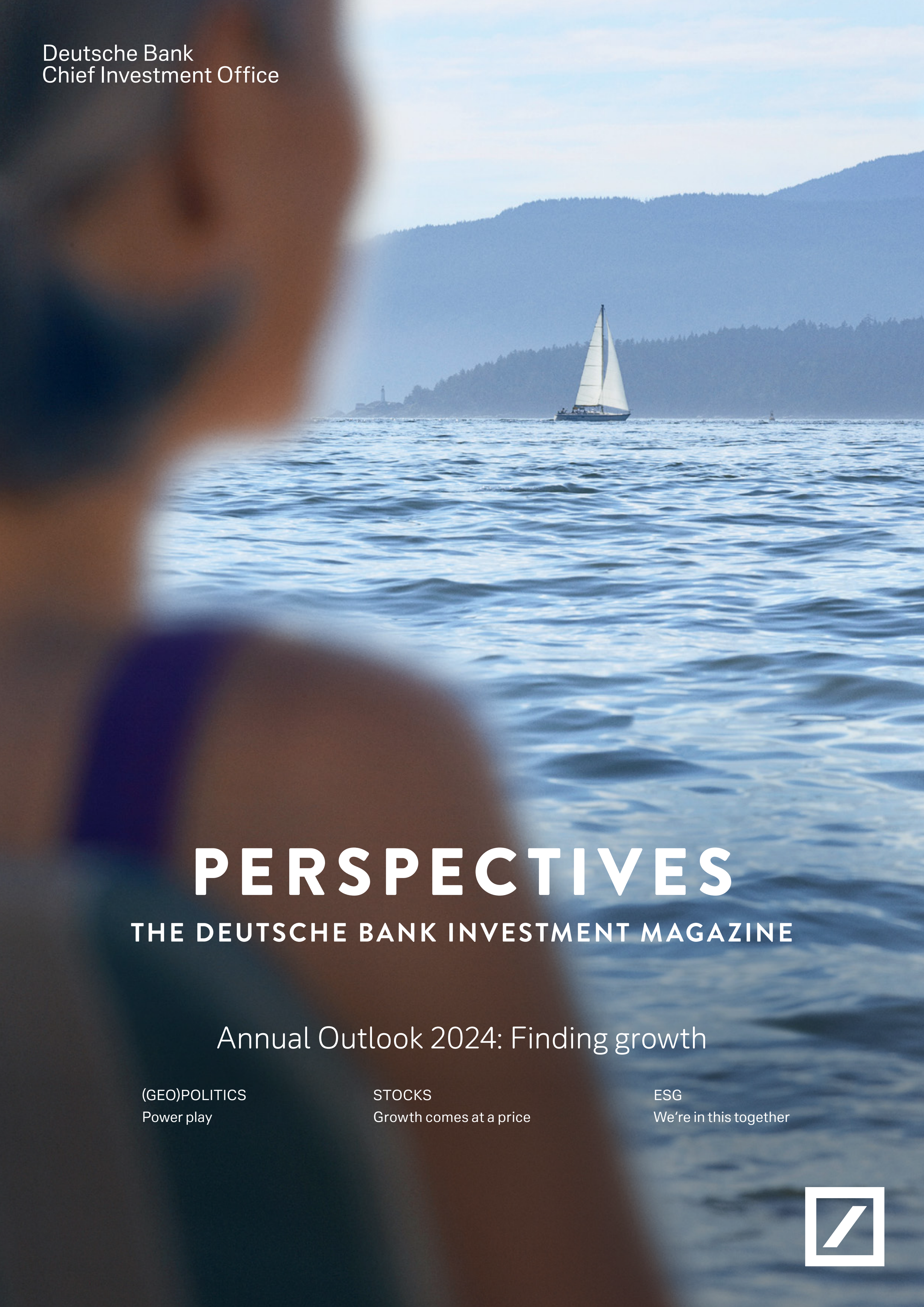
Deutsche Bank
Chief Investment Office



PERSPECTIVES

THE DEUTSCHE BANK INVESTMENT MAGAZINE

Annual Outlook 2024: Finding growth

(GEO)POLITICS
Power play

STOCKS
Growth comes at a price

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We're in this together

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Letter to Investors

Finding growth

Christian Nolting
Global CIO

We think that 2024 is likely to be a decent year for investors. Despite all the very evident current global challenges – economic, geopolitical, climatic – investors should keep faith with markets. As this annual outlook explains, prospects in fact appear reasonably good for the main asset classes in 2024. Risk management will however remain crucial.

At present, markets are engaged in a non-stop debate over the likely extent and timing of future monetary policy loosening. Markets will remain sensitive to changing views here: we believe that the first rate cuts by the Fed and the ECB should happen in 2024 but we don't expect too many. But, as always, it is important to look beyond immediate market volatility and focus instead on what economic and other developments in 2024 could mean for investors – and what might force a reassessment.

The big issue remains economic growth. We think that growth is likely to slow in coming quarters, as tight financial conditions increasingly have an impact on economies. But markets also need to stay convinced that growth will pick up again later in 2024.

We discuss the implications of this for asset classes in the opening sections of this annual outlook. With inflation coming down slowly, and limited rate cuts expected in the U.S. and the Eurozone, there will be opportunities in sovereigns and fixed income will be an important asset class for investors in 2024. Investment grade is likely to benefit in particular from strong yield levels, manageable supply and still-decent fundamentals. (High yield will likely be overshadowed by potential refinancing issues, however.)

Equity markets can interpret the likely restrained fall in rates in various ways. If it is seen as a symptom of economic resilience (rather than intractable inflation fears keeping policy tight), then the implications for equities earnings and the asset class as a whole should be positive – on the assumption, of course, that the expected economic slowdown is not too deep or prolonged. As a result, 12-month equity market returns may be reasonable (high single-digits) if not great.

Investors also need to look forward to the risks and opportunities provided by ongoing structural economic change. Technology is both a future driver of such change and a current investment focus as investors try to anticipate longer-term trends. Environmental concerns are also forcing us to rethink the economic status quo and how to manage and finance the transition to a more sustainable economy. The energy transition is already showing how these two issues of technology and the environment are closely intertwined – a relationship that also runs through our other long-term investment themes, discussed later in this outlook.

We hope that this annual outlook therefore provides a useful analysis of the broader issues affecting investors over both short and longer-term time horizons. As noted above, there will be investment opportunities (many growth-dependent) but immediate challenges and structural economic change will make it even more important that portfolios are managed carefully. We look forward to providing you with assistance here, now and in coming years.

Christian Nolting
Global CIO

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(Geo)politics: Power play

- Battle for hegemony between the U.S. and China is reshaping trading relations.
- Domestic political developments are increasingly shaping foreign policy agendas – focus on elections in 2024.
- Export-oriented economies like Germany and Japan may face major challenges.

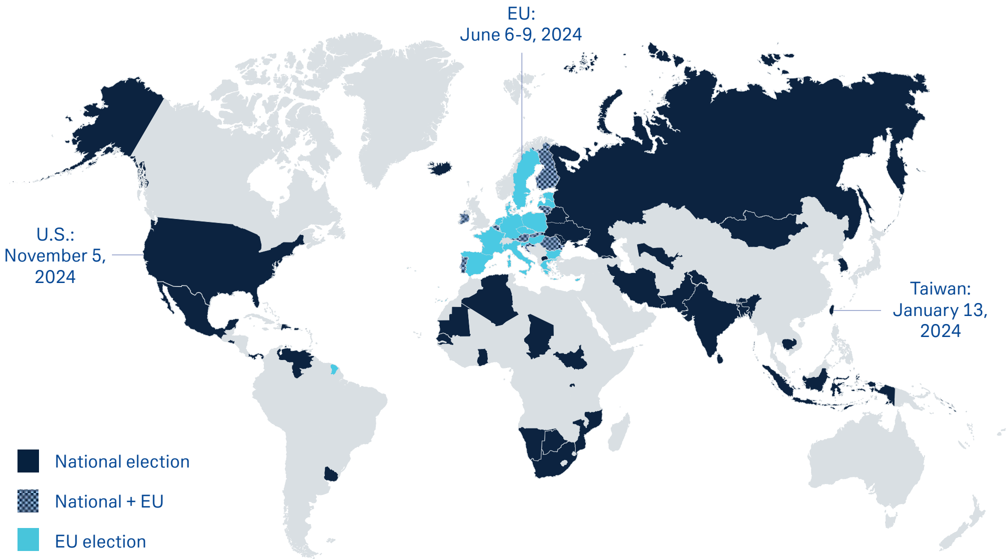
The “Great Game” is the name given historically to the rivalry between Great Britain and Russia for supremacy in Central Asia in the 19th century – although it was less a game than a serious geopolitical conflict that lasted for almost a century. A new great game is currently taking place between the United States and China and on a scale that spans the entire world. This is a contest between two political systems and shows the ambition of assertive emerging economies that are aware of their growing global significance and that are trying to increase their relevance (at a global level, e.g, in international organisations or agreements). Technological advantage has been identified as the key driver for global political and economic leadership, putting the United States in pole position and casting China as the leading challenger (with its own technology strategy). Racing for technology leadership to a certain extent turns global task-sharing into a competition for resources ranging from raw materials, human capital and education to know-how and intellectual property, putting the resilience of supply chains at risk. While the U.S. is seeking to defend its lead in IT and control over its critical infrastructure by restricting China’s access to high tech, China is trying to leverage and further expand its leading global position in fields such as renewable energy, batteries and e-mobility by tightly regulating its tech sector, restricting foreigners’ market access and controlling domestic players. These tensions as well as other conflicts and resulting restrictions are prompting aspirations for new international alliances and agreements in trade-oriented regions and countries such as Europe, India, nations on the Arabian Peninsula or Russia and those looking to increase their share of trade.

Regardless of which party has led the U.S. administration since 2017 a shift in trade flows has been observed in this connection – accompanied by trade interventions such as export or import restrictions. These did not diminish with the start of Joe Biden's presidency. New trade agreements are being concluded but, unlike in the past, there are fewer multilateral deals and more bilateral ones. Nearshoring and friend-shoring are economic policy responses to improve the resilience of supply chains and ensure access to resources together with reliable partners – especially those from countries in the so-called Global South which are often the source of key commodities. This might lead to formation of new alliances of partners with common interests at different levels. At the same time, domestic political developments might have more influence on foreign policy decisions and international alliances – not only in democratic societies. The elections scheduled for next year, for example in the U.S., the European Union, India and Taiwan, are therefore being eagerly anticipated across the world.

Trade barriers like sanctions or restrictions and changes to political or economic agreements could pose challenges to those economies based on foreign trade. If trade takes place increasingly on a bilateral basis, the U.S. and China – thanks to their economic structures – can more or less confine themselves to satisfying their own domestic demand and trading with their closest partners. By contrast, export-oriented economies like Germany and Japan are more dependent on the free flow of goods worldwide and are therefore impacted more severely by sanctions and supply chain problems.

2024 – Biggest election year in history

A total of 40 countries with a combined population of over 3 billion will hold important national elections in 2024



Source: Bloomberg L.P., Deutsche Bank AG; Data as of November 27, 2023.

If European countries do not want to fall behind in the contemporary great game, they must close ranks and overcome national differences as quickly as possible. They must act together and speak with one strong voice, thereby gaining recognition as a global player. The pressure on Germany is increasing and massive investments are urgently needed.

New trade agreements are being concluded but, unlike in the past, there are fewer multilateral deals and more bilateral ones.

2

Economy: Investing creates potential

- Large-scale investments needed to enhance economic competitiveness and fight climate change.
- Government spending programmes to incentivise private investment.
- Moderate growth in industrialised economies, Asia remains the global growth engine.

In an increasingly multipolar world that is changing at an unprecedented pace due to technological advances, one of the major challenges facing national economies is how to generate sustainable economic growth. Many trillions of U.S. dollars will be invested worldwide to achieve this in the years ahead. Sustainable not only means "long-term" but is also used explicitly in the context of an ESG approach that ensures compliance with environmental, social and governance criteria. Today, any proper debate on growth must take into account issues such as climate change, demographics, resource efficiency and equitable distribution.

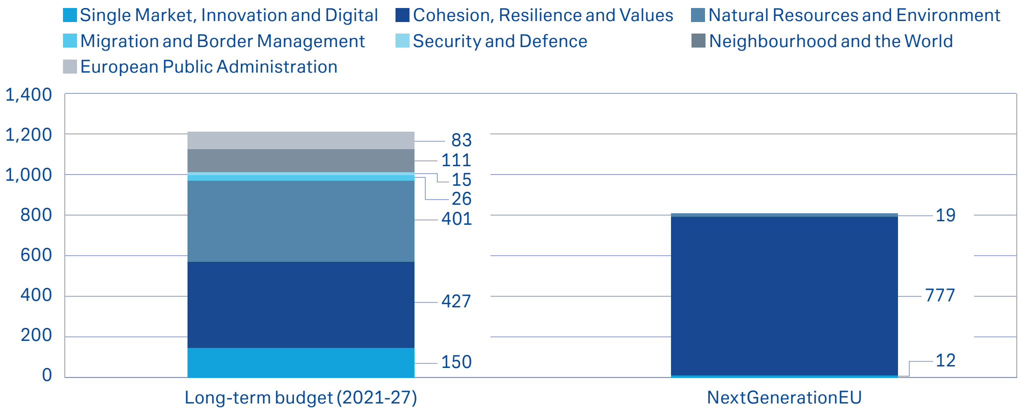
Corresponding investment programmes include the infrastructure package passed in 2021 and the Inflation Reduction Act in the U.S. as well as the NextGenerationEU recovery fund in Europe. However, investments are also being made in many other regions of the world. The NextGenerationEU programme in particular, which together with the long-term European

Due in part to the extensive investment programmes, we do not expect a recession in any of the major economic regions in 2024.

