DUCENTA SQUARED
ASSET MANAGEMENT

Economic and Sector Summary & Outlook

First Quarter 2022

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US Economy

Summary

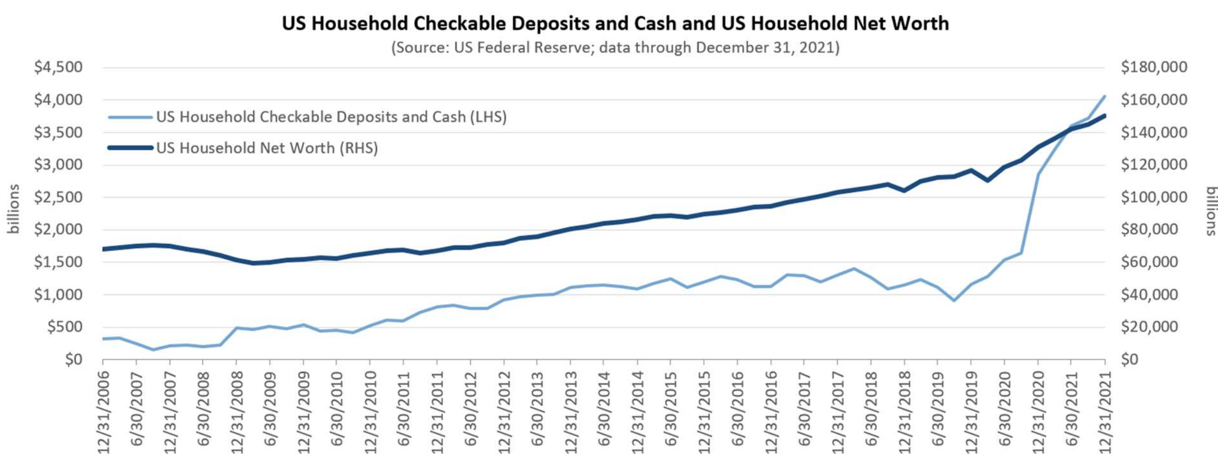
We expect US GDP growth to moderate to a 1.5% annualized pace in the first quarter of 2022 due primarily to headwinds from continued supply chain disruptions, rising inflation, and more restrictive monetary and fiscal policy. The US economy currently benefits from healthy consumer fundamentals, robust labor markets, and strong corporate profitability.

US employment continued its rapid recovery, as evidenced by the addition of 1.7 million jobs in the first quarter and a decline in the unemployment rate to 3.6%. In addition, the labor force participation rate improved to 62.4% as reduced COVID fears, strong labor demand, and higher wages pulled workers back into the job market. Demand for labor remains extremely strong, with a record 11.3 million job openings in February 2022 as reported by the latest Bureau of Labor Statistics Job Openings and Labor Turnover Survey.

During the quarter, inflation pressures accelerated and broadened across the economy to levels not seen since the early 1980s. The Federal Reserve's preferred inflation measure, the PCE deflator, increased in February to an annual pace of 6.4% compared to less than 2% prior to the pandemic. Oil and gasoline prices, exacerbated by Russia's invasion of Ukraine on February 24, 2022, moved higher by 35% and 28%, respectively, in the first quarter of 2022.

During the quarter, the Federal Reserve became singularly focused on fighting the growing threat of inflation. Testifying before Congress in March, Federal Reserve Chairman Jerome Powell said that he was prepared to follow in the footsteps of his predecessor, Paul Volker, and regain price stability at all costs. In the Federal Reserve's March meeting, the Federal Open Market Committee (FOMC) increased the federal funds rate by a quarter percent and signaled its outlook for a median projection of an additional six hikes in 2022 and three in 2023. The start of the Russia-Ukraine war has accelerated commodity price increases and reduced prospects for worldwide economic growth, thereby complicating the Federal Reserve's task of engineering a soft landing for the US economy.

Consumer spending proved resilient in the first quarter despite rising prices, negative real wage growth, and falling consumer confidence surveys. Spending remains supported by strong consumer fundamentals, including record savings and net worth gains since the onset of the pandemic.



