2022 Midyear Review and Outlook Report

July 2022

WITH THE FIRST HALF OF THE YEAR BEHIND US -

and what a turbulent six months they were – we thought this would be an opportune moment to revisit our 2022 Outlook. Starting with the macro picture, before moving on to each of the six investment ideas we presented at the start of the year, we will candidly assess what we got right, what we got wrong, and – most importantly – how what has transpired has affected our thinking. For each idea, we will also answer a key question gleaned from conversations with our network that we hope will offer useful perspective on portfolio positioning in the second half of the year.

MACRO REVIEW AND OUTLOOK

What we said

- U.S. economic growth may slow in 2022, but steady progress against COVID-19 should result in a new normal. With inflation persisting, investors will face a higher hurdle rate to achieve inflation-beating returns.
- The S&P 500 Index could return 10% for the year, in line with 10% earnings growth.
- The expected three interest rate hikes coming in 2022, after the Fed concludes tapering its asset-purchase program, do not bode well for fixed income markets.
- All in, this backdrop means that a traditional 60% stocks/40% bonds portfolio could return 5.2%, barely enough to overcome the expected sub-4% inflation rate.

The last six months

As we wrote in our 2022 Outlook, it has indeed been the year of higher hurdle rates and lower potential returns. But to a much greater extent than we (and almost everybody else) anticipated. With stocks and bonds falling in concert, a classic 60/40 portfolio, which we expected in the best-case scenario to return just over 5% for 2022, has so far returned -16% in the first half of the year.[1]

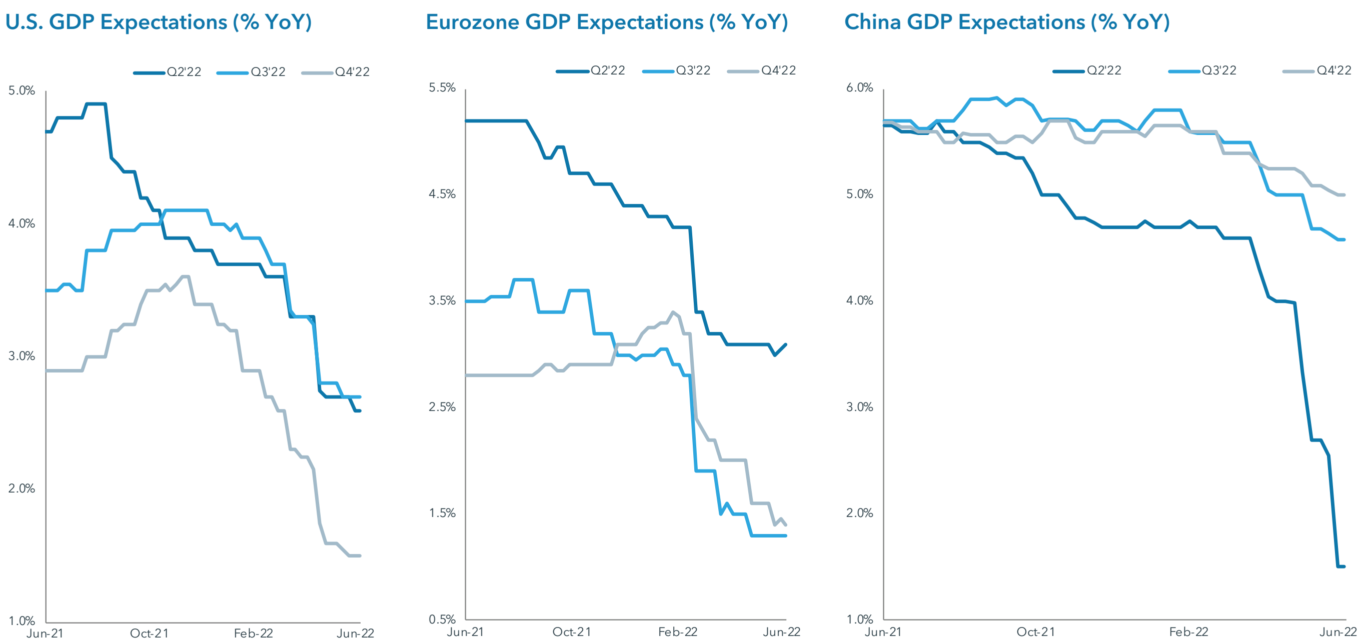
We also flagged that U.S. Federal Reserve (Fed) tightening would serve as a headwind to multiples. However, we again underestimated just how much, as the Fed adopted a much more aggressive tightening stance than anticipated in the face of unrelenting inflation. At the end of January, the market was projecting that the Fed funds rate would reach 2.6% by the February 2023 Federal Open Market Committee meeting, versus a projection of 3.5% by the end of June.[2]

