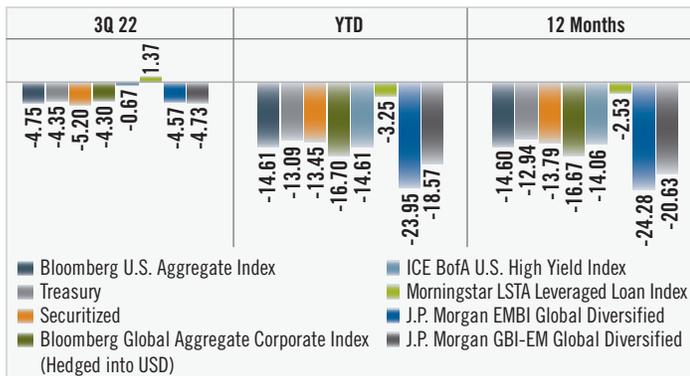


**MARKET REVIEW**

Throughout the quarter, macroeconomic data moved the market in both directions, producing volatile swings. Investors reacted favorably to signs of peaking inflation, slowing economic growth, indications of a potential Fed pivot, and resilient corporate profits. However, the bullish sentiment was overwhelmed by increasingly hawkish comments from Fed officials, high inflation prints, sharply rising U.S. Treasury yields, and renewed recession fears.

**3Q22 FIXED INCOME RETURNS (%)**



**Past performance is no guarantee of future results.**  
 As of September 30, 2022. Source: Bloomberg Finance LP.

**U.S. INVESTMENT GRADE**

The U.S. Treasury yield curve flattened significantly and shifted higher in the third quarter as 2-year and 10-year maturities soared 132 basis points (bps) and 82 bps, respectively. Performance was deeply in negative territory across the term structure, with the FTSE 10-Year Treasury Index and FTSE 30-Year Treasury Index generating corresponding losses of -4.98% and -8.68%.

**INTEREST RATE CHANGES – U.S. TREASURY YIELD CURVE**



**Past performance is no guarantee of future results.**  
 As of September 30, 2022. Source: Bloomberg Finance LP.

The July unemployment report surprised significantly to the upside, although downward revisions possibly stiffened the Federal Reserve's resolve to extend its aggressive pace of monetary tightening. Headline CPI, flat in July, was perceived by some as a reason for the central bank to dial back rate hikes in September. Investor optimism fueled a rebound in risk appetite. However, Fed Chair Powell's highly

anticipated speech at the central bank's Jackson Hole symposium dispelled speculation of a pivot in monetary policy, sending core bond yields sharply higher.

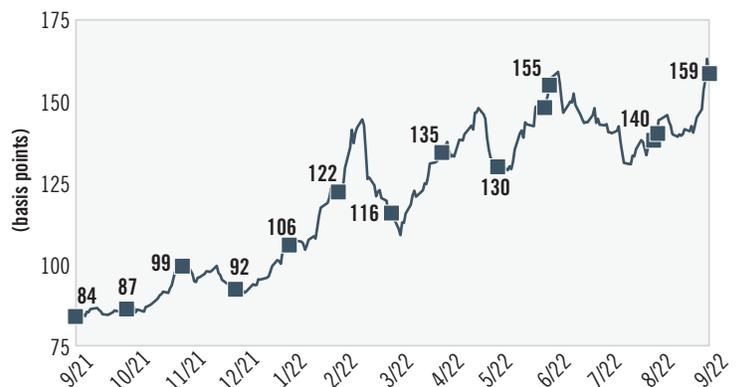
September rounded out a miserable quarter and compounded losses suffered year-to-date for most financial market sectors. Yields jumped ahead of the August unemployment report as markets braced for a strong outcome that would further incentivize the central bank to implement another large rate hike. A hot inflation reading all but locked in another 0.75% increase. In a unanimous decision, the Committee voted to increase the federal funds rate by three-quarters of a percentage point, to 3.25%, for a third consecutive meeting. The policy-sensitive 2-year note catapulted to its highest level since 2007. Longer-dated maturities failed to sustain the initial surge as investors weighed the threat of an economic slowdown, deepening the yield curve inversion. The selloff in U.S. government debt resumed after Fed speakers stressed that the central bank was resolute in tamping down inflation. After breaching 4% intra-day for the first time in a decade, the benchmark 10-year U.S. Treasury yield plunged over 25 bps in response to the UK Prime Minister's mini-budget plans before the Bank of England intervened to bring stability to the markets. Bond prices reversed lower amid renewed recession fears as the Commerce Department confirmed that the U.S. economy contracted at an annual rate of 0.6% in the second quarter.

