

Active fixed income perspectives

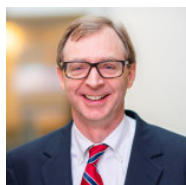
Key takeaways

Performance: Bonds provided investors with stability despite a quarter of significant volatility. The Bloomberg Global Aggregate Index Hedged USD finished in the black for both the last three- and six-month periods. Corporate investment-grade and high-yield credit produced the highest returns among credit sectors in the first quarter.

Looking ahead: We expect elevated volatility to create risks and opportunities in the coming months. Recent events have reaffirmed our expectation of a recession in 2023, and they point to a more cautious path ahead for monetary policy.

Approach: We opportunistically added issuers—particularly large banks—during the market stress, but we believe the time for a full risk-on moment has not yet arrived. We remain biased towards higher-quality segments that can weather a weakening economy. We've likely seen the peak in yields for this cycle – and at some point, duration will become an investor's best friend.

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A sudden turning point

At one point in early March, the economy appeared ready to continue growing despite a year of rapid interest rate hikes and market turmoil. The consensus was building that central banks—led by the US Federal Reserve (Fed)—would have to raise rates higher still to pull inflation back, but also that the economy was positioned to absorb it.

Then came news about Silicon Valley Bank and, shortly afterwards, Credit Suisse. Suddenly, fixed income markets were pulled into a multi-verse of runs on bank deposits, bank failures and emergency central bank meetings worldwide.

The 2-year US Treasury yield completed a 119-basis-point (bps) drop in just three days, its sharpest decline since 1987¹. Eurodollar futures contracts saw the largest one-day price swing in their history, surpassing the previous record set the day Lehman Brothers failed in September 2008.

Each day's news cycle seemed like a jump into a new reality. Credit Suisse was forced to sell itself to UBS, a corollary of which was the wipeout of Credit Suisse's additional tier 1 (AT1) bonds. Bank deposit guarantees were issued in the US for banks and a surge in borrowing at the Fed's discount window soon followed.

The inflation fight resumes, but with higher risk

Despite the events of March, we are confident that regulators have reduced the risk of another global financial crisis and that the Fed—as well as other major central banks—are likely to provide liquidity when financial stability is needed.

However, two things have become clear to us. First, we are reaffirmed in our belief that a recession will start in 2023, as bank lending should now contract faster than we previously expected. While the higher interest rate environment is generally positive for profitability in the sector, the sharp increase in rates we have seen will likely exert

1. Source: Bloomberg, as at 31 March 2023.

asset-quality pressures on the banking sector. This will potentially lead to tightened lending standards, which in turn are likely to bring forward a recession and could also increase its depth.

Second, we now expect the Fed to be more cautious in its tightening path. The past few weeks included a number of policy pivots, starting with the Fed's indication in early March of its willingness to revert to 50-bps hikes to the point where markets are now fully pricing in a recession by the end of the year. While core government bond markets outside the US have their own idiosyncratic drivers, we believe that the next 100 bps of interest rate changes in either direction from current levels by the European Central Bank (ECB) will be strongly dictated by developments in the US. The only certainty we have at the moment is that volatility will remain elevated and every data point could swing the market heavily as liquidity has dried up and many active investors are sitting at the sidelines.

In the US, markets believe the hiking cycle is complete and multiple rate cuts are likely later this year. While a path to that outcome is possible, it's not our base-case view. Core inflation remains persistent and probably won't come down enough to allow for that much policy easing in the coming quarters.

We believe the Fed will ultimately hoist the fed funds rate above 5% by mid-year before pausing. Barring a major economic surprise, we think it will hold policy rates high for longer than the market currently expects.

