

# Bonds: A journey without maps

Few bond market investors will lament the passing of 2022. A year which saw Russia's invasion of Ukraine and the resulting European energy squeeze also witnessed the emergence of a toxic investment cocktail of soaring inflation, industrial action and rising interest rates.

This complex, unpredictable market environment has left many investors wondering where they should go next. In such turbulent markets – often at the whim of central bank action or the latest economic data release – investment managers must select assets with great care; the ability to be nimble and tactical is key. In many cases they must also acknowledge the rising importance of responsible investment strategies.

As global fixed income investors weigh their next moves, managers from BNY Mellon investment Management firms outline the opportunities and challenges before them.



## US TREASURIES

Febrile market conditions in 2022 hit many fixed income assets, including US government bonds, as negligible income and high duration worked against returns just as inflation, central banks and supply all moved in the wrong direction for investors, says Newton Investment Management head of fixed income, **Paul Brain**. Yet, for all this, Brain believes markets are starting to see the calm after the storm. “We believe bonds are back as an attractive asset class but will need managing,” he adds.

Assessing the medium-term picture for US Treasuries, Brain is hopeful the picture will improve if inflation falls and the US Federal Reserve (Fed) adopts a supportive strategy on interest rates in the months ahead.

“Based on current readings from global leading indicators the US 10-year Treasury bond is fair value at the moment. With inflation set to fall over the next six months the yields could drop but, yields below 3% are hard to foresee if inflation stays above 3% over the next few years.

“Equally if the US central bank raises rates towards 5% then yields should push higher, particularly at the front end, but, given the increasing interest rate shock to the economy, yields above 4.5% would be snapped up quickly. In the short term there is a lot of supply to digest, which will find a home but may have to come with a yield premium to the current level.”

**But:** While BNY Mellon Investment Management's Global Economics and Investment Analysis (GEIA) team sees a number of positive developments for fixed income returns, including developed market sovereign debt such as US Treasuries, it remains wary of near-term markets risks, particularly any unexpected central bank moves in the months ahead.

“Despite our expectation for a global recession in 2023, we also note activity has been more resilient than expected so far in the US and in Europe, so a recession may come slightly later than previously thought. Secondly, we think the risk of sticky inflation remains underappreciated. As a result, we continue to see a meaningful near-term risk of both an increases in market rates above what has already been priced in and rate cuts (broadly expected to start by mid-2023) to be delayed by hawkish central bank communication,” it says.



## UK GILTS

According to Newton, the UK gilt market has settled down post the extreme volatility in September last year. **Howard Cunningham**, portfolio manager in Newton's fixed income team, explains: “It is encouraging to hear the government now aims to work in concert with the Bank of England in dealing with the issue of inflation. Nevertheless, inflation is still forecast to remain high and we expect sizeable negative real yields to persist in 2023.”



Furthermore, gilt issuance for 2023 and beyond is expected to remain high. “Gilts may potentially benefit from a ‘flight to quality’, from investors who require sterling-denominated assets, as the growth outlook looks questionable,” he adds.

**But:** “Given the possibility of further political volatility and worsening debt metrics, a cautious approach seems appropriate, for now, as despite the inflation protection built into index-linked gilts, they remain a very high-duration asset class,” Cunningham tempers.



## INVESTMENT GRADE CREDIT

A combination of rising government bond yields and widening credit spreads created a perfect storm for credit investors over 2022, according to

**Adam Whiteley**, fixed income manager at Insight Investment. Insight believes that with absolute yields moving back to levels last seen before the global financial crisis, and spreads ending the year at historically attractive levels, investment grade credit could potentially offer a way for investors to achieve long-term return objectives via income alone, without the drawdown risk inherent in equity markets. Although spreads have rallied since the year-end, may still provide greater protection from negative total returns, according to the fixed income team at Insight.

“Despite the rise in yields, many corporate issuers are insulated from the interest rate shock. Through the period of low rates, corporates gradually extended their bond maturity profiles, taking advantage of buoyant market conditions to lock in low funding costs. As this debt gradually approaches maturity, funding costs will creep upwards, but for many issuers it will be years before this has a meaningful impact, with close to 45% of companies having an average debt maturity of 10-years or longer,” the managers at Insight explain.

