Bond Compass
A Rate and Reflation Balancing Act

Q2 2021

STATE STREET GLOBAL ADVISORS SPDR®

A Leader in Fixed Income Investing

$551*

billion in
fixed income assets

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- State Street Global Advisors' global scale enables our portfolio managers, traders and investment strategists to be sector specialists and based in their geographic markets
- Our dedicated capital markets teams provide 24-hour coverage across global markets, offering enhanced liquidity and cost-efficient** trading strategies

25

years of
bond index
investing
experience

Proven Track Record

- 25 years of bond investing — our first fixed income fund launched in 1996
- More than 100 fixed income professionals dedicated to conducting research, managing risks and costs, and supporting our clients

100+

fixed income strategies

Innovative Solutions for Bond Investors

- Comprehensive range of cost-effective* ETFs
- Our offerings range from government bonds to corporates, emerging market debt, high yield, and convertibles — and everything in between

* State Street Global Advisors, as of 31 March 2021.
** Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

Contents

Investor Sentiment — Flows and Holdings

A snapshot of global fixed income flows, holdings and valuations, based on data provided by State Street Global Markets.*

* The fixed income flows and holdings indicators produced by State Street Global Markets, the investment, research and trading division of State Street Corporation, are based on aggregated and anonymised custody data provided to it by State Street, in its role as custodian. State Street Global Advisors does not have access to the underlying custody data used to produce the indicators.

Fixed Income Flows and Holdings

State Street Global Markets builds indicators of aggregated long-term investor behaviour in fixed income markets from a substantial subset of $12.4 trillion worth of fixed income assets under custody and administration at State Street.* This captures behavioural trends across tens of thousands of portfolios and is estimated to cover just over 10% of outstanding fixed income securities globally.

Analysis

Good news was bad for bond investors in the first quarter, as improving growth prospects on the heels of accelerating vaccinations and fiscal stimulus pushed global yields higher. With administered doses nearing 700 million globally, the immunization process has been truly spectacular given we essentially started at zero just a few months ago. The rollout has been uneven, however, with the EU notably lagging the US and UK in the developed world, while the variability in emerging economies is even greater. On the stimulus front, the Biden administration quickly passed another $1.9 trillion in relief funding, providing further support to the economic recovery.

The global growth picture has improved dramatically in light of these developments, with the International Monetary Fund (IMF) upgrading its global outlook twice since the start of the year. The US is leading the charge, with the Federal Reserve (Fed) raising its 2021 gross domestic product (GDP) estimate by 230 bps since December to 6.5 percent. Inflation expectations have also risen along with the improving growth outlook, which has been a primary driver in repricing yields. The almost-40-bps increase in implied 10-year breakeven inflation accounted for half of the rise in Treasury yields in Q1, while higher rate-hike expectations accounted for the other half. As it stands now, the Fed is expected to begin raising rates by late 2022, and most of the G-10 central banks are expected to join in earnest during 2023. Central banks took disparate approaches to address rising yields, with some actively pushing back, like the European Central Bank (ECB) and Reserve Bank of Australia (RBA), while others were encouraged by the implied economic gains embedded in higher interest rates, like the Fed and Bank of Canada (BOC).

Overall, Treasuries posted their weakest quarter since the 1980s, while corporate bonds were the weakest since the Global Financial Crisis. Investor behavior reflected these concerns. Our data showed negative Treasury flows since February, with cross-border activity leading overall outflows. Eurozone sovereign flows proved more resilient, with the ECB increasing asset purchases in an attempt to contain rising yields. This has resulted in an investor preference for yield, with Italian sovereign bond (BTP) flows among the strongest during the quarter. Demand for emerging market (EM) debt was weak throughout the quarter, with an earlier preference for Asia waning, and all regions now in outflows. EM investor confidence has declined in the face of the stronger US dollar (USD) and rising inflation concerns. There was still an overall reach for yield, however, with high yield flows remaining in the top decile all quarter, while investment grade flows were closer to neutral.

The above estimates based on certain assumptions and analysis. There is no guarantee that the estimates will be achieved.
* State Street Form 10-K, as of 31 December 2020.

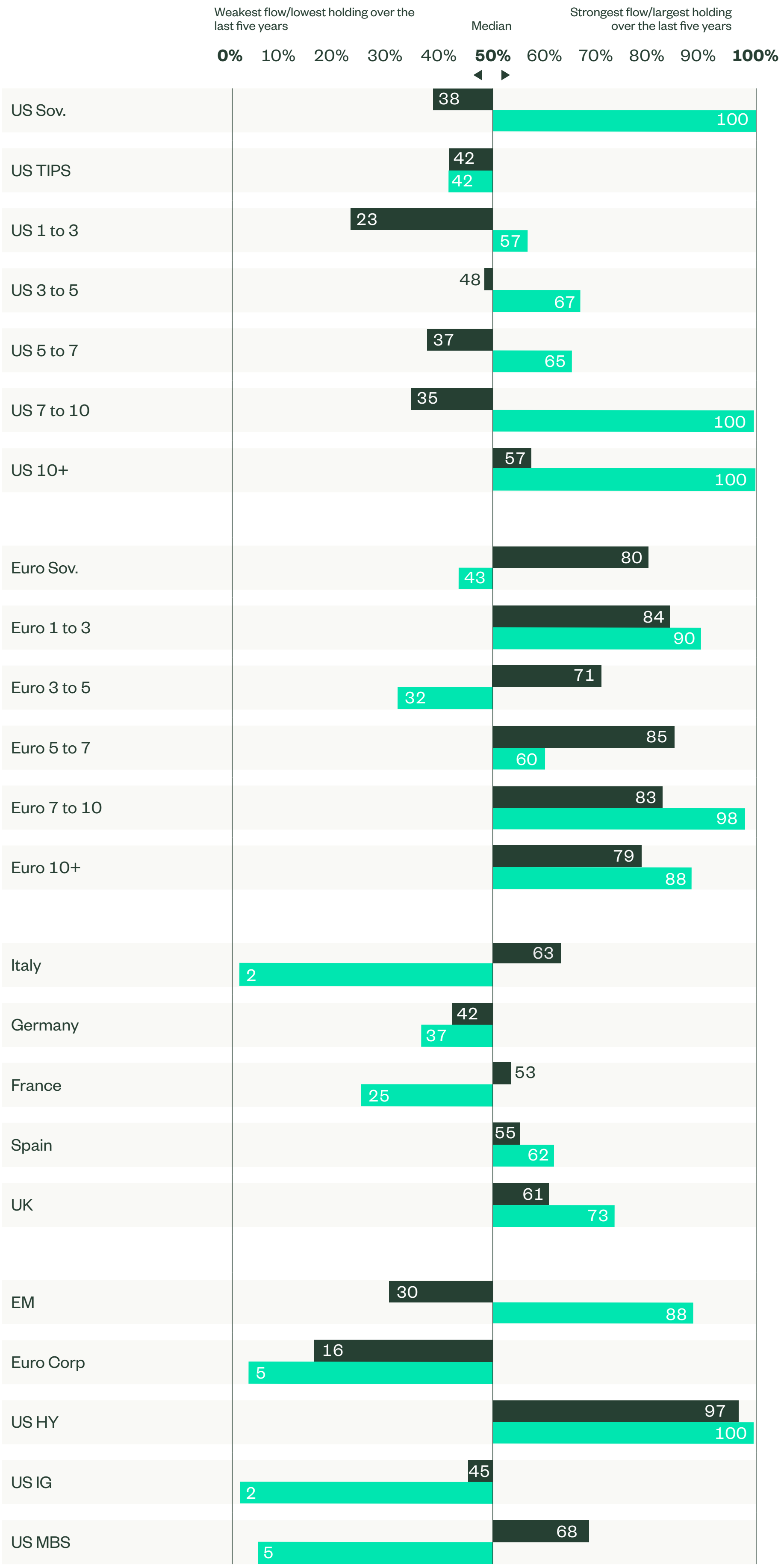
Q1 2021
Flows & Holdings

90-Day Flows

Holdings*

These metrics are generated from regression analysis based on aggregated and anonymous flow data in order to better capture investor preference and to ensure the safeguarding of client confidentiality.
The figures are shown as percentiles, expressing the flows and holdings over the last quarter, relative to the last five years. The benefit of this approach is that it provides perspective on the size of flows and holdings compared to their historical trends, whereas a single, dollar figure provides less context.

