



Yield Curve Inversion.... This Time Is Not Different

April 2022

We believe the possibility of a recession in the US over the coming two to three years is increasing. Our latest forecasts put the odds at 1 in 3. As such, we take a strong signal from the recent (albeit brief) yield curve inversion and in the below note, address how our analysis led to this conclusion. Finally, we offer some guidance for navigating the road ahead.

Summary

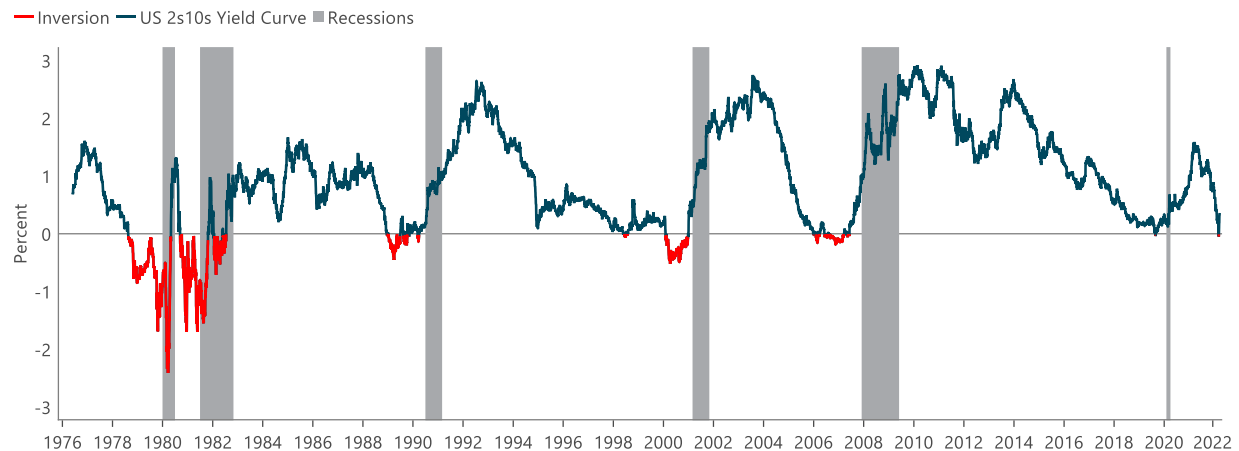
- Historically, when the US yield curve inverts, a recession subsequently occurs, although the lead time can be lengthy and historically has varied considerably (~10 months to 3 years). Hence, using the curve as near-term signal is challenging. The US yield curve, as measured by the spread between the 10-year US Treasury yield and 2-year US Treasury yield, inverted briefly in early April 2022.
- Many market commentators argued that the inversion in the yield curve does not provide a signal on future recession risks.
- In contrast, we think a hard look at the evidence suggests the curve is in fact providing a strong signal about the increasing risk of recession in the coming years. We believe the odds of a recession in the US over the coming 24-36-months are about 1 in 3 (higher than the unconditional recession probability in a typical year), and the likelihood of a single quarter of negative growth slightly less than 50%.
- In our latest edition of [Vantage Point](#) we discuss the scenarios that in our view may lead to a recession, as well as the probability we attach to them. Perhaps the strongest argument for a recession is that central banks made a policy mistake during the pandemic, over-estimating its longer-term negative consequences. As a result, they loosened policy too much and today's inflation is in part a result of that mistake. We may be at the point where getting inflation back under control will necessitate a major economic slowdown or possibly recession. Some would argue that's what bond markets are signaling, and the risks are rising, but we think the argument is more nuanced.
- Importantly, even with our view of increasing recession risks, we think long-term bond yields have some room to rise further, and equity markets can progress from here. As always, the next recession is inevitably in the future, however, the crux of the problem is knowing when.

Yield curve inversion and recessions

An inverted yield curve is a rare state in the bond market. In the past 30 years, the spread between short (2-year US Treasury yield) and longer dated note (10-year US Treasury yield) has averaged ~115 bps, but with large swings from +280 bps to -50 bps. In the late-1970s and early 1980s, even more extreme inversions occurred. More recently, it inverted briefly in early April 2022.