Outlook

We expect US GDP growth to slow to a 2.5% pace in 2022 compared to 5.7% in 2021. Our outlook, however, is clouded by a wide range of major uncertainties including the path of inflation, Federal Reserve policy, the Russia-Ukraine war, and recessionary signals from the US Treasury yield curve inversion. In addition, slowing growth in China and a possible recession in Europe also negatively impact the US economic growth outlook. The economy is supported by resilient consumer spending, robust labor markets, and strong corporate profitability. These positive

growth drivers should be sufficient to avoid a near-term recession, but the US economy will face daunting headwinds from higher prices and the Federal Reserve's efforts to cool demand to tame the inflation threat.

Inflation pressures have expanded beyond the narrow categories that initially emerged during the pandemic and are now becoming entrenched in price setting for the economy. We expect inflation to continue to move higher in the short term but moderate by year-end to 4.0% as measured by the Core PCE Index, driven by slowing demand, especially for goods, and a gradual improvement in supply bottlenecks. We expect wage pressures to continue to increase given the strong demand for labor and record job openings.

The Federal Reserve faces an exceedingly challenging task of navigating a soft landing for the economy, and it seems immediately tasked to play catch-up after allowing inflation to run higher in accordance with its new average inflation targeting policy. In that effort, the Federal Reserve will need to temper economic growth to cool hot labor markets while avoiding the risk of a recession. We expected a 50-basis point federal funds rate increase in March, but the FOMC raised by only 25 basis points. We currently expect a 50-basis point increase in both May and June and a 2022 year-end federal funds rate upper bound of 2.25% (versus 0.50% currently).

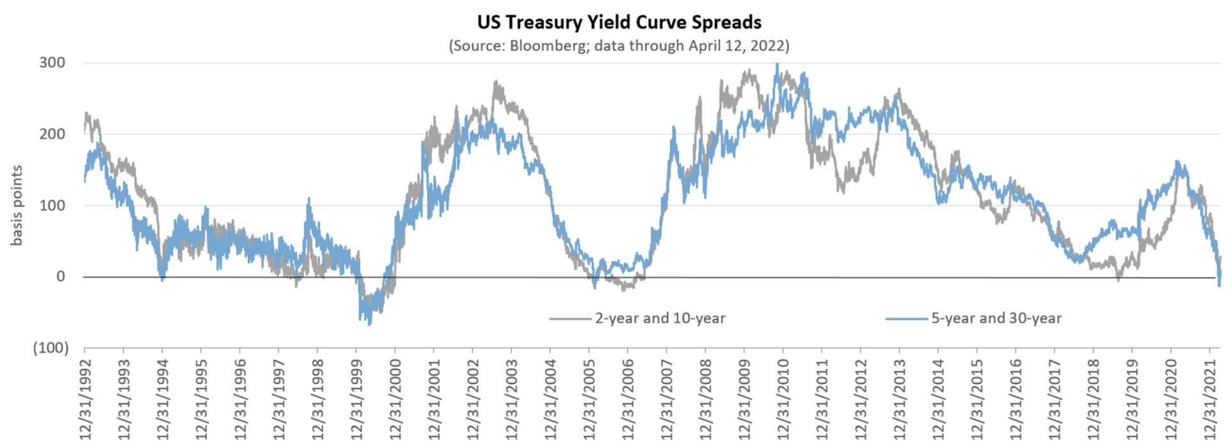
Sector Analysis

US Interest Rates

Consumer price inflation remained stubbornly high and spiked to its highest level in 40 years, putting to rest the thought that inflation might be transitory. With that, the Federal Reserve signaled a more hawkish approach and suggested it will take the necessary steps to ensure a return to price stability.

US Treasury yields continued to climb higher during the first quarter of 2022. Investors started the year anticipating a hawkish Federal Reserve and markets initially priced in three 25-basis point hikes during 2022. The FOMC first hiked rates by 25 basis points at its March 2022 meeting with unanimous consent, except for one voting member who proposed a 50-basis point increase. The FOMC's post-meeting statement, Chairman Powell's press conference, and the committee's rate projections all communicated a more hawkish tone than investors anticipated. In turn, rates climbed higher, the curve flattened and volatility in the US Treasury market as measured by the MOVE Index (a measure of implied volatility on 1-month US Treasury options) accelerated to end the quarter at an elevated 106.88.