For more information please visit globalmarkets.statestreet.com



Source: State Street Global Markets, as of 31 March 2021. Flows and holdings are as of date indicated. They should not be relied thereafter. *As at quarter end.

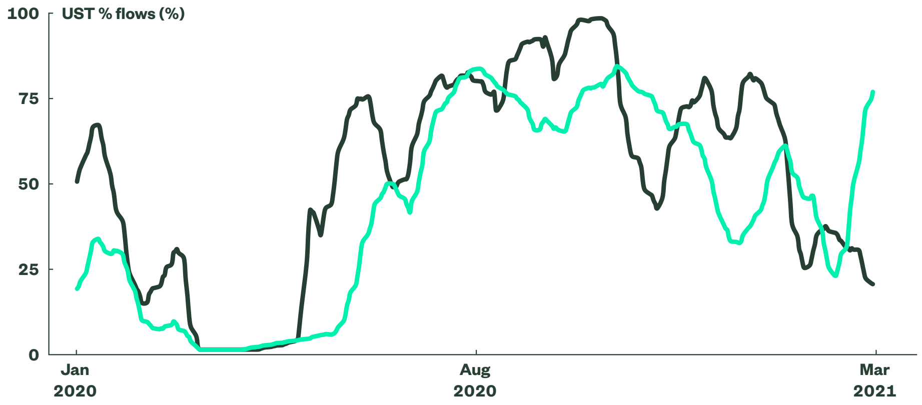
Foreign Buyers Emerge for Treasuries

Treasuries were on the back foot for the better part of the first quarter as our flow data shifted from relatively strong buying to outright selling. This led to price gaps and a series of weak auctions as the marginal buyer was not yet attracted to higher yields. While our overall flows remain negative, foreign buying of Treasuries has bounced back, an indication that price concessions are at least attracting some buyer groups back into the asset class. With US government financing needs remaining high for the remainder of the year, finding a more stable clearing level for Treasuries will be important for all asset classes.

US Treasury: 20-Day Aggregate Flows vs. 20-Day Cross-Border Flows

US 20d Flows

US 20d XB Flows

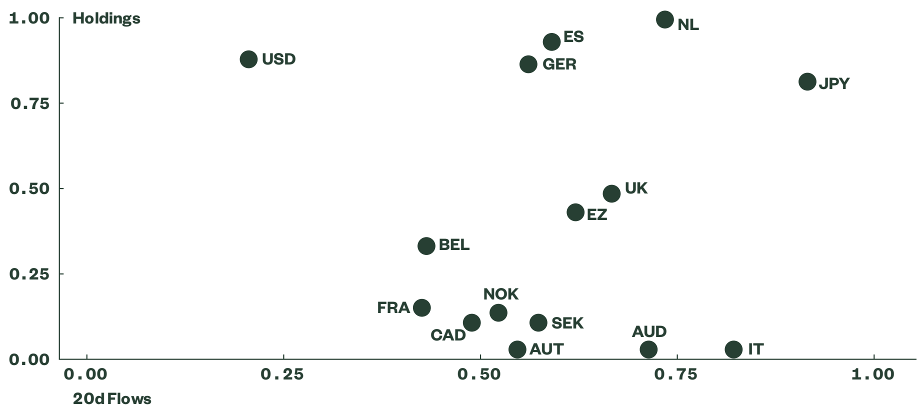


Source: State Street Global Markets, as of 31 March 2021.
Flows and holdings are as of the date indicated. They should not be relied on thereafter.

Looking for a Safe Place to Hide

Rising yields were a global phenomenon in both developed and emerging markets during the first quarter. Even Japanese government bonds (JGBs) posted a modest rise in interest rates since the start of the year. While higher Treasury yields gained the most attention, other sovereign markets actually had similar or larger yield gains, with Canada, Australia, New Zealand, and the US all recording an 80-bps-or-more increase in 10-year yields during the quarter. Investors are nonetheless the most negative on Treasuries, with duration-weighted flows at only the 20th percentile versus overall developed market flows in the 40th percentile (20-day moving average). Stronger flows into JGBs and the eurozone show that investors are presently favoring stability in yields over the yield advantage offered by Treasuries.

Sovereign Market 20-Day Flows vs. Holdings

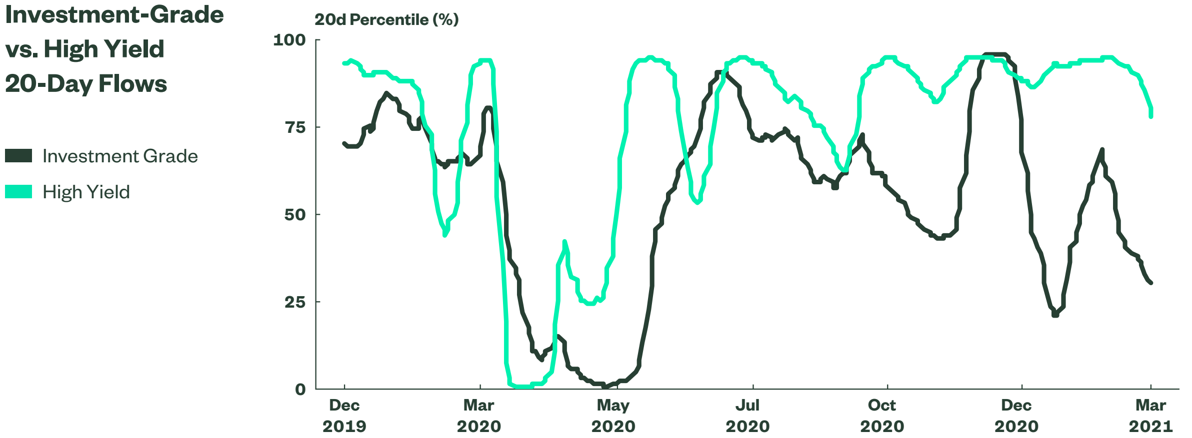


Source: State Street Global Markets, as of 31 March 2021.
Flows and holdings are as of the date indicated. They should not be relied on thereafter.

Still Reaching for High Yield

High yield was one of the few fixed income asset classes able to record a positive return in the first quarter, supported by its lower duration profile and higher-yielding average coupons. Financing conditions also remain supportive, with high yield issuance in March recording its biggest month ever at a time when upgrades are outpacing downgrades by one of their widest margins in decades. Investor flows reflect this positive bias, with 20-day high yield flows remaining in the top quartile for the past five months. In contrast, investment grade investors have been net sellers since the start of the year even as spreads remain largely unchanged on the year.

Investment-Grade vs. High Yield 20-Day Flows



Source: State Street Global Markets, as of 31 March 2021.
Flows and holdings are as of the date indicated. They should not be relied on thereafter.

PriceStats®

Quarterly measure of inflation based on prices from millions of items sold by online retailers, helping investors anticipate and evaluate the impact of inflation.

PriceStats®

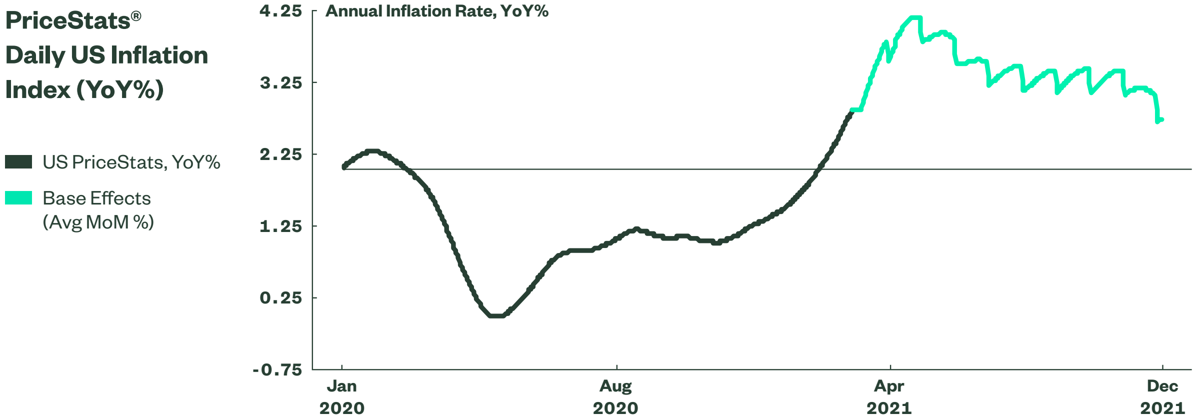
PriceStats® provides high-frequency measures of inflation and real exchange rates drawn from prices on millions of items sold by online retailers. This real-time pulse of global economic trends helps investors anticipate and evaluate the impact of inflation, including the impact on monetary policy and the degree of exchange rate misalignments.