Union budget (Multiannual Financial Framework) will deliver investment of more than EUR2tn up to 2027, demonstrates the possibilities of targeted spending. In contrast to the U.S., where it seems that funds are being distributed in a scattergun approach, the allocation of capital in Europe is being linked to the implementation of specific reforms. The process might take longer, but it establishes a clear framework and channels investment into those areas prioritised by both government and society – the labour market, renewable energy, digitisation, environmental protection, e-mobility and diversity. In both the U.S. and Europe there is a need to attract private investors as they have a stronger focus on capital efficiency. Europe in particular seems to be on the right track here but the measures already taken are still a long way from achieving their goal.

Multiannual Financial Framework and NextGenerationEU: Two trillion euros

EU spending by category (EUR bn)



Source: European Commission; Data as of November 7, 2023.

Due partly to the extensive investment programmes, we do not expect a recession in any of the major economic regions in 2024. For the full year, we anticipate moderate growth of 0.7% in the Eurozone and even 0.9% in Germany. The latter is above our expectations for growth in the U.S. which we put at 0.8%. This is because the coming quarters could be impacted negatively by the delayed effects of the interest rate hikes that began around 18 months ago. However, we expect a tangible recovery in the U.S. in the second half of 2024.

Asia is expected to remain the global growth engine in 2024: growth is likely to be around 6% in India and about 5% in China, for example. Japan could well outperform expectations. At 1.0%, our growth forecast for the Land of the Rising Sun in 2024 is one of the highest among the major industrialised economies.

GDP growth forecasts

Gross domestic product (GDP) growth forecasts for selected economies, in each case compared to the previous year (%)

GDP growth	2023	2024
World	3.0	2.8
U.S.[1]	2.3	0.8
Eurozone	0.7	0.7
Germany	-0.1	0.9
France	0.7	0.7
Italy	0.9	0.5
Spain	2.5	1.2
Japan	2.1	1.0
China	5.2	4.7

Source: Deutsche Bank AG; Forecasts as of November 15, 2023. [1] Q4/Q4 growth 2.4% (2023), 0.4% (2024).

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Inflation: Stage victory

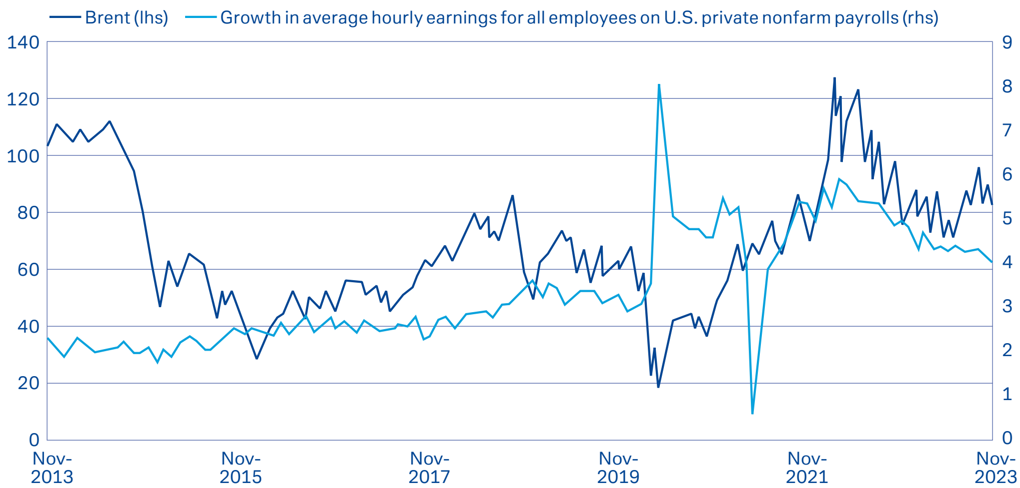
- Moderating but still elevated inflation rates remain the dominant monetary policy issue.
- Differing inflation trends from region to region (e.g. China vs. the rest of the world).
- Base rates unlikely to return to the previously low levels.

In the past 18 months, fighting inflation has been the dominant monetary policy issue for many major central banks around the world – although not all of them. While prices rose sharply in Europe and the U.S. in particular, Asian economies, for example, had very few problems with excessively high inflation rates. Indeed, in China, fears of impending deflation actually increased recently.

Annual inflation rates have fallen significantly, partly as a consequence of lower energy prices, favourable base effects and the higher capital market interest rates resulting from restrictive monetary policies. Central banks such as the Fed and the ECB have slowed the pace of their monetary tightening programmes. However, they are unlikely to return base rates to the previously very low levels, even after 2024.

Inflationary pressure not over yet

Percentage change in average U.S. hourly wages compared to the same period of the previous year (second-round effect) and the oil price in U.S. dollars per barrel (recurring first-round effect)



Source: Refinitiv Eikon, Deutsche Bank AG; Data as of November 15, 2023.

For the U.S., we forecast a full-year inflation rate of 4.2% for 2023 and 2.8% for 2024. If the U.S. economy achieves a soft landing, i.e. an economic slowdown without sliding into recession, the Fed could make its first interest rate cuts in June 2024. Overall, we expect up to three such cuts in the coming year. Base rates in the U.S. currently range from 5.25% to 5.5%. However, there is still the possibility that inflation could have second first-round effects, for example if oil prices were to rise significantly again in 2024. This could delay any easing of monetary policy.

In Europe, we expect the monetary policy trend to be fundamentally similar to that in the U.S. We currently also expect the ECB to make up to three interest rate cuts in 2024. However, it is important to bear in mind that European employees are still experiencing significant real wage losses and that wage pressure is likely to increase due to an all-time low in the unemployment rate and the growing shortage of skilled workers. In addition, rising energy prices and the effects of the major fiscal stimulus from the NextGenerationEU fund could prove to be an additional driver of inflation in the long term. The full-year inflation rate in 2023 could reach 5.7% in the Eurozone and 6.0% in Germany. Next year, we are forecasting inflation of 2.9% in the Eurozone and 3.2% in Germany.

Annual inflation rates have fallen significantly, partly as a result of lower energy prices, but also due to restrictive monetary policies.

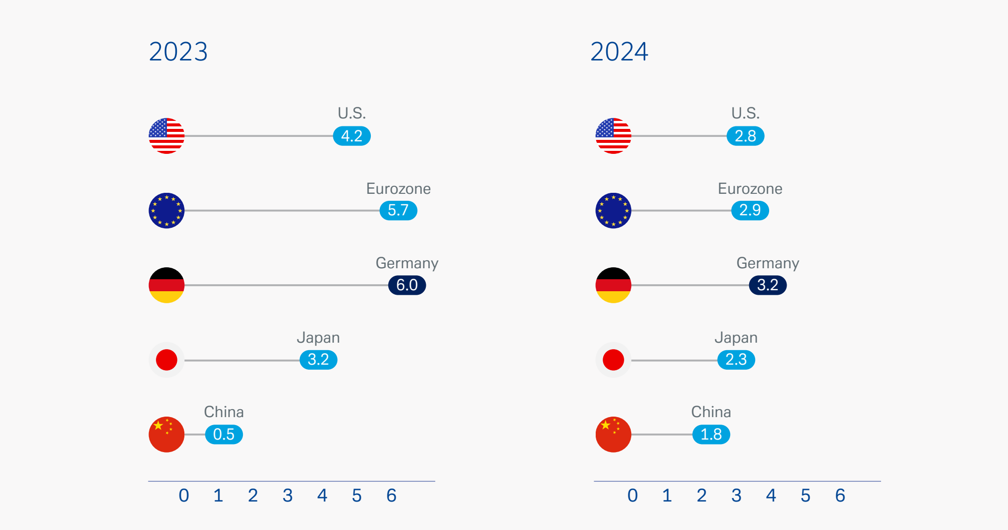
With a forecast of 3.2% for 2023 overall and 2.3% in 2024, Japan has a less pronounced inflation problem. There is actually some satisfaction in the country that inflation has returned after decades of recurring deflationary phases, even though inflation has recently been above the Bank of Japan's (BoJ) target level of 2%. Next year, the BoJ is likely to raise the base rate from the current -0.1% to slightly above the 0% mark for the first time since 2016.

China has recently experienced particularly low inflation and even some deflationary tendencies. While this was mainly due to the sharp fall in food prices, the lower price levels cast a rather unfavourable light on domestic demand. As a result, the People's Bank of China has increased monetary easing on several occasions and additional steps may follow.

Across all regions, the necessary transition to a green economy could have an inflationary effect in the long term. This is because sustainable change will inevitably lead to higher demand for commodities and to price increases, for example for industrial metals. In particular, the expansionary fiscal policy in many countries seems to be playing a significant role here – the correlation between government investment measures and prices is one of the lessons learned from the period of hyperinflation in the 1970s.

Inflation forecasts lower, but they remain elevated

Consumer price inflation forecasts for selected economies compared to the previous year (%)



Source: Deutsche Bank AG; Forecasts as of November 15, 2023.

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Bonds: Real rates matter

- Bonds now a fully fledged part of the investment universe after many years of low yields.
- Investment grade has it all: Interesting real yields and low default rates.
- Corporate bonds more appealing than government bonds due to yield pick-up and sound fundamentals .

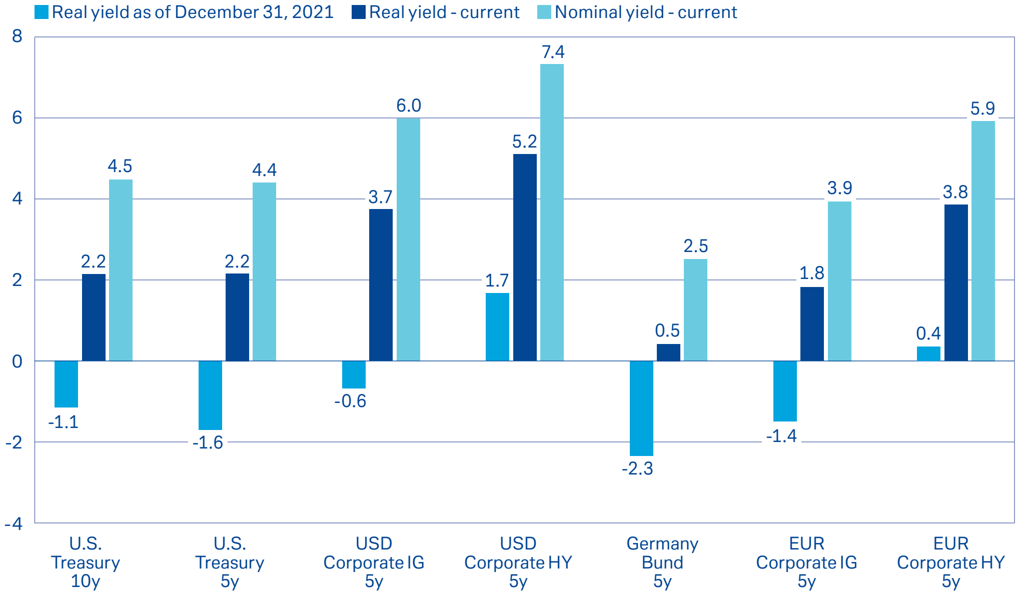
Looking back at our outlook last year, our bond forecast for 2023 has been confirmed. With inflation rates falling and interest rates rising, a certain balance was achieved on the bond market over the course of the year. As a result, after years of extremely low interest rates, the investment universe is now complete again thanks to the renewed attractiveness of bonds as an asset class – and is likely to remain so for the foreseeable future in our opinion.

The development of real interest rates, i.e. adjusted for inflation, gives potential fixed income investors grounds for satisfaction. They are now in the positive territory – in some cases significantly so – in all major bond market segments. This means that investors do not necessarily have to hope for price gains by their securities due to interest rates possibly falling again soon. In our opinion, real interest income alone is currently reason enough to invest, although we expect interest rates to fall slightly in 2024 and, as a result, also expect moderate upside potential for prices.

In 2024, we expect mid- to high-single-digit percentage value growth on most of the world's bond markets. Corporate bonds are likely to be more interesting than government bonds due to their yield pick-up and sound fundamentals. Investment grade (IG) has it all, offering interesting real yields and low default rates. By contrast, high-yield (HY) bonds usually harbour high risks due to their lower credit rating in an environment of weaker economic data and rising insolvency rates and are likely to be considered by many investors as a niche investment only. As far as maturities are concerned, we consider a mix of short-term (1 to 2 years) and longer-term (up to 10 years) securities to be advisable – with an average of around 4 to 5 years.

Real and nominal yields have risen significantly

Real and nominal yields in various bond sectors and at different times in selected countries and regions (%)



Source: Refinitiv Datastream, Deutsche Bank AG; Data as of November 15, 2023.

From a regional perspective, U.S. bonds offer a clear yield advantage over the European market for example, offering investors from other currency areas a good opportunity to increase the U.S. dollar exposure of their portfolios if necessary. However, we expect the U.S. dollar to weaken somewhat in the months ahead. Currency losses, for example for investors from the Eurozone, could then only be avoided by hedging accordingly, the costs of which would probably exceed the potential yield advantage. Therefore, EUR IG corporate bonds are our preference for Eurozone investors in 2024. Like their U.S. counterparts, they retain good fundamentals and, thanks to higher yields, could benefit from a possible return of capital flows from alternative forms of investment such as real estate.