“For those best able to pass rising costs onto their customers, the combination of high inflation and long maturity fixed rate debt will potentially allow debts to be inflated away over time,

effectively allowing some issuers to naturally deleverage. Until there is greater confidence that inflation is under control and that the growth outlook has stabilised, the risk of further volatility persists – making it hard to predict a rally in spreads. But, for those investors able to hold for the longer term, return objectives may now be achievable with income alone.”

**But:** Amid expectations of a global recession, the BNY Mellon Investment Management GEIA team sees mixed prospects ahead for investment grade investors. “We remain neutral in our outlook on US as well as European investment grade corporate issuers. To be sure, credit spreads have yet to widen to levels consistent with our base case of a global recession – on further credit pressure from rising debt-service expenditure, higher wage and energy costs, and weakening pricing power on softening real household demand. But the risk of wider spreads is increasingly offset by wider yield buffers alongside the prospect of stable-to-tighter risk-free yields.”

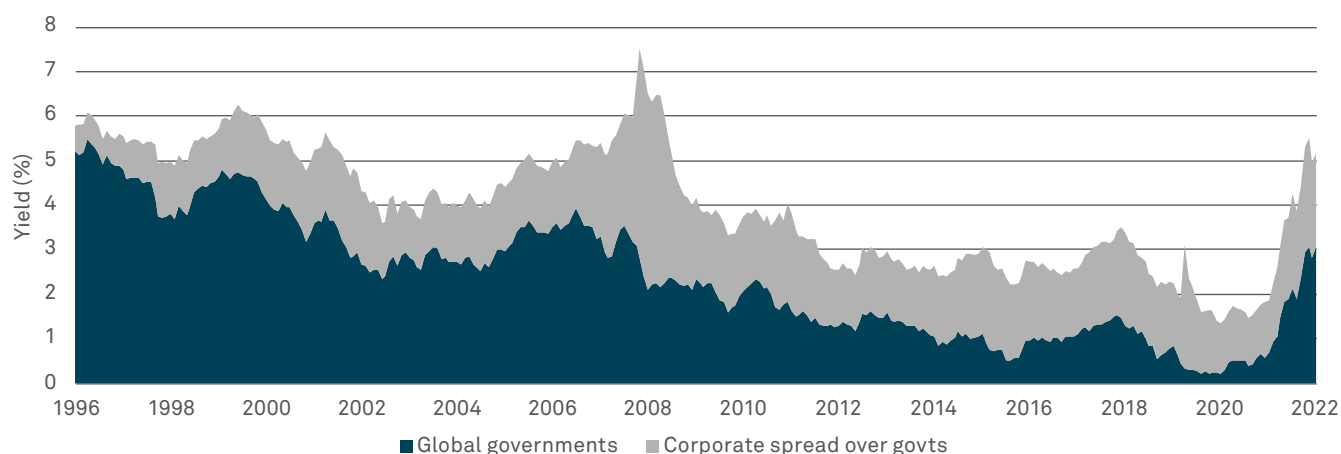
## HIGH YIELD BONDS

The past year saw the combination of rising government bond yields and widening corporate credit spreads resulting in a sharp upward move in the nominal yields of high yield issuers.

Against this backdrop, and with valuations at levels unseen for decades, the Insight fixed income team believes high yield bonds may be less risky than commonly perceived. This is on the basis that default rates are lower than many people think as returns tend to be more resilient during periods of rising rates and extended maturity profiles reduce vulnerabilities to higher rates.

Newton’s Paul Brain says: “Within high yield corporate bonds, we expect default rates to remain low, initially, owing to a very well staggered debt maturity schedule and solid corporate balance sheets. However, we see this outlook as increasingly offset by the rising volatility/liquidity premium in credit markets,” he says.

## ABSOLUTE YIELDS LOOK TO BE ON AN UPWARD TRAJECTORY



Source: Bloomberg as at 31 December 2022. ICE BofA Global Govt Index (W0G1), ICE BofA Global Corporate index (G0BC).

Beyond defaults, the Insight team says it is also keen to dispel what it sees as a myth that high yield corporates tend to generate negative returns when yields are rising.

“In reality, although 2022 was a tough year for high yield the very high levels of income now available limits the downside potential in 2023 even if rates continue to drift upwards. In fact, when we look back at periods where US yields have moved upwards, since 2005 US high yield has generated a positive return in all of these periods except 2022,” the Insight team adds.