The next six months

So what's next? Overall, we think the second half of 2022 could mark a **long-awaited return to more rational activity, on many fronts.** As pandemic-induced imbalances in goods, services, housing and market prices, fiscal spending, and monetary policy, among others, continue to unwind, we expect a shift back toward prudence among consumers, corporates, the Fed, and market participants.

- **For consumers,** we see no more reopening and travel chasing at all costs, no more revenge spending, no more excessive home goods buying, as they face the sobering reality of higher costs.
- **For corporates,** we predict no more inventory building, paying up for workers at all costs, and expanding headcount, instead the focus will be on controlling costs.

Exhibit 1: GDP growth set to slow in U.S. and Eurozone, China to rebound



Source: Bloomberg, as of June 30, 2022. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

- **For the Fed,** we see a return to a rates level consistent with a tight labor market and above-target inflation.

- **For market participants,** we foresee no more easy trades propped up by zero rates, no more crypto craze, and generally a return to financial prudence, focusing on cash-flow generation, real projects, sustainable missions, and tangible secular opportunities.

This return to rationality is not a bad thing. But it does have implications for the economy and markets:

- **Our base case is that the United States will experience a further slowdown but avert a full-blown recession in the second half of 2022 (avoiding two consecutive quarterly GDP contractions).** Both U.S. and Eurozone growth are likely to slow to 1.5% year-over-year by the fourth quarter of 2022, while China growth could rebound to 5.0% (See Exhibit 1).[3]

- There are definitely signs of U.S. demand slowing. For example, higher rates are weakening demand in residential housing and commercial real estate markets.[4] But **for growth to collapse into recessionary territory, we believe we would need to see something "break"**—like higher rates creating unsustainable debt burdens or an asset price collapse that triggers a wave of deleveraging. Right now, we do not see signs of such a development at any significant scale. The strength of consumer, corporate, and bank balance sheets, plus prudent financials and a lack of systemic overleverage, should help avert a crisis:

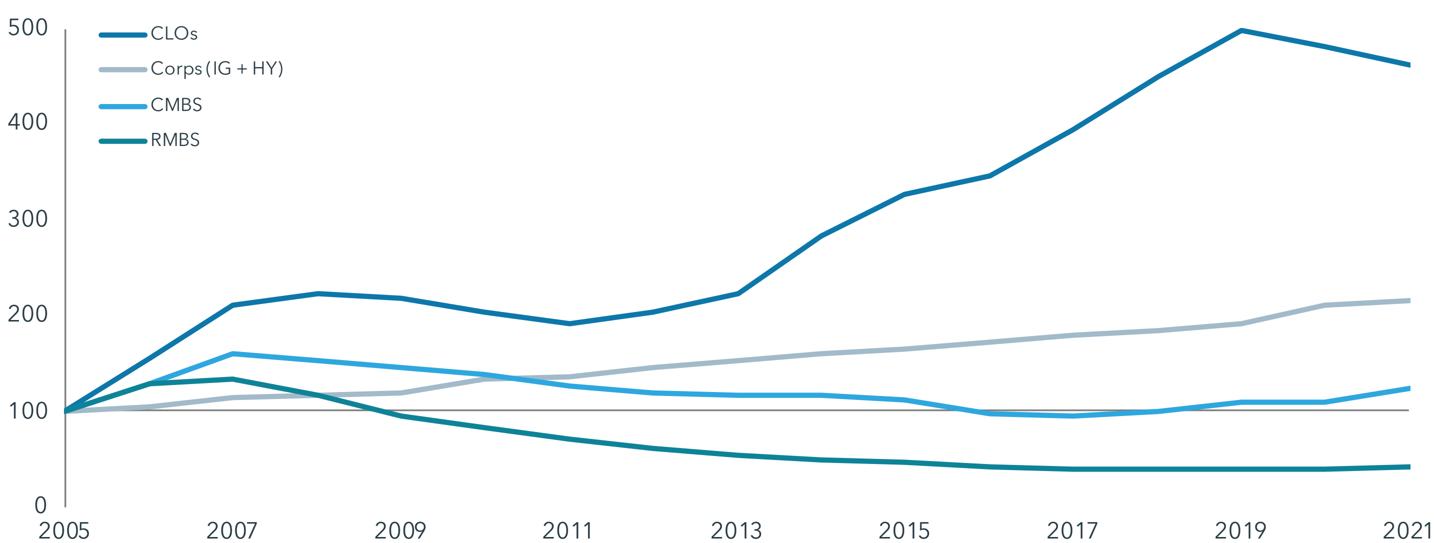
  - **Consumer/housing:** U.S. household debt to disposable income is at 100.3%, near its lowest level in 20 years.[5] The current debt-service coverage ratio of 9.5x is roughly 40% lower than it was during the Global Financial Crisis (GFC).[6] Meanwhile, over the past 10 years, floating rate mortgages have averaged just 5.7% of loan volumes on a weekly basis, versus 26.9% during the run-up to the GFC.[7]