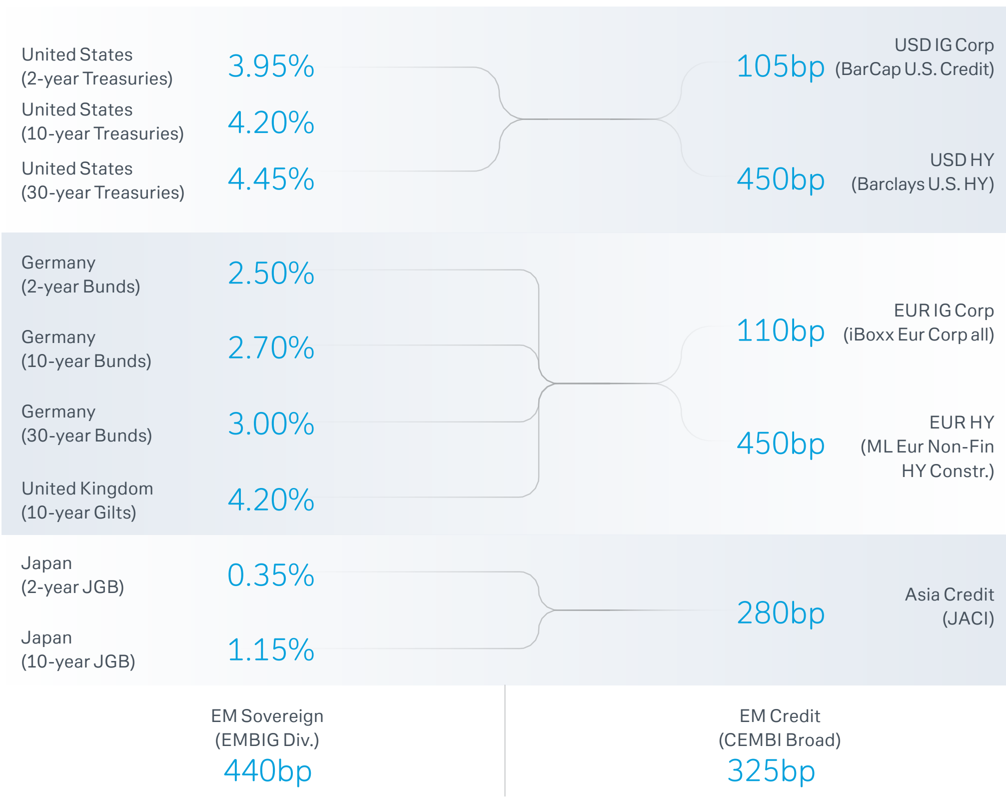
When it comes to Eurozone government bonds, Italy could be of interest. The interest rate difference (spread) to German government bonds (Bunds) is currently around 200 basis points for ten-year securities and could widen slightly in the months ahead. The reason for this premium is political uncertainty in Italy coupled with debate about the country’s budget and national debt. Although we expect some difficult phases, we do not anticipate sustained upheaval in Italy. On the one hand, most Italian government bonds (BBB rating) are held in the country itself; on the other hand, European programmes such as NextGenerationEU or European Central Bank instruments (TPI, PEPP) should provide some reassurance for market participants. By contrast, Bunds offer much greater security with their AAA rating. However, their yield is particularly low due to their virtually unique position as a safe haven in the Eurozone.

The corporate bond markets in the emerging economies are likely to remain largely dependent on China. The economic superpower's moderate growth and low inflation rates should ensure relative calm in this area. In the HY segment, however, the high proportion of Chinese property developers and banks could prove to be a disruptive factor.

EUR IG corporate bonds are our preference for 2024 because they have good fundamentals and could benefit from a return of capital flows from alternative forms of investment.

Fixed income forecasts

Yield forecasts for various government bonds and corporate bond indices for end-2024



Source: Deutsche Bank AG; Forecasts as of November 15, 2023.

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FX: Be careful what you wish for

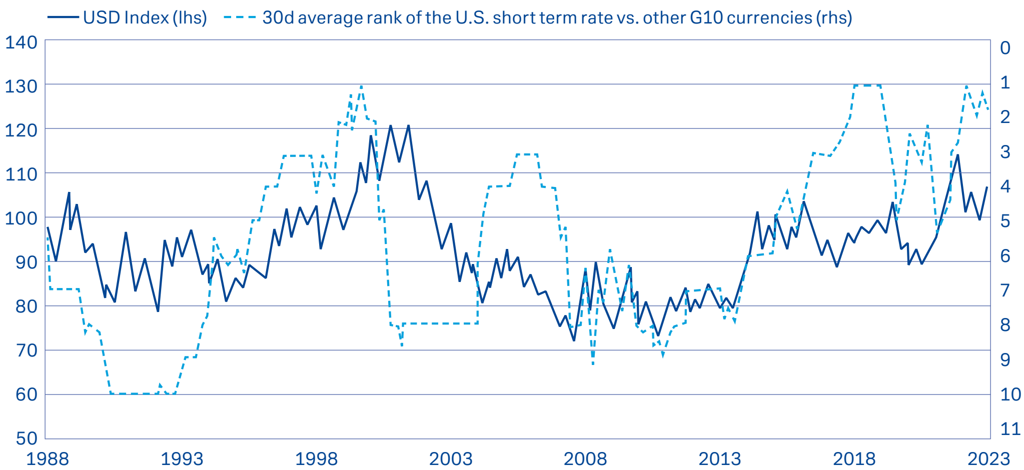
- A stronger USD may cause problems though beneficial for investors outside the U.S.
- A stronger EUR would be a problem if driven by inflation staying higher for longer and a hawkish ECB.
- A stronger yen may point to safe-haven flows and provide headwinds for Japanese earnings.

A high of 1.13 in mid-July, a low of 1.05 in early October – if the EUR/USD range does not widen further in the remaining weeks of this year, it would be the second lowest 52-week range since the introduction of the euro. In our assessment, the world's most important currency pair is likely to remain relatively peaceful over the coming year, too. We expect the EUR/USD rate to be somewhat higher at 1.10 USD per EUR at year end 2024.

As in 2023, the monetary policy decisions of the respective central banks and the expectations of market participants in this regard are likely to have a significant influence on the performance of various currency pairs. Given the recent trend towards parallel interest rate cycles in the U.S. and the Eurozone, the interest rate spread between two-year German Bunds and U.S. Treasuries with corresponding maturities has hardly changed in the current year. We expect similar developments in 2024 if both central banks enter a cycle of interest rate cuts more or less simultaneously.

U.S. dollar benefiting from the elevated interest rate environment in the U.S.

U.S. dollar strength (USD Index in index points) compared to the relative level of key U.S. interest rates vs. other G10 currencies (rank)



Source: Refinitiv Datastream, Deutsche Bank AG; Data as of November 15, 2023.

In the meantime, the greenback's safe-haven function could be strengthened by a rise in geopolitical crises, although such a development has so far failed to materialise in spite of the recent escalation of conflict in the Middle East. This is possibly due to the fact that market participants had already increased their USD investment beforehand as the U.S. dollar had already appreciated noticeably in the run-up to the conflict. Investors from currency areas outside the U.S. who already have U.S. stock holdings and other USD investments tend to make gains as the U.S. dollar appreciates. However, a strong greenback makes U.S. investments more expensive for new investors.

As in 2023, the monetary policy decisions of the respective central banks are likely to have a significant influence on the performance of various currency pairs.

A stronger EUR would be problematic if the ECB makes its monetary policy more restrictive than the Fed to combat long-lasting higher inflation rates, for example, due to second-round effects such as significant wage increases in Europe. We do not expect there to be a recession in the Eurozone in 2024, and its absence could support the euro, too. This would only be partially favourable for the export-oriented European economy, as a stronger domestic currency would make goods more expensive for buyers outside the Eurozone and could therefore have a negative impact on sales.

The performance of the Japanese yen has been extremely weak this year. However, this should change in the coming year if the Bank of Japan (BoJ) becomes the only major central bank in the world to raise its key rate on a sustained basis. The rate has been -0.1% since 2016 and a potential rate hike could send the interest rate at least marginally higher than the 0% threshold. Japan's government also passed a comprehensive economic stimulus package in early November with the intention of promoting wage growth among small- and medium-sized companies, among other things. However, Japan is unlikely to have an interest in a yen that is too strong since that could put pressure on the country's export-oriented companies and therefore also on the Japanese stock market.

The Chinese renminbi should prove to be relatively robust over the next year in comparison with other major currencies, at least if China meets expectations and is able to return to stabilising growth of roughly 5%, well above the global average. It should be noted that the People's Bank of China intervened regularly and consistently in the past to help the renminbi's exchange rate approaching a level in line with Beijing's general interests.

FX forecasts

Forecasts for exchange rates of major international currencies for end-2024

EUR vs. USD	1.10
USD vs. JPY	146
EUR vs. JPY	161
EUR vs. CHF	0.98
EUR vs. GBP	0.87
GBP vs. USD	1.27
USD vs. CNY	7.35

Source: Deutsche Bank AG; Forecasts as of November 15, 2023.

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Stocks: Growth comes at a price

- 10% earnings growth expected globally for 2024, Europe slightly lower.
- In the longer term, high rates for longer should limit valuation increases.
- U.S. equities dominant, Europe and Japan worth a closer look, India for the long run.

Moderate economic growth, declining inflation, and the prospect of interest rate cuts by the central banks – the economic environment for the stock markets in the year ahead looks benign, not least because history shows that company profits decline only very rarely outside periods of recession. Although it will not necessarily be easy for companies to carry the good earnings of recent months into 2024 as the economy is expected to slow, we are convinced that it should indeed be possible for the most part. In 2024 we expect 10% EPS growth globally, low double-digit EPS growth in the U.S. and high single-digit EPS growth in Europe. This still puts our forecasts slightly below those of the global analyst community.

Looking at the performance of the major benchmark indices, it is noticeable that share prices in many regions have not yet returned to the record highs seen at the end of 2021. This applies to both the S&P 500 in the U.S. and the Stoxx Europe 600 in Europe. Due to the tangible increase in corporate earnings expectations since then, share valuations there have fallen accordingly. The latter also applies to the MSCI China and, to a lesser extent, to the MSCI Japan.

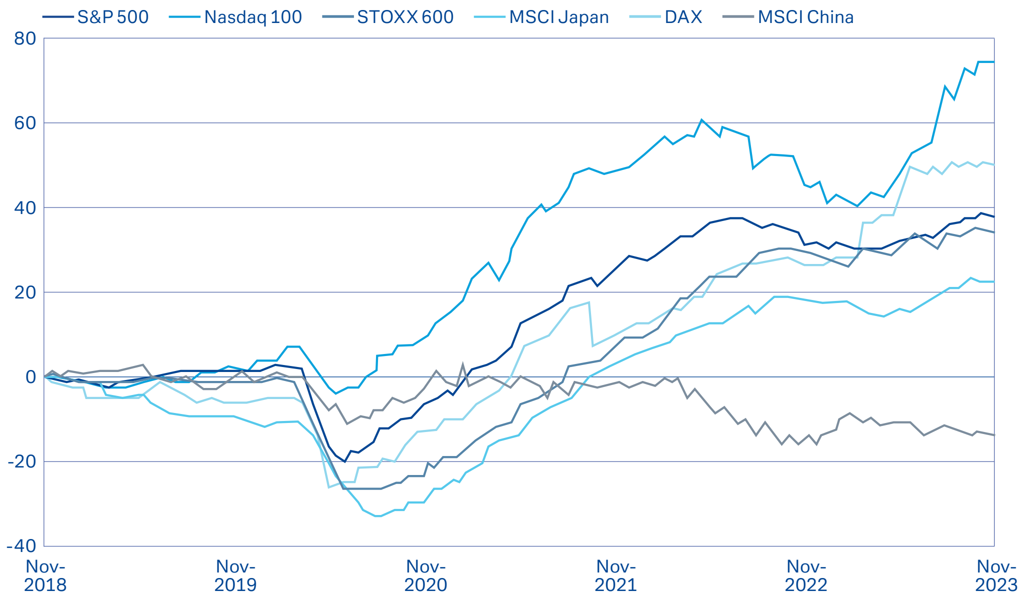
There is no general indication that the stock markets are overheating. On the contrary: we continue to see interesting share price potential in the major markets in 2024. However, given our expectation that interest rates will remain elevated for the foreseeable future in the U.S. and Europe, valuations are unlikely to increase significantly which means that the share price potential at index level should develop roughly in line with the respective corporate earnings expectations.

There is no general indication that the stock markets are overheating. On the contrary: We continue to see interesting share price potential in the major regions in 2024.

In regional terms, the U.S. appears the most interesting market for equity investors despite high valuations, especially as we expect the U.S. economy to avoid a recession (soft landing). The market offers unique exposure to seminal themes such as artificial intelligence, digitisation, and cloud computing. We believe that the European equity market is worth a closer look, also due to comparatively low valuations, especially as China – an important trading partner – seems to have got back on track economically. For investors looking for exposure to Asia, Japan particularly alongside China, where we expect high earnings growth in 2024 in an environment of favourable valuations, is a promising option. However, we also

Significantly higher profit expectations than in 2021

Development of earnings per share based on earnings expectations for the next twelve months in selected leading equity indices in local currency (Values indexed: November 2018 = 0)



Source: Refinitiv Datastream, Deutsch Bank AG; Data as of November 15, 2023.