This information is available on a daily basis from State Street Global Markets: globalmarkets.statestreet.com.

US: More Than Just the Base

Inflation readings are set to surge globally as the deflationary impulse from last spring's lockdowns are expected to reverse in the coming months. Since the decline in US prices last year was one of the largest, the subsequent bounce back will appear to be one of the strongest. This, however, is well understood and largely viewed as transitory, with practically every Federal Reserve (Fed) speaker expressing a view that the jump in prices will not last. Nonetheless, there are signs that the recent rise in inflation readings reflect more than just base effects, with stronger-than-average monthly readings since the end of last year. Ultimately, it will take several months to sort it all out and we won't have a clear sign on structural versus transitory pricing pressure until later this year.

PriceStats® Daily US Inflation Index (YoY%)



Source: State Street Global Markets, as of 31 March 2021.

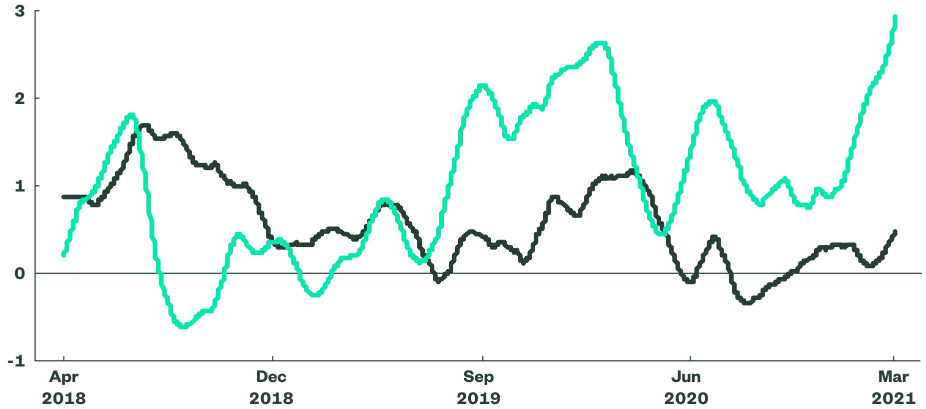
Eurozone: Not All Peripheries Are Created Equal

The eurozone has always been challenged by the disparate economic profiles of the member states. While the most obvious example has been the performance of the core countries versus the periphery, differences have also emerged within the groups. Italy has been the most economically fragile, even before becoming the epicenter of the virus on the continent. Yet another round of lockdowns in Italy is further complicating the inflation picture as it now has the weakest inflation profile of the European economies tracked by PriceStats. While the European Central Bank (ECB) is likely encouraged by the overall rise in prices, the wide variances in economic performance will continue to challenge a cohesive policy response.

PriceStats® Italy vs. Spain (YoY%)

PriceStats Italy YoY (%)

PriceStats Spain YoY (%)



Source: State Street Global Markets, as of 31 March 2021.

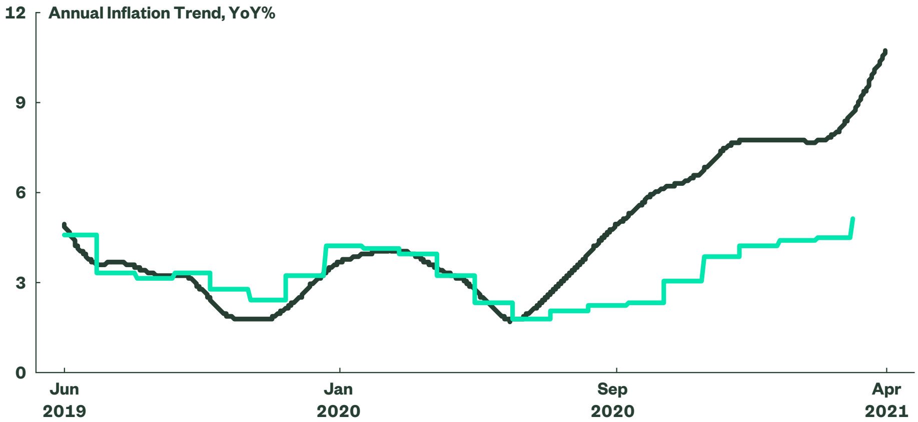
Emerging Markets: Brazil Inflation Rising

Prices in Brazil have bounced backed sharply over the past few quarters and continue to accelerate. PriceStats showed monthly gains of more than 2 percent at the end of Q1. While energy makes up a large portion of these gains, industrial goods are also driving upward pressure, no doubt impacted by the weaker Brazilian real. This inflation profile prompted the Central Bank of Brazil to be one of the first monetary authorities to hike rates, raising the Special Clearance and Escrow System (SELIC) by 75 bps to 2.75 percent and signaling a comparable hike when they meet again in May. The timing of these hikes during a challenging vaccine rollout will pressure the economy and, for the moment, signals concerns of inflation topping growth.

PriceStats® Brazil Inflation Index (YoY%)

Brazil PriceStats YoY %

Official Data YoY %



Source: State Street Global Markets, as of 31 March 2021.

Q2 Investment Outlook

State Street Global Advisors has identified the key considerations for investors in the coming quarter, and how markets can be navigated using SPDR ETFs.

Overview of Q2 2021 Themes

A Rate and Reflation Balancing Act

Accommodative monetary policies and fiscal stimulus have fueled higher inflation expectations and have put an upward pressure on interest rates to start the year. The sell-off in US Treasuries this quarter was the worst in 40 years, with the US 10-Year Treasury yield climbing by over 80 basis points so far in 2021.[1] With US Treasuries posting their worst quarterly return since the 1980s, Treasury-heavy core Agg bonds had their worst quarter since 1981, falling 3 percent over the first three months of 2021.[2] Speaking to the risk-on mentality expressed in the equity markets, the only bond segments that have seen positive performance this year are credit-sensitive high yield bonds and senior loans.[3]

Though rates have risen recently, they do remain suppressed relative to both long-term averages (64 percent below 30-year average).[4] The amount of global debt trading below a 1 percent yield now outpaces the entire market capitalization of the S&P 500.[5] That's a problem, as one of the primary functions of bonds in a portfolio is to generate income. Not to mention, the 1.6 percent yield we see today for core Agg bonds compared to five-year inflation expectations (2.60 percent) indicates the potential for a negative real return from the coupon alone.[6]

Looking beyond the Fed's accommodative monetary policies and the recently passed $1.9 trillion pandemic relief stimulus bill, there are two more forces that could have an impact on the rates market as we get deeper into 2021:

1. The recently announced $2.25 trillion infrastructure bill from the Biden administration

2. The pent-up savings that could filter into the real economy as the recovery grows stronger

While the merits and details of the bill remain to be seen, there are identifiable savings on the sideline that are likely to have a more immediate impact. The US personal savings rate currently sits at 13.6 percent of disposable income, and there is roughly $1.2 trillion more in excess savings than pre-pandemic levels.[7] The reopening continues to trend positively — indicating the economy could receive this cash infusion sooner rather than later — as March labor-market data showed an increase of 916,000 in US nonfarm payrolls, above the average estimate of 660,000.[8] By ushering in higher growth and inflation, this could push rates even higher and have an impact throughout asset allocation models as the markets navigate this latest regime shift.

In the end, rising rates may create headwinds on a total return basis and the low starting yield presents issues from an income generation perspective in our current market — especially on an after-tax basis. To ensure portfolios remain properly diversified and meet their return objectives, investors could consider replacing traditional bonds with less rate-sensitive and more growth-sensitive bonds — both in and out of the core — using mortgage-backed securities, senior loans, and high yield municipal bonds.