Past 50 years of 2s10s



Source: BNY Mellon IM, Macrobond. Data as of 4/15/2022

Intuitively, because there are expectations of inflation and greater uncertainty over the path for policy rates baked into longer-term rates, longer rates should normally be higher than short rates to compensate holders of long bonds.

When short rates exceed longer rates, the bond market may be signaling that monetary policy is too tight and is leading to a slowdown in the economy. Historically, when multiple parts of the curve are inverted for a considerable amount of time, a recession subsequently occurs, albeit the lead time can be lengthy.

Many commentators have argued that the recent inversion in the yield curve does not provide a strong signal on future recession risks. This is because, they say, some segments of the curve are not inverted, and longer-term interest rates may be artificially depressed due to a host of factors, most prominently due to quantitative easing (QE).

Is this time different?

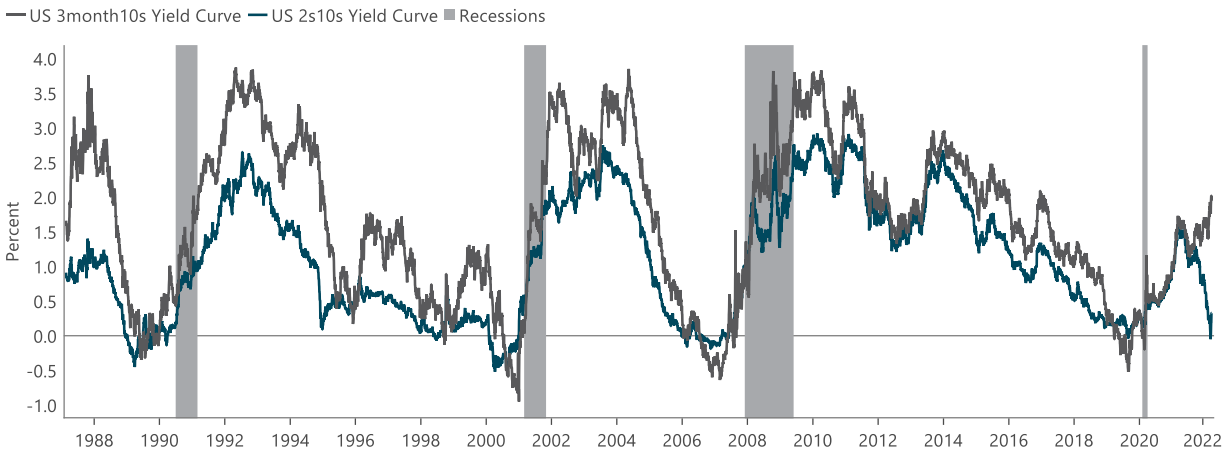
In this note we ask, is this time different, as suggested by many? To answer the question upfront, we don't think it is and take a strong signal from the current yield curve inversion. We believe the odds of a recession in the US over the coming 24-36-months are 1 in 3, and the likelihood of a single quarter of negative growth slightly less than 50%. In our latest edition of [Vantage Point](#) we discuss the scenarios that in our view may lead to a recession, as well as the probability we attach to them.

The lack of inversion in parts of the curve is not unusual

One observation made by many commentators is that while the 10y-2y spread (also known as "2s10s") became briefly negative recently, some parts of the curve are not inverted, and in fact have widened of late.