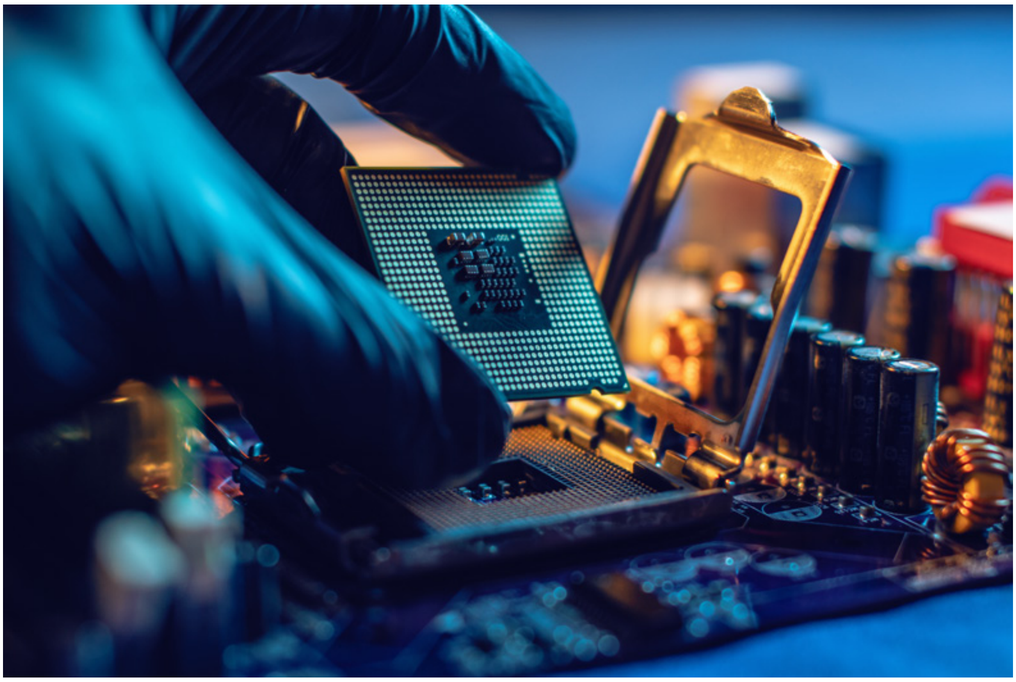
see a high degree of sensitivity to geopolitical risks in the latter. India remains an option for investors with a long-term investment horizon. Although share valuations there are very high, so too are the growth prospects – in part due to the strong domestic market.

Equity index forecasts

Forecasts for price levels of major equity indices for end-2024 (Index points)

United States (S&P 500)	4,700
Germany (DAX)	16,600
Eurozone (Euro Stoxx 50)	4,400
Europe (Stoxx 600)	465
Japan (MSCI Japan)	1,520
Switzerland (SMI)	10,700
United Kingdom (FTSE 100)	7,400
Emerging Markets (MSCI EM)	1,010
Asia ex Japan (MSCI Asia ex Japan)	640
Australia (MSCI Australia)	1,400

Source: Deutsche Bank AG; Forecasts as of November 15, 2023.



7

Sectors: Banking on tech

- U.S. growth stocks are highly valued, justifiably in our view (highly profitable firms).
- Weak global economic growth, remaining growth segments/growth stocks in demand.
- Industrials, consumer discretionary and financials (insurers & banks) – focus on Europe.

While we expect single-digit percentage price gains by the lead indices in the major equity markets in 2024, it could be worthwhile for investors with a greater appetite for risk to look below the surface of the indices at the individual sectors in search of higher returns. In an environment of weak global economic growth, the focus should remain on growth stocks, i.e. those that have proven to grow earnings at an above-average rate compared with the market as a whole. These are found mainly – but not exclusively – in the U.S. However, a closer look shows Europe and Asia are home to many growth companies as well. Generally speaking, we think large cap stocks should continue to outperform their smaller peers as they are less sensitive to interest rates. Only once interest rate headwinds subside and a more sustained economic recovery is visible should small cap stocks be able to make up ground.

From a regional perspective, the U.S. equity market is particularly attractive for investors when it comes to growth companies – thanks to its global leaders in IT, communication services and discretionary consumer goods, including electric vehicle producers and online retailers. It is these highly profitable major corporations in particular that have again contributed the lion's share to the S&P 500 gains this year. We therefore currently see little reason why this should change in the year ahead. The U.S. offers investors the world's greatest access to companies in future-oriented sectors such as artificial intelligence, cloud computing, software and hardware. However, this quality comes at a price. The valuations of U.S. technology companies are high – but so are their margins and return on equity (RoE).

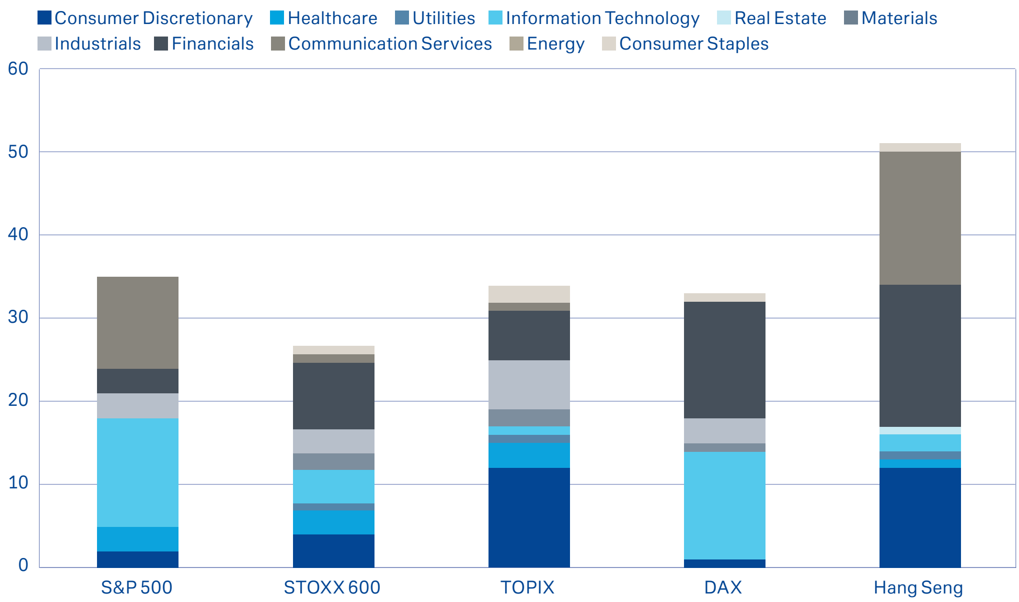
For other growth sectors, it might be a good idea to look at the more favourably valued European equity markets. This applies to industrial stocks, for example. Moreover, there are many global market leaders here, particularly among the companies involved in the green transformation of the economy – for example, in the areas of renewable energy and semiconductors. In addition, Europe has a very strong luxury goods sector which we again view more positively in the long term in anticipation of improving global consumer sentiment.

In an environment of moderate economic development, the focus is likely to remain on growth stocks, whose earnings outperform those of the market as a whole.

Investors could also add the financial sector (insurers and banks) to their watch list. With their deposit and credit business, banks in particular are likely to continue benefiting from the higher interest rate regime while investment banking should start to recover in

Where to find the growth

Share of companies expected to grow earnings at an average annual rate of more than 10% over the next 5 years (%)



Source: Refinitiv Eikon, Deutsche Bank AG; Data as of November 15, 2023.

anticipation of no further interest rate hikes. In Europe, bank shares are currently valued at a particularly low level with a P/E ratio of six times expected earnings over the next 12 months. A mix of dividends and share buybacks could deliver an attractive shareholder return in the low double-digit percentage range in 2024. We take a similar view of trends in Japan. U.S. banks are already valued quite highly compared to their international peers and face elevated regulatory scrutiny. Insurance sector stocks are slightly more defensive than bank shares but are equally attractive.

Overall, we see less upside potential for defensive sectors such as utilities, healthcare and consumer staples, i.e. traditional defensives and bond proxy stocks. The latter have the classic characteristics of bonds – stable returns and lower volatility – and are therefore considered by some investors to be a higher-yielding alternative to bond investments. However, due to the increase in bond yields, the migration from these equity segments could continue in 2024 – although a clear distinction must be made between individual companies.

8 Commodities: Terms of trade

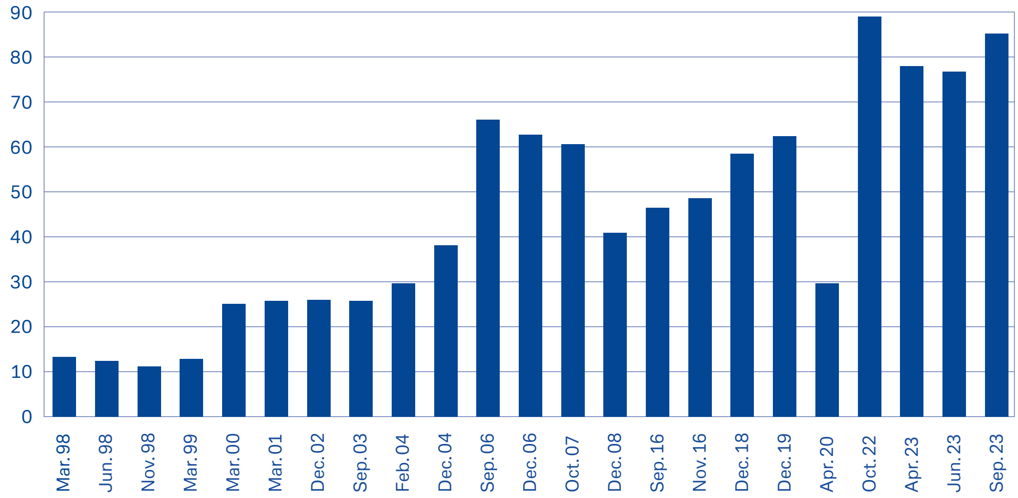
- Oil markets relatively calm at the moment with a higher price level expected for 2024.
- Gold remains appealing as a hedge. However, risks include headwinds from a stronger dollar against some EM currencies and the possibility of fewer cuts by the Fed than expected.
- Limited supply and structural demand likely to support copper / industrial metals.

Oil markets have seen a turbulent few months. Following a significant increase over the summer and prices of more than USD90 per barrel in September, prices for the Brent and WTI benchmarks fell sharply and fluctuated until early November. The reasons for the downward trend included forecasts by the U.S. government that per capita demand from U.S. citizens could fall to its lowest level in 20 years in 2024, while U.S. oil production may have already peaked. The lifting of U.S. sanctions on imports of Venezuelan oil in the wake of the electoral reforms by the Venezuelan government under Nicolás Maduro is also likely to have supported the price trend. In addition, the feared supply shortfalls following the Hamas terrorist attack on Israel on October 7 – which had initially sent prices rising again for a few days – did not materialise.

However, oil markets are relatively calm at the moment and we expect oil prices to stabilise at a higher level in the coming months. In particular, the voluntary production cuts by OPEC+ countries, which have been in place since spring 2023 and currently total around 2.97 million barrels per day, should support prices in the medium term. OPEC+ will remain price sensitive and will only taper cuts in a way that does not significantly dent prices. Recently, OPEC+ itself has repeatedly decided to cut production even in times of higher oil prices – according to a recent announcement, the members will cut their production between January and March by a further 2.2 million barrels per day. Moreover, major oil-producing countries such as Saudi Arabia and the United Arab Emirates need large amounts of capital to finance the transformation of their fossil-fuel-based economies. They are therefore likely to favour high oil prices. At the same time, it seems unlikely that the U.S. will be able to expand its production in 2024 beyond the record levels already achieved, especially as the rig count – the number of U.S. oil production sites being drilled – has recently fallen slightly.

OPEC: Production cuts despite higher price levels

Price levels for Brent crude oil five days before an OPEC decision in favour of (further) production cuts (USD per barrel)



Source: Refinitiv Datastream, Deutsche Bank AG; Data as of November 15, 2023.

On the demand side, record levels have been observed since autumn 2023 with an average of 103 million barrels per day. The reasons for this are likely to include the partial substitution of Russian natural gas with oil products and China's robust, even if somewhat weaker, economic development. If there is a gradual economic recovery in the U.S. in the second half of 2024, which is what we expect, this should provide additional support for oil demand and thus for pricing at higher levels. Our price forecast for Brent is USD88 per barrel at year end 2024.

In contrast to the oil price, the price of gold reacted to the conflict in the Middle East with a significant rise over a period of several weeks. The precious metal has thus confirmed its role

With the expected end of the interest rate hike cycles, the price of gold might exhibit additional potential and take on a hedging function as an addition to portfolio mixes.

as a safe haven in times of economic and political crisis. This correlation could support the price of gold in 2024, too. While we expect some temporary strengthening of the USD, the resistance that has been caused by the Fed hiking cycle should dissipate as the market starts preparing for cuts. Gold, which pays neither interest nor dividends, traditionally becomes less attractive than investments such as bonds in times of rising interest rates. With the expected end of the interest rate hike cycles, the price of gold might exhibit additional potential and take on a hedging function as an addition to portfolio mixes. We expect the price of gold at the end of 2024 to be USD2,250 per troy ounce.

Limited supply and the structural demand situation appear likely to support the prices of copper and industrial metals in 2024. As the world's largest buyer of industrial metals, China continues to have a significant influence on prices in the markets for industrial metals. Although the current economic situation in China is rather weak, an expected recovery in 2024 and 2025 could provide further support for the copper price. We also expect the pressure on demand from outside China to start easing. Added to this is the ongoing global demand pressure in connection with the expansion of renewable energies. For context, a single modern wind turbine, including infrastructure, requires up to 30 tonnes of copper. We therefore see upside potential for the price of copper, especially as high development costs for new copper mines and increasing protests at the local level in key producing countries mean that a significant increase in production is unlikely in the foreseeable future.