**But:** While not wholly negative on high yield, the BNY Mellon Investment Management GEIA team sees a more mixed picture ahead, with an anticipated US recession and high interest rates key factors for investors to consider.

“Our expectation of a US recession and a prolonged elevation in real rates will result in further stress in speculative grade credit, particularly at leveraged firms which lack pricing power, run on thin margins with dwindling cash buffers and face a rising wall of maturities. But again, ample yield buffers, easing risk-free yields alongside lingering tailwinds from extraordinary Covid-related monetary easing and the re-opening impulse should safeguard total returns against expected near-term credit stresses. Nevertheless, we believe active selection and a strong preference for short-duration exposure could yield some positive results,” it adds.



### SHORT DATED HIGH YIELD BONDS

Last year was unusual in that both equity and bond markets experienced significant drawdowns, resulting in an extremely challenging period for risk assets, says **Uli Gerhard**, manager of the Global Short-dated High Yield Bond strategy.

Gerhard is more optimistic about the year ahead. He adds: “When we examine the US high yield market, which is the largest and deepest high yield market, a number of factors reassure us. High-yield issuers have deleveraged, and

extended their maturity profiles, locking in funding when interest rates were low. As a result, interest coverage, which is the number of times interest payments are covered by earnings before interest and taxes, has risen sharply. Default rates have declined, and we expect defaults to rise only gradually in the years ahead, remaining low by historical standards.”

### FALLEN ANGELS

Against the backdrop of higher yields and potential downgrades rather than defaults, Insight fund managers believe now is an opportune time for bonds, which have been downgraded from investment grade to high yield.

The repricing seen through 2022 has meant high yield (including fallen angels) is now actually delivering “high” yield (below as Dec-31-2022), according to Insight.

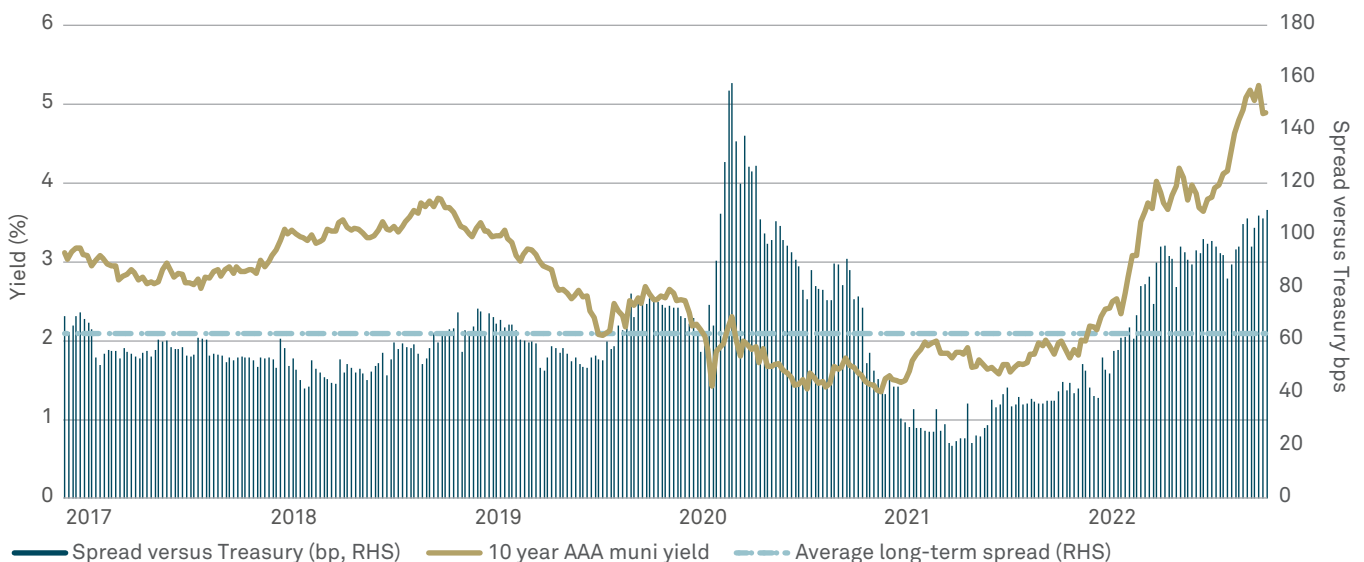
“Fundamentals remain strong, and maturity walls have been pushed out beyond 2024, meaning that the high yield market won’t need to access debt markets in the short term,” it adds.