In the first quarter of 2022, the front end of the US Treasury yield curve rose the most, as yields on 2-year and 3-year US Treasury notes increased 160 basis points and 155 basis points, respectively. The yield on the 10-year US Treasury note increased 81 basis points in the period and reached its highest level since May 2019. With the front end moving higher than the long end, the yield curve flattened considerably and even inverted at certain points.



The recent yield curve inversions affect investor sentiment because some economists view them as possible recessionary signals. A simplified premise of the thesis rests on the belief that a rates curve inversion reflects investor anticipation of future Federal Reserve short-term rate cuts designed to promote economic activity during a recession.

Currently, federal funds futures markets reflect almost eight rate hikes in 2022, nearly two hikes in 2023 and a terminal federal funds rate of 2.75%. Investors worry that aggressive monetary policy tightening by the Federal Reserve could dramatically slow the economy; and the recent yield curve inversions add credibility to those concerns, at least for some investors.

The Federal Reserve has recently communicated a strong resolve to address the current inflationary trend by raising the federal funds rate. Consequently, we expect a higher rate environment to prevail for the foreseeable future. In the near term, we expect that the yield curve will continue to flatten as short-end rate increases outpace movement at the long end of the yield curve.

Securitized Products

In the first quarter of 2022, investors experienced one of the most significant bond market sell-offs of all time. Securitized products sectors generated the following returns in the in period (versus the -5.58% US Treasury Index return): MBS Index -4.97%, ABS Index -2.88%, CMBS Index -5.59%. Among the securitized products sectors, the ABS Index generated the most favorable return due to its shorter duration.

The bond market sell-off resulted from the Federal Reserve's aggressive turn in attention toward the increasingly inflationary environment. Over the course of the quarter, inflation, as measured by the PCE Index, rose from 7.0% to 8.4% on a year-over-year basis while the unemployment rate fell from 3.9% to 3.6%. We believe the Federal Reserve is acting to maintain its credibility as an inflation fighter and will continue removing monetary policy accommodation and shifting to a very hawkish policy position. The implication for mortgages is that purchases via quantitative easing have come to an end, as of March, and quantitative tightening has been pulled forward. As the Federal Reserve has implied, we expect an announcement regarding the run-off of its portfolio holdings of US Treasuries and MBS at the FOMC meeting on May 4, 2022, followed by implementation beginning in mid-May. The MBS run-off will likely be capped at $35 billion per month. Additionally, the minutes of the March 2022 FOMC meeting indicated that the Federal Reserve will likely consider outright sales of its MBS holdings at some point in the future.

In the first quarter of 2022, the accelerated removal of Federal Reserve MBS purchases combined with the dramatic flattening of the yield curve and increased interest rate volatility created a very difficult environment for MBS. As a result, spreads widened dramatically. The current coupon mortgage rate widened from +68 basis points to +109 basis points versus the 5-year and 10-year US Treasury rate blend.

The widening of spreads relative to US Treasuries resulted in the MBS index losing -71bps of excess return.

The ABS sector was not immune to the spread widening experienced by the broader market. The index option adjusted spread (OAS) widened 19 basis points during the quarter to 57 points. This spread widening resulted in an excess return versus comparable Treasuries of -31 basis points. The softening of the ABS sector did not impact supply and issuance in the period ranked as the largest first quarter result since 2007. Issuance during the period totaled $69.8 billion, up 9.8% versus 2021. New issue in the period comprised auto ABS (50% of issuance), credit card (10%), equipment backed (10%), student loan backed (3%) and esoteric / other (27%). Versus last year,

student loan issuance fell dramatically while credit card issuance increased. For the entire year 2022, we anticipate gross issuance of $255 billion, down modestly from $284 billion in 2021.

The CLO market experienced modest spread widening during the quarter. The OAS on AAA CLOs traded 22 basis points wider during the first quarter of 2022 to end the period at a discount margin of 130 basis points, while BBBs traded 26 basis points wider ending at a discount margin of 351 basis points. Issuance declined considerably versus 2021, creating a positive technical environment for the sector.