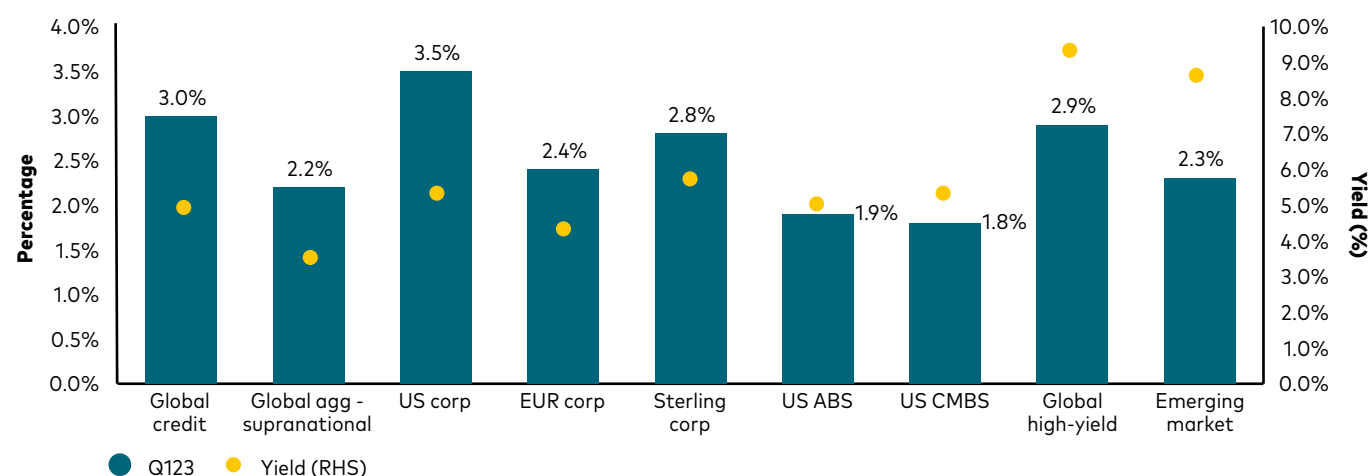
Whichever case unfolds, however, the higher yields that we entered the year with continue to help fixed income investors. They have cushioned the shocks and provided stability—as well as positive returns—to the fixed income universe.

In Europe, economic data came in stronger than expected across the board. While inflation pressures moderated at the headline level due to meaningful declines in energy costs, this has put more money in the pockets of consumers, which has kept core inflation strong. We've also seen a continued pick-up in wage negotiation increases and services activity metrics moved into very high levels. We believe that, absent a global recession, the European economy should continue to perform well and we should see tentative steps towards convergence between European and US government bond yields.

The UK has been steadily posting economic data above expectations, to the point where the market has moved from predicting six quarters of negative growth to now envisioning potentially no recession at all in the short term². The improved short-term outlook has supported sterling, which at the end of March was trading at its strongest level relative to the US dollar since June last year.

In Japan, the continued release of positive economic data has, in some respects, put the Bank of Japan (BoJ) in an awkward position. Inflation is running hotter in Japan than at any point in the last 30 years and—because of the BoJ's yield-curve control (YCC) policy, 10-year Japanese government bonds (JGBs) are overvalued by at least 50bps, in our view. We've changed our perception from questioning whether the BoJ would change its YCC policy to now positioning ourselves for the resulting market reverberations *when* BoJ changes it. As things stand, we believe it is only a matter of time (months, in our view) before the BoJ acts – either out of its own will, or by having its hand forced by the market.

Fixed income sector returns and yields



Sources: Bloomberg indices and J.P. Morgan EMBI Global Diversified Index. Data from 30 December 2022 to 31 March 2023.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Performance is provided on a total return basis, in the base currency.

2. Source: Bloomberg, as at 31 March 2023.

Rates and inflation

Within the span of a few weeks in the first quarter, market expectations for the US economy jumped from a soft landing, to no landing at all, to a hard-landing scenario.