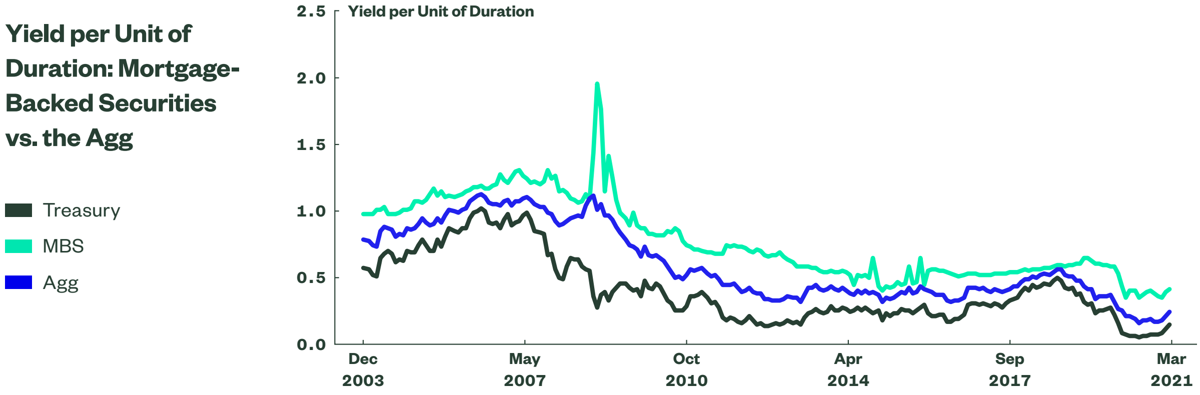
Investment Theme #1

Use MBS to Pursue Income in the Core while Tempering Interest Rate Risk

With rates well off their pandemic lows, it is fair to say rates may have bottomed out. Yet the expected returns on core aggregate bonds remain low and are likely to be below what investors have witnessed over the past decade, given there is a 95 percent correlation of the yield at time of purchase and the subsequent three-year annualized total returns.[9] Current yields for the Agg sit at just 1.61 percent,[10] so returns over the next three years could be around that level if the historical trend remains intact.

Mortgage-backed securities (MBS) offer a yield (1.82 percent) above that of core aggregate bonds (1.61 percent) and US Treasuries (1.00 percent) with lower volatility (2.1 percent versus 3.5 percent and 4.5 percent, respectively).[11] Thanks to their lower duration and higher yield than the Agg, MBS have exhibited the highest yields per unit of volatility among all core bond segments, leading to their outperformance of 3.15 percent over the Agg so far this year.[12] As yields have moved higher on the back of improving economic growth, MBS may extend their outperformance over other core bond segments. With a different rate risk profile (4.4 years duration) than other core bond sectors (6.7 years US Treasuries, 8.4 years for US investment-grade corporate bonds),[13] MBS may be a valuable overweight in the core. And MBS' historical negative correlation to equities (-20 percent)[14] indicates that a potential overweight in core portfolios may not adversely impact the role bonds play in seeking to diversify growth and asset volatility.

Yield per Unit of Duration: Mortgage-Backed Securities vs. the Agg



Source: Bloomberg Finance, L.P., March 31, 2003–March 31, 2021. Treasury = Bloomberg Barclays US Treasury Index, MBS = Bloomberg Barclays US Securitized MBS Index, Agg = Bloomberg Barclays US Aggregate Bond Index. **Past performance is not a guarantee of future results. It is not possible to invest directly in an index.**

Favourable market trends including the strong housing market[15] and the Federal Reserve continuing to purchase MBS ($40 billion a month) as part of its stimulus plan may temper extension risk fears from higher rates. The housing market is in a strong position as the average price of a single family home is at a seven-year high[16] while both new and existing home sales also are above their pre-pandemic levels. Meanwhile, a tight mortgage-lending environment may reduce default risk as about 70 percent of mortgages issued in 2020 went to borrowers with credit scores of at least 760, up from 61 percent in 2019.[17] Rising interest rates also indicates that prepayment risk is reduced for MBS as refinancing has fallen drastically in the last two months.[18]

To temper interest rate risk in a core bond portfolio while aiming to reduce extra risk, investors may consider overweighting MBS in the core through allocating to the SPDR® Portfolio Mortgage Backed Bond ETF [**SPMB**].

Investment Theme #2

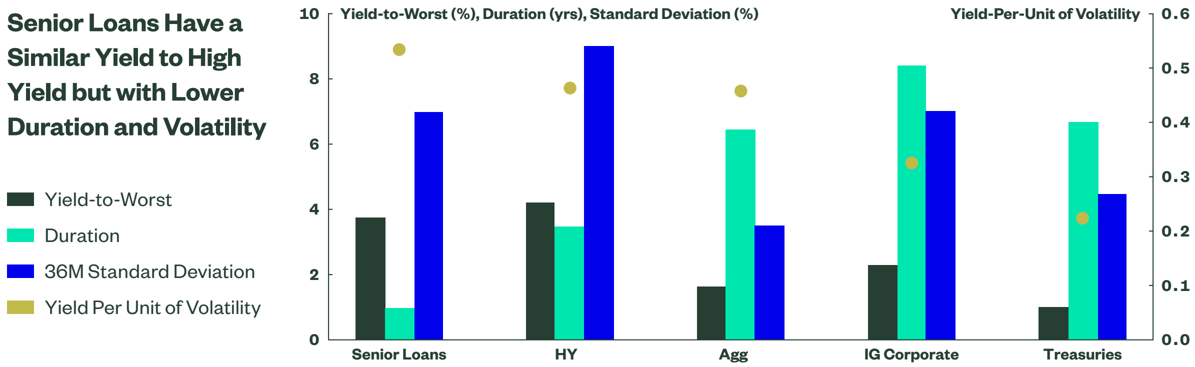
Focus on Loans for Defensive Yield in a Higher-Rate Environment

Like other credit exposures, loans may continue to benefit from the ongoing loose monetary and fiscal policies that have supported risk assets over the past few months. Amid the reflation rally, loans have outperformed the broader Agg in 11 months over the past year.[19] Loans have also outperformed other fixed-rate securities like investment-grade corporates, Treasury bonds and even high yield in the pandemic recovery.[20] Investors may want to consider loans for their credit exposure in this reflationary environment given that senior loans have a similar yield to fixed-rate high yield debt (3.74 percent vs. 4.14 percent),[21] but are more senior in their capital structure and historically have witnessed lower relative levels of volatility (5.6 percent vs. 7.4 percent).[22] In the event of default, loans have historically had around a 60 percent recovery rate, whereas the recovery rate for high yield has been lower (30 percent–40 percent),[23] because they are unsecured.

As economic growth and inflation forecasts have climbed, senior loans may be attractive given their shorter duration and floating rate component, meaning that rising rates may not negatively impact total return as much as they could for fixed-rate high yield. The duration is usually between 30 and 90 days for senior loans, because the base rate of the floating rate component is usually one- to three-month LIBOR. Thus, if there is a concern about inflation and the potential for interest rates to increase, the loan category tends to hold its value because there is lower duration and, in fact, if short-term interest rates (LIBOR) increase then the loan coupon also increases. Curve change effects subtracted 179 basis points of return for fixed-rate high yield so far this year[24] but have had a negligible impact on loans due to this floating-rate component.

The US leveraged loan market saw $337 billion of deals launched in the first three months of the year, the second-highest volume for any quarter since 2013.[25] While the average price of fixed-rate high yield bonds has risen amid this rally, the average price of senior loans remains below its pre-pandemic levels and well below par[26] — even though the loan market rallied 31 percent from its bottom in 2020.[27] With the average price below par, there is more potential for upside price appreciation than there is in high yield.

Senior Loans Have a Similar Yield to High Yield but with Lower Duration and Volatility



Source: Bloomberg Finance, L.P., FactSet as of 03/31/2021. High Yield = Bloomberg Barclays High Yield VLI, Senior Loans -= S&P/LSTA Leveraged Loan 100 Index, Agg = Bloomberg Barclays US Aggregate Bond Index, IG Corporates = Bloomberg Barclays Corporate Bond Index, Treasuries = Bloomberg Barclays US Treasury Bond Index. **Past Performance is not a guarantee of future results. It is not possible to invest directly in an index.**

For senior loan exposure, consider the SPDR® Blackstone Senior Loan ETF [**SRLN**].