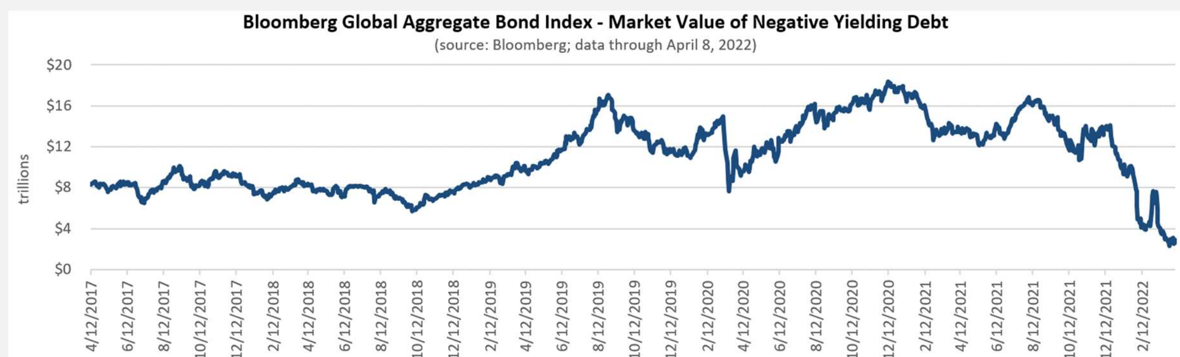
CMBS ended the quarter 17 basis points wider, finishing the period at an OAS of 85 basis points, and returning -58 basis points versus US Treasuries. The sector is characterized by favorable supply and demand technicals offset by challenging fundamentals, especially with regard to office properties. Issuance of conduit CMBS during the first quarter of 2022 exceeded prior year period issuance by 70%, but remained well below historical levels.

In the coming months, we expect the securitized market to be influenced by the change in monetary policy, which has significant implications for the shape of the yield curve, assessments regarding overall risk-on or risk-off sentiment, and portfolio positioning. Fundamentally, the MBS sector will continue to face the headwinds of a flatter and more volatile yield curve. Supply and demand technicals will likely trend neutral to bearish for the sector with reduced origination being offset by the Federal Reserve's efforts to reduce its balance sheet holdings. We continue to view MBS negatively and remain underweight. However, given the sector's significant underperformance and cheapening relative to other asset classes, we will look to opportunistically reduce that underweight in the near future. The ABS sector continues to experience strong underlying fundamentals and we believe the recent widening likely represents an opportunity to add to our overweight, as ABS appears positioned as a defensive flight to quality sector should the credit markets suffer in the coming months due to aggressive Federal Reserve tightening. We continue to like CLOs, as the credit fundamentals supporting the underlying loans remain robust and carry remains very attractive. The opening up of the economy benefitted the CMBS sector, as both the retail and hospitality activity appear to have bottomed and begun a recovery from very depressed levels. However, office properties, which comprise a significant portion of CMBS, appear challenged by increasingly difficult headwinds for the last several quarters, as work-from-home may impart lasting long-term effects on the demand for office space. We expect office property lease rates and occupancy levels to weaken, and our current view regarding CMBS remains generally defensive and opportunistic.

Credit Spotlight

Negative Interest Rates, They're Not So Negative Anymore

The total value of negative yielding debt globally according to the Bloomberg Global Aggregate Bond Index (the Global Index) peaked at $18 trillion (20% of total) in December 2020 and has begun to decline at an accelerated rate, ending the first quarter slightly below $3 trillion (4%). Since reaching a record high in December 2020, the total amount of negative yielding global debt oscillated between $12 trillion and $16 trillion before finally collapsing to a five-year low of $2.3 trillion in March 2022. In the first quarter of 2022, negative yielding global debt declined by 74% as inflationary concerns gained momentum alongside an anticipated policy reversal from global central banks and an unwind of market accommodation that supported economic activity during the global pandemic.