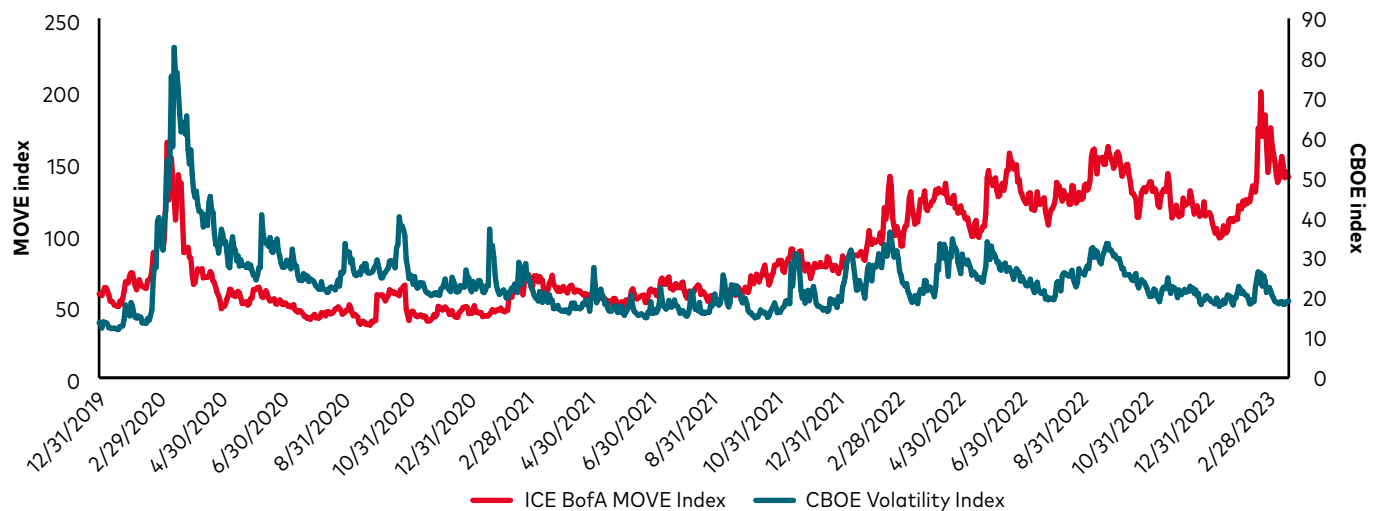
Each scenario implied a new path for interest rates, resulting in increased volatility for US Treasuries in March.

The ICE BofA MOVE Index, which tracks volatility in the bond market, last month approached levels not seen since the 2008 global financial crisis. Meanwhile, stocks remained a bastion of calm.

Front-end yields declined by twice as much as those at the longer end of the curve as anticipated rate hikes were priced out and anticipated rate cuts were brought forward. The US yield curve has become much less inverted, with the difference between 2-year and 10-year yields roughly halving from 109 bps just prior to the failure of Silicon Valley Bank in the second week of March to only 56 bps at the end of the month.

We acknowledge that the probability of a hard landing has grown and at the very least we'd expect the front end of the yield curve to remain volatile over the near term.

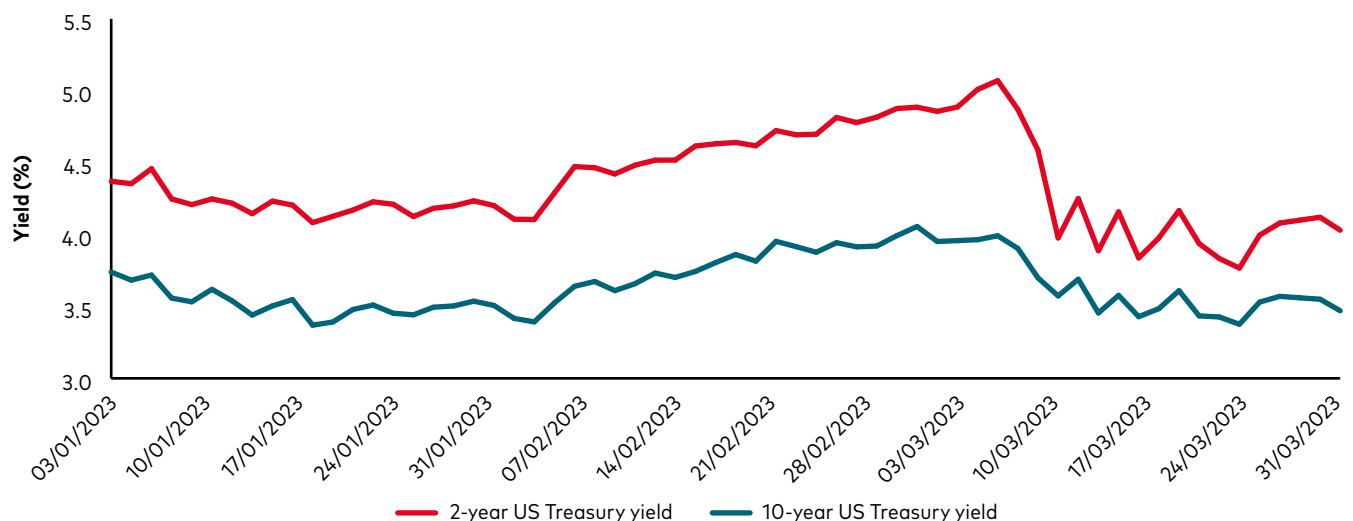
Fixed income tremors: Bonds more volatile than stocks