  - **Corporates:** Net leverage and interest coverage ratios for high yield bonds and leveraged loans are as good as they have been in decades.[8] Further, corporations are strong enough to retire debt if needed, with cash and short-term investments on corporate balance sheets totaling $9.22 trillion globally in the first-quarter of 2022.[9] At the same time, only 11% of S&P 500 debt is floating rate.[10]

  - **Banks:** Capital ratios at banks, while below the highs of the fourth quarter of 2021, are projected

Exhibit 2: CLO growth has exceeded that of other instruments

Growth across various fixed-income sectors (normalized, 100 = 2005)



Source: SIFMA, as of June 30, 2022. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

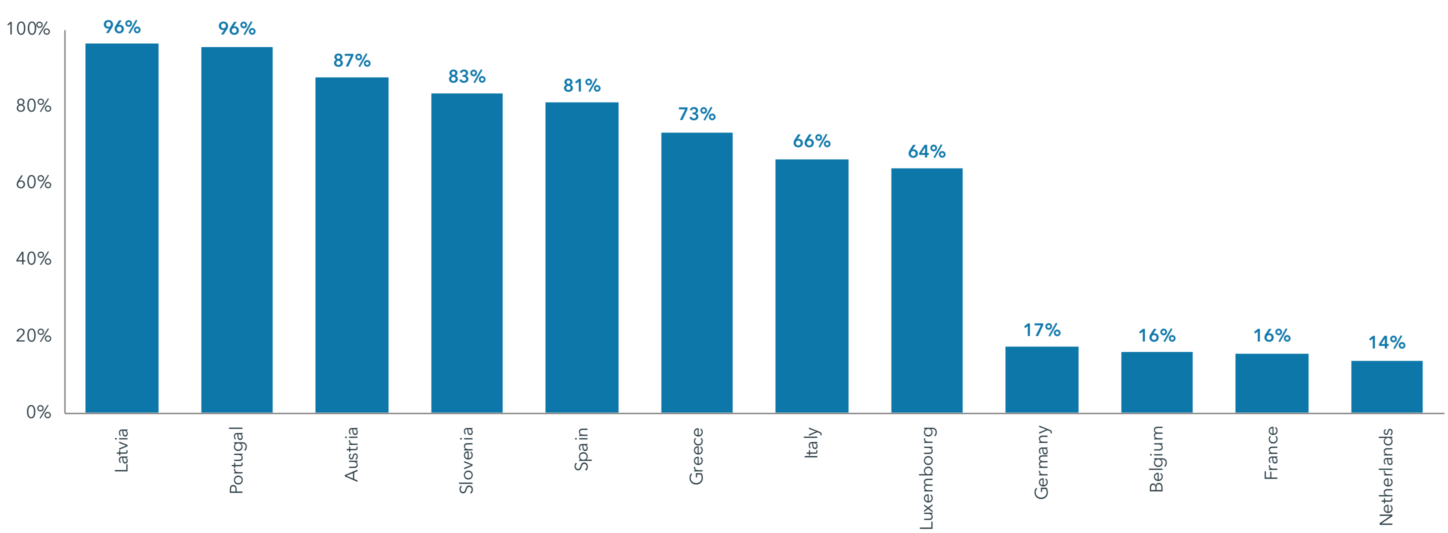
to be 9.7% for the first quarter of 2022—more than double the key regulatory threshold of 4.5%.[11] An average trailing 12-month profit margin of 30.5% for banks in the S&P 500 is near post-1990s highs.[12] Plus, banks have been forced to accumulate large holdings of high-quality liquid assets to prevent fire sales of hard-to-sell assets in a deleveraging event.[13]