**Corporate Investment Grade**

Investment grade corporates were firm for most of the quarter, but took a decisively negative turn in September as markets began to price in a more aggressive pace of tightening across the global economy.

Taken as a whole, the third quarter produced modestly negative excess returns totaling -33 bps, while spreads were wider by 4 bps over the period, leaving the option-adjusted spread (OAS) on the Bloomberg corporate index at +159 bps.

**BLOOMBERG U.S. CORPORATE IG OPTION ADJUSTED SPREAD VERSUS TREASURY INDEX**



**Past performance is no guarantee of future results.**  
 As of September 30, 2022. Source: Bloomberg Finance LP.

Total returns for the quarter were -5.06% as rates moved successively higher and yield curves flattened. At their worst, spreads on the Bloomberg corporate index reached a year-to-date wide of 164 bps just before the quarter end, while year-to-date total returns got as bad as -19% at the time, which would be the worst in history.

The best performing sectors during the quarter were finance companies, gaming, and packaging, while the worst performing sectors were wirelines, media entertainment, and cable satellite. Lower-rated BBBs fared best, outpacing higher-quality single-A-rated issuers. However, crossover credits provided far superior excess returns. Longer-dated

issues with maturities greater than 25 years underperformed bonds in the 1-5-year maturity bucket where excess returns were actually positive inside of 5 years.

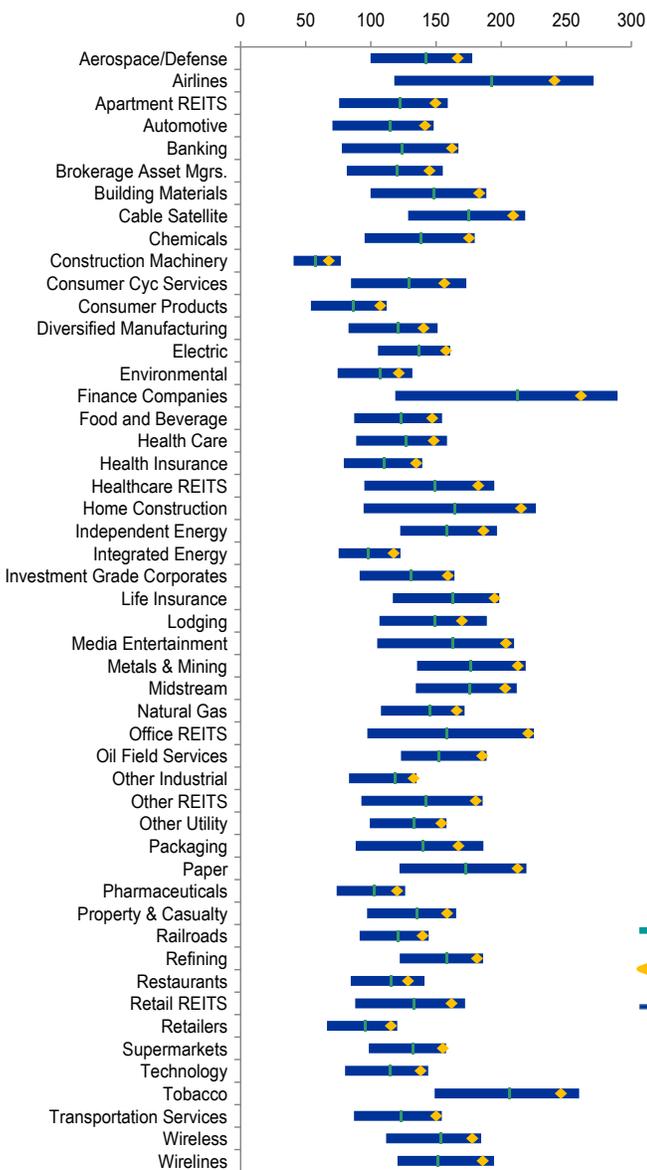
Supply for the quarter came in at \$291.5 billion. This was down 13.66% versus the third quarter of last year, but up 6.21% versus last quarter.