Note: The ICE BofA MOVE Index tracks implied volatility in the US dollar-based Treasury options and swaps markets.
Source: Bloomberg. ICE BofA MOVE Index and Chicago Board Options Exchange (CBOE) Global Markets, Inc., data from 31 December 2019 to 31 March 2023.

Past performance is no guarantee of future returns.

Yields before and after Silicon Valley Bank failure



Source: Bloomberg, data from 3 January 2023 to 31 March 2023.

Past performance is no guarantee of future returns.

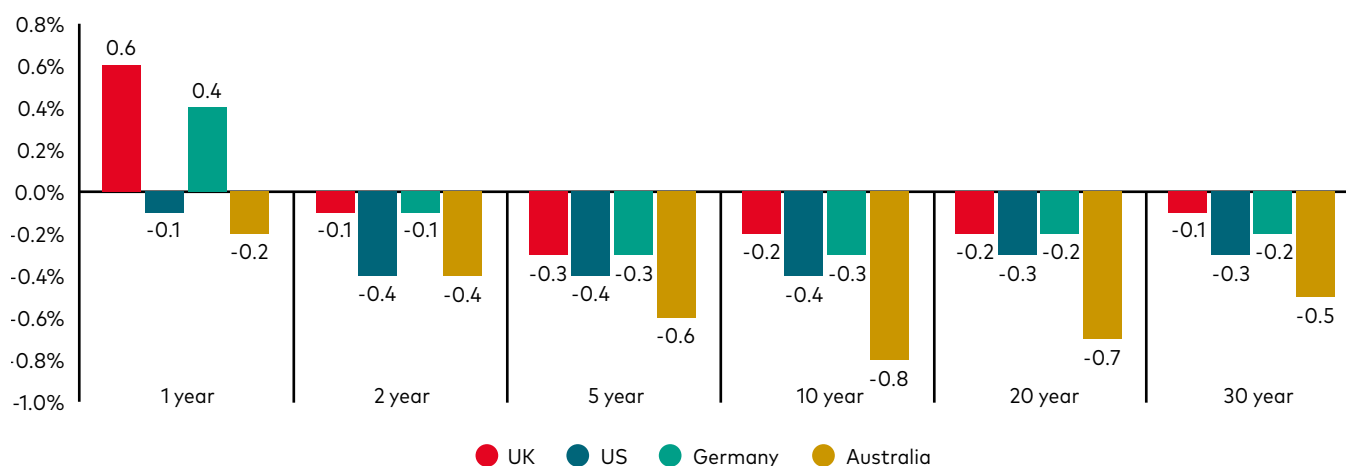
Our rates strategy continues to focus on selection opportunities and we remain strategically positioned for a steeper yield curve, which would benefit our portfolios as the economy weakens. We don't see a strong case for rates to rise meaningfully further out on the curve and we continue to monitor the 10-year point on the US curve as a potential place to add duration opportunistically.

In Europe, higher inflation and wages are likely to force the ECB to hike rates. While discussions around the

size of moves will impact rates markets, we expect the ECB's policy to meaningfully catch up with that in the US and ultimately to converge.