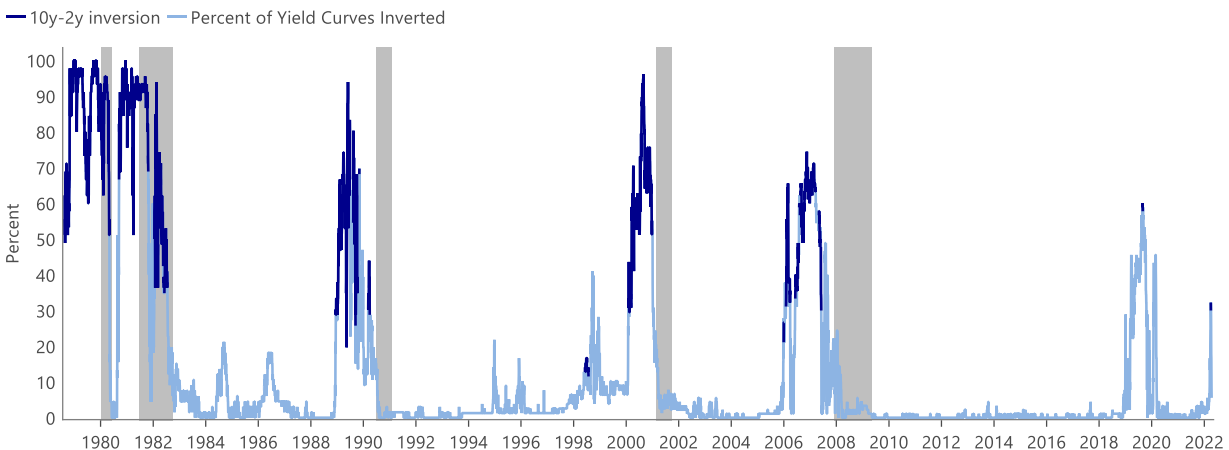
While most people focus on the 2s10s, Fed research identifies the 10year-3month spread as the most reliable predictor of a recession, and by this measure the yield curve has not inverted yet. In fact, the probability of recession in 12 months' time, as calculated by the New York Federal Reserve based on this measure, remains below 10%.

Past 30 years, 2s10s and 3month10s – not all parts of the curve are inverting...



Broadly speaking, what we observe today is not unusual. In fact, it is common for distinct measures of the yield curve to invert at a different time than the 2s10s ahead of recessions.

Percent of US Yield Curve Measures Inverted



And a dramatic surge in the 3-month US Treasury yield looks all but certain, with forwards indicating that it won't be long until the 10y-3m spread also inverts. While 2s and 10s have increased significantly in recent months, the 3-month yield, which is closely tied to the actual Fed Funds rate, has increased by much less since the Fed has lifted the policy rate by only 25 basis points (bps) thus far.

Indeed, one major difference from previous hiking cycles is that the Fed is "behind the curve" in hiking policy rates and so far, has mostly tightened policy through communicating that the Fed Funds rate will hit nearly 2% over the next 6 months and 2.8% a year from now. Such expectations have driven the surge in 2-year yields, and as policy rates are tightened over the coming Fed meetings, 3-month yields will follow suit.

The US 3m-10s yield curve is steep but market expectations show it will invert later this year



Source: BNY Mellon IM, Macrobond. Data as of 4/14/2022

The lack of inversion in 2s10s real yields is due to distortionary factors

A second observation made by economic commentators is that some of the underlying components of the curve that are usually associated with a recession – that is, **real** interest rates - are also not inverted. In fact, the 2s10s real yield curve stands firmly in positive territory.

Historically, the inversion in 2s10s nominal yields has occurred together with an inversion in 2s10s real (i.e., inflation-adjusted) yields. This is because real interest rates are even more closely related to the policy stance (the 2-year maturity) and expectations for real economic growth (the 10-year maturity) than nominal yields.

In our view the lack of inversion in the 2s10s real yield curve is explained by unusual factors depressing 1-year real yields. First, both current and near-term future inflation are significantly above target, something the Fed has currently no control over given the lags with which monetary policy impacts economic growth and inflation in turn.

Second, there are economic/financial stability constraints for how much policy rates can be hiked in the near term – the Fed cannot realistically move rates to high single digit levels to bring the real policy rate closer to positive levels today. Therefore, very near-term real yields (< 1 year) are trading at extremely negative levels.

Once we strip out from our measure of the real yield curve the factors that are distorting its reading¹, we also see an inversion in the **real** yield curve.

¹ Specifically, we look at forward rates and focus on 9-year yields minus 1-year yields, 1-year ahead.

The real yield curve is also inverted once near term distortionary factors are accounted for



Source: BNY Mellon IM, Macrobond, Data as of 4/14/2022

Low long-term rates or QT do not make a negative yield curve less informative for predicting recessions

Finally, a third point made by many researchers is that long term interest rates are much lower than in previous decades, perhaps artificially low after years of QE, making a yield curve inversion more likely. The argument often follows that as quantitative tightening (QT) starts up, the process could go into reverse with long term yields rising sharply and the yield curve possibly steepening.