**Securitized Debt**

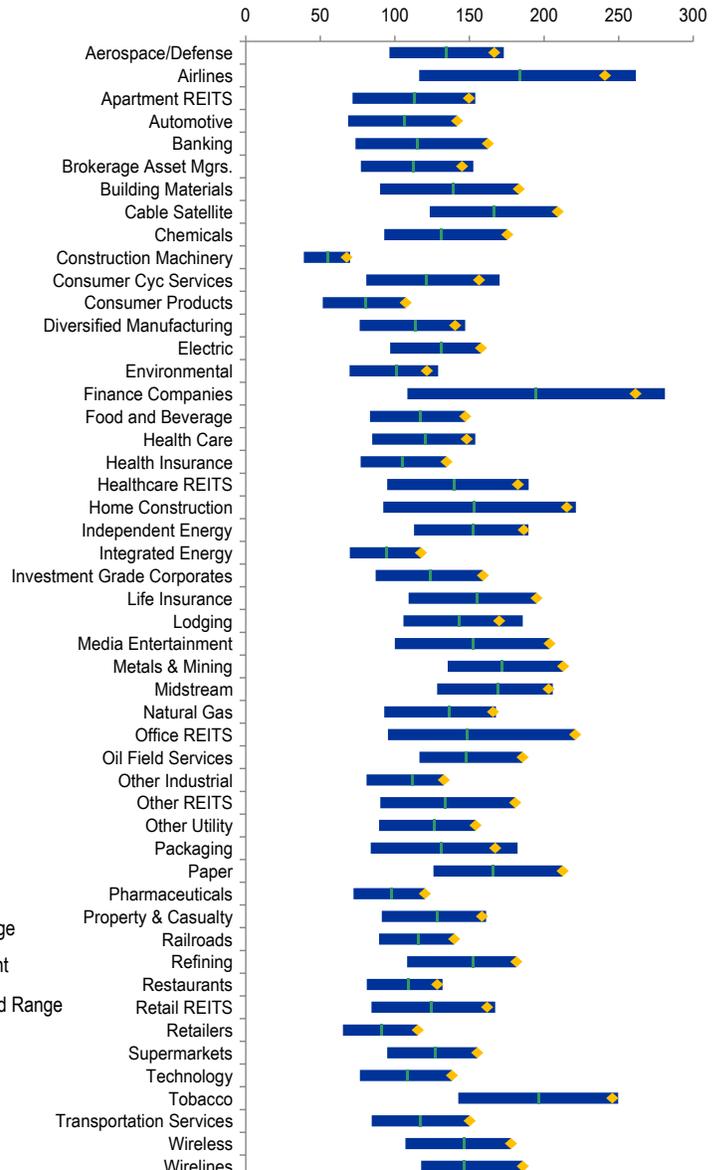
Rising rates and volatility drove the mortgage sector to underperform the general markets and widen 23 bps in OAS this quarter. September excess returns were the lowest since the mortgage index began in 1987. The MBA 30-year

**BLOOMBERG U.S. CORPORATE IG INDEX VALUATIONS VS. LONG TERM AVERAGES**

**Industry Spreads Year-To-Date (bps)**



**Industry Spreads Last 12 Months (bps)**



As of September 30, 2022. Source: Bloomberg Finance LP.

mortgage rate climbed 91 bps to 6.75%, causing mortgage applications to plunge and raising expectations of housing price declines. Possible mortgage sales from the Fed's balance sheet are still looming, though the Fed does not anticipate sales anytime soon.

As the Fed ratcheted rates, investors shortened duration and increased credit quality, and asset-backed securities (ABS) outperformed. DriveTime Automotive Group Inc., a used car dealership chain, pulled its \$326 million new issue ABS deal due to market volatility. In a surprise move, Chase issued \$1 billion of a 3-year fixed credit card – its first ABS in over two years. T-Mobile will be issuing its first ABS backed by phones, becoming the second issuer in the sector after Verizon.

Hertz continues to push into electric vehicles, with General Motors agreeing to provide 175,000 electric vehicles to Hertz over the next five years. Hertz has also partnered with BP to provide electric vehicle charging stations in North America in support of its electric vehicle program. CarMax's earnings came in at almost 50% below estimates due to consumer pullback and "affordability challenges," which has implications for the broader auto market. Biden is scaling back his student loan forgiveness program as six Republican states have filed suit to halt the program. FFELP and Perkins borrowers who have loans owned by private banks and had not consolidated into the Direct program by September 29 will no longer be eligible for the loan forgiveness program. This will affect about 770,000 borrowers.