In Japan, where rhetoric has shifted from if to when the BoJ will end its YCC programme, we believe futures and swaps could continue to underperform around the 10-year point of the JGB yield curve in anticipation of any move, which could be as early as April.

Core government bond yields: Change in yield curves during first quarter



Source: Bloomberg, data from 30 December 2022 to 31 March 2023.

Past performance is not a reliable indicator of future returns.

Implications for Vanguard funds:

- We remain strategically positioned for a steeper yield curve, which we expect to see in weaker economic scenarios.
- In our view, duration is now a powerful portfolio construction tool for investors seeking the benefits of diversification. We are looking to add US 10-year duration opportunistically given our market outlook.
- In Europe, we are seeking opportunities to add risk based on our view of rates convergence with the US.
- In the UK, we remain opportunistic and tactical based on the recessionary theme.
- In Japan, we have more of an underperform bias, especially around the 10-year maturity mark, as the market anticipates changes to the BoJ's YCC programme.

Credit markets

A return of investor flows helped corporate credit outperform government bonds in the first quarter.

The turmoil in the banking sector drove spreads broadly wider in March, but the bulk of the re-pricing was centred around the most vulnerable financial issuers. Interventions by the Fed, Federal Deposit Insurance Corporation and central banks elsewhere enabled spreads on more financially stable issuers to recoup most of the initial sell-off by quarter-end.

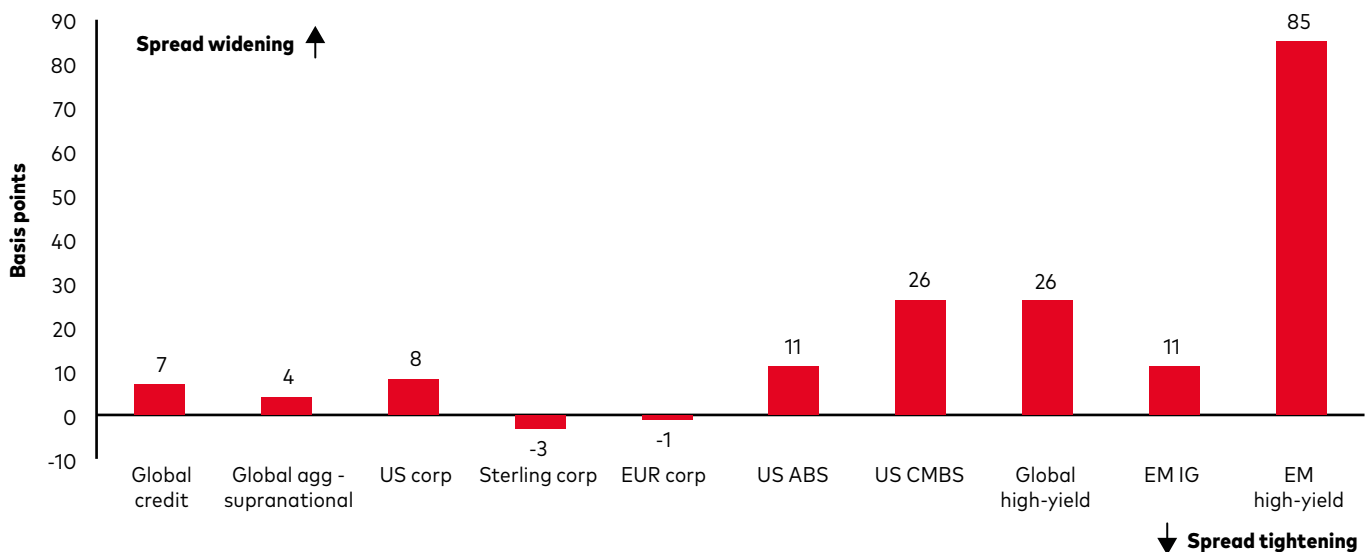
We expect the key drivers of market performance to shift from monetary policy to underlying credit

fundamentals as economic conditions weaken. While that transition has already begun, either could drive market behaviour in the coming months.