Our view is that historically low long term interest rates are justified by economic reasons, namely low levels of economic growth that also increases the probability that a random negative economic shock turns into a recession (that is, GDP growth turning negative for two -quarters in a row) - all else equal.

Contrary to received wisdom, we also think that a faster pace of QT would not steepen the curve, unless it disrupted market liquidity, which is not our central view, but would instead make an inversion in the yield curve more likely. The idea that QE keeps yields artificially low and that its reversal, QT, will lead to a dramatic rise in long term yields rests on the view that central bank balance sheet policies operate to a large extent by impacting demand and supply dynamics in the government bond market.

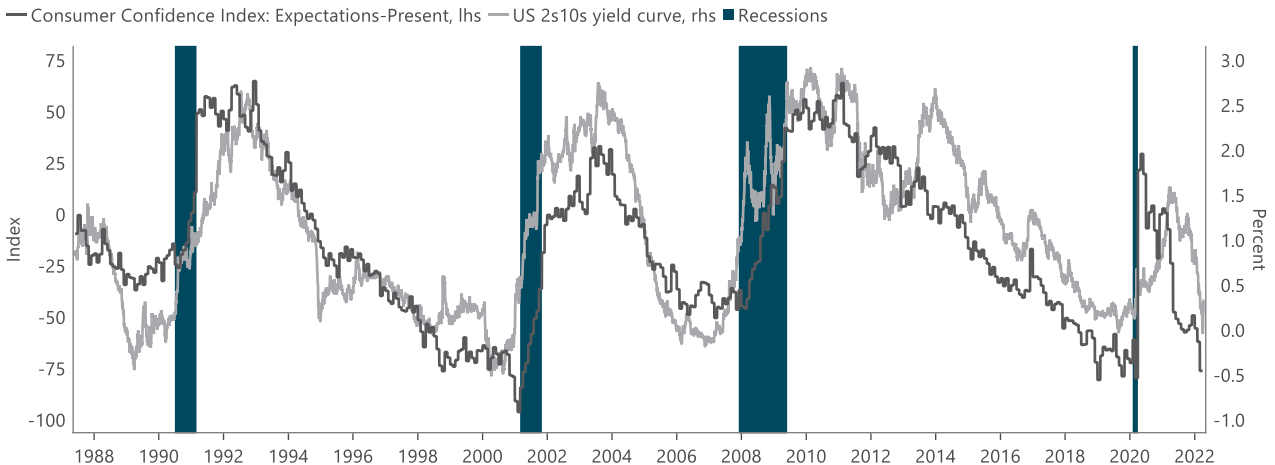
As the argument goes, a fall in the stock of bonds held by the central banks (via QT) implies there will be a greater amount of bonds available in the market, leading to an increase in the compensation required by investors to absorb more bonds (i.e., the term premium). In other words, greater bond supply and lower prices (higher yields). Given the term premium is one of the primary drivers of long term-rates relative to short term rates, such a rise in long term rates leads to a steepening in the yield curve.

In our opinion, while there remains uncertainty around the magnitude of the various channels through which QE impacts interest rates, and this channel may well be important at times, far more important is how QT impacts the broader US monetary policy stance, and future economic expectations.

Our argument is as follows: a faster pace of QT would lead to expectations of a tighter policy stance (higher expected rates), but also to increased expectations for a slowdown in economic activity - offsetting some of the rise in the average policy rate embedded in the 10-year yield in the form of expectations. And as the probability of an economic slowdown rises, the term premium falls, because it becomes more desirable to hold a safe fixed income security when the economy does poorly. Such a concoction of factors tends to lead to a rise in yields initially but also a flattening of the yield curve, making a prolonged inversion more likely.

To put it simply, a faster QT cycle indicates a more aggressive policy tightening and an increasing risk of slowing economic growth leading to a recession, which leads to a flattening of the curve and ultimately to lower rates as monetary policy reverts to loosening.