**Investment Grade Outlook**

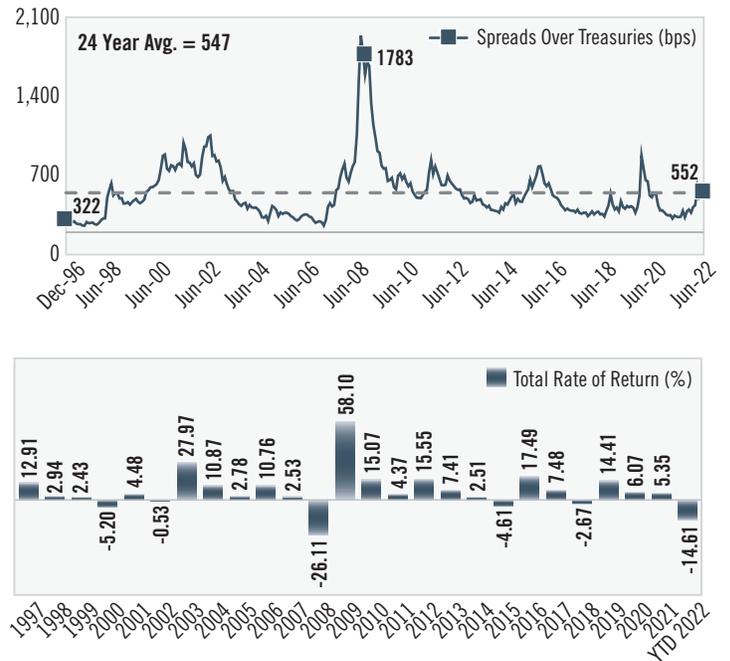
Financial conditions continue to tighten as global central bankers carry out monetary policy intended to subdue inflation. Many global central banks have no choice but to fight a two-front war – one against inflation and the other against a significantly stronger U.S. dollar. Market participants have tried several times in the last three months to signal the "all clear" only to be faced with another sobering inflation report. The "mini-budget" crisis in the UK has created a shock felt throughout the global financial system and doesn't appear close to resolution as of this writing. It appears increasingly likely that one or more major economies, both developed and emerging, will experience recession in the 2023-2024 timeframe. Probably the only positive to point to is that central banks, and most importantly the Fed, are much closer to the end of their tightening cycles than the beginning. We strongly believe the worst is behind as it relates to losses due to duration – but as recession becomes increasingly likely for 2023, the bigger question for investors will center on its potential severity and length.

**U.S. HIGH YIELD**

The U.S. High Yield (USHY) market declined 0.67% in the quarter as U.S. Treasury yields surged. In September, the significant interest rate volatility and increased recession concerns propelled the third largest monthly move in yields since August 2011. Lower-quality issues outperformed in the quarter despite meaningful periods of decompression as their significant underperformance in the prior quarter and the sharp rise in U.S. Treasury yields slightly offset the recessionary concerns.

During the quarter, BB, B, and CCC credits returned -0.82%, -0.60%, and -0.36%, respectively. Spreads tightened 42 bps. The yield-to-worst (YTW) ended the quarter at 9.59%.

**HISTORICAL SPREADS AND RETURNS – ICE BofA U.S. HIGH YIELD CONSTRAINED INDEX**



Past performance is no guarantee of future results. As of September 30, 2022. Source: Bloomberg Finance LP, ICE BofA.

**SPREAD-TO-WORST – ICE BOFA U.S. HIGH YIELD CONSTRAINED INDEX (BPS)**



Past performance is no guarantee of future results. As of September 30, 2022. Source: Bloomberg Finance LP, ICE BofA.

For the quarter, the best performing sectors were publishing/printing, aerospace, and drillers. The worst performing sectors were healthcare, paper/forest products, and consumer products.

There were two defaults during the quarter, keeping the trailing 12-month par default rate at the end of September unchanged at 0.83%. On an issuer basis, the default rate remained below 1% at 0.96%.

Ratings trends were positive overall for the quarter. 71 issuers were upgraded for a total of \$126 billion, while 44 issuers were downgraded for a total of \$82.5 billion. The upgrade-to-downgrade ratio was 1.5x, with five issuers leaving the high yield market for a total of \$21.3 billion, while one issuer fell into the high yield market for a total of \$1 billion.