Few segments of credit appear mispriced. With a recession expected later this year, spreads should widen further from current levels, but we expect them to remain below the more extreme levels seen during the crises of 2008 and 2020.

Most issuers are reasonably well prepared for a slowdown by historical standards. If valuations cheapen, we hope to add risk in securities we think are best positioned for a challenging environment.

Credit spreads widened over the quarter



Source: Bloomberg and JPM indices, data from 30 December 2022 to 31 March 2023.

Note: EM IG and EM HY refer to emerging market investment grade and high yield respectively.

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Investment-grade corporates

Investment-grade (IG) corporate bond valuations improved over the quarter. Investors initially drove spreads tighter in their chase for high-quality yield, but spreads then moved wider in March amid the mini-banking sector panic.

In terms of fundamentals, as of the end of the first quarter, credit metrics for European IG corporates had held up well, despite significant headwinds from input and labour cost inflation and higher funding costs. Revenue growth has been supported by issuers' ability to pass on increased prices to customers and the normalisation of energy costs.

In the wake of the banking sector turmoil, we expect credit conditions to tighten, potentially accelerating the onset of recession. We anticipate that a slowing global economy and continued pressures on consumers will lead to weakening corporate fundamentals. We are

particularly cautious on cyclical sectors such as retail, transportation, metals and building materials.

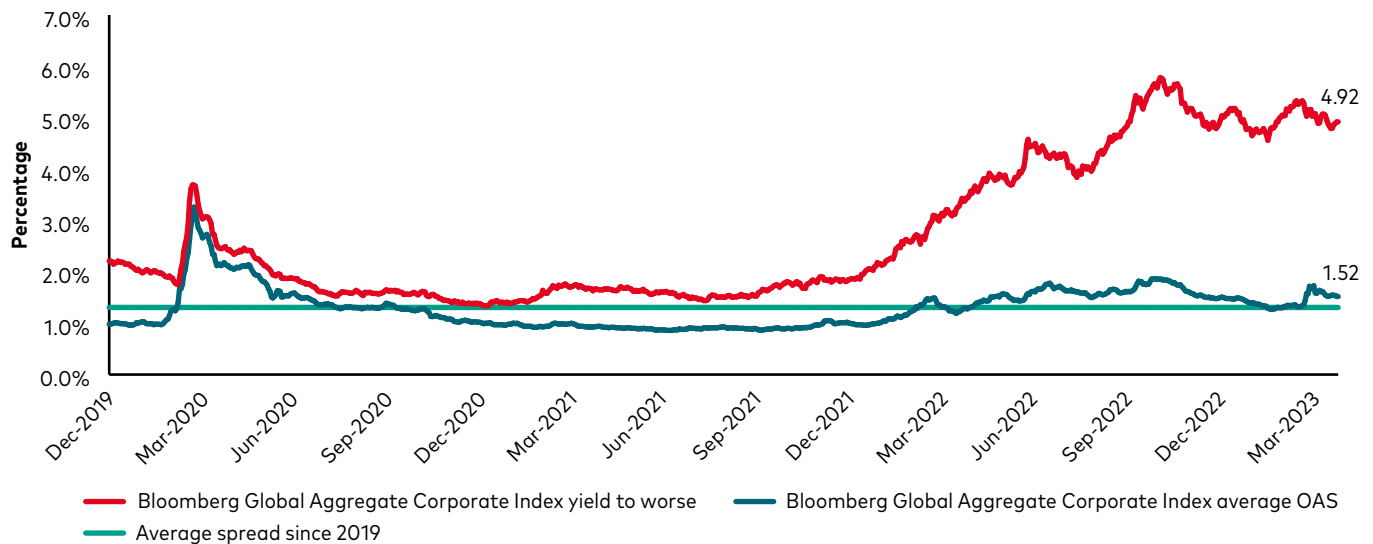
Within the banking sector, spreads widened to the 98th percentile of those seen over the last three years during the first quarter of 2023, providing a good entry point to add exposure to the largest, most stable banks at favourable prices. These companies are broadly well capitalised, highly regulated and have substantial liquidity.