Commodity forecasts

Forecasts for gold, oil and copper prices for end-2024 (USD per troy ounce (gold), USD per barrel (Brent crude) and USD per metric ton (copper))

Gold	Oil (Brent Spot)	Copper
2,250	88	9,050

Source: Deutsche Bank AG; Forecasts as of November, 15 2023.

9

Alternatives: Asset-backed value

- As stocks and bonds move in lockstep, alternative risk premia should be added to portfolios.
- Property markets are likely to resume upward trend as rates peak and revert moderately.
- Private infrastructure has hardly corrected and is a reasonable inflation hedge.

As stocks and bonds move in lockstep, alternative investments such as private equity, property or infrastructure should be added to portfolios. In the case of property and infrastructure this is because their ongoing returns are regularly adjusted to inflation. A distinction should be made between exchange-traded and non-exchange-traded investments. One advantage of unlisted or private property and infrastructure investments is that they generally have a relatively low correlation with other asset classes. In this respect, they can make a key contribution to portfolio diversification.

The rise in interest rates is leaving a clear mark on international property markets. Since the beginning of 2022, property prices worldwide have fallen by about 10-20%, though they are now likely to have bottomed out in many markets. With market participants now seemingly having priced in the rise in interest rates, property markets are likely to resume their upward trend and recover moderately in 2024. The residential and logistics sectors offer particularly robust fundamentals. In our opinion, the focus should be on high-quality properties and overall prudent investment in relation to segments and regions.

We assume that once the interest rate shock has passed, residential property prices will stabilise at a high level for the foreseeable future and then offer upside potential again. The reasons for this assumption are the moderate monetary policy easing expected by the major central banks in the coming year in conjunction with real wage increases, a largely recession-resistant global economy and, above all, a continuing lack of supply in many places.

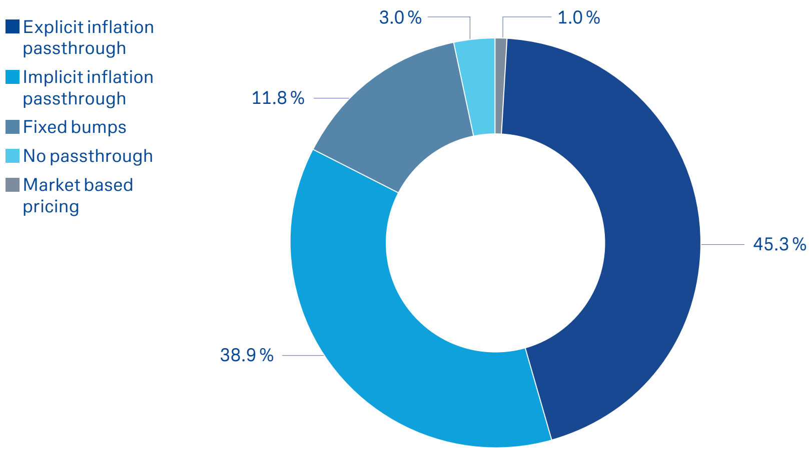
The last of these factors is unlikely to be abated in the short term by the current, rather weak construction activity and should also support growth in rents, especially as construction costs remain at a high level and are likely to slow down new construction further.

In an environment of higher inflation rates, alternative investments such as property or infrastructure can provide an appealing balance in portfolios.

A selective approach to commercial property may be advisable for potential investors in 2024. Due to the expected further growth in online retail, the logistics segment seems appealing to us, as does the leisure segment with restaurant, hotel and tourism properties having regained strength since the end of the Covid-19 pandemic. By contrast, we see relatively weak prospects for retail properties away from tourist hotspots and lively city centres as well as for office properties, with the exception of high-quality, energy-efficient, green buildings in good locations.

Infrastructure investments with inflation protection

Some 84% of pure-play infrastructure provides full inflation hedging and 13% provides partial inflation hedging.



Source: DWS, FactSet, Bloomberg; Data as of September 30, 2023.

With explicit inflation passthrough, an inflation hedge is inherently built in to underlying infrastructure contracts and leases because companies can raise prices to pass on increased costs. With implicit inflation passthrough, an inflation hedge is not inherently built in to underlying infrastructure contracts and leases, but companies' earnings adjust to inflation on a lagging basis. With fixed price bumps, underlying contracts have usage rates that increase over time, but these rates are not tied to an inflation measure. With market-based pricing, companies earn revenues subject to market rates, which reflect inflationary pressures. With no inflation passthrough, assets do not provide an inflation hedge.

Infrastructure investments, similarly to real estate investments, have recently suffered from the high interest rate pressure – albeit to a significantly lesser extent in the case of unlisted assets. The yield expectations for unlisted infrastructure are currently in the low double-digit percentage range, including a dividend share in the high single-digit range.

Listed infrastructure and property companies as well as real estate investment trusts (REITs) might also be worth a look. Such investments have solid profit expectations and are currently trading at up to 30% lower than their peaks in 2022 and in terms of valuation up to 20% below the broad equity market. Although the diversification opportunities lag behind those of their non-listed peers, the potential for price increases appears somewhat higher due to the stronger previous setback.

10

ESG: We're in this together

- Renewables and clean energy are the accepted path in the energy transition.
- However alternative energy producers may still face investment headwinds.
- Understanding ESG investment characteristics remains the key to managing ESG investment's ability to improve portfolio returns and manage risk.

The investment impact of ESG remains complex but important to understand. Consider for example the energy sector and the process of "energy transition" to more sustainable sources. Renewables and clean energy now constitute the accepted transition path away from fossil fuels and solar and wind capacity continues to rise. Some 55% of respondents to our own recent ESG client survey identify the energy transition as one of the three most interesting areas for investors. But the recent performance of clean energy stocks (and associated funds) has often been disappointing, relative to that of some traditional hydrocarbon producers.

Sustainability is part of our lives and our recent investor survey suggests that investors remain strongly focused on it.

To some extent, it can be argued that recent clean energy investment setbacks are a sign of the sector's success. Clean energy is now accepted as mainstream and the fact that it can be classified as ESG investment does not mean that it is immune from normal market and investment considerations.

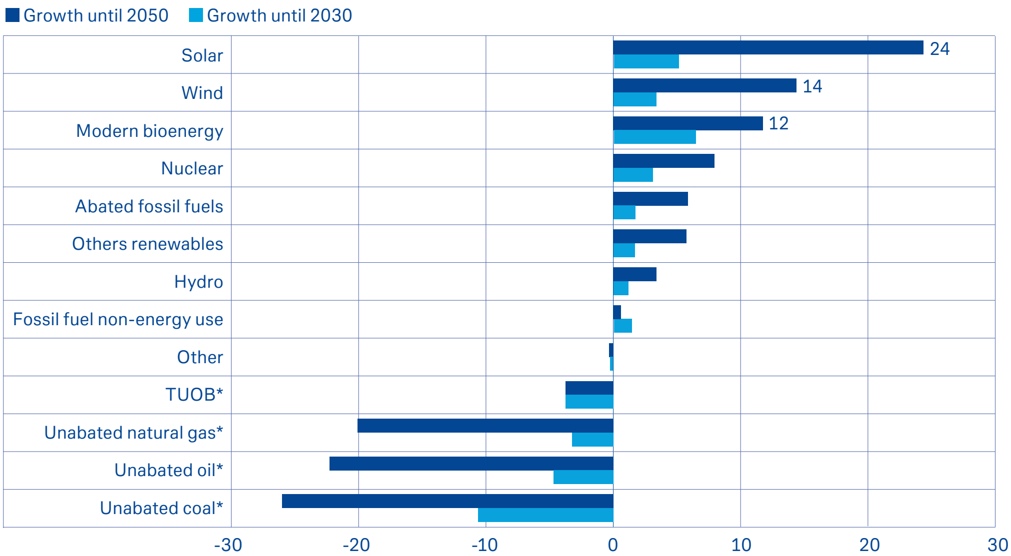
Just like existing hydrocarbon-based firms, clean energy producers are subject to shifting patterns in demand and supply. When supply is tight (e.g. due to the recent disruption in the supply of Russian energy), energy prices go up and suppliers can prosper. But when supply issues are resolved (or, for other reasons, demand dips) then energy prices will fall with implications for all energy firms' profitability.

Alternative energy producers can face particular problems from such shifts in energy prices – and from their implications for whether or not investment will deliver acceptable returns. But clean energy start-ups are also vulnerable to changes in the investment environment itself. Many have been a victim of rising interest rates. Start-ups (in energy or other areas) require debt and higher interest rates can jeopardise their ability to service this. In addition, start-up firms' valuations are often more highly dependent on anticipated future revenue flows than those of incumbents. The more interest rates rise, the more these future flows have to be discounted, reducing a firm's appeal to investors.

As a result, many clean energy stocks' underperformance this year may say more about the rates environment than underlying investor appetite for the green transition. But, whatever the fundamentals, the danger is that such shifting sentiment can then cause stock markets to serve as short-term "voting machines" rather than long-term "weighing machines", to borrow the observation of 20th century economist and investor, Benjamin Graham. Markets vote against a particular sector despite its long-term prospects remaining positive.

Solar energy set to become the world's most important source of energy by 2050

Forecast development in the share of certain energy sources in global energy generation by 2030 and 2050 compared with 2022 (%)



*TUOB = traditional use of biomass. Unabated coal, oil and natural gas refer to the use of these fuels for combustion purposes without CCUS, while abated refers to the use of these fuels with CCUS.

Source: IEA; Data as of November 15, 2023.

Clean energy may provide a bellwether for the investment experience of other ESG sectors driving the transition to a more sustainable economy. Energy is the leading indicator because it meets a key human demand. Fixing it must be central to decarbonisation efforts as it currently accounts for around three quarters of human induced carbon emissions, and we have already had most of the technology to do so. This is a question of implementation, not technological speculation.

There are three lessons for 2024 investments from this year's energy stock performance. First, that we should realise that ESG investment will suffer from many of the same positives and negatives as non-ESG investment. In some cases, temporary headwinds can in fact be worse for ESG investment. Debt burdens, as in any evolving sector, can also trigger a process of market consolidation where only a few major industry players survive – something that has been recently evident in the offshore wind sector.

Second, when looking at investment performance, we need to be careful to take a macro perspective. Over the longer term, the hydrocarbon sector's market performance still suggests an industry in decline. Risks around "stranded assets" – environmentally-problematic resources which regulation or other factors make economically unviable – are very likely to grow.

Third, clean energy and other ESG investments should always be considered in relation to the process of a sustainable transition. Focusing only on exclusion (e.g. not investing at all in any hydrocarbons) may hinder rather than help this transition process. At some point, it may make more sense, in terms of both environmental and financial returns, to invest in existing firms with non-ESG assets that are committed to a path of environmental improvement and carbon reduction (and an ability to show transparent results). As mentioned by the International Energy Agency (IEA), the transition to a clean energy system will be independent of established energy companies, but their involvement could make this transition faster and less costly. Such firms may be able to use balance sheets, existing sales networks and cash generation to deliver rather different return characteristics for investors.

What are the other lessons for the future? Sustainability is part of our lives and our recent investor survey suggests that investors remain strongly focused on it. They are concerned about what will be needed to transition to a more sustainable economy and what will be the best policy approaches. But there is also a need for ESG to show that it can deliver on investment needs. Investors already expect environmental change to impact individual asset classes and there is now a need for portfolio construction to show how it will incorporate this. Understanding ESG investment characteristics remains the key to managing ESG investment's ability to improve portfolio returns and manage risk. Our survey also suggests a preferred investor focus on transition, not exclusion, and we expect credible transition planning to play a dominant role in ESG investment in future.

11 Risks: De-risking risks

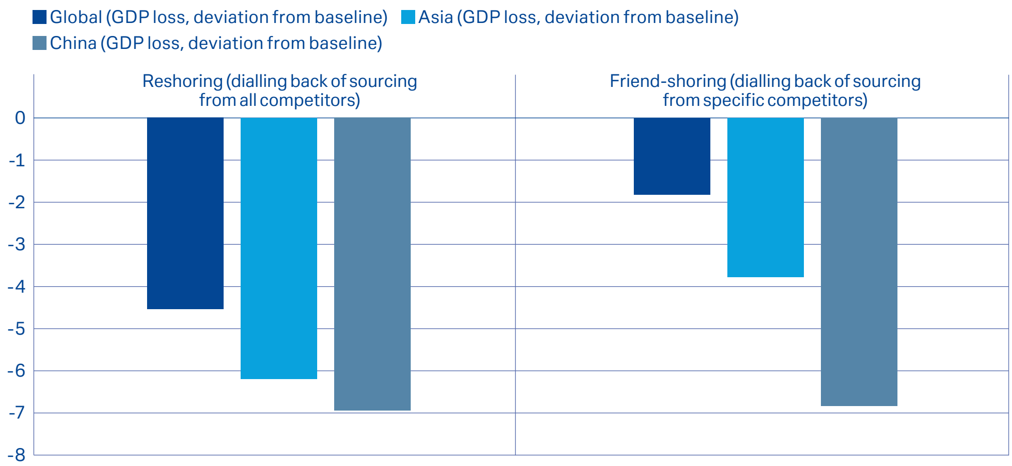
- Measures meant to stabilise supply chains may harbour new risk.
- Societies / politicians still calling for de-risking/ friend-shoring/ nearshoring.
- Beware the bond market: volatility may stay high and affect stocks and other asset classes.