Investment Theme #3

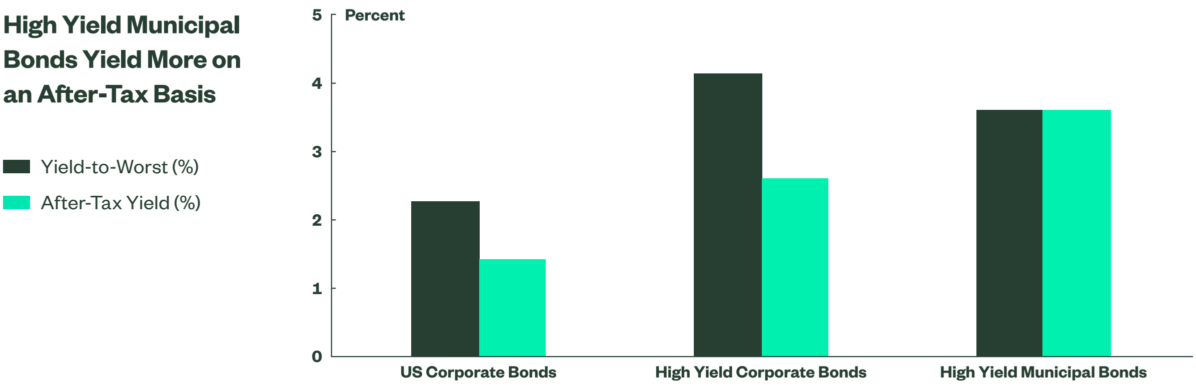
Seek Out Higher After-Tax Income with High Yield Municipal Bonds

High yield municipal bonds may be one growth-sensitive area to consider in the current environment, as this bond sector has already been less impacted by the rise in rates so far in 2021 — outperforming traditional investment grade corporates by 6.76 percent and high yield corporates by 1.54 percent.[28] A government generally issues high yield bonds to pay for projects with undefined or uncertain revenue. These revenue bonds tend to offer higher yields to compensate investors for the risk and uncertainty associated with the project's revenue stream. Because they are higher in risk, high yield municipal bonds yield more than traditional corporate high yield bonds on an after-tax basis.

Many political tailwinds have emerged in 2021 for high yield municipal bonds. A Biden administration and Democrat-controlled Congress are likely to unwind some Trump tax cuts. Anticipation of this is already creating investor demand for muni bonds for their tax-exempt qualities. The recent $300 billion dedicated to shoring up state and local balance sheets from the $1.9 trillion pandemic relief bill may alleviate any concerns of increased default risk among high yield municipal bond issuers as the bill permits governments to use federal dollars to replace revenue lost due to the pandemic. Amid the improved economic outlook, Moody's Analytics also reduced its projected fiscal 2020 to fiscal 2022 gross shortfall for states and local governments from $450 billion to $330 billion.[29]

The current yield to worst on high yield municipal bonds is 3.64 percent[30] while high yield corporates yield 4.18 percent pretax but just 2.63 percent post-tax.[31] Income from high yield municipals is generated with lower volatility than both high yield corporates and large-cap dividend equities (8.38 percent versus 9.02 percent and 17.90 percent, respectively).[32] High yield municipals are less correlated to equities than corporate investment-grade and high yield bonds are (16 percent versus 34 percent and 77 percent, respectively),[33] leading to a potential source of higher income generation without additional equity risk. High yield municipals are also less correlated to traditional core Agg bonds than US IG corporates are (53 percent versus 82 percent).[34] Therefore, high yield municipals' lower volatility versus that of high yield corporates and equities suggests that this fixed-income asset class may offer investors the ideal risk-reward payoff in the current reflationary environment.

High Yield Municipal Bonds Yield More on an After-Tax Basis



Source: Bloomberg Finance, L.P., as of March 31, 2021. US Corporate Bonds = Bloomberg Barclays Corporate Bond Index, High Yield Corporate Bonds = Bloomberg Barclays High Yield VLI, High Yield Muni Bonds = Bloomberg Barclays High Yield Municipal Bond Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. After-tax yield is based on the yield to worst and applying the highest marginal federal income tax rate of 37 percent. **Past performance is not a guarantee of future results. It is not possible to invest directly in an index.**

For high yield municipal bond exposure, consider allocating to the SPDR® Nuveen Bloomberg Barclays High Yield Municipal Bond ETF [**HYMB**].

Emerging Market Debt — Indexing on the Rise

Emerging market debt (EMD) continues to be one of the most rapidly evolving asset classes in investment markets. New developments are challenging some of the traditional perceptions around how to access EMD. In particular, the case for indexed EMD exposure has grown considerably stronger.

Emerging Market Debt

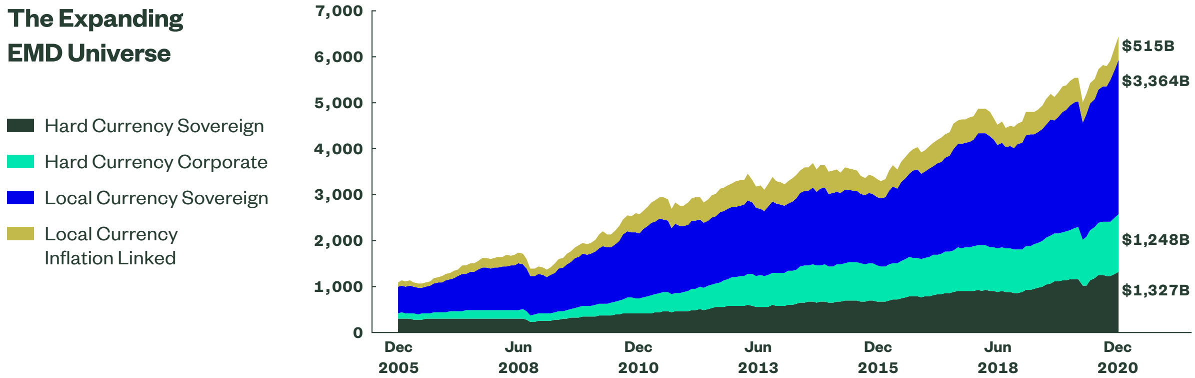
Indexing on the Rise

In the past, an active management approach to investing in EMD was perceived to be the best way to gain exposure to the asset class based on a few key assumptions:

- An indexed exposure cannot be implemented efficiently in the asset class.
- The fixed income markets of emerging countries are inefficient; detailed fundamental knowledge should enable active managers to identify and extract value.
- There are some obvious 'weak' segments of the universe that could hamper performance; active managers can avoid these.

The reality is that the majority of active managers have failed to consistently outperform their benchmarks over the longer term. More importantly, active managers have not been able to protect capital in periods of heightened volatility and drawdown; the recent COVID-19-driven sell-off and accompanying crash in oil prices provided the latest confirmation of this. The EMD universe has evolved and an indexed approach is increasingly accepted as an attractive way to harness the performance potential of this complex exposure.

The Expanding EMD Universe



Source: Barclays, JP Morgan, State Street Global Advisors, as of December 31, 2020. Values are expressed in billions of US dollars.

We undertook a comprehensive study of the active managers in the Morningstar database, tracking two flagship EMD indices: JPM GBI-EM Global Diversified Index (GBI-EM) for local currency and JPM EMBI Global Diversified Index (EMBI-G) for hard currency. The majority of active managers, both in the local and hard currency universe, have been unable to outperform their respective index over one-year, three-year, and five-year periods.