Market technicals were mixed as volatility continued to drive significant retail outflows, but also caused new issuance to be drastically curtailed. Retail funds reported an outflow of \$8.7 billion in the quarter. The new issue market priced only \$18.9 billion in the quarter, representing the lightest quarter since the first quarter of 2009.

### European High Yield

The European high yield market saw a quarterly decline of 0.51% due to market volatility and high inflation. The resulting spike in UK government bond yields required intervention in the bond markets by the Bank of England to ease volatility and smooth market functioning. These factors combined to further increase recession odds. For the quarter, CCC credits outperformed with a gain of 1.70% compared to declines of 0.62% and 0.64% for BBs and Bs. In spread terms, the asset class tightened 27 bps during the quarter, reaching a spread of 629 bps at the end of the quarter.

By industry, refining, financials, and services, outperformed for the quarter. Underperforming industries for September included home builders, publishing/printing, and cable, while home builders, publishing/printing, and supermarkets underperformed in the quarter. Home builders remained weak due to the rapid rise in mortgage rates, while supermarkets underperformed due to concerns with rising costs on consumer demand and profit margins.

Technicals were mixed as the volatile market environment brought additional retail outflows and minimal new issuance. In the quarter, only €2.9 billion of bonds priced – the lowest quarterly volume since the second quarter of 2012. New issue supply is down 80% compared to 2021. Fund outflows remained elevated with €2.4 billion leaving in the quarter, increasing the year-to-date total to €11.7 billion. These redemptions represent over 14% of the retail fund assets.

Distress and default rates in Europe remained at historically low levels with no defaults during the quarter, leaving the 12-month default rate unchanged at 0.3% and the issuer default rate at 0.8% according to J.P. Morgan.

### LEVERAGED LOANS

The Morningstar LSTA U.S. Leveraged Loan Index posted a quarterly performance of 1.37%, with the current year-to-date loan performance the worst since the Global Financial Crisis. Quarterly performance for the higher-quality BB-rated portion of the market was 2.45%, while B- and CCC-rated credits underperformed, returning 1.18% and -1.72%. Notably, even with the most recent disappointing performance, the asset class is still outperforming high yield, investment grade, and equities.

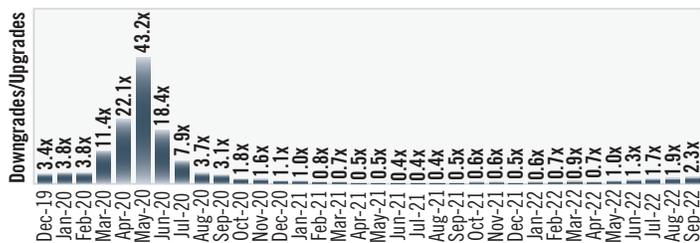
Given the price volatility during September, there was a material shift in the overall distribution of the dollar price of the index. At September month-end, approximately 38% of the index was priced at greater than \$96 versus 82% of the index at August month-end, while 50% of the index was trading between \$90.00 - \$95.99 at September month-end versus 26% at the end of August.

For the quarter, we saw defensive sectors, including electric, retail, and food/drug, outperforming. Airlines also outperformed on the back of lower fuel costs and improved earnings outlooks. Sectors with greater sensitivity to interest rates and consumer health, including leisure, consumer products, and building products, all underperformed.

The technical backdrop for the asset class remains supportive overall, yet fragile. We saw outflows from retail loan mutual fund and Exchange Traded Fund (ETF) investors, and a slowdown in new issue activity, which was partially offset by steady Collateralized Loan Obligation (CLO) formation. While CLO issuance remains down 20% year-to-date, the \$106 billion of issuance for this period is the second highest level through nine months on record, standing only behind last year's record \$130 billion.