Disruptions to global supply chains were some of the biggest risks to global trade and the global economy, and therefore also for the capital markets, after the outbreak of the Covid-19 pandemic in early 2020 and again after the start of the Russia-Ukraine war in February 2022. The Global Supply Chain Pressure Index (GSCPI), which is published by the Federal Reserve in New York and tracks the pressure on global trade flows, reached its absolute peak at the end of 2021. Although the GSCPI fell to its all-time low in Q1, it has risen slightly since then. Political and business decision-makers are still aware of the potential risks of supply chains being interrupted again.

A buzzword that is often heard in this context is 'de-risking', the intended reduction of trade risk. This includes partial or full relocation of production capacity to the original country (reshoring), to neighbouring economies (nearshoring) or to countries with favourable political and economic relations (friend-shoring). What seems sensible, however, is not without risk.

De-risking could drag down global growth according to the IMF

Gross domestic product (GDP) growth forecast of selected regions in the event of extensive global re-shoring or friend-shoring (%*)



*Source: IMF; Data as of November 15, 2023. *The reduction is the observed change in foreign sourcing for a region that took place between the years 2000 and 2021.*

The International Monetary Fund, for example, has calculated that extensive reshoring and friendshoring would drag down growth significantly, for example by reducing margins – for the economies involved as well as for the global economy as a whole. This is, for example, because companies would need to pay higher wages and operate under stricter regulation.

What's more, potential new partners – India and Mexico in particular are often mentioned in this context – are finding that their growing economies and populations put them in a stronger position to pursue their own interests – both politically and economically. This may mean that manufacturers relocating to such countries will have to design different versions of their products for different jurisdictions and markets, weighing on their margins. Other risk areas that should be monitored closely in 2024 are the high fiscal spending of many countries, which is connected to the extensive investment packages to manage the green transformation of their economies and to the increasing global competition for access to natural resources.

Also at the top of our watchlist are the current and expected geopolitical challenges, which may result not only in human suffering, but also tangible economic consequences. They include the Russia–Ukraine war and its impact on global food and energy security, Israel's war against Hamas and the possible impacts on oil production in the region, the tension between China and Taiwan, the world's most important producer of computer chips; and the ongoing battle between China and the U.S. for technology leadership. Important elections are scheduled in a total of 40 countries around the globe with a combined population of more than 3 billion people in 2024. These countries account for 42% of global gross domestic product. The uncertain outcomes of these elections in the U.S., India, Russia and the EU, for example, are a major source of additional risk, especially as domestic political developments in many countries appear to have an increasingly tangible impact on their respective foreign policy decisions.

While our view on bonds is constructive from an overall investor's perspective, the bond market remains under particular scrutiny. Uncertainty about the details of the Fed and ECB's future rate paths and the resulting adjustments of market participants' interest rate expectations are likely to continue to have a significant impact on asset prices.

Extensive reshoring and friend-shoring would drag down growth significantly – for the economies directly involved as well as for the global economy as a whole.

12

Portfolio: Balanced bull

- Equities: A firm place in the recommended portfolio, but risks have to be closely monitored.
- Bonds: An impressive (yield) comeback, investment universe now completed (stocks & bonds).
- Diversification means taking as many different risks as possible (including alternatives).

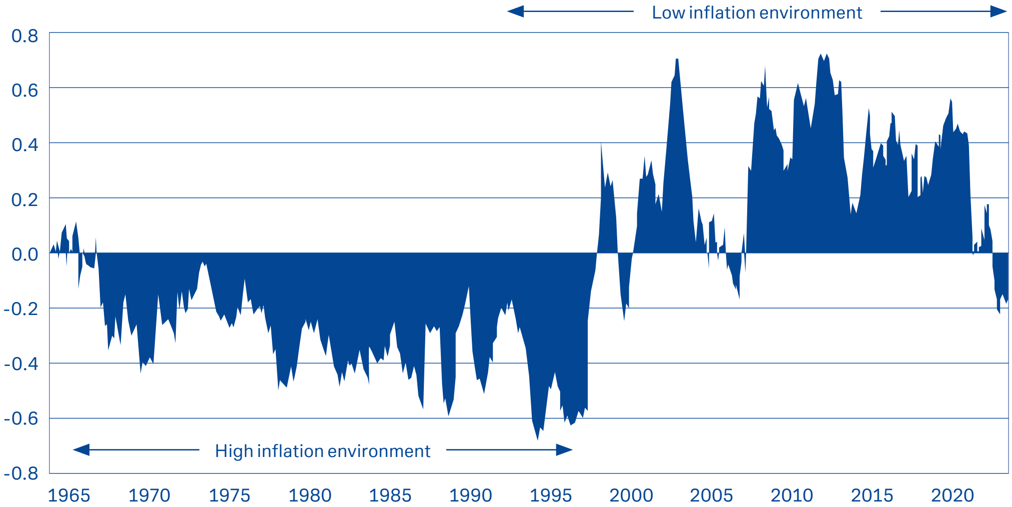
‘There is no alternative’ (TINA) was the name of the game for investors for a long time. With low interest rates in the bond markets and high inflation rates for an extended period, there were hardly any other options to the equity market for those seeking lucrative real rates of return. In line with the expectations in our 2023 Annual Outlook, this situation has gradually dissipated in an environment of rising interest rates and declining inflation this year. We also believe there will be a wide range of interesting alternative investments in 2024.

In an economy with comparatively low growth, investors should try more than ever to identify the areas that offer above-average potential – even though this will require the close monitoring of the corresponding investment risk. Naturally, this mainly means equities – especially those in sectors such as technology, consumer discretionary and communication services, i.e. classic growth stocks. We also see the bond market as appealing, on the back of an impressive yield comeback, although it is susceptible to fluctuations, and corporate bonds with good credit ratings from Europe and the U.S. are particularly interesting. There are also alternative investments, from property to infrastructure and private equity investments.

With regard to portfolio structure, diversification – taking as many different risks as possible – is particularly important in such a challenging investment environment. If equity and bond markets are highly correlated, as should be expected for the foreseeable future, other forms of hedging will be needed. Alternative investments can offer a possible solution

Stocks and bonds in lockstep?

Changes in the correlation between stocks and bonds in the U.S. (S&P 500 vs. Treasury 10y) in differing inflation environments



Source: Refinitiv Datastream, Deutsche Bank AG; Data as of November 15, 2023.

for this as they often develop independently of general market events. Investors can also invest in as many different 'sources of risk' as possible simultaneously to reduce their overall portfolio risk. In some circumstances, this might include an ESG strategy targeting investments that focus on environmental, social and governance aspects. They not only help improve the risk/return ratio in a portfolio, but also reduce the risk of 'stranded assets', i.e. investments in sectors or companies whose assets lose significant value due to regulatory restrictions or a switch to new technologies. We believe that gold is more of a hedging instrument than an investment and that it should therefore only be added to portfolios to a limited extent.

The large number of external geopolitical and economic risks should prompt investors to exercise caution in 2024 as major market fluctuations are possible at any time. However, based on our assessment, we recommend active and dynamic portfolio risk management – which should include a broad range of different asset classes – much more than being generally reluctant to invest.

We recommend active and dynamic portfolio risk management much more than a general reluctance to invest.

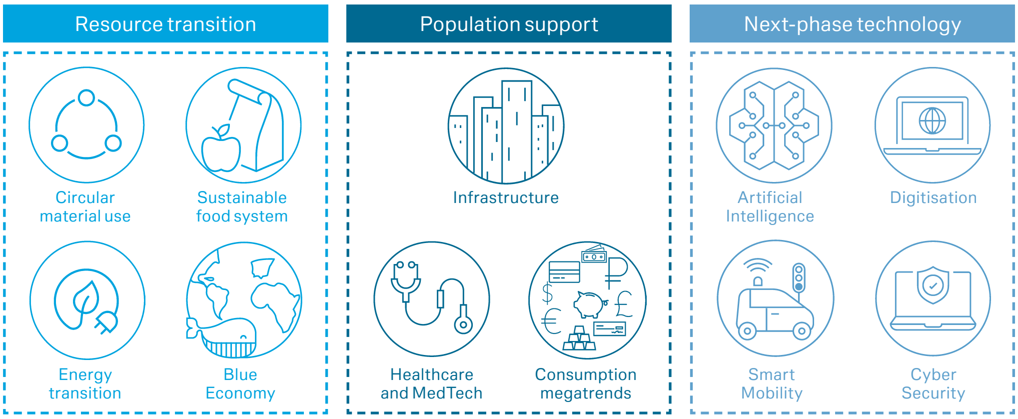
Our long-term investment themes (LTIT)

We now have 11 long-term investment themes (LTIT) grouped into three broad areas: Resource transition, Population support and Next-phase technology. We see these as the key global challenges: how to sustainably utilise and conserve our global resources; how to provide for the global population, and how to develop key technologies to help us all do this.

The division of the LTIT into these three areas is shown in the figure below.

Our eleven long-term investment themes

We group these into three broad areas: Resource transition, Population support and Next-phase technology



Source: Deutsche Bank AG; as of November 15, 2023.

There are a few changes to our existing themes for 2024. The previous Land Resources theme is split into two separate themes – Circular material use and Sustainable food system, for reasons we discuss below. We refocus the previous Millennials and GenZ theme to a more explicitly consumption-related theme – Consumption megatrends. We also add a new theme – Digitisation – to our Next-phase technology group.

Circular material use (new theme)

What

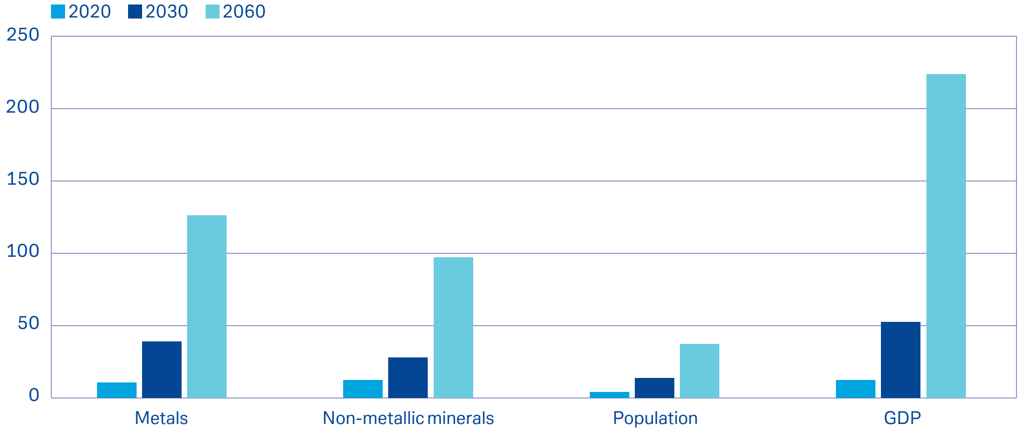
Sustainable use of resources is economically and environmentally essential. Circular material use (part of our previous Land resources theme) concentrates on how we can use material resources – e.g. metal ores, non-metallic minerals and plastics – in a more sustainable way, for example through recycling. This will both reduce CO_2 emissions substantially and support many of the 17 United Nations Sustainable Development Goals (SDGs).

Why

Global primary materials use is expected to nearly double from 89 gigatons (Gt) in 2017 to 167 Gt in 2060.[1] Metal ores (iron, aluminium, copper and other non-ferrous metals) account for around 10% of this but non-metallic minerals (sand, gravel, limestone) account for the greatest share of primary materials use. We need to boost secondary material use but recycling rates vary widely. For lead, recycling rates have risen to more than 50%, but steel is below 30% and secondary shares for aluminium, zinc and copper are even lower. Many non-metallic minerals are currently too cheap or too difficult to be recycled, but some can be downcycled (into lower-value products). The OECD expects the recycling sector to more than triple in size by 2060 and this is reflected in their forecasts of extraction vs. GDP growth. One important challenge is to incorporate circular materials use into high expected infrastructure growth in the emerging markets.

Global primary materials use is expected to double by 2060

Projected global materials extraction increase versus global population and gross domestic product (GDP) growth compared to 2017 levels (% increase)



Source: OECD, Deutsche Bank AG; Data as of 2019.

How

The shift to circular economy principles needs to be complemented by conservation of resources and regeneration of nature. Recycling and recirculation (reuse) are interlinked. Opportunities are likely to occur at all stages of the value chain, from product design (e.g. recyclability of components, reduction of overspecification), through production and consumption methods. Investment can be made in individual companies or via broad circular economy indices, or other ESG indices. Private markets may be an interesting way to approach this area.

Risks

Risks: Investment will be affected by the economic viability of circular approaches (dependent on primary/secondary materials prices and available technology), regulatory frameworks and changing consumer needs and preferences. Tech-based circular economy firms may offer potential high performance, but with an increased degree of risk.

Sustainable food system (new theme)

What

A sustainable food system delivers food security in a way that is economically sustainable (i.e. profitable), is socially sustainable (has broad-based benefits for society) and environmentally sustainable (has a positive or neutral impact on the environment).