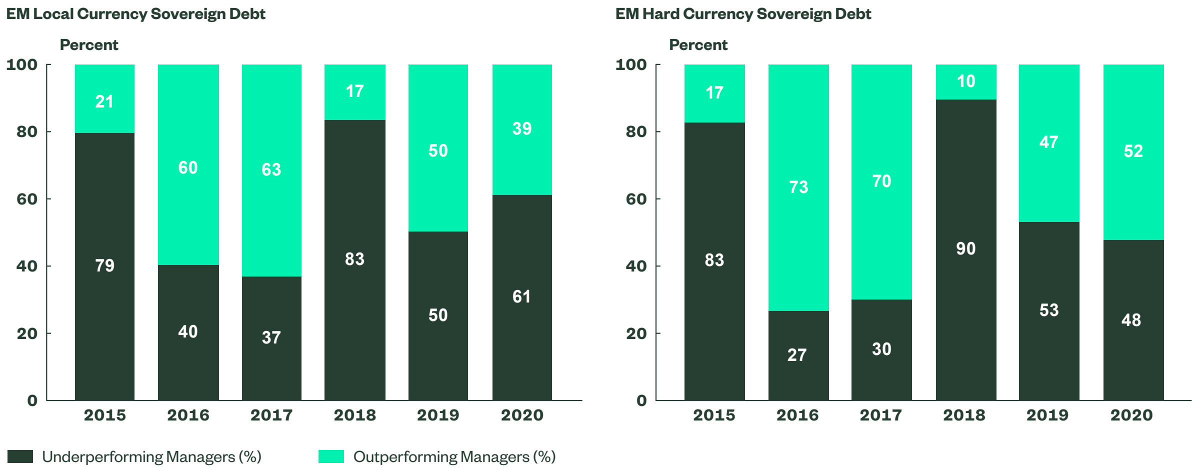
Percentage of Active Managers Who Fail to Outperform Their Benchmarks

	1 Year (%)	3 Years (%)	5 Years (%)
Local Currency Sovereign Universe	61	79	73
Hard Currency Sovereign Universe	48	81	48

Source: Morningstar Direct, as of December 31, 2020. **Past performance is not a guarantee of future results.** Funds in the Morningstar universe managed to the JPM GBI-EM G Index for local currency and to the JPM EMBI-G Index for hard currency and having at least five years' track record used for analysis. Number of funds used = 56. Net-of-fee performance shown for the Institutional share class. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

While active managers have indeed outperformed in individual years, a key concern is their inability to consistently outperform and to protect capital during periods of significant drawdown, such as the COVID-19-related sell-off in Q1 2020.

Active Manager Performance Over Discrete Years



Source: Morningstar Direct, as of 31 December 2020. Past performance is not a guarantee of future results. Funds in the MStar universe managed to the JPM GBI-EM GD index for local currency and to the JPM EMBI-GD index for hard currency and having at least 5 years track record used for analysis. No of funds used = 56. Net of fee performance shown for the Institutional/share class.

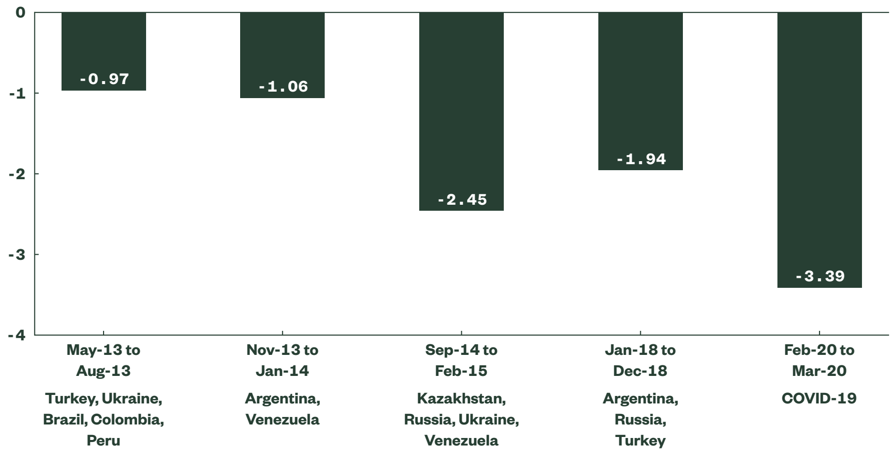
Performance of both local and hard currency active managers appear procyclical and in line with market performance. A larger percentage of managers tend to outperform during strong years, such as 2016 and 2017, while in negative years, such as 2015 and 2018, the opposite is true.

Based on Morningstar data from the past five years, active managers seem to struggle when there is a significant directional market change from positive to negative. When both hard currency and local currency debt delivered solid returns in 2016 and 2017, a majority of active managers outperformed in both segments. However, in 2018, there was a notable reversal from positive to negative. Local currency debt was down -6.21 percent while hard currency was down -4.26 percent.[35] As market sentiment turned, a large majority of active managers — 83 percent in local currency and 90 percent in hard currency — underperformed their relative index. In Q1 2020, after double-digit returns in 2019, emerging market bonds sold off sharply amid the COVID-19 crisis and active managers underperformed sharply.

EMD investors tend to appreciate that a bottom-up, fundamentally driven active approach should provide protection, yet our analysis does not support the claim that such approaches provide any meaningful downside mitigation.

This holds true in the hard currency universe where the diversified profile and absence of currency effects should create optimal conditions for active managers. We looked at five significant negative return events in recent years that were driven by individual or multiple countries in the EMBI-G Index or by broader macro events. In general, these events were driven by factors such as a sharply deteriorating economic outlook, political instability, debt restructuring, or a broad-based sell-off in risk assets. Some were perhaps easier to foresee, such as the Venezuela and Argentina restructurings, while others, such as Russia's annexation of Crimea and the Taper Tantrum, were not. In any case, either active managers were unable to predict these developments effectively or certain behavioral biases impacted their ability to manage these events profitably. Active managers underperformed the index during each of these periods.

Average Excess Return of Active Hard Currency Managers During Periods of Market Sell-off



Source: Morningstar. Based on the 30 largest EMD Hard Currency funds in the Morningstar database with a primary benchmark of JPM EMBI Global Diversified and with a five-year track record as of 31 March 2020. Performance is in US Dollars and is net of fees. Excess returns are calculated versus the primary benchmark of JP Morgan EMBI Global Diversified Index. Past performance is not a guarantee of future results.

The median return compared to the JPM EMBI Global Diversified Index was -3.36 percent for the period, so the average underperformance wasn't influenced by a couple of outliers. In the local currency debt space, active managers underperformed on average by -1.3 percent. The worst return lagged the GBI-EM Index by -5.08 percent, with the median underperforming by -1.46 percent.[36] While average performance in local currency was better than in hard currency, only three managers among the 30 largest in Morningstar outperformed the GBI-EM Index after fees. The relatively better performance of local currency managers leads us to believe that this had something to do with liquidity, which was more challenging in hard currency than in local currency markets.

The volatile nature of the EMD sector is likely one of the key causes of active manager underperformance. Returns are often misaligned with fundamentals, as they are also heavily driven by investor sentiment, political risk and central bank actions; these can be difficult to predict and can often lead to binary outcomes. More specifically, active managers face different challenges in hard and local currency debt.

Challenges Faced by Active EMD Managers

In local currency debt, performance has two key drivers of return — the currency (FX) component and the rate component. Over the long term, our research shows that while rates are the key driver of returns, the FX component accounts for approximately 70 percent of the volatility. EM currencies are the main adjustment valve to reflect market sentiment, which means that making the right call, especially in times of heightened market volatility, is particularly difficult. Because EM currencies are priced against the US dollar (USD), active managers have to consider the likely direction of USD, which is notoriously difficult to predict and time. The performance of USD in 2020 provides a good case in point.

In Q1 2020, the dollar benefited from its "safe haven" status as the COVID-19 pandemic began to unfold. However, it subsequently weakened as the Federal Reserve announced unlimited quantitative easing (QE), a negative for the currency. Since then, USD fluctuated between positive and negative performance as these factors and others including US growth, the US presidential election, and changing risk sentiment drove its performance.

EM currencies, on the other hand, are driven by their own fundamentals, monetary policy, political backdrop, and flows. Predicting which of these factors will prevail is a key challenge for active managers. Unsurprisingly, active managers struggle to get it right on a consistent basis.

In hard currency debt, performance is often driven by the high yield issuers in the index, as investment grade issuers are typically more fairly priced and provide fewer opportunities for alpha generation. Importantly, within the high yield sub-index of the EMBI-G, positioning towards distressed issuers determines a manager's performance versus the index. For example, making the right calls on events such as Argentina's litigation with holdout creditors or Venezuela's willingness and ability to meet its debt obligations have been key to active manager performance. While many of these countries represent only a small part of the index, they make a big difference in performance, due to their distressed nature, high yield, and volatile returns.