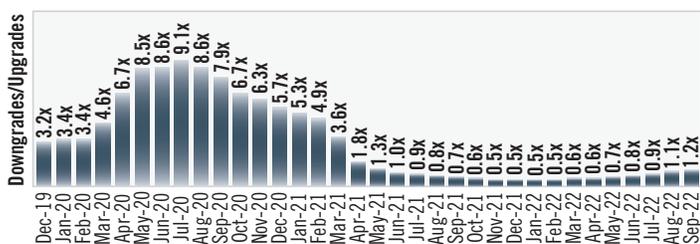
Lastly, it's no surprise that given the market volatility, new issuance has slowed. The third quarter issuance tally of \$23 billion is down 85% from last year's third quarter and sits well below the historical average of \$97 billion. Market conditions haven't been supportive of refinancing activity, which is at its slowest pace in over a decade, or M&A/LBO related transactions. Until there is some stability in secondary trading markets, it's likely that new issuance will remain hamstrung, and the loan market will trade range-bound.

**RATIO OF DOWNGRADES TO UPGRADES – 3-MONTH MOVING AVERAGE**



As of September 30, 2022. Source: Morningstar LSTA Leveraged Loan Index and LCD.

**RATIO OF DOWNGRADES TO UPGRADES – 12-MONTH MOVING AVERAGE**



As of September 30, 2022. Source: Morningstar LSTA Leveraged Loan Index and LCD.

The lagging 12-month default rate ended the quarter at 0.90% – its highest level since June of 2021. Meanwhile, distress levels, as measured by the percentage of loans trading below \$80, increased up to 4.80%. This increase coincides with an uptick in the downgrade-to-upgrade ratio, which finished the month at 2.28x, which compares to 0.53x at the end of 2021.

**Leveraged Finance Outlook**

Elevated inflation levels requiring more aggressive monetary policy have added to market volatility. Though corporate balance sheets show high cash balances and leverage at pre-pandemic levels, financial conditions have tightened considerably and point to slower growth ahead. Risks remain around the pace and scale of global interest rate hikes, geopolitical events, inflationary pressures, supply chain and labor constraints, the ability of industries to successfully recover lost demand, and the COVID-19 variants. Recent negative returns present the opportunity for large future gains, with many quality bonds trading at significant discounts to par and with yields well above recent years. However, a pause in Fed interest rate hikes and lower U.S. Treasury volatility is likely required before spreads can tighten.

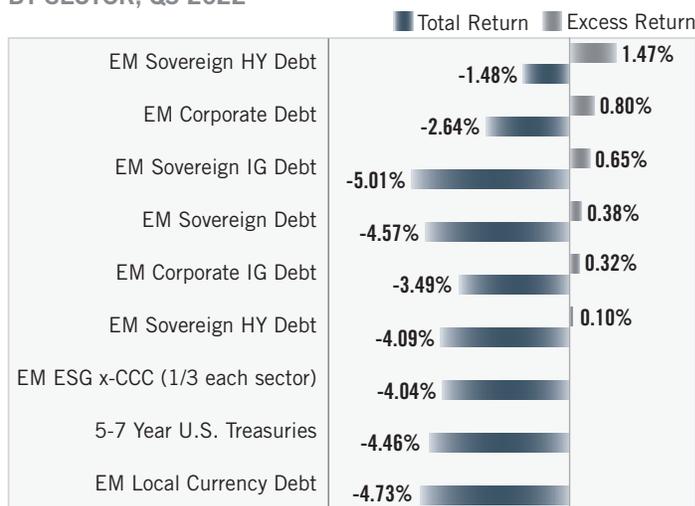
**EMERGING MARKETS DEBT**

Rising inflation, higher financing costs, and weaker growth in developed economies provided a challenging macroeconomic backdrop for EM debt returns in the third quarter. As the Fed hiked its policy rate, several other major central banks made similar moves. Many EM central banks, which had already

increased their policy rates, also tightened. Third quarter growth moderated, but not enough for most central banks to pause their tightening cycles. The U.S. dollar strengthened, equity index prices fell, and government bond yields increased along with greater market volatility. EM credit, currency and interest rate markets faced renewed selling pressure.

Market tracking indices for the three sectors of EM debt – hard currency sovereign debt, local currency sovereign debt, and hard currency corporate debt – delivered total returns of -4.57%, -4.73%, and -2.64%, respectively.

**TOTAL RETURNS AND EXCESS RETURNS VS. U.S. TREASURIES BY SECTOR, Q3 2022**



Past performance is no guarantee of future results. As of September 30, 2022. Sources: J.P. Morgan, Stone Harbor Investment Partners, Bloomberg.