Why

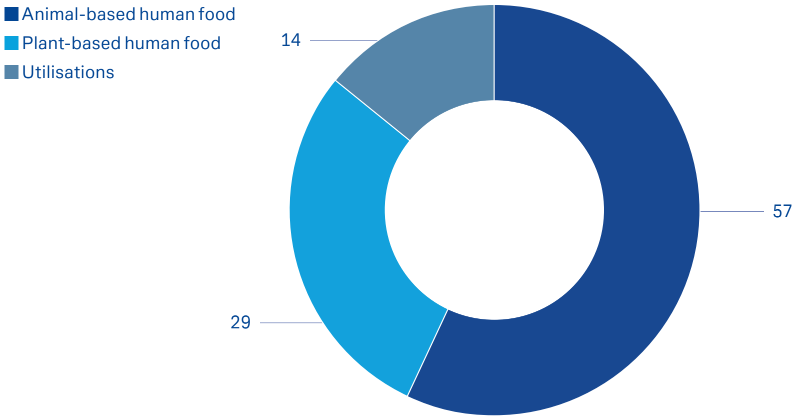
Food is one basic human necessity. But how we produce and consume it contributes greatly to climate change – it accounts for around one-third of global CO_2 emissions. Expansion of agricultural production is the largest driver of biodiversity loss and deforestation worldwide, accounts for 70% of the world's freshwater withdrawals and has many other environmental impacts.[2] Hidden social, economic and environmental costs of the food system may already equate to USD12 trillion a year.[3] A growing global population and climate change are likely to put the global food system under increasing strain in coming years, with implications for many people's food security.

How

A range of opportunities exist at all stages of the supply chain – e.g. sustainable practices, land regeneration, rural infrastructure, water management and flood risk mitigation, carbon sequestration, innovative food production, innovating distribution systems (packaging), not forgetting the power of food retailers to influence both production and retail trends. Priorities include reshaping public support schemes to support food security (rather than overproduction), social protection systems that are equitable and many have other social objectives (e.g. reduction of sugar consumption), and making sure that individual financial models are scalable. Public sector development institutions will have a role to play here in using their capital as a catalyst in specific projects and via financial instruments (e.g. food system bonds) which can then attract private finance (so-called blended finance).

Animal-based food causes most emissions

Share of greenhouse gas emissions from human food sources in total emissions of the global food industry (%)



Source: Nature Food[4], Deutsche Bank AG; Data as of 2021.

Risks

Despite attempt to change it, the food system and investments in it are likely to remain vulnerable to climate change and both international and domestic economic and political factors. Tariffs/subsidies and other international trade restrictions are examples of how these factors affect food supply.

Energy transition

What

The energy transition will involve a shift to renewable sources to reduce dependence on fossil fuels; decentralisation of energy systems (including new distribution systems) and improved technological and operational efficiency (e.g. through better energy storage solutions).

Why

Energy accounts for 73% of human-induced greenhouse gas emissions, meaning that the energy transition is central to global efforts to combat climate change. The transition will offer substantial investment opportunities across a wide range of rapidly developing sectors, such as renewable energy, energy storage and energy efficiency. Government policy is increasingly supportive: the U.S. solar industry, for example, is forecast to nearly triple in size (installed capacity) over of the next five years, thanks to the long-term policy certainty provided by the 2022 Inflation Reduction Act (IRA).

How

Consider investing in companies engaged in the production of renewable energy, such as solar and wind power, although oil and gas companies with credible transition targets and strategies will also play a meaningful role in the energy transition. Also look at companies developing innovative energy storage technologies, which are crucial for enhancing grid stability, and firms that provide solutions to improve energy efficiency across industries and buildings (which may account for more than 40% of the expected reduction in energy-related greenhouse gas emissions).

Risks

Shifting political landscapes and evolving regulations will impact the energy transition: consider both trade and manufacturing dependencies (e.g. U.S./China) and concentration of some natural resources in a few countries. Rapid change also brings technological and operational risks, for example setbacks in new technologies, unforeseen technical issues, or delays in scaling up innovations. Fluctuations in energy prices, inflation, or interest rates could influence the pace of the energy transition and affect the profitability of related investments. Changing costs of capital could, for example, potentially change the competitive dynamics between renewables and fossil-fuel-based energy.

Blue Economy

What

A Sustainable Blue Economy provides social and economic benefits for current and future generations; restores, protects and maintains diverse, productive and resilient ecosystems; and will be based around clean technologies, renewable energy and circular material flows. Recent UN agreement on the High Seas Treaty, a legal framework that creates protected maritime areas and sets 2030 targets to maintain the health and biodiversity of the oceans, help accelerate interest in the area.

Why

Sustainable practices in the Blue Economy contribute to the long-term viability of marine resources and are important for individual economies and societies. The Ocean and coastal ecosystems are vital to the livelihoods of billions of people. Sustainability is likely to be linked to future corporate health: seafood companies that do not act in a sustainable way, for example, face declining fish stocks, revenues and profits.

How

Potential investment areas include renewable marine energy (e.g. offshore wind farms; wave and tidal energy), sustainable fisheries and aquaculture and maritime transport solutions (e.g. reducing emissions). There is already a diverse range of investors and approaches. For example, venture capital firms and other early-stage investors are especially active in circular economy solutions; in the fixed-income space, blue bonds are funding sustainable ocean economy projects (note blue carbon and marine biodiversity-related credits);

countries are using their natural assets to refinance themselves at better conditions with Debt for Nature Swaps.

Risks

Shifting regulations and policies can impact implementation and profitability of investments. Geopolitical tensions can result in delayed implementation of international agreements. Natural disasters, climate change effects, or unexpected environmental shifts can affect the stability of fisheries, aquaculture, and other related sectors. Over-exploitation of marine resources can lead to ecological imbalances, declining biodiversity, and impact the viability of investment. Companies in nascent blue economy sectors are potentially highly leveraged and sensitive to interest rate changes.

Infrastructure

What

This can include economic, social, environmental and digital infrastructure. Examples are energy infrastructure (production, transmission, distribution, or storage), communication infrastructure (e.g. telecommunications, satellite technology) and public utilities focused on core service provision (e.g. water sanitation) or providing or maintaining transport facilities (e.g. roads, bridges, airports, and ports).

Why

Infrastructure investment can stimulate growth, both directly and through long-term enhancement of a nation's productivity and competitiveness on a global scale. The United Nations estimates that 75% of the infrastructure needed in 2050 has yet to be built, the majority of which is in the emerging markets. Traditionally, infrastructure investments have offered the potential for stable, long-term returns, often supported by revenue streams from tolls, fees, or public funding, making them attractive to investors seeking reliable and resilient assets in their portfolios. But with infrastructure in newer technologies (e.g. around the green transition), the investor focus may be on capital appreciation.

How

The energy transition will require a rethink of the accompanying infrastructure, as localised hydrocarbons distribution is replaced by upgraded long-distance electrification transmission systems. Transportation infrastructure will also continue to evolve, for example via an expanded zero emission vehicle infrastructure (i.e. charging stations). Communication infrastructure must reliably handle increasing data volumes. Much infrastructure investment has been via private markets, but with some important exceptions (e.g. telecoms providers, where large publicly-listed firms dominate). Investors may need to take a more differentiated approach, both in terms of methods and expected returns.

Risks

As always, regulatory or policy changes, or political instability can impact infrastructure projects, leading to uncertainties around project timelines, funding, and overall profitability. Financing and funding challenges can be amplified by capital availability, interest rate fluctuations, or changes in credit conditions. Infrastructure investments are susceptible to broader economic downturns and market fluctuations, affecting demand for services, project financing, and the overall financial performance of infrastructure assets. Operational and construction risks are also important.

Healthcare and MedTech

What

Healthcare provides medical care to an individual or community; MedTech provides the equipment and tools that make this possible. Effective future provision of healthcare will involve resolving issues including technology (e.g. digitisation, remote delivery), social fairness (in terms of access and costs as well as outcomes) and also workforce skills and retention – around 65 million people are estimated to work in healthcare worldwide. Developments in many areas – e.g. vaccination – are rapid and disruptive.

Why

The world's population is growing and also getting older, with older people usually spending more on medical services. Economic growth, through raising incomes, is also making more medical services available to growing numbers of people, particularly in the emerging markets. Technology continues to improve and open up new ways to deliver care, for example via artificial intelligence (AI) and its uses in telemedicine and remote monitoring as well as back-office functions (e.g. billing). AI is also already rapidly speeding up development of new chemical compounds and drugs.

How

Multiple investment opportunities exist across the industry, across the full spectrum from large and established companies (e.g. in pharmaceuticals) to much smaller companies. Investments can be done through individual securities, or through a wide range of existing thematic ETFs covering different aspects of the Healthcare and MedTech sectors. Private market opportunities exist in both established and emerging sub-sectors.

Risks

Costs will remain an issue, particularly for governments still burdened with higher levels of debt after the coronavirus pandemic. Government efforts to manage costs (both in public and private healthcare systems) are just one component of a very complex regulatory environment. Much of the sector is dependent on technological change which may be unpredictable. Drug development and repurposing are also inherently unpredictable. Labour shortages could hinder care provision.

Consumption megatrends (new theme)

What

This opens up our previous Millennials and Gen Z theme for a broader looker at consumption patterns globally – driven not just by generational shifts but also by other demographic factors, regional and national growth patterns and other drivers of consumer behaviour.

Why

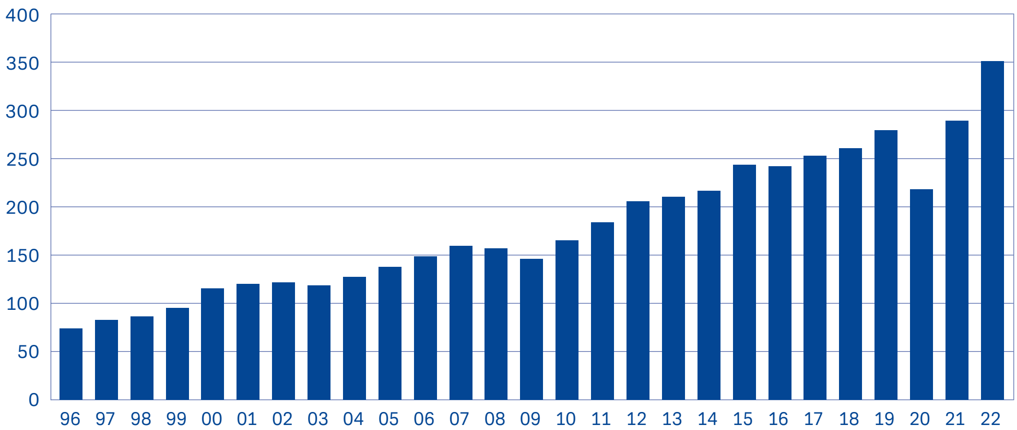
The purchasing habits of individual generational or income groups will have an impact not only on sectors and firms, but also on economic policy more broadly. Consumption trends do not just involve changed prioritisation of individual sectors (e.g. luxury goods as incomes rise) but also shifts in ownership patterns and methods of access to goods and services (e.g. rental vs. ownership). The rise of new consumer groups may also put new demands on how companies behave – and not just in ways related to sustainability and social purpose.

How

Rising incomes have already had an obvious impact on the global personal luxury goods market with growth here largely driven by Asia and the U.S. Further future increases in the number of people with middle and high incomes are expected around the world. An ageing population may also boost some areas of luxury consumption. But we should also pay attention to changing demand and preferences in other income and age groups around areas such as social media and entertainment, health and fitness, clothing and clothing accessories, food and drink, travel and leisure, housing and household goods, and financial services.

Demand for luxury goods is rising

Global personal luxury goods market (EUR billion)



Source: Bain & Company, Deutsche Bank AG; Data as of January 2023.

Risks

Rising incomes depend on continued economic growth and this will not be linear. Short term policy-induced hits to consumption are possible, with intergenerational or other wealth inequalities among potential long-term political stresses.

Artificial Intelligence

What

Artificial Intelligence (AI) involves the transformation of raw data into a format suitable for further analysis (data processing), the extraction of insights via advanced algorithms and machine learning techniques (data analysis) and then application of these insights to practical solutions (data utilization). These include using AI for decision-making, automating tasks, improving user experiences, through intelligent systems that adapt and learn from new data.

Why

The accelerating digitisation of many industries needs AI to manage and utilise massive data sets. Significant advances in computing power and algorithm development are underpinning growth here. AI is also encouraging a growing demand from consumers and businesses for personalised experiences and automated solutions, with AI integrated into a growing range of products and services.

How

Investment can be done in industries driving AI innovation (e.g. in software, semiconductors, technology hardware, storage & peripherals, communications services, interactive media & IT services) or companies specialising in advanced AI applications (e.g. around deep learning, natural language processing (NLP), image recognition, speech recognition and chatbots, cloud computing, and big data analytics). Megacap stocks with significant access to large data sets and advanced data analytics capabilities may be attractive.

Risks

Significant ethical and privacy issues arise from AI's ability to process and analyse data. This may be personal and sensitive and its correct interpretation is essential. Regulatory frameworks are struggling to address these and other issues, meaning that companies developing or using AI must comply with a changing and unpredictable regulatory landscape, particularly in areas such as data protection, transparency of algorithms and accountability. Over-dependence on AI for various tasks and decision-making processes could lead to vulnerabilities in critical systems if it malfunctions. AI use also poses the risk of significant job displacement in many industries, adding to associated social and economic challenges.