**But:** “While we do not anticipate a rise in defaults given strong corporate fundamentals, further downgrades seem likely, given earnings are expected to decline,” according to Insight. “However, the good news is that we are not yet seeing any major issues on the balance sheet side. Leverage has begun to increase, but not significantly, while earnings within industrial high yield issuers has only marginally declined. Meanwhile, interest coverage ratios remain at historic highs (reflecting the low levels of new issuance).”

### US MUNICIPAL BONDS

With yields being pushed higher across all fixed income assets, US municipal bonds (munis) found themselves caught up in wider market volatility across 2022. Resulting sell-offs – such as those witnessed last year – have been rare in municipal-bond history and the Insight’s muni bond team believes the asset class still offers an opportunity for investors looking for ways to diversify corporate credit risk.

### MUNI YIELDS HAVE BEEN DRAGGED UPWARDS WITH OTHER FIXED INCOME ASSETS



Source: Insight and Bloomberg, October 2022.

The team cites four key advantages it believes munis have over corporate credit. Firstly, it explains, default rates have historically been very low. “The ability for muni issuers to honour their debts to bond holders reflect the fact these public corporations are effectively monopolies that deliver services with inelastic demand to the public”, it says.

Also, credit ratings have historically been more stable in the sector. According to Insight, munis lack exposure to corporate actions. “This means they cannot increase leverage to take over competitors, or buy-back shares. They also have the ability to either raise taxes or prices depending on whether the issuer is a state or backed by an infrastructure asset.”

Another potential advantage of munis is that their revenues have some degree of built-in inflation protection.

Municipalities benefit from increased tax collections (such as sales tax) from higher prices during periods of strong economic growth. Insight says the strong performance of the housing market across the US also offers the potential for municipalities to see higher income from property taxes.

“Municipal bond investment,” it adds, “could have benefits for European insurers. For non-US investors, taxable munis offer higher yields than their tax-exempt counterparts, and can be an attractive alternative to investment grade credit.

“Under the Solvency II programme in the EU and UK, insurers domiciled in these regions can benefit from investing in infrastructure-related bonds that satisfy the programme’s criteria for classification as a Qualifying Infrastructure Corporate Investment (QICI). Certain US municipal revenue-backed bonds may meet these requirements. Under Solvency II, investing in QICI credits lower capital requirements by approximately 25% when compared to corporate bonds of similar credit quality,” it concludes.

**But:** While the risk of municipal bond default is considered generally low, according to Insight, they do occasionally happen. While muni bonds present some protection against inflation, they are also not as traditionally inflation-proof as equities.

## CURRENCY

While the US dollar made significant gains through 2022, reaching multi-decade highs versus a range of major currencies, the Insight fixed income team says this is causing increasing discomfort around the world, and some central banks such as the Bank of Japan have started to push back.

“We believe there are a number of reasons to suggest the dollar’s upward trend could reverse in the year ahead. For those with unhedged exposures to US assets, it could be time to increase or initiate hedges to lock in currency gains,” it adds.

“Although rates may remain restrictive for a prolonged period, market excitement should slowly subside over 2023, and with it a key support for the dollar.”