The slope of the yield curve is closely related to expectations for economic activity



Source: BNY Mellon IM, Macrobond, Alpine Macro Research. Data as of 4/14/2022

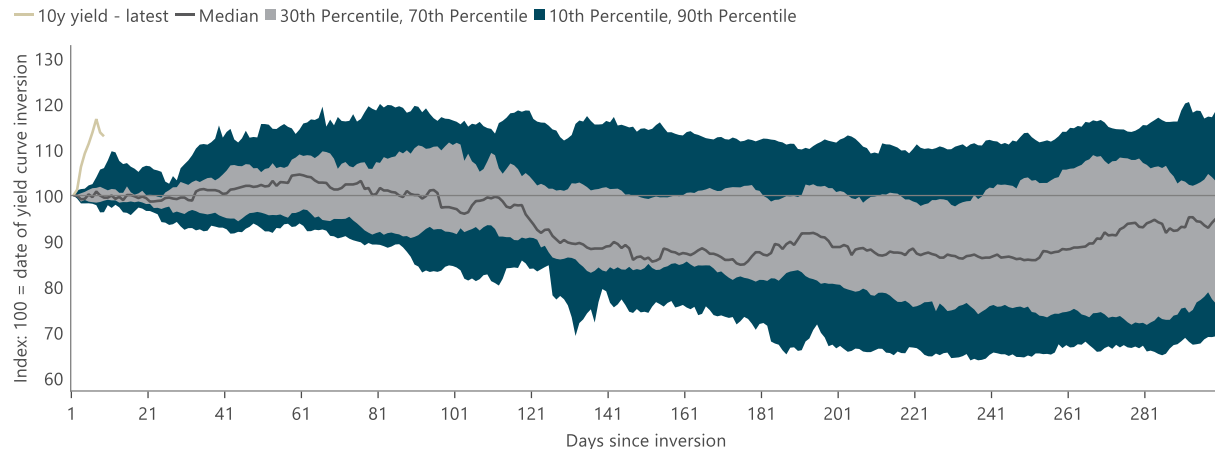
What are the implications for long-term bond yields and equities?

To conclude, even if we believe a recession in the US is a concrete risk in the next few years, we think long-term bond yields have some room to rise further, and equity markets to progress from here.

We believe long-term bond yields have further room to rise. One regularity in US markets is that 10-year yields rise as long as shorter-term *forward* rates rise – including ahead of recessions – and we still think short rates may increase somewhat further.

That said, long-term bond yields have already surged at an unprecedented speed - such that the drawdown for holders of 10-year treasuries has been one of the worst ever recorded. We think the time to go long 10-year USTs may be approaching. First, our measures of fair value for 10-year treasuries shows that nominal yields have already approached somewhat stretched levels, at least if long-term inflation expectations remain anchored (which we believe will be the case). In addition, we note that 10-year yields tend to rise somewhat in the months after an inversion in the yield curve but tend to fall after about 9-months on from the inversion.

10-year yields after an inversion in the US 2s10s yield curve



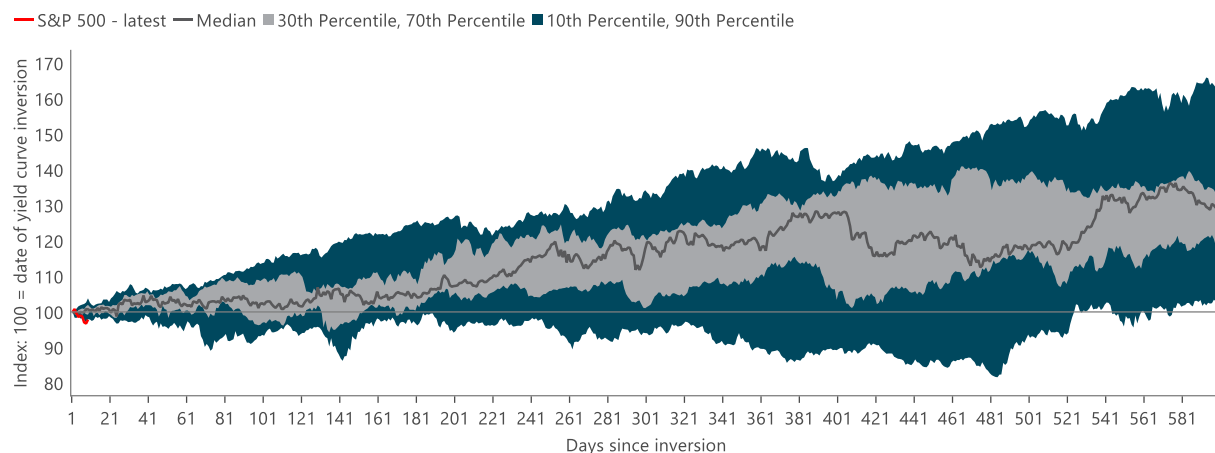
Source: BNY Mellon IM, Macrobond, Data as of 4/14/2022