- **Still, we believe there is definitely a chance that in the next six months central bank policy tightening and rate hikes could precipitate a "break" of some kind,** although we don't envision the consequences to be systemic, at least not yet and not in the United States. The following areas are worth monitoring carefully in the current environment:
  - **Crypto/unprofitable tech:** Excess froth could emerge from cryptoassets, as well as pockets of venture capital (VC) and unprofitable tech, but we do not think these risks are systemic. Cryptoassets, for example, have not been widely adopted yet by Main Street consumers or integrated into the broader financial system.[14]
  - **Collateralized loan obligations (CLOs):** The U.S. CLO market grew from roughly $300 billion at the end of 2008 to $615 billion at the end of 2018 (See Exhibit 2),[15] and these CLO bonds comprise floating-rate leveraged loans. Given this growth and rising rates, it is a space worth watching, but our assessment is that these lower-quality borrowers still have enough financial resilience to absorb rate increases in excess of 200 bps.[16] Further, most buyers of CLOs are institutional investors.[17]
  - Residential real estate in the Euro Area: While most of the mortgages in the United States are fixed rate, the norm in many other countries is adjustable rate (See Exhibit 3).[18] For example, only 4.5% of mortgages in Portugal are fixed rate.[19] With the European Central Bank (ECB) preparing to deliver its first rate hike in July, and market pricing implying that rates will hit 1.5% by mid-2023,[20] residential real estate prices and debt servicing ability could come under stress. The ECB's latest financial stability report highlighted that the European residential real estate market is overvalued and cited rising risks of corrections as rates rise.

These are risk factors worth watching. We think the first two risks are not systemic threats, but the final one, European real estate, could have more significant ramifications. This is one reason we prefer to skew equity

Exhibit 3: Adjustable-rate mortgages common in several European countries

Share of country's overall mortgages that are adjustable-rate mortgages (%)



Source: European Central Bank, "Working Paper: Fixed rate versus adjustable-rate mortgages," as of November 2019. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

allocations towards the United States and, in particular, U.S. financials.

- **We suspect the S&P 500 could test another low of ~3500 or below as the economy slows.** After a big multiple reset, earnings revisions are expected to trend down, with earnings-per-share (EPS) numbers dropping a median 13% during previous recessionary periods.[21] The blended next-12-month EPS estimate for the S&P 500 is $239.[22] If we assume a slowdown rather than a full-blown recession, estimated earnings projections may be cut by roughly half of that median (6.5%), which would bring us to $224. Further assuming that the multiple holds at around 16x, this would generate a fair value of around 3,575 for the S&P 500, 6% below the closing price on June 30.[23] Meanwhile, the upside is likely capped at 4,100-4,200 for now, as there is no reason to pay a higher multiple given higher rates and a consensus best-case earning scenario of $250 EPS for 2023.[24] Seventy-five percent, or 24 out of 32, global central banks, have tightened policy this year.[25] With that in mind, the markets may only be able to finally bottom out once we see a trough or plateau in data and/or a material slowdown in policy tightening.