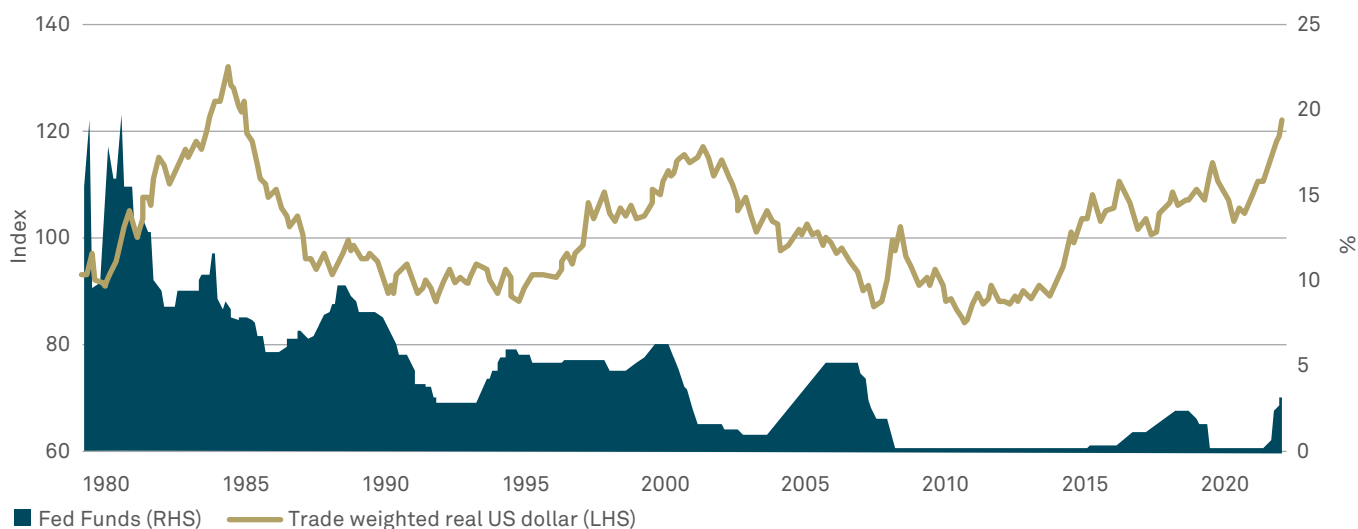
Outside of the US, the worst may already be priced in: although the dollar rally has largely been driven by a supportive story for the US, Insight adds that negative themes in other markets have exacerbated the move.

“This has been especially apparent in Europe, where soaring energy prices have led to large current account deficits and collapsing growth forecasts,” the team adds. “European energy prices have now receded significantly from their highs and, although the winter may yet prove difficult, the outlook should settle in 2023 as European wide energy plans fall into place,” it says.

“If one considers the outlook for currencies only through the global growth prism, the temptation would be to conclude that weaker growth in the first half of 2023 would support the dollar and that, as the year progresses and growth bottoms out, a combination of excessive valuations and better growth prospects would lead to a rally in growth-sensitive currencies like the euro, sterling and the Canadian and Australian dollars,” according to Insight.

“We disagree; although entirely reasonable, this reasoning misses the very important and parallel narrative around inflation,” the team continues. “The recent peak or near-peak of global inflation coupled with stretched long US dollar positions helped to bring about a significant sell-off in the

## WEIGHTED DOLLAR IS AT THE HIGHEST LEVEL SINCE THE 1980s



Source: Bloomberg, US Federal Reserve, October 2022. Trade weighted US dollar is the US Fed Trade Weighted Real Broad Dollar Index.

dollar in December. Recent price action could well continue, supported by negative seasonality for the dollar and the remarkable resilience of activity data. This opens an opportunity for the dollar to remain under pressure for a while yet.”



## EMERGING MARKET SOVEREIGN DEBT

The BNYM IM GEIA Team retains a cautious outlook on emerging market (EM) debt, particularly high-yielding EM debt, citing wider geopolitical factors such as the war in Ukraine as a potential drag on some EMs.

“Our research suggests an imminent recession in Europe and continued strength in the US dollar. Although net commodity exporters remain a key exception, increasing numbers of frontier EMs are grappling with food price shocks, rising inflation and severe currency market pressure, and heightened odds of debt distress,” it says.

With local currency debt, the GEIA team has a more positive outlook on Brazil and Mexico thanks to their high interest rates, weak growth, and slowing inflation expectations. They have also, it believes, gone further in their policy normalisation, though New Year political unrest in Brazil, following the election of Brazilian president Luiz Inacio Lula da Silva, raised some fresh concerns about Brazil’s ongoing geopolitical stability.<sup>1</sup>

**But:** Elsewhere in EM, policy rates remain on an upward trajectory, but analyst expectations for end-2023 inflation and end-2023 policy rates are starting to decelerate adds the GEIA team. “We remain neutral on Chinese government bonds until re-opening effects fade. There will be plenty of medium-term opportunities to resume structural longs. But in the near-term, the delayed cyclical recovery, underpinned by further infrastructure-led stimulus related issuance, will keep yields on a stable-to slightly-widening path. We doubt if Chinese monetary authorities will ease much further. Or any additional easing will be incremental and highly targeted” it adds.