We had little exposure to the troubled banks and no AT1 exposure. In spite of the stresses of the first quarter, we see no evidence of a systemic risk to the financial system.

Even after the rally in rates at the end of the quarter, IG still offers yields close to 5%³. We continue to prefer higher-quality issuers, but we feel comfortable adding risk where market pricing has moved out of sync with our assessment of fair value.

3. Source: Bloomberg Global Aggregate Corporate Index as at 31 March 2023.

Corporate bond yields are historically attractive, but credit spreads are around average



Source: Bloomberg Global Aggregate Corporate Index, data from 31 December 2019 to 31 March 2023.

Note: 'OAS' refers to option adjusted spread.

Past performance is not a reliable indicator of future returns.

High-yield corporates

High-yield corporate bonds outperformed the rest of the fixed income market in the first quarter. CCC-rated bonds led going into March, before underperforming the higher-quality, more interest rate-sensitive BB-rated segment.

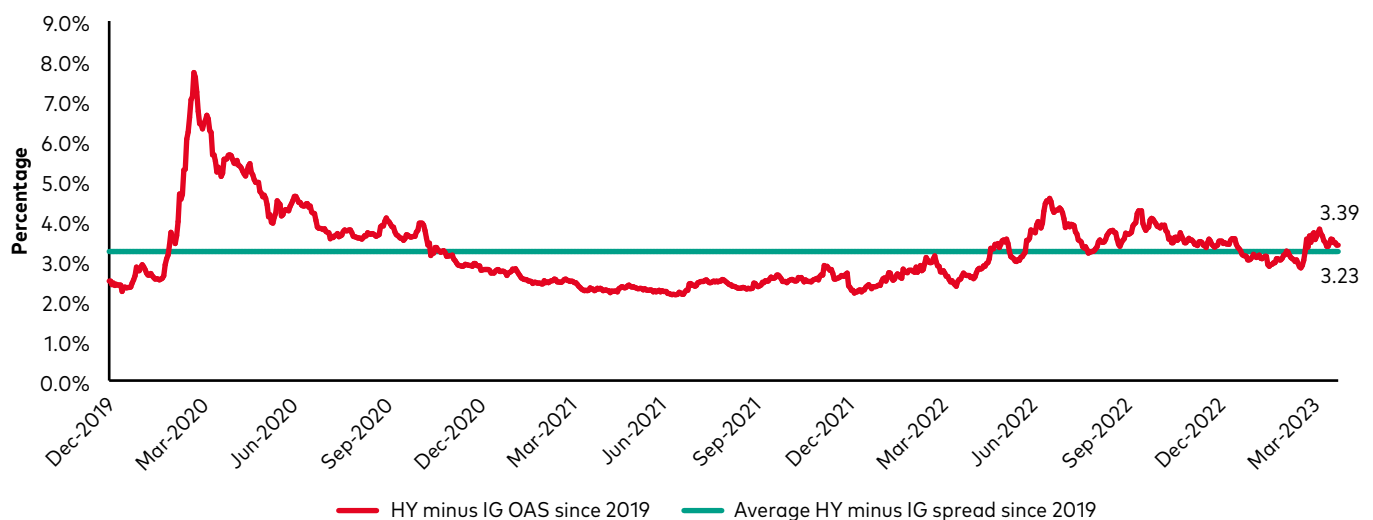
Yields finished the quarter above 9%, among the highest levels of the last decade outside of the Covid-19 pandemic and the 2016 high-yield energy crisis⁴.

One tailwind is that new issuance continues to be light and planned supply is expected to be low through the remainder of the year.

Leverage for high-yield issuers remains low, but valuations are near long-term averages and are just beginning to reflect our expectations of weaker fundamentals going forward. Defaults have stayed below historical averages, but a growing percentage of issuers are trading at distressed levels, while the upgrade rate to investment-grade has slowed. With a potential recession in view, the market is increasingly looking to separate the winners from the losers.

We are defensively positioned, but we see opportunities in consumer experience-oriented sectors such as transportation and leisure. We remain cautious on financials and consumer cyclicals, meanwhile. At this point of the cycle, security selection is especially important.