**External Hard Currency Debt**

**Investment Grade:** The EM investment grade sovereign benchmark posted a total return of -5.01% in the third quarter. The largest contributors to the index’s decline included Panama, Chile, and Indonesia. The largest drawdowns came from Hungary, Panama, and Chile. The top performing countries included Croatia, Poland, and China. An increase in U.S. Treasury yields accounted for much of the negative performance – the U.S. Treasury contribution to the index return was just over -5.6%. Fourteen of the 19 countries in the investment grade benchmark posted positive excess returns, led by Saudi Arabia, Malaysia, and Qatar – each major commodity exporters. The lowest returns included countries in the euro region, particularly Hungary and Romania, which were impacted by their proximity to the Ukraine war. The downturn in returns on bonds from Panama reflected the outbreak of social protests over rising consumer prices.

**High Yield:** High yield bonds delivered on average a total return of -4.09%, with a wide range of performance at the country level. Standouts included El Salvador, Suriname,

and Tunisia, roughly mirroring the downturns in each credit last quarter. El Salvador bond prices increased after the government successfully executed a buyback of existing 2023- and 2025-maturity bonds and announced its intention to buy more bonds, raising market confidence in the country's ability to repay debt. Suriname bonds, which have been in default since 2019, increased in price as creditors continued negotiations with the government on a restructuring. In Tunisia, bond prices gained after an IMF mission July that confirmed good progress on economic reforms. Ukraine, Ecuador, and Pakistan were the largest underperformers. Ukraine bonds fell amidst the ongoing uncertainty of the Russian war. In Ecuador, bond prices declined as indigenous groups disputed the reduction of fuel subsidies. Though political uncertainties lingered, the government announced that it had reached an agreement with Chinese lenders to restructure outstanding financial debt. Though the IMF completed reviews of Pakistan's Extended Fund Facility, widespread flooding threatened fiscal consolidation efforts.

#### Local Currency Debt

**Currencies:** EM currencies depreciated relative to the U.S. dollar by 5.3% on average, which mirrored the 7.1% gain of the U.S. dollar against the currencies of the major trading partners of the U.S. The euro's 6.5% depreciation relative to the U.S. dollar contributed to the downturn in several eastern European currencies, including the Hungarian forint, Polish zloty, Czech koruna, and Romanian leu. Currencies of several commodity exporters including Colombia and South Africa declined by similar amounts versus the U.S. dollar. Argentina's peso continued a steady pace of depreciation, reflecting the country's rapid inflation, which increased 78.5% year-over-year in August. Pesos from Dominican Republic and Mexico appreciated relative to the U.S. dollar, outperforming all other EM currencies with gains of 2.25% and 0.35%, respectively. The next best performances came from the Chilean peso and the Brazil real. China's yuan declined by 5.6% during the quarter.

**Interest Rates:** With a few notable exceptions, yields on EM domestic government bonds increased along with the global rise in developed country bond yields. Bond yields fell in Brazil, China, and Turkey. The latter was a result of government policies engineered to lower bond yields in the face of inflation. In Brazil, policy makers noted that inflation may be peaking following the central bank's proactive rate hikes over the past 20 months, which created positive real yields based on forward-looking inflation. The decline in local bond yields in China reflected market concerns around growth and measures taken by the government to support economic activity. Aside from these outliers, the increase in yields remained a common theme. At the end of the quarter,

countries with positive real interest rates after adjusting for expected inflation over the next 12 months included Brazil, Chile, Colombia, Hungary, India, Mexico, Peru, and Ukraine.

#### Hard Currency Corporate Debt

EM hard currency investment grade and high yield corporate debt posted total returns of -3.49% and -1.48%, respectively. Rising U.S. Treasury yields had a greater negative impact on returns of investment grade bonds than on high yield bonds, which have lower duration sensitivity. The decline in prices of key commodities negatively impacted revenues and margins of EM exporters. By industry sector, gaming companies from Macau outperformed, returning 5.3% as China lifted a citywide COVID restriction in August. China's property sector, however, remained under pressure, with total returns declining on average by over 13%. Each region posted negative returns except Europe, where Turkey's banks outperformed, benefiting from strong asset quality, resilient funding markets and improved capital buffers, as well as better returns on government bond holdings, which were boosted by the government's unorthodox scheme to lower interest rates. Latin American and Asia underperformed, with Mexico and China the largest contributors to the downturns in these regions. In Mexico, non-bank financial Unifin Financiera defaulted and subsequently entered into restructuring negotiations with bondholders. In addition, bond prices of data management company Axtel fell on an announcement that the company would be spun off from parent Alfa rather than sold, as originally planned. In addition, the higher average relative duration of Mexican corporates negatively impacted their performance. The main driver of weakness in China's performance was the real estate sector.