Credit Spotlight (continued)

Most negative yielding debt emanated outside of the US, namely in Japan, Germany and France. As a result, investors in regions where negative yields prevailed often directed funds to US markets in search of positive yields. Consequently, US markets likely benefitted when negative yields prevailed in certain regions.

Most negative yielding bonds appear the result of central bank policies which sought to crowd investors out of risk-free assets and into riskier investments thereby directing capital to uses that will accelerate economic growth. Negative interest rates don't come without a cost. Potential negative side effects include lower bank profitability, impaired functioning of the money markets, reduced liquidity for negative yielding debt, a limited central bank toolset to address a future recession, excessive borrowing and excessive leverage (by individuals, corporations, and sovereign countries) and future financial bubbles.

We believe the rapid decrease in the overall quantity of negative yielding reflects improvement in the outlook for global growth, elevated inflation and renewed policy actions by global central banks to increase interest rates while reducing or eliminating asset purchases. Rather than providing the customary technical tailwind to risk assets, the recent decline in negative global yields now offers foreign investors optionality outside of US markets. Additionally, we observe that domestic interest rates increased at a faster pace than in most other countries. Higher US short-term rates (i.e., versus other markets) tend to adversely affect currency hedging costs and all-in yields, thus, reducing the appeal of US markets to overseas investors. Year to date, hedging costs have risen more than 70 basis points for Japanese yen and euro investors. While the Federal Reserve fights to reduce inflation, we expect that FX hedging costs will trend higher as interest rates continue to increase. We will continue to monitor effect that a declining balance of negative yielding debt may have on US bond market technicals; currently, however, we anticipate only a modestly negative influence on demand.

Investment Grade Credit

The first quarter of 2022 comprised the most challenging period for the investment grade credit markets since the onset of the global pandemic, as Bloomberg US Corporate Bond Index spreads widened by as much as 53 basis points. The Bloomberg US Corporate Bond Index generated -145 basis points of excess returns over similar duration US Treasuries, as spreads widened 23 basis points during the quarter. Spreads peaked at 145 basis points on March 14, 2022 and then reversed course to end the period at 115 basis points as volatility trended lower alongside improving market sentiment as investors focused beyond the Federal Reserve's highly anticipated initial interest rate hike. After a relatively light calendar in December 2021, investment grade corporate issuance picked up at a fierce pace in January as $145 billion of new supply priced. Inflationary concerns and expected additional monetary tightening weighed heavily on investment grade corporate bond spreads, as risk started to reprice at higher spread levels during the quarter. In addition, Russia's invasion of Ukraine accelerated the sell-off in risk assets. Investor concerns regarding the potential for a 50-basis point rate hike in March abated and provided stability to investment grade corporate spreads which ultimately led to a sharp rally in the last two weeks of the quarter.

The best-performing industries in the Bloomberg US Credit Index on an excess return basis comprised of metals and mining, integrated and independent energy, pipelines, oil field services and non-corporates. Cable and satellite, chemicals, life insurance, tobacco and wireless telecommunications ranked among the worst-performing industries during the quarter.

Investment grade corporate bond issuers reported generally favorable earnings for the fourth quarter of 2021, however, elevated macro volatility, hawkish central bank policy action, the Russia-Ukraine war and uninspiring corporate technicals negatively impacted investor sentiment and reduced the appetite for risk assets. In March, we decreased our weighting to an underweight from neutral, due to increasing technical headwinds, tight valuations and stable credit fundamentals.

Despite wider corporate spreads, increased US Treasury yields and greater volatility, investment grade corporate supply maintained a brisk pace throughout the quarter. The anticipation of higher yields and a less accommodative central bank has motivated investment grade corporate management teams to pull forward issuance needs which have applied additional pressure to secondary corporate bond spreads and, at times, muted liquidity.

Although the earnings trend remains stable, we believe that inflationary pressure and the Federal Reserve's hawkish response could eventually soften corporate fundamentals as soon as the second half of 2022 or early

2023. If corporate fundamentals soften, they will likely push spreads higher at a time when recessionary fears are gaining momentum. Despite some companies pulling forward issuance in 2021, we remain cautious regarding supply and demand technicals and suspect that the heavy issuance experienced in 2021 may continue to weigh on the market. Given the defensive outlook for fundamentals and technicals, we believe that current valuations in investment grade credit appear stretched.