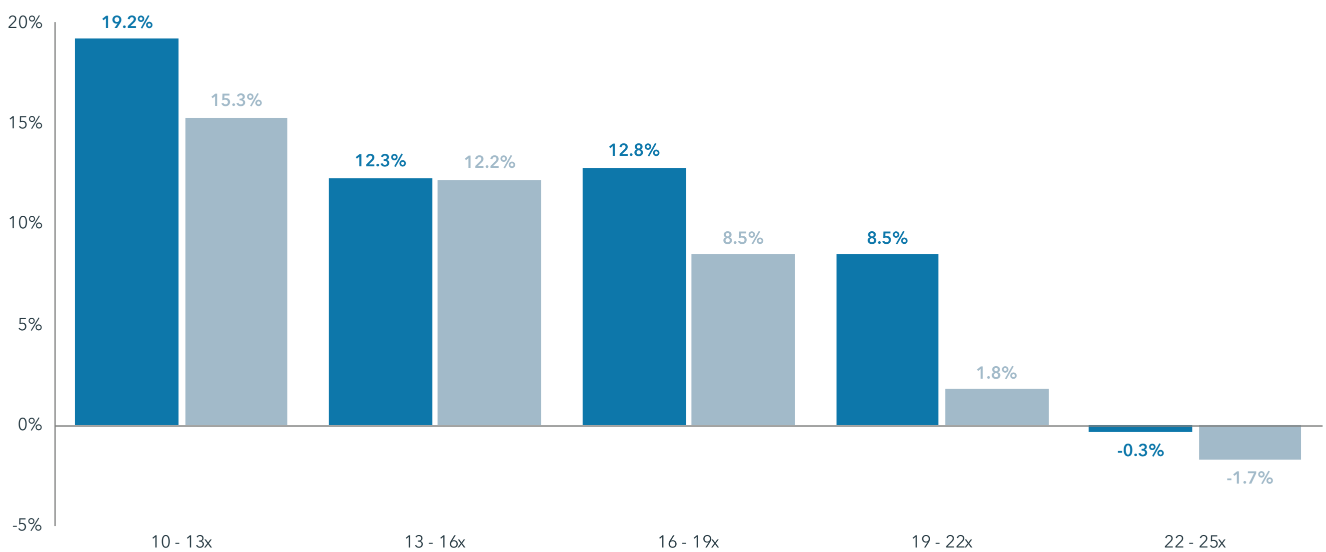
- **Many parts of the market are a lot more attractive at current levels and will be even more so if the discussed dip materializes.** We have seen a major reset across many segments. There has been a material upward repricing in rates across the curve, offering more attractive risk-free yields, while S&P 500 equity valuations at 15.9x forward price-to-earnings are now below five- and 10-year averages of 18.6x and 17.1x, respectively.[26] At the same time, the S&P 500 and credit spreads, when looked at together, price in a 77% recession probability, compared to 36 – 43% implied by economic data.[27] Crypto lost roughly $1.5 trillion in market cap in the first half of the year,[28] while unprofitable tech stocks are down 51.3% over the same period[29] and late-stage VC valuation show signs of cracking.[30] Consumer sentiment is at its lowest level since the seventies and bearish sentiment is at heights unseen since the eighties.[31] Finally, the economic surprise index turned negative.[32]

- **While we are not out of the woods yet, we see a less treacherous path ahead in the second half of 2022.** For long-term investors, this necessary reset has improved the risk-reward balance, with forward returns likely to rise after such significant corrections (See Exhibit 4). Contrarian investors should take note.

Having presented our macro update, in the following pages we revisit our six ideas from the start of the year. Each still holds merit, but we thought it would be productive to address how our thinking has evolved as a tumultuous 2022 has unfolded.

Exhibit 4: After significant corrections, valuations suggest stronger forward returns

S&P 500 NTM P/E and subsequent 1-year and 5-year annualized total returns since 1990



Source: Bloomberg, iCapital Investment Strategy, as of June 30, 2022. Note: Data is based on data starting January of 1990 and looks at the average S&P 500 1-year forward total return and 5-year annualized forward total return based on the blended forward 12-month P/E. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

IDEA 1:

VENTURE CAPITAL

IDEA 1: VENTURE CAPITAL

What we said

- Venture capital will continue to provide significant opportunities for value creation. Careful selection is critically important in this space, given the major disparity in the returns generated by VC funds.
- It is probably unrealistic to expect a repeat of this past year's performance, but we do expect that VC returns can continue to outpace the returns of private equity and public markets.
- Record cash on balance sheets should drive a continuation of strong M&A interest.
- Valuations have (so far) moved in tandem with value creation.

What happened

Since our annual update, the outlook for venture capital (VC) has certainly shifted, with the public market correction in technology of a magnitude we did not anticipate. These adjustments have yet to fully materialize in private markets data as of the first quarter of 2022 due to illiquidity and reporting lags.