On equities, despite the pessimistic view of this note, we do not think it's time to turn bearish on the S&P 500.

Historically, there is a lag between the inversion in the yield curve and the local peak in the equity market. In fact, on average, the S&P 500 tends rise for about a year after a yield curve inversion before falling.

The reason is twofold: 1) there is often a lengthy lead time between the yield curve inverting and other factors that ultimately “break” (e.g., tech bubble in 2000 and housing bubble in 2007); and 2) equity markets tend to fall closer to when recessions start as credit markets begin to see stress and high frequency economic indicators begin to indicate that activity is quickly slowing. We don't see that today but will keep a keen eye as this nascent tightening cycle progresses.

S&P 500 performance after an inversion in the US 2s10s yield curve



Source: BNY Mellon IM, Macrobond, Data as of 4/14/2022

FOR INSTITUTIONAL, PROFESSIONAL, QUALIFIED INVESTORS AND QUALIFIED CLIENTS. FOR GENERAL PUBLIC DISTRIBUTION IN THE U.S. ONLY.

This material should not be considered as investment advice or a recommendation of any investment manager or account arrangement. Any statements and opinions expressed are 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. To the extent that these materials contain statements about future performance, such statements are forward looking and are subject to a number of risks and uncertainties. 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: For Institutional, Professional, Qualified Investors and Qualified Clients. For General Public Distribution in the U.S. Only.

- **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, Fraumünsterstrasse 16, 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.
- **Australia:** BNY Mellon Investment Management Australia Ltd (ABN 56 102 482 815, AFS License No. 227865). Authorized and regulated by the Australian Securities & Investments Commission.
- **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. • **Insight Investment** - Insight North America LLC (INA) is a registered investment adviser under the Investment Advisers Act of 1940 and regulated by the US Securities and Exchange Commission. INA is part of 'Insight' or 'Insight Investment', the corporate brand for certain asset management companies operated by Insight Investment Management Limited including, among others, Insight Investment Management (Global) Limited (IIMG) and Insight Investment International Limited (IIIL) and Insight Investment Management (Europe) Limited (IIMEL). Insight is a subsidiary of The Bank of New York Mellon Corporation. • **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. • **Alcentra** - The Bank of New York Mellon Corporation holds the majority of The Alcentra Group, which is comprised of the following affiliated companies: Alcentra Ltd. and Alcentra NY, LLC. which are registered with the U.S. Securities & Exchange Commission under the Investment Advisers Act of 1940. Alcentra Ltd is authorized and regulated by the Financial Conduct Authority and regulated by the Securities Exchange Commission. • **ARX** is the brand used to describe the Brazilian investment capabilities of BNY Mellon ARX Investimentos Ltda. ARX is a subsidiary of BNY Mellon. • **Dreyfus Cash Investment Strategies** (Dreyfus) is a division of BNY Mellon Investment Adviser, Inc. (BNYMIA) and **Mellon Investments Corporation** (MIC), each a registered investment adviser and subsidiary of BNY Mellon. Mellon Investments Corporation is composed of two divisions; Mellon, which specializes in index management and Dreyfus which specializes in cash management and ultra short strategies. • **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).

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 |

©2022 THE BANK OF NEW YORK MELLON CORPORATION

IS-262821-2022-04-14
GU-244 – 14 April 2023