High Yield

Rising inflation, a hawkish turn in the FOMC's rate stance, and war in Europe combined to pose a challenging backdrop for the US high yield market to start 2022. The Bloomberg US Corporate High Yield Bond Index posted a -4.84% return in the quarter, the second largest loss since the third quarter of 2015 (the High Yield Index returned -12.68% in the first quarter of 2020 at the onset of the pandemic). For the second consecutive quarter, single-Bs outperformed other ratings segments (-3.53% versus -5.94% for double-Bs and -3.88% for CCCs), as investors generally favored credit risk over duration. At the sector level, leisure (returned -2.4%) and energy (-2.6%) outperformed, while sectors with a high concentration of long-duration bonds were hit hard, including wireless telecommunications (-11.9%) and food and beverage (-8.2%).

The high yield market experienced more spread volatility in the first quarter of 2022 than in all of 2021, trading in a 133 basis point range (a spread to Treasuries of 278 basis points to start the year to 411 basis points in mid-March). However, after touching a 16-month wide in mid-March, the market rallied all the way back to yield 325 basis points over Treasuries at month-end, leaving the Index just 42 basis points wider for the quarter. The sharp move higher in Treasury rates pushed the yield-to-worst on the High Yield Index up 180 basis points to 6.01% during the first quarter. Yields nearly reached 6.5% in mid-March, the highest level since July 2020 and up nearly 300 basis points from last summer's record low of 3.53%.

Fourth quarter 2021 earnings season demonstrated further improvement in high yield credit fundamentals, as revenues and EBITDA eclipsed pre-pandemic levels while credit metrics continue to rapidly improve. High yield issuer revenues increased more than 20% year-over-year for the third consecutive quarter, while EBITDA jumped over 50% year-over-year. Leverage improved to 4.4x from 4.8x in the third quarter of 2021, and while it's still above pre-pandemic levels of 4.2x in the fourth quarter of 2019, it remains well off the 6.1x high registered in the fourth quarter of 2020. Default activity remains at record low levels, with just two high yield defaults occurring in the first quarter of 2022, leaving the default rate at just 0.23%, down 4 basis points from year-end 2021 and 457 basis points from the year-ago period. Rating agencies continue to reflect these credit improvements in their ratings, creating $40.0 billion in rising stars during the first quarter of 2022 (compared to $55.6 billion for the entire year 2021) and year-to-date upgrades outpacing downgrades 3.3-to-1. Rising input and labor costs, as well as supply chain disruptions, pose a risk to earnings going forward, but we do not anticipate material weakening in credit fundamentals in 2022. Share repurchases and dividend increases also represent potential negatives for bondholders as the economic cycle progresses.

After a wave of refinancing-driven supply last year, higher yields have put the brakes on the new issue market to start 2022. Just $46.5 billion of high yield bonds priced in the quarter, down from a relatively slow fourth quarter of 2021 ($73.3 billion) and approximately 70% lower than the first quarter of 2021. This technical tailwind has been offset by retail outflows that totaled a record $25.3 billion in the first quarter of 2022. As the year progresses, we anticipate periods of market calm to result in more M&A and LBO financing transactions but given the increase in rates, refinancing activity should drop sharply relative to last year.

Although we are inclined to doubt that the recent inversion of the yield curve represents a near-term recession signal, current high yield spreads of approximately 325 basis points do not leave investors much cushion relative to potential headwinds that include a very hawkish Federal Reserve, less fiscal stimulus, and potentially decelerating economic and earnings growth. As the first quarter demonstrated, we expect more volatility this year, and with spreads currently at the tight end of the recent range, we maintain a cautious near-term view on the market. As the year progresses, we anticipate more attractive entry points as credit fundamentals and technicals remain supportive for now.