Breaking down the performance of the high yield sub-index of EMBI-G by rating category from highest (BB) to lowest (C) quality illustrates this point. The lowest quality bucket (C) of the EMBI-G index contains distressed issuers and bears a historically volatile performance profile.

Breakdown of the High Yield Sub-Index of the EMBI-G Index

March 31, 2013– March 31, 2021, Monthly	EMBI-G Div. High Yield Sub-Index	BB	B	C
Total Return (ann.) (%)	4.51	6.50	4.01	-2.08
Volatility (ann.) (%)	11.18	8.27	12.31	25.95
Sharpe Ratio	0.34	0.70	0.27	-0.11
Max Drawdown (%)	-22.93	-14.37	-25.87	-60.10

Source: Bloomberg Barclays, JP Morgan, State Street Global Advisors, as of March 31, 2021. Historical returns for the time period March 31, 2013–March 31, 2021, monthly. **Past performance is not a reliable indicator of future performance.**

An index designed to avoid the lowest quality sectors of the hard currency EM debt markets may give investors an opportunity to generate more consistent returns with lower volatility. An example of this approach was taken in designing the benchmark of the SPDR® Bloomberg Barclays Emerging Markets USD Bond ETF (EMHC), where the index includes a ratings floor that excludes bonds with at least one rating of CCC- or lower. This custom Bloomberg Barclays Emerging USD Bond Core Index exhibits a modestly more favorable risk-adjusted return profile versus the JPM EMBI Global Diversified Index.

Bloomberg Barclays EM USD Core Index versus JPM EMBI Global Diversified Index

March 31, 2013–March 31, 2021, Monthly	Bloomberg Barclays EM USD Core Index	JPM EMBI Global Diversified Index	Difference
Total Return (ann.) (%)	4.54	4.45	0.09
Volatility (ann.) (%)	8.05	8.27	-0.22
Sharpe Ratio	0.47	0.45	0.02
Max Drawdown (%)	-14.20	-14.68	0.48

Source: Bloomberg Barclays, JP Morgan, State Street Global Advisors, as of March 31 2021. Historical returns for the time-period March 31 2013–March 31 2021, monthly. **Past performance is not a reliable indicator of future performance.**

The high cost of replication and market volatility and inefficiency were traditionally seen as the main obstacles to index strategies in the EMD space. Although these concerns initially appeared valid, indexing techniques have advanced from simply buying all the constituents of the benchmark. There are a variety of practical steps that experienced EMD index managers can take today to deliver beta.

The cost of replication is no longer prohibitive. Trading costs for EM hard currency have decreased and the cost for local-currency-denominated securities is a fraction of that. In addition, experienced and highly specialized EMD trading desks and portfolio managers (PMs) work to keep portfolio implementation costs very low.

Index turnover directly affects returns via rebalancing costs, and EMD indices typically experience high levels of turnover compared to other fixed-income benchmarks. Experienced PMs are able to minimize turnover by proactively anticipating index changes, gaining exposure through primary market placements and working with traders to access liquidity pools with both well-known investment banks and local brokers. Examples of this include using the primary market to access illiquid markets prior to their inclusion in the index, managing risk through the forward or non-deliverable forward market, and ultimately delivering benchmark returns through a thoughtful, but risk-controlled, investment process.

One additional and important aspect of local currency markets is the existence of both withholding and capital gains taxes, which can be a significant drag on performance if not managed carefully. A sophisticated investment management process that understands the risk-reward trade-offs between fully replicating the benchmark and alternative positions or proxies can minimize this tax drag without compromising the tight risk tolerances relative to the benchmark.

Our EMD Capabilities

State Street Global Advisors has been managing indexed EMD strategies for over a decade and holds nearly $32 billion in assets under management across local currency and hard currency debt, sovereigns, and corporates.[37] This investment expertise is evident in our consistent and efficient delivery of benchmark returns across our indexed EMD strategies and funds.

Our indexed EMD strategies are far from passive when it comes to portfolio construction and security selection. Our experienced PMs will consider market dynamics, liquidity, and other factors when choosing securities in order to gain the required underlying exposure in the most effective and performance-enhancing way.

Endnotes

1 Bloomberg Finance, L.P., as of March 31, 2021.

2 Bloomberg Finance, L.P., as of March 31, 2021.

3 Bloomberg Finance, L.P., as of March 31, 2021. The Bloomberg Barclays High Yield VLI Index returned 0.57 percent while the S&P/LSTA Leveraged Loan 100 Index returned 1.02 percent YTD in 2021.

4 Bloomberg Finance, L.P., as of March 31, 2021.

5 Bloomberg Finance, L.P., as of March 31, 2021. The total market capitalization of bonds with a yield below 1 percent in the Bloomberg Barclays Global Aggregate Bond Index is $35.7 trillion while the market capitalization of the S&P 500® Index is $35.1 trillion.

6 Bloomberg Finance, L.P., as of March 31, 2021. Five-year inflationary expectations measured by five-year breakeven rates.

7 Bloomberg Finance, L.P., as of February 28, 2021.

8 "Reflation Trade Is Renewed as Jobs Data Unleash Rate Hike Bets," Bloomberg Finance, L.P., as of April 2, 2021.

9 Bloomberg Finance, L.P., as of March 31, 2021.

10 Bloomberg Finance, L.P., as of March 31, 2021. Based on the yield to-worst of the Bloomberg Barclays Aggregate Bond Index.

11 FactSet, Bloomberg Finance, L.P., as of March 31, 2021, for the Bloomberg Barclays US Securitized MBS Index, the Bloomberg US Treasury Index and the Bloomberg Barclays Aggregate Bond Index. Volatility measured by standard deviation for the trailing 36-month period.

12 FactSet, as of March 31, 2021, for the Bloomberg Barclays US Securitized MBS Index and the Bloomberg Barclays Aggregate Bond Index.

13 Bloomberg Finance, L.P., as of March 31, 2021, for the Bloomberg Barclays US Securitized MBS Index, the Bloomberg US Treasury Index and the Bloomberg Barclays Aggregate Bond Index.

14 FactSet, March 31, 2011–March 31, 2021, for the Bloomberg Barclays US Securitized MBS Index and the S&P 500 Index.

15 "Improvement in US Homebuilder Sentiment Belies Cost Concerns," Bloomberg, February 17, 2021.

16 Bloomberg Finance, L.P., as of March 31, 2021. The S&P Case-Schiller Index used to measure the average single family housing price.

17 "As Home Sales Soar, Mortgages Are Tight." Bloomberg Finance, L.P., April 3, 2021.

18 Bloomberg Finance, L.P., as of March 26, 2021. The MBA US Refinancing Index fell by 1,504 since January 31, 2021.

19 FactSet, as of March 31, 2021. Senior Loans = S&P/LSTA Leveraged Loan Index, High Yield = Bloomberg Barclays High Yield VLI.

20 Bloomberg Finance, L.P., August 31, 2021–March 31, 2021. Senior Loans = S&P/LSTA Leveraged Loan Index, High Yield = Bloomberg Barclays High Yield VLI, Treasuries = Bloomberg US Treasury Index, IG Corporates = Bloomberg Barclays US Corporate Bond Index.

21 Bloomberg Finance, L.P., as of March 31, 2021. Based on the yield-to-worst of the S&P/LSTA Leveraged 100 Loan Index and the Bloomberg Barclays High Yield VLI.

22 FactSet, as of March 31, 2021. Based on annualized standard deviation over the trailing 60-month period. Senior Loans = S&P/LSTA Leveraged 100 Loan Index and High Yield = Bloomberg Barclays High Yield VLI.

23 Blackstone Credit, June 30, 2000–February 28, 2021.

24 Bloomberg Finance, L.P., as of March 31, 2021, based on the returns for the Bloomberg Barclays High Yield VLI Bond Index and the S&P/LSTA Leverage Loan Index in 2021 utilizing an excess return spread Bloomberg attribution model.

25 "Leveraged Loan Sales Soar in First Quarter Amid Euphoric Demand," Bloomberg Finance, L.P., as of April 1, 2021.

