission towers, fibre optic networks, gas pipelines and storage, toll roads, ports, bridges and airports. Government support programmes increasingly cover social and information infrastructure too. Decarbonisation and other environmental measures are drivers of change, as is digitalisation.

HealthCare and MedTech:

Many factors are combining to drive rapid change in the sector. Technological opportunities (e.g. in telemedicine and remote monitoring) and scientific advances (e.g. in biotechnology or genomics) are impacting both what medicine can do and how it is implemented. Increasing healthcare costs and fiscal pressures create significant challenges.

Millennials and GenZ:

These two demographic groups are seen as prioritising easy access to goods and services rather than ownership. They are also more likely to expect companies to deliver environmental and social benefits. Their growing political power will affect economic policy, with inter-generational wealth inequality one focus.

Next phase technology

Artificial Intelligence:

Rapid growth in its abilities is driving resources into areas such as deep learning, neuro-linguistic programming (NLP), image recognition, speech recognition, chatbots and cyber security. Implementation will likely broaden beyond current hotspots (e.g. healthcare and financial technology). Increasing regulation may struggle to address ethical and other concerns.

Smart Mobility:

The three drivers here are sustainability (emissions and other environmental concerns), urbanisation (expected further growth and congestion) and changing consumer demand (rental vs. ownership). Different transport methods and ownership structures may be part of the response. Multiple technologies (e.g. IT, battery storage) will be involved.

Cyber Security:

Increasing connectivity, artificial intelligence, the "internet of things“ (IOT) and potential “metaverse” developments all generate additional potential threats. Security spending by consumers, businesses and governments is expected to rise structurally. Industries particularly affected will continue to include manufacturing, financial services and healthcare.

Appendix 1 Macroeconomic forecasts

	2023 Forecast	2024 Forecast
GDP growth rate (%)		
U.S.*	0.7	1.1
Eurozone (of which)	0.8	1.1
Germany	0.3	1.2
France	0.7	0.8
Italy	0.7	0.9
Spain	1.2	1.5
Japan	1.0	0.8
China	5.5	5.3
World	2.7	3.1
Consumer price index inflation (%)		
U.S.	3.9	2.4
Eurozone	5.7	2.7
Germany	6.0	3.2
Japan	2.5	1.7
China	2.5	2.5

*For the U.S., GDP growth Q4/Q4 % is -0.1% in 2023 and 1.8% in 2024.

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

Appendix 2 Asset class forecasts

Bond yield and spread forecasts for end-March 2024

United States (2-year Treasuries)	4.40%
United States (10-year Treasuries)	4.30%
United States (30-year Treasuries)	4.40%
USD IG Corp (BarCap U.S. Credit)	110bp
USD HY (Barclays U.S. HY)	450bp
Germany (2-year Schatz)	3.20%
Germany (10-year Bunds)	2.90%
Germany (30-year Bunds)	2.90%
United Kingdom (10-year Gilts)	3.60%
EUR IG Corp (iBoxx Eur Corp all)	110bp
EUR HY (ML Eur Non-Fin HY Constr.)	420bp
Japan (2-year JGB)	0.15%
Japan (10-year JGB)	0.75%
Asia Credit (JACI)	250bp
EM Sovereign (EMBIG Div.)	470bp
EM Credit (CEMBI Broad)	350bp

FX forecasts for end-March 2024

EUR vs. USD	1.10
USD vs. JPY	125
EUR vs. JPY	138
EUR vs. CHF	1.05
EUR vs. GBP	0.89
GBP vs. USD	1.25
USD vs. CNY	6.95

Equity index forecasts for end-March 2024

United States (S&P 500)	4,100
Germany (DAX)	16,300
Eurozone (Euro Stoxx 50)	4,350
Europe (Stoxx 600)	480
Japan (MSCI Japan)	1,250
Switzerland (SMI)	11,100
United Kingdom (FTSE 100)	8,100
Emerging Markets (MSCI EM)	1,020
Asia ex Japan (MSCI Asia ex Japan)	670
Australia (MSCI Australia)	1,450

Commodity forecasts for end-March 2024

Gold (USD/oz)	1,940
Copper (USD/t)	9,250
Crude Oil (Brent Spot, USD/b)	100

Source: Deutsche Bank AG. Forecasts as of March 6, 2023.

Glossary

The Association of Southeast Asian Nations (ASEAN) comprises Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Cambodia, Laos, Myanmar and Vietnam.

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.

Carry investments are intended to deliver higher returns by borrowing in a lower-yielding environment.

The Composite PMI (Purchasing Managers Index) tracks business trends by measuring the activity level of purchasing managers in both the manufacturing and service sectors.

CHF is the currency code for the Swiss franc.

CO_2 is the chemical symbol for carbon dioxide.

The consumer price index (CPI) measures the price of a basket of products and services that is based on the typical consumption of a private household.

CPEXEMUY is the Bloomberg ticker (reference name) for the Eurostat Core Monetary Union Index of Consumer Prices, a core measure of consumer price inflation for a basket of goods and services within the Eurozone. This core metric excludes energy, food, alcohol and tobacco.

CPI XYOY is the Bloomberg ticker for the CPI Urban Consumers Less Food & Energy Index, a core measure of U.S. consumer price inflation. This core metric excludes food and energy.

CPI YOY is the Bloomberg ticker for the CPI Urban Consumers Index, an aggregate measure of U.S. consumer price inflation.

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

Dividends are payments made by a company to its shareholders.

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.

ECCPEST is the Bloomberg ticker for the Eurostat Monetary Union Index of Consumer Prices, an aggregate measure of consumer price inflation for all countries within 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.

ESG investing pursues environmental, social and corporate governance goals.

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

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.

Glossary

The Fed funds rate is the interest rate at which U.S. 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 G10 is a group of industrialised nations with overlapping economic interests. Its member countries are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States.

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

Gilts are bonds that are issued by the British Government.

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.

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.

The Harmonised Index of Consumer Prices (HICP) is an approach to measuring consumer price inflation which has been standardised across EU countries.

Headline PCE (personal consumption expenditure) inflation tracks price changes in a basket of goods and services designed to cover all the expenditures typically made by consumers, whereas core PCE – the Federal Reserve's preferred inflation metric – excludes some volatile components. In the U.S., food and energy are excluded from core PCE inflation.

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

The International Monetary Fund (IMF) was founded in 1994, includes 189 countries and works to promote international monetary cooperation, exchange rate stability and economic development more broadly.

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.

A Japanese Government Bond (JGB) is a bond issued by the government of Japan.

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

The median is the data point lying at the middle of a data range.

The MSCI AC World Index captures large- and mid-cap companies across 23 developed- and 23 emerging-market countries.

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 market 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.

Glossary

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

The National Energy Administration of China drafts China's national energy strategy, implements energy policy, and regulates the country's energy sectors.

NTM stands for next twelve months in the context of earnings and thus price/earnings ratios.

The Organization of the Petroleum Exporting Countries (OPEC) is an international organisation which aims 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 past or expected future earnings per share.

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

The refinery run rate, or utilisation rate, is the proportion of crude oil processed by a refinery relative to its total processing capacity.

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 when comparing bond yields.

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

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

The yield curve control policy of the Bank of Japan uses bond purchases and sales to target both short-term rates and longer-dated government bond yields.

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