#### EM Outlook

A "softish landing" for the global economy is our base case macroeconomic scenario over the next 12 months. From today's valuations, we see attractive return potential for each segment of the market. Current bond prices are historically low, credit spreads are wide, real effective exchange rates are historically low relative to the U.S. dollar, and local interest rates are high, particularly if inflation peaks in the near term in some EM countries, as we expect. Price and yield dislocations remain largest in high yield sovereign debt, in our view. Accordingly, we see the greatest value in this sector of the market. While we currently favor valuations of hard currency bonds over local currency debt in blended portfolios, we see opportunities in select local currencies and domestic bonds. In currencies, we favor countries with positive real yields, as in Brazil and Chile, and in Indonesia, where fiscal and monetary policies support the rupiah.

Inflation remains a key factor in the future performance of local bond markets. Once inflation momentum slows, EM central banks will have room to cut rates again to support growth. In our view, many EMs are closer to that point than advanced economies. We currently favor local debt markets in Brazil, Colombia, Mexico, and South Africa, where fundamental developments are favorable, in our view, and index yield levels remain high. In EM corporate debt, with a few exceptions, credit fundamentals remain strong and provide significant buffers against risks of recession and inflation. We currently favor low-cost commodity producers,

especially in the context of a stronger U.S. dollar. With most bonds trading at prices below par, many well-managed companies have attractive opportunities to repurchase existing debt. Many EM corporate bond issuers have prefunded financing requirements as well as managed liabilities through bond tenders and buybacks, reducing refinancing risks. Current technical conditions may therefore create additional support for EM corporate debt once markets stabilize. Except for companies from Russia/Ukraine and China's property sector, EM corporate defaults this year are limited; we expect them to remain so.

**Authored by:**

The Stone Harbor Multi-Sector Credit Team

Stone Harbor Investment Partners, an affiliated manager of Virtus Investment Partners, is a global credit specialist with expertise in emerging and developed markets debt, with three decades of informed experience allocating risk in complex areas of the fixed income markets. The firm manages credit portfolios for clients globally.

The **Bloomberg U.S. Aggregate Bond Index** measures the U.S. investment grade fixed rate bond market. The index is calculated on a total return basis. The **FTSE US Treasury Index** includes fixed rate U.S. Treasury bonds with \$5 billion public amount outstanding and greater than one year to maturity. The index excludes Federal Reserve purchases, inflation-indexed securities and STRIPS. The **ICE BofA High Yield Constrained Index** is a market value-weighted index designed to measure the performance of below investment grade rated corporate debt publicly issued in the U.S. domestic market, but caps issuer exposure at 2%. The **J.P. Morgan CEMBI Broad Diversified** tracks total returns of U.S. dollar-denominated debt instruments issued by corporate entities in emerging market countries and consists of an investable universe of corporate bonds. The minimum amount outstanding required is \$350 mm for the CEMBI Broad Diversified. The CEMBI Broad Diversified limits the weights of those index countries with larger corporate debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding. The **J.P. Morgan EMBI Global (EMBIG)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging markets sovereign and quasi-sovereign entities: Brady bonds, loans, and Eurobonds. The **J.P. Morgan EMBI Global Diversified (EMBI Global Diversified)** limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts outstanding. The countries covered in the EMBI Global Diversified are identical to those covered by the EMBI Global. The **J.P. Morgan GBI-EM Global Diversified** consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. The **Morningstar LSTA Leveraged Loan Index** is a daily total return index that uses LSTA/LPC Mark-to-Market Pricing to calculate market value change. On a real-time basis, the index tracks the current outstanding balance and spread over LIBOR/SOFR for fully funded term loans. The facilities included in the Index represent a broad cross section of leveraged loans syndicated in the United States, including dollar-denominated loans to overseas issuers. The weightings among the countries are more evenly distributed within this index. The indexes are unmanaged, returns do not reflect any fees, expenses, or sales charges, and are not available for direct investment.

**LIBOR:** London Interbank Offered Rate. **SOFR:** The Secured Overnight Financing Rate.

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**Past performance is no guarantee of future results.**

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