## CONVERTIBLE BONDS & COCOS

For those wishing to maintain exposure to equities to benefit from longer-term returns, 2022 proved a challenging year and, with major central banks expected to continue to raise interest rates into 2023, uncertainty remains high. However, according to the Insight fixed income team, sentiment arguably reflects this outlook, with surveys by major investment banks such as Bank of America suggesting pessimism is at historic extremes. It says it is therefore unclear whether equity markets will continue to struggle or bottom out and resume their longer-term uptrend.

In this climate, the team believes convertibles may offer a way for investors to participate in a future equity market recovery, while benefiting from the downside protection that their bond-like structures can provide.

The Insight team says: “As equity prices rise, the optionality embedded in a convertible bond kicks in, and the convertible experiences equity-like returns. However, the hybrid nature of convertibles means that if prices decline, the convertible starts to exhibit the characteristics of a bond, effectively limiting downside unless the underlying credit worthiness of the issuer becomes impaired.”

**But:** Among the convertible investment instruments on offer, contingent convertible (CoCo) bonds or so-called AT1s have historically been seen to offer a high coupon in return for potentially risky exposures.

These instruments, which convert from fixed income to equity if a pre-specified market trigger event is activated – have proved popular with European banks seeking to meet their capital requirements.<sup>2</sup> However, they remain a highly specialised investment suitable only for more sophisticated investors. While these hybrid products have attracted some concern over associated risks many professional investors do see potential advantages of investing in CoCos.

Describing some attractive features of the products in the current market, Newton portfolio manager and credit analyst Martin Chambers says: “In many cases these structures can offer high-yield returns but in products run by investment-grade management teams. They tend to be issued by large banks which are highly regulated, and post the financial crisis have their potential risks closely scrutinised.”

## SECURED FINANCE

Against a backdrop of softening economic data and an uncertain outlook, investors are naturally concerned about the health of the consumer. Although caution may be warranted in Europe, which appears more vulnerable to recession, the Insight fixed income team believes the outlook for the US consumer is more constructive.

“US-domiciled consumer-backed debts make up by far the largest and deepest segment of secured finance markets. Although the economic outlook in the US is softening, we believe the impact on US structured credit investors will be minimal,” it says.

Managers at Insight add that following the bursting of the debt bubble in 2008, US consumers have kept their balance sheets in robust shape, de-leveraging for more than 12 straight years. “Many consumers locked in fixed-rate debt at historically low rates during the pandemic, either refinancing at lower rates or via new mortgages. The unemployment rate is at historic lows and wages are growing strongly, allowing the Fed some room to raise rates without causing widespread unemployment. US consumers also stockpiled strong levels of cash during the pandemic,” it adds.

Even were consumers not in such a strong position, the protection built into senior tranches of asset backed securities would require cumulative impairments of unprecedented scale for investors to incur losses, adds Insight.

<sup>1</sup> Guardian. Brazil protests: Lula vows to punish 'neo-fascists' after Bolsonaro supporters storm congress. 09 January 2023.

<sup>2</sup> Bank underground. CoCo bonds and the risk appetite of banks: sweet or sour relationship. 06 July 2022.



**But:** One challenge is analysing the physical risks, such as of climate change, to asset-backed securities like secured finance. “For secured finance assets, since there is often a locational dependency, the physical effects of climate change are relevant,” explains Insight. “This is particularly the case if the securitisation involves a single asset. Ultimately, many secured finance assets lack data on climate risks.”

This is an area being discussed and hopefully addressed by industry leaders and regulators.



## SUSTAINABLE, ESG AND IMPACT BONDS

Growing concern about climate change, social conditions and corporate governance has seen environmental, social and governance (ESG) rise rapidly up the investor agenda in recent years, prompting a flurry of related products and new issuance.

Newton portfolio manager **Scott Freedman** says fixed income now plays a major part in the re-engineering of the financial system and its role in funding the transition is becoming increasingly important. However, he points out that wider consideration of levels of government support, increased engagement with the private sector and potential yields on offer are all important.

“It is not just about government action; the private sector is key to the mobilisation of mainstream capital, and it is reliant on credible frameworks and regulations being put in place,” he says.

“There is a question of what yields will be required for the market to absorb the issuance, and also what happens when the private sector is at risk of being crowded out by growing sovereign bond issuance. Therefore, the degree of government support is important, specifically whether grants and guarantees are required.”

Elsewhere Insight Investment sees huge potential for impact bonds in emerging markets as they seek funding solutions to tackle ESG-related challenges. Despite some setbacks in 2022 Insight predicts the market will see genuine recovery amid rising demand.