Digitisation (new theme)

What

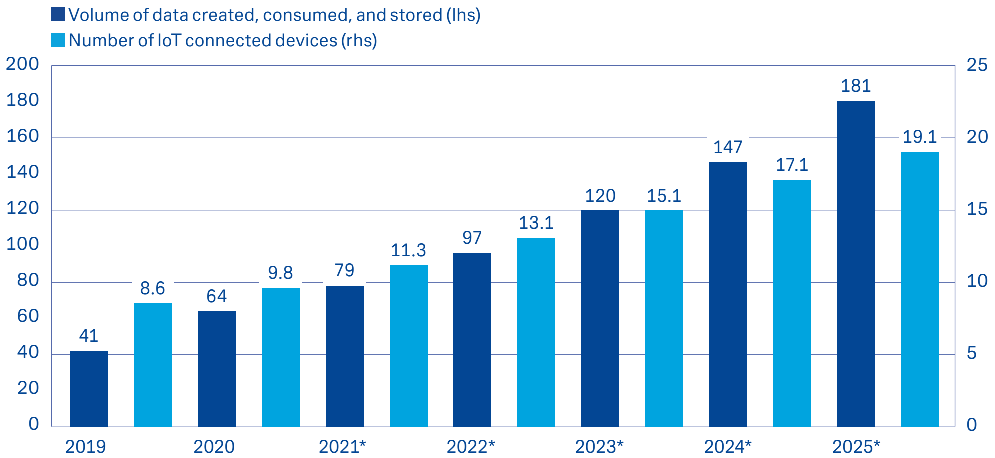
The three layers of the digitisation universe are data generation, data storage and data processing. Data generation can happen through various digital interactions, sensors and online activities. Data storage needs to be robust and scalable for the accumulation of this generated data – e.g. through the development and expansion of data centres, cloud storage solutions and other forms of digital repositories. Data processing of this data then extracts meaningful insights, drive decision-making and enable advanced technologies such as artificial intelligence (see our separate theme).

Why

A key driver of digitisation is the increase in the generation of digital data by individuals and businesses (and devices themselves). Digitisation needs to move up to a new level to effectively manage, store and process this data. Rapid advances in technology – hardware, software and networking – also require robust digital infrastructures. The shift towards data-driven decision-making in many sectors is also driving a need to rapid and reliable analysis of large volumes of data as businesses make informed decisions, innovate and remain competitive in a data-centric world.

Data: A fast-growing market

Development of global data volumes (in zettabytes) and data exchanging IoT (Internet of Things) devices (in billions). * Forecasts



Source: IDC, Transforma Insights, Exploding Topics, Deutsche Bank AG; Data as of June 2021 (Data Volume), July 2023 (IoT).

How

Invest in pioneering companies and industries across multiple sectors which provide the platforms and tools that are essential to the advancement of technologies such as internet of things (IoT), social media, digital payments, e-commerce, cloud computing and blockchain/P2P systems. Megacap stocks (i.e. those of the very largest IT firms) may also appeal, given that they often have the scale, resources and data to innovate and potentially maintain competitive advantage in a rapidly evolving digital landscape.

Risks

Digitisation's reliance on advanced technological infrastructure can also be a vulnerability, not just in the short term (e.g. server downtime or network failures) but also through technological obsolescence, requiring continuous significant investment. The rapid pace of digital transformation also often outpaces regulatory framework, meaning an uncertain and evolving regulatory landscape (e.g. on data privacy, cross-border data transfers, and intellectual property rights). The consequences of non-compliance can be significant. The risk of cyber-attacks and data breaches increases as digitisation increases – we deal with this in a separate cybersecurity theme.

Cyber Security

What

Cybersecurity involves identifying digital assets, potential threats and vulnerabilities; implementing safeguards to prevent unauthorised access and cyber-attacks, such as security protocols, firewalls and antivirus software; detecting and responding quickly to cybersecurity incidents and, finally, recovering from them – through restoring data, repairing systems and implementing measures to prevent future incidents. Cyber security market revenue is estimated at USD166bn in 2023.[5]

Why

The need for cybersecurity is increasing as business operations become increasingly digital and systems become more connected globally. The number and sophistication of cyber threats, including malware, ransomware and phishing attacks, also continues to grow with organizations facing a constantly evolving range of threats to sensitive data and critical infrastructure. The importance of cybersecurity is underscored by the increasing focus on data privacy and the implementation of increased regulatory standards around this.

How

Investments can be made in companies across a range of industries (e.g. software, professional services and communications equipment) that are key to the development of comprehensive cybersecurity solutions. Investment can also be made in companies that provide specialised cybersecurity services and products (e.g. hardware, software, network security management services, data integrity assurance, rapid response and remediation). Small and medium-sized enterprises can often drive innovation via specialized protection.

Risks

Rapid evolution of security threats makes it difficult for organisations and cyber security providers to keep their security measures up to date and effective, creating potential vulnerabilities in systems and data. Many organisations, especially smaller ones, may also face resource and skill constraints in cybersecurity implementation in terms of recruiting skilled cyber security professionals and allocating sufficient budget for advanced security technologies. Organizations and cyber security providers must also navigate a complex and changing regulatory environment, with noncompliance having significant legal and financial consequences.

Smart Mobility

What

One smart mobility component is the transition to vehicle electrification to reduce carbon emissions and dependence on fossil fuels. This will also involve advancing battery technology and investing in electric vehicle (EV) charging infrastructure. Another issue is vehicle automation and autonomous driving technologies – upgrading navigation, safety and vehicle management technologies, to change the way vehicles interact with each other and the environment. Smart mobility will also involve modal shifts in transport, both in terms of ownership (vs. shared systems) and "mobility as service" platforms, in addition to better provision of public transport.

Why

Transport needs to be aligned with environmental sustainability goals, and not just as regards emission reduction targets. Technological advances are also supporting consumer expectations of more efficient, safer and personalised transport experiences. The global population is increasingly urbanised, focusing attention on more efficient, space-saving and accessible transport systems.

How

Investment is possible in a broad range of relevant industries, such as automobiles, semiconductors, electronic equipment, instruments and components, and machinery. But look out also for opportunities in linked areas (e.g. energy storage technologies, battery metals producers, and companies offering innovative transportation methods). Some companies may offer a broad exposure to the changing mobility value chain, from physical components to services related to new mobility solutions such as car sharing and ride-hailing platforms.

Risks

Many technology and infrastructure challenges need to be overcome (e.g. around battery charging and vehicle automation communications). Smart mobility operates in a dynamic and multi-dimensional regulatory environment (e.g. on vehicle emissions, the use of autonomous vehicles and shared mobility services). Uncertainty or policy reversals could affect investment decisions and market growth. Consumer acceptance and behavioural change are also critical, with the growth and profitability of companies in the sector affected by slow adoption rates or resistance to new mobility solutions.

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Appendix 1

Macroeconomic forecasts

	2023	2024
GDP growth rate (%)		
U.S.[1]	2.3	0.8
Eurozone (of which)	0.7	0.7
Germany	-0.1	0.9
France	0.7	0.7
Italy	0.9	0.5
Spain	2.5	1.2
Japan	2.1	1.0
China	5.2	4.7
World	3.0	2.8
Consumer price inflation (%)		
U.S.	4.2	2.8
Eurozone	5.7	2.9
Germany	6.0	3.2
Japan	3.2	2.3
China	0.5	1.8

[1] For the U.S., GDP growth Q4/Q4 % is 2.4 % in 2023 and 0.4 % in 2024, Source: Deutsche Bank AG, Bloomberg Finance L.P.; Forecasts as of November 15, 2023.

Appendix 2

Asset class forecasts

Bond yield and spread forecasts for end-December 2024

United States (2-year Treasuries)	3.95%
United States (10-year Treasuries)	4.20%
United States (30-year Treasuries)	4.45%
USD IG Corp (BarCap U.S. Credit)	105bp
USD HY (Barclays U.S. HY)	450bp
Germany (2-year Schatz)	2.50%
Germany (10-year Bunds)	2.70%
Germany (30-year Bunds)	3.00%
United Kingdom (10-year Gilts)	4.20%
EUR IG Corp (iBoxx Eur Corp all)	110bp
EUR HY (ML Eur Non-Fin HY Constr.)	450bp
Japan (2-year JGBs)	0.35%
Japan (10-year JGBs)	1.15%
Asia Credit (JACI)	280bp
EM Sovereign (EMBIG Div.)	440bp
EM Credit (CEMBI Broad)	325bp

FX forecasts for end-December 2024

EUR vs. USD	1.10
USD vs. JPY	146
EUR vs. JPY	161
EUR vs. CHF	0.98
EUR vs. GBP	0.87
GBP vs. USD	1.27
USD vs. CNY	7.35

Equity index forecasts for end-December 2024

United States (S&P 500)	4,700
Germany (DAX)	16,600
Eurozone (Euro Stoxx 50)	4,400
Europe (Stoxx 600)	465
Japan (MSCI Japan)	1,520
Switzerland (SMI)	10,700
United Kingdom (FTSE 100)	7,400
Emerging Markets (MSCI EM)	1,010
Asia ex Japan (MSCI Asia ex Japan)	640
Australia (MSCI Australia)	1,400

Commodity forecasts for end-December 2024

Gold (USD/oz)	2,250
Oil (Brent Spot,USD/b)	88
Copper (USD/metric ton)	9,050

Source: Deutsche Bank AG, Bloomberg Finance L.P.; Forecasts as of November 15, 2023.

Glossary

Artificial intelligence enables machines to simulate human intelligence processes, such as learning from experience and adapting to new inputs, in order to perform specific tasks.

The Bank of Japan (BoJ) is the Japanese 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.

Carbon Capture, Utilization, and Storage (CCUS) encompasses methods and technologies to prevent carbon dioxide emissions and remove carbon dioxide from the atmosphere, followed by recycling the carbon dioxide for utilization and determining safe and permanent storage options.

CHF is the currency code for the Swiss franc.

Cloud computing is the practice of using a network of remote servers hosted on the internet to store, manage, and process data, rather than a local server or a personal computer.

CNY is the currency code for the Chinese yuan

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.

COP28 refers to the 28th United Nations Climate Change Conference held in Dubai in November and December 2023.

Corporate bonds are issued by corporations to receive capital for its business.

The Corporate Emerging Markets Bond Index (CEMBI) is a JPMorgan index that includes U.S. dollar-denominated bonds issued by emerging markets.

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.

Dividends are payments made by a company to its shareholders.

ESG investing pursues environmental, social and corporate governance goals.

An emerging market (EM) or emerging economy 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.

The JPMorgan Emerging Market Bond Index Global Diversified (EMBIG Div) is a weighted USD-denominated emerging markets sovereign and quasi-sovereign index

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 20 European Union member states that have adopted the euro as their common currency and sole legal tender.

The Federal Reserve (Fed) is the central bank of the United States.

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

The G10 is a group of industrialised nations with overlapping economic interests. 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.

The Global South term refers to developing and underdeveloped economies in the regions of Africa, Latin America and the Caribbean, Asia (excluding Israel, Japan, and South Korea), and Oceania (excluding Australia and New Zealand).

The Global Supply Chain Pressure Index (GSCPI) describes the pressure on global trade flows.

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.

Hang Seng Index (HSI) is a freefloat-adjusted market-capitalisation-weighted stock-market index in Hong Kong.

Hedging instruments are financial products that enable the reduction, limitation or offsetting of risk in an underlying asset class, such as shares, commodities, indices and forex.

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

The Inflation Reduction Act (IRA) is a broadly-based piece of legislation largely focused on driving clean energy production initiatives within the United States.

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.

The Internet of Things (IOT) is comprised of computers and other devices with embedded electronics that allow them to collect and share data.

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.

The JP Morgan Asia Credit Index (JACI) measures the total return of the Asian dollar-denominated bond market.

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

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 China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs).

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 100 Index is comprised of 100-plus of the largest innovative non-financial companies listed on the Nasdaq Stock Market, based on market capitalisation.

NextGenerationEU (NGEU) is a major EU recovery plan, based around grants and loans, running from 2021-2026. It aims to make Europe greener, more digital, more resilient and more able to adapt to current and future challenges.

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 organisation which aims to „coordinate and unify the petroleum policies" of its 12 members. The so-called „OPEC+" brings in Russia and other producers.

The Pandemic emergency purchase programme (PEPP) is a non-standard monetary policy measure initiated by the ECB in March 2020 to counter the risks due to the coronavirus (COVID-19) outbreak.

The People's Bank of China (PBoC) is the central bank of the People's Republic of China.

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

A Real Estate Investment Trust (REIT) is a company that owns, and in most cases, operates income-producing real estate. REITs sell like a stock on the major exchanges and invest in real estate directly, either through properties or mortgages.

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

A recession is usually defined as two consecutive quarters of GDP contraction.

The renminbi is the official currency of China.

REPowerEU is a European Commission plan that aims to achieve complete EU energy independence from Russia well before 2030 by saving energy, producing clean energy and diversifying Europe's energy supplies.

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 Index tracks the performance of the largest 600 European companies in terms of market capitalisation.

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

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

The United Nations Sustainable Development Goals, finalised in 2015, comprise 17 sustainable development goals and 169 targets.

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

The TAPAs (there are plenty of alternatives) argument is that, with bond yields higher, there are alternatives to equities for investors seeking yield.

Terms of Trade is the economic measure of the relationship between export price levels and import price levels of a country or group of countries.

The TINA (there is no alternative) argument has been much used in recent years for investing in equities, in the belief that they are likely to offer relatively attractive returns.

TOPIX refers to the Tokyo Stock Price Index, a weighted index incorporating a wide range of Japanese domestic companies.

The Transmission Protection Instrument (TPI) unveiled by the ECB in July is a new bond purchase scheme aimed at helping more indebted Eurozone countries and preventing financial fragmentation within the currency bloc by ensuring the smooth transmission of the ECB's monetary policy stance.

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

Treasury Inflation Protection Securities (TIPS) index redemption values to the U.S. CPI.

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

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

West Texas Intermediate (WTI) is one of the most prominent crude oil benchmarks.

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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