Yield premium of high-yield relative to investment-grade hasn't risen above the historic average



Source: Bloomberg Global High Yield Index and Bloomberg Global Aggregate Corporate Index Option Adjusted Spread (OAS), data from 31 December 2019 to 31 March 2023.

Note: IG and HY refer to investment grade and high yield respectively.

Past performance is not a reliable indicator of future returns.

4. Source: Bloomberg Global High Yield Index, data from 1 January 2016 to 31 March 2023.

Emerging markets

Last month brought an end to the period of strong inflows that emerging market (EM) bonds had enjoyed since November 2022. The initial demand for EM assets at the start of the year helped offset a wave of new supply during which nearly 60% of total expected 2023 issuance came to market. Looking ahead, we see a supportive technical backdrop for EM spreads.

Higher-quality EM issuers are broadly focused on reducing fiscal deficits that ballooned during the pandemic, while weaker credits remain unable to access public debt markets due to elevated borrowing costs and weaker investor demand.

The performance of EM credit during March was a good example of how stable EM sovereign bonds can remain during risk-off events. More than half of the dollar-denominated EM government bond universe is at or near investment-grade quality, making them sensitive to movements in US Treasury yields. When rates markets rallied, the price gains more than offset a widening in EM credit spreads⁵.

With a starting yield of more than 8%, fluctuations in spreads and rates left room for a 1.86% return for the quarter⁵.

We expect EM assets to benefit as EM growth overtakes that of the US. We remain positive on the market overall, but recognise that the outlook may be more subject to risk now. Technicals continue to be supportive as outflows from the sector that began during the risk-off period in mid-March have slowed, though recent new issuance by high-quality EM names such as Turkey, Brazil and Jordan could weigh on the technical backdrop.

We are slowly moving to add more IG (and IG-like) EM names to the portfolio but remain patient in

anticipation of better valuations. In our view, EM debt is more sensitive to US monetary policy than it is to US economic growth. As the Fed nears the end of its rate hiking cycle, EM bonds should benefit. A potential US recession is likely to bring a weaker US dollar and lower US Treasury yields—both of these would provide relief to EM central banks and to EM countries with US dollar-denominated debt obligations.

We are also more optimistic about local currency-denominated EM bonds. Several EM central banks are near the point where their next action will be to cut rates. We are positioning ourselves in markets where policy easing is most likely in the near term, and we see opportunities in Mexico, South Africa, Indonesia and Peru, for example.

We maintain our positive outlook for the EM fixed income asset class, which is supported by a maturing monetary policy cycle, attractive yields (8.5% at the index-level⁵) and a supportive technical environment. We continue to prefer allocations to high- and mid-quality issuers, even after the recent relative outperformance, as the global growth outlook becomes more uncertain.

Implications for Vanguard funds:

- Spreads should move wider as the economy decelerates, but not to the extreme levels seen in previous recessions. We like credit exposure at current valuations, but our preference is skewed towards higher-quality segments.
- In corporates, recent banking troubles offered a brief window of opportunity to add exposure to large banks at compelling valuations. Additional pockets of stress could provide similar opportunities.
- Until valuations improve, we are maintaining lower-than-average exposure to high-yield and EM credit. Security selection in these segments is critical.

5. Source: J.P. Morgan EMBI Global Diversified Index, data from 30 December 2022 to 31 March 2023.

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FIXED INCOME GROUP

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Vanguard Fixed Income Group manages \$1.9 trillion globally in active and passive funds with a global team of more than 180 investment professionals.

Data as at 31 December 2022.

YEARS IN FIXED INCOME

35+ years

Vanguard's active fixed income team manages over \$445 billion across various actively managed fixed income strategies. For more than 35 years, Vanguard has managed active fixed income funds with an experienced team of credit research analysts, traders and portfolio managers.

WE MANAGE RISK

90+

Our investment teams are supported by our 50-plus member economic research team that informs our economic outlook and our 80-plus member risk management team that is integrated into our investment process.

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