“There is little doubt that the world currently faces a variety of challenges at both a social and environmental level. Whether considering the potential scale of impact investing, or the broad scope for positive change, emerging markets (EM) are arguably an unparalleled opportunity for investors seeking to make an impact,” it says.

“While issuance of green, social and sustainable bonds (‘impact bonds’) in emerging markets have grown strongly in recent years, challenging market conditions in 2022 led to a loss of momentum in new issuance. Nonetheless, we believe the strong need for environmental and social investments in emerging markets will be supportive of new issuance and opportunities in EM over the course of 2023.”

**But:** Careful investment selection is crucial in a broad market which has faced accusations of ‘greenwashing’ or overstating the ESG impacts of some products, according to Insight. While data analysis can provide some answers on this, the Insight team points out it is important to understand the purpose and limitations of using ESG data, and the need for ESG data to mature at a much faster pace than it has done to date. “The sheer proliferation of products in this space underlines the need for robust research when selecting specific investments,” it explains.

Commenting on the risks of greenwashing and the importance of a ‘just transition’ to benefit the many in the move away from fossil fuel reliance Newton’s Freedman adds: “While investors need to be vigilant against the threat of greenwashing, demand for products such as labelled bonds is likely to continue to grow. Fundamental analysis of ESG factors from a holistic perspective, rather than a single asset and project focus, can help investors to avoid greenwashing pitfalls.”

It is also important to consider the ‘just transition’, according to Freedman. “There are social consequences to funding with a climate focus, such as the change in the profile of skills required from the workforce and the impact on communities. In our opinion, green targets should not be considered in isolation; economic development objectives are also important,” he concludes.

---

#### For Financial Professionals and Institutional Investors only.

This material should not be considered as investment advice or a recommendation of any investment manager or account arrangement, and should not serve as a primary basis for investment decisions. Any statements and opinions expressed are those of the author as at the date of publication, are subject to change as economic and market conditions dictate, and do not necessarily represent the views of BNY Mellon or any of its affiliates. The information has been provided as a general market commentary only and does not constitute legal, tax, accounting, other professional counsel or investment advice, is not predictive of future performance, and should not be construed as an offer to sell or a solicitation to buy any security or make an offer where otherwise unlawful. The information has been provided without taking into account the investment objective, financial situation or needs of any particular person. BNY Mellon and its affiliates are not responsible for any subsequent investment advice given based on the information supplied. This is not investment research or a research recommendation for regulatory purposes as it does not constitute substantive research or analysis. This information may contain projections or other forward-looking statements regarding future events, targets or expectations, and is only current as of the date indicated. There is no assurance that such events or expectations will be achieved, and actual results may be significantly different from that shown here. The information is based on current market conditions, which will fluctuate and may be superseded by subsequent market events or for other reasons. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be and should not be interpreted as recommendations. Past performance is no guarantee of future results. Information and opinions presented have been obtained or derived from sources which BNY Mellon believed to be reliable, but BNY Mellon makes no representation to its accuracy and completeness. BNY Mellon accepts no liability for loss arising from use of this material.

#### All investments involve risk including loss of principal.

**Not for distribution to, or use by, any person or entity in any jurisdiction or country in which such distribution or use would be contrary to local law or regulation.** This information may not be distributed or used for the purpose of offers or solicitations in any jurisdiction or in any circumstances in which such offers or solicitations are unlawful or not authorized, or where there would be, by virtue of such distribution, new or additional registration requirements. Persons into whose possession this information comes are required to inform themselves about and to observe any restrictions that apply to the distribution of this information in their jurisdiction.