26 Blackstone Credit, as of February 28, 2021.

27 Bloomberg Finance, L.P., March 23, 2020–March 31, 2021, based on the S&P/LSTA Leverage Loan Index.

Endnotes

28 FactSet, January 1, 2021–March 31, 2021. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index. IG Corporates = Bloomberg Barclays US Corporate Investment Grade Index. High Yield = Bloomberg Barclays High Yield VLI.

29 Reuters, "Higher-yielding US muni bonds cheer Biden's state, city budget relief," as of January 15, 2021.

30 Bloomberg Finance, L.P., as of March 31, 2021. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index.

31 Bloomberg Finance, L.P., as of March 31, 2021. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index. After-tax yield is based on the yield to worst and applying the highest marginal federal income tax rate of 37 percent.

32 FactSet, as of March 31, 2021. Based on trailing 36-month standard deviation of returns. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index. High Yield = Bloomberg Barclays High Yield VLI. Large Cap Dividend Equities = S&P High Yield Dividend Aristocrats Index.

33 FactSet, March 31, 2011–March 31, 2021. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index. IG Corporates = Bloomberg Barclays US Corporate Investment Grade Index. High Yield = Bloomberg Barclays High Yield VLI. Equities = S&P 500 Index.

34 FactSet, March 31, 2011–March 31, 2021. High Yield Municipal Bonds = Bloomberg Barclays Municipal Bond High Yield Index. IG Corporates = Bloomberg Barclays US Corporate Investment Grade Index. Agg Bonds = Bloomberg Barclays US Aggregate Bond Index. Past performance is not a reliable indicator of future performance.

35 Morningstar Direct, as of December 31, 2020.

36 Morningstar Direct, as of December 31, 2020.

37 State Street Global Advisors, as of December 31, 2020.

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Glossary

Inflation An overall increase in the prices of an economy's goods and services during a given period, translating to a loss in purchasing power per unit of currency. Inflation generally occurs when growth of the money supply outpaces growth of the economy. Central banks attempt to limit inflation, and avoid deflation, in order to keep the economy running smoothly.

Fixed Income A type of investing, usually involving bills, notes, or bonds, for which real return rates or periodic income is received at regular intervals and at reasonably predictable levels. Fixed income can also refer to a budgeting style that is based on fixed pension payments.

Bloomberg Barclays US Aggregate Bond Index A benchmark that provides a measure of the performance of the US dollar-denominated investment-grade bond market. The "Agg" includes investment-grade government bonds, investment-grade corporate bonds, mortgage pass-through securities, commercial mortgage-backed securities, and asset-backed securities that are publicly for sale in the US.

J.P. Morgan EMBI Global Diversified A benchmark of US dollar-denominated government bonds issued by emerging market countries. The benchmark limits the weights of countries with bigger debt by excluding some of these countries' debt outstanding.

J.P. Morgan GBI-EM Global Diversified Index An investable fixed-income benchmark of local-currency emerging market bonds that includes only countries directly accessible by most of the international investor base.

Emerging Markets Developing countries where the characteristics of mature economies — such as political stability, market liquidity, and accounting transparency — are beginning to manifest. Emerging market investments are generally expected to achieve higher returns than those of developed markets but are also accompanied by greater risk, decreasing their correlation to investments in developed markets.

High Yield A company or bond that is rated "BB" or lower is known as junk grade or high yield, in which case the probability that the company will repay its issued debt is deemed to be speculative.

Investment-Grade Credit A fixed-income security, such as a corporate or municipal bond, that has a relatively low risk of default. Bond-rating firms, such as Standard & Poor's, use different lettered descriptions to identify a bond's credit quality. In S&P's system, investment-grade credits include those with "AAA" or "AA" ratings (high credit quality), as well as "A" and "BBB" (medium credit quality). Anything below this "BBB" rating is considered non-investment grade.

Senior Loans Floating-rate debt issued by corporations and backed by collateral, such as real estate or other assets.

Treasuries The debt obligations of a national government. Also known as "government securities," Treasuries are backed by the credit and taxing power of a country, and are thus regarded as having relatively little or no risk of default.

Volatility The tendency of a market index or security to jump around in price. Volatility is typically expressed as the annualized standard deviation of returns. In modern portfolio theory, securities with higher volatility are generally seen as riskier due to higher potential losses.

Yield The income produced by an investment, typically calculated as the interest received annually divided by the price of the investment. Yield comes from interest-bearing securities, such as bonds and dividend-paying stocks.

Important Risk Discussion

Investing involves risk including the risk of loss of principal.

The views expressed in this material are the views of Matthew Bartolini, Emily Theurer, Marvin Loh, Lyubka Dushanova and David Furey through the period ended March 31, 2021 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

Diversification does not ensure a profit or guarantee against loss.

Prior to 02/26/2021, the SPDR Blackstone Senior Loan ETF was known as the SPDR Blackstone / GSO Senior Loan ETF.

While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of market stress.

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The value of the debt securities may increase or decrease as a result of the following: market fluctuations, increases in interest rates, inability of issuers to repay principal and interest or illiquidity in the debt securities markets; the risk of low rates of return due to reinvestment of securities during periods of falling interest rates or repayment by issuers with higher coupon or interest rates; and/or the risk of low income due to falling interest rates. To the extent that interest rates rise, certain underlying obligations may be paid off substantially slower than originally anticipated and the value of those securities may fall sharply. This may result in a reduction in income from debt securities income.

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Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Investing in high yield fixed income securities, otherwise known as "junk bonds," is considered speculative and involves greater risk of loss of principal and interest than investing in investment-grade fixed income securities. These lower-quality debt securities involve greater risk of default or price changes due to potential changes in the credit quality of the issuer.

High-yield municipal bonds are subject to greater credit risk and are likely to be more sensitive to adverse economic changes or subject to greater risk of loss of income and principal than higher-rated securities.

Actively managed funds do not seek to replicate the performance of a specified index. An actively managed fund may underperform its benchmarks. An investment in the fund is not appropriate for all investors and is not intended to be a complete investment program. Investing in the fund involves risks, including the risk that investors may receive nlittle or no return on the investment or that investors may lose part or even all of the investment.

Investments in Senior Loans are subject to credit risk and general investment risk. Credit risk refers to the possibility that the borrower of a Senior Loan will be unable and/or unwilling to make timely interest payments and/or repay the principal on its obligation.

Issuers of **convertible securities** may not be as financially strong as those issuing securities with higher credit ratings and may be more vulnerable to changes in the economy. Other risks associated with convertible bond investments include: call risk, which is the risk that bond issuers may repay securities with higher coupon or interest rates before the security's maturity date; liquidity risk, which is the risk that certain types of investments may not be possible to sell at any particular time or at an acceptable price; and investments in derivatives, which can be more sensitive to sudden fluctuations in interest rates or market prices, potential illiquidity of the markets and potential loss of principal.

Default in the payment of interest or principal on a Senior Loan will result in a reduction in the value of the Senior Loan and consequently a reduction in the value of the Portfolio's investments and a potential decrease in the net asset value (NAV) of the Portfolio. Securities with floating or variable interest rates may decline in value if their coupon rates do not keep pace with comparable market interest rates. Narrowly focused investments typically exhibit higher volatility and are subject to greater geographic or asset class risk. The fund is subject to credit risk, which refers to the possibility that the debt issuers will not be able to make principal.

Because of their narrow focus, financial sector funds tend to be more volatile. Preferred Securities are subordinated to bonds and other debt instruments, and will be subject to greater credit risk. The municipal market can be affected by adverse tax, legislative or political changes and the financial condition of the issuers of municipal securities. The fund may contain interest rate risk (as interest rates rise bond prices usually fall); the risk of issuer default; inflation risk; and issuer call risk. The Fund may invest in US dollar-denominated securities of foreign issuers traded in the United States.

Investments in emerging or developing markets may be more volatile and less liquid than investments in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.

Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Non-diversified funds that focus on a relatively small number of securities tend to be more volatile than diversified funds and the market as a whole.

Passively managed funds hold a range of securities that, in the aggregate, approximates the full index in terms of key risk factors and other characteristics. This may cause the fund to experience tracking errors relative to performance of the index.

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