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Leveraged Loans

The US leveraged loan market proved to be a port in the storm during the first quarter of 2022, as investors sought the safety of floating rate products against the backdrop of sharply rising interest rates. The Credit Suisse Leveraged Loan Index (the "CSLLI") returned -0.10% for the quarter, easily outpacing the nearly 5% loss in the high yield market. Commodity sectors continued to outperform the overall loan market, led by metals (+0.9% total return) and energy (+0.7%), while broadcasting trailed by the widest margin (-1.1%). From a ratings perspective, CCCs never really bounced from a mid-March sell-off and ended the quarter returning -1.77% (as compared to BBs at -0.08% and Bs at -0.01%). Average loan prices dropped approximately one point in the quarter, while spreads widened 10 basis points to 449 basis points (as measured by the 3-year discount margin). With the Federal Reserve beginning to raise rates in March, LIBOR jumped 75 basis points in the quarter to 0.96%, which contributed to the 183-basis point increase in the average loan yield to 7.09% (assuming a 3-year life).

Loan market credit fundamentals improved in the fourth quarter of 2021 in a similar fashion to the high yield market. Revenues increased 26% year-over-year (the third consecutive quarter to register gains of more than 20%), while EBITDA jumped 90% from the prior year. Credit metrics continued to improve, as leverage declined to 6.0x from 6.8x in the third quarter of 2021; while down from the peak of 8.9x in the first quarter of 2021, leverage remains above the 5.2x that prevailed in 2019. Strong earnings brought default activity to a halt, with none reported thus far in 2022, resulting in a 12-month default rate of just 0.39% (down 295 basis points from March 2021). Reflecting improving fundamentals, loan ratings upgrades outweighed downgrades by nearly 2-to-1 in the first quarter of 2022, pushing up the 12-month ratio to 2.3-to-1. Although the upgrade trend may slow in coming quarters, we expect default rates to remain at or near record-low levels in 2022.

As rates climbed to start 2022, loan market technicals remained firm in the quarter, with retail fund inflows totaling $18.7 billion, the second largest quarterly inflow on record (trailing only the $20.7 billion registered in the third quarter of 2013). Very strong retail flows offset a modest slowdown in CLO issuance from the record pace set in 2021. During the first quarter, 101 CLO deals priced for $50.3 billion, compared with 234 deals for $106.3 billion in the year-ago quarter. Similarly, primary loan market issuance slowed in the quarter, as only $120.5 billion came to market, a 60% decline from the prior year period. Last year's primary market was led by refinancings and repricings, however, and excluding these, new supply actually increased 10% compared to a year ago as acquisition-related financing led the use of proceeds. With the Federal Reserve on track to continue raising rates, we anticipate that loan market technicals will remain firm as investors gravitate to floating rate instruments.

We retain a constructive stance on the loan market and continue to overweight the asset class relative to high yield bonds. The Federal Reserve's aggressive posture on rates suggests that strong loan market technicals can persist, while we anticipate that credit fundamentals will remain healthy in the next few quarters even as economic growth and earnings potentially decelerate in the second half of 2022.

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The MOVE Index is a measure of US interest rate volatility that tracks the movement in US Treasury yield volatility implied by current prices of one-month over-the-counter options on 2-year, 5-year, 10-year and 30-year Treasuries.

The Bloomberg US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).

The Bloomberg US Credit Index measures the investment grade, US dollar-denominated, fixed-rate, taxable corporate and government related bond markets. It is composed of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1 / BB+ / BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded.

The Credit Suisse Leveraged Loan Index tracks the investable market of the US dollar denominated leveraged loan market. It consists of issues rated "5B" or lower, meaning that the highest rated issues included in this index are Moody's / S&P ratings of Baa1 / BB+ or Ba1 / BBB+. All loans are funded term loans with a tenor of at least one year and are made by issuers domiciled in developed countries.

The Bloomberg Barclays Global Aggregate Index is a multi-currency benchmark that includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers. There are four regional aggregate benchmarks that largely comprise the Global Aggregate Index: the US Aggregate, the Pan-European Aggregate, the Asian-Pacific Aggregate, and the Canadian Aggregate Indices. The Global Aggregate Index also includes Eurodollar, Euro-Yen, and 144A Index-eligible securities, and debt from three local currency markets not tracked by the regional aggregate benchmarks (CLP, MXN, and ILS).

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