#### Issuing entities

**This material is only for distribution in those countries and to those recipients listed,** subject to the noted conditions and limitations: • **United States:** by BNY Mellon Securities Corporation (BNYMSC), 240 Greenwich Street, New York, NY 10286. BNYMSC, a registered broker-dealer and FINRA member, and subsidiary of BNY Mellon, has entered into agreements to offer securities in the U.S. on behalf of certain BNY Mellon Investment Management firms. • **Europe (excluding Switzerland):** BNY Mellon Fund Management (Luxembourg) S.A., 2-4 Rue Eugène Ruppert L-2453 Luxembourg. • **UK, Africa and Latin America (ex-Brazil):** BNY Mellon Investment Management EMEA Limited, BNY Mellon Centre, 160 Queen Victoria Street, London EC4V 4LA. Registered in England No. 1118580. Authorised and regulated by the Financial Conduct Authority. • **South Africa:** BNY Mellon Investment Management EMEA Limited is an authorised financial services provider. • **Switzerland:** BNY Mellon Investments Switzerland GmbH, Bären gasse 29, CH-8001 Zürich, Switzerland. • **Middle East:** DIFC branch of The Bank of New York Mellon. Regulated by the Dubai Financial Services Authority. • **Singapore:** BNY Mellon Investment Management Singapore Pte. Limited Co. Reg. 201230427E. Regulated by the Monetary Authority of Singapore. • **Hong Kong:** BNY Mellon Investment Management Hong Kong Limited. Regulated by the Hong Kong Securities and Futures Commission. • **Japan:** BNY Mellon Investment Management Japan Limited. BNY Mellon Investment Management Japan Limited is a Financial Instruments Business Operator with license no 406 (Kinsho) at the Commissioner of Kanto Local Finance Bureau and is a Member of the Investment Trusts Association, Japan and Japan Investment Advisers Association and Type II Financial Instruments Firms Association. • **Brazil:** ARX Investimentos Ltda., Av. Borges de Medeiros, 633, 4th floor, Rio de Janeiro, RJ, Brazil, CEP 22430-041. Authorized and regulated by the Brazilian Securities and Exchange Commission (CVM). • **Canada:** BNY Mellon Asset Management Canada Ltd. is registered in all provinces and territories of Canada as a Portfolio Manager and Exempt Market Dealer, and as a Commodity Trading Manager in Ontario.

#### BNY MELLON COMPANY INFORMATION

**BNY Mellon Investment Management** is one of the world's leading investment management organizations, encompassing BNY Mellon's affiliated investment management firms and global distribution companies. BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation and may also be used as a generic term to reference the corporation as a whole or its various subsidiaries generally. • **Mellon Investments Corporation (MIC)** is a registered investment advisor and subsidiary of The Bank of New York Mellon Corporation. MIC is composed of two divisions: **Mellon**, which specializes in index management, and **Dreyfus**, which specializes in cash management and short duration strategies. Dreyfus is also a division of BNY Mellon Investment Adviser, Inc. (BNYMIA), a registered investment adviser. • **Insight Investment** – Investment advisory services in North America are provided through two different investment advisers registered with the Securities and Exchange Commission (SEC) using the brand Insight Investment: Insight North America LLC (INA) and Insight Investment International Limited (IILL). The North American investment advisers are associated with other global investment managers that also (individually and collectively) use the corporate brand Insight. Insight is a subsidiary of BNY Mellon. • **Newton Investment Management** – “Newton” and/or the “Newton Investment Management” brand refers to the following group of affiliated companies: Newton Investment Management Limited (NIM) and Newton Investment Management North America LLC (NIMNA). NIM is incorporated in the United Kingdom (Registered in England no. 1371973) and is authorized and regulated by the Financial Conduct Authority in the conduct of investment business. Both Newton firms are registered with the Securities and Exchange Commission (SEC) in the United States of America as an investment adviser under the Investment Advisers Act of 1940. Newton is a subsidiary of The Bank of New York Mellon Corporation. • **ARX** is the brand used to describe the Brazilian investment capabilities of BNY Mellon ARX Investimentos Ltda. ARX is a subsidiary of BNY Mellon. • **Walter Scott & Partners Limited** (Walter Scott) is an investment management firm authorized and regulated by the Financial Conduct Authority, and a subsidiary of BNY Mellon. • **Siguler Guff** – BNY Mellon owns a 20% interest in Siguler Guff & Company, LP and certain related entities (including Siguler Guff Advisers LLC). • **BNY Mellon Investor Solutions, LLC** is an investment adviser registered as such with the U.S. Securities and Exchange Commission (“SEC”) pursuant to the Investment Advisers Act of 1940, as amended. BNY Mellon Investor Solutions, LLC is a subsidiary of The Bank of New York Mellon Corporation.

No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission. All information contained herein is proprietary and is protected under copyright law.

**NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE |**

©2023 THE BANK OF NEW YORK MELLON CORPORATION. ID#: GE1276462 Expires: 31 May 2023. T11245 02/23