But there are initial signs that the VC market is cooling, the clearest of which is a decline in venture deal activity and new IPO activity in the first quarter, although volumes remain high on a historical basis (See Exhibit 1).[33]

Do we maintain our view?

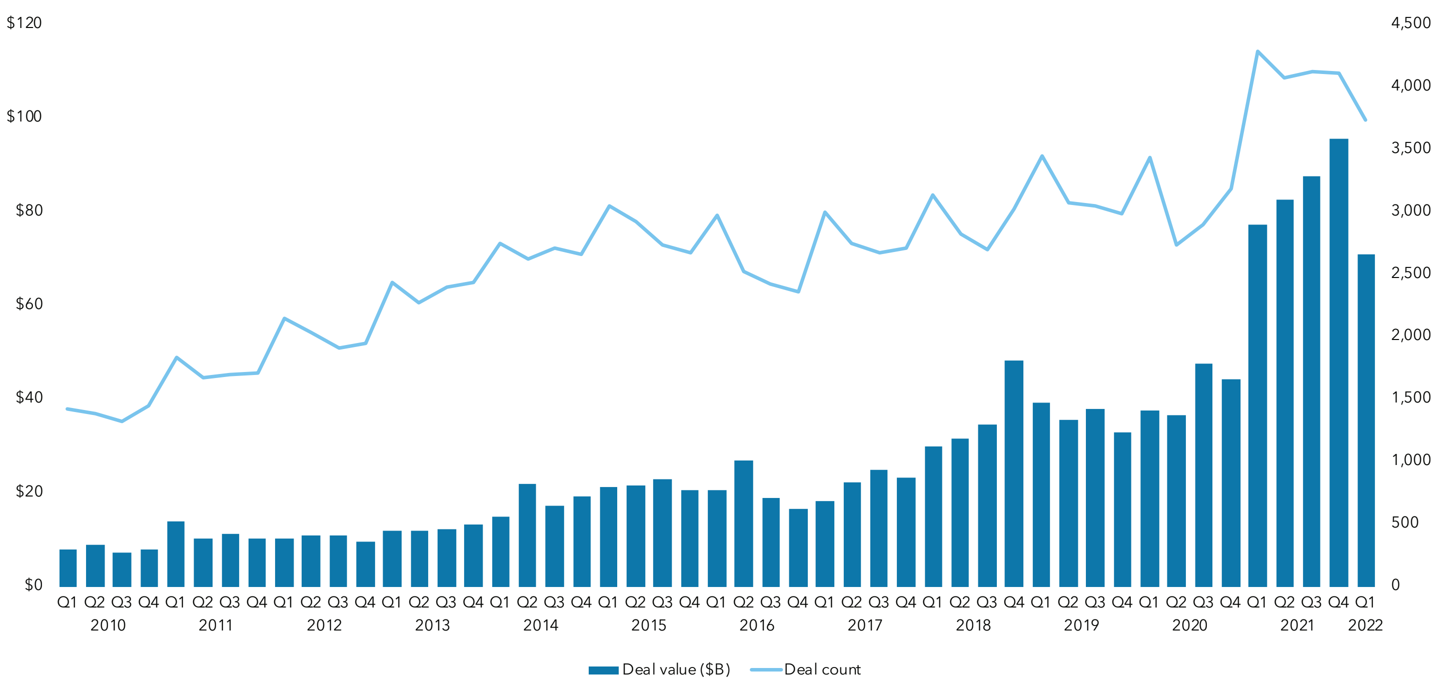
Although it is too early to draw conclusions on the full impact of this correction, there is growing evidence that change is coming in the short term at least. Valuations appear to be starting to correct[34] (See Exhibit 2), while the percentage of venture rounds closing down and flat seems to have bottomed out at a four-year low, suggesting that a reversal of this trend may be forthcoming (See Exhibit 3).

In combination, these dynamics could have a significant impact on funds in harvest mode (looking to realize investments) that now face a closed IPO window, a higher probability of down rounds, and potentially longer hold periods. We will be monitoring the impact of these trends on underlying company growth and liquidity closely in the coming quarters.

However, while these near-term trends suggest caution, they do not undermine the fundamental long-term investment thesis for VC, particularly in early-stage investments.

Exhibit 1: First quarter data suggests cooling activity from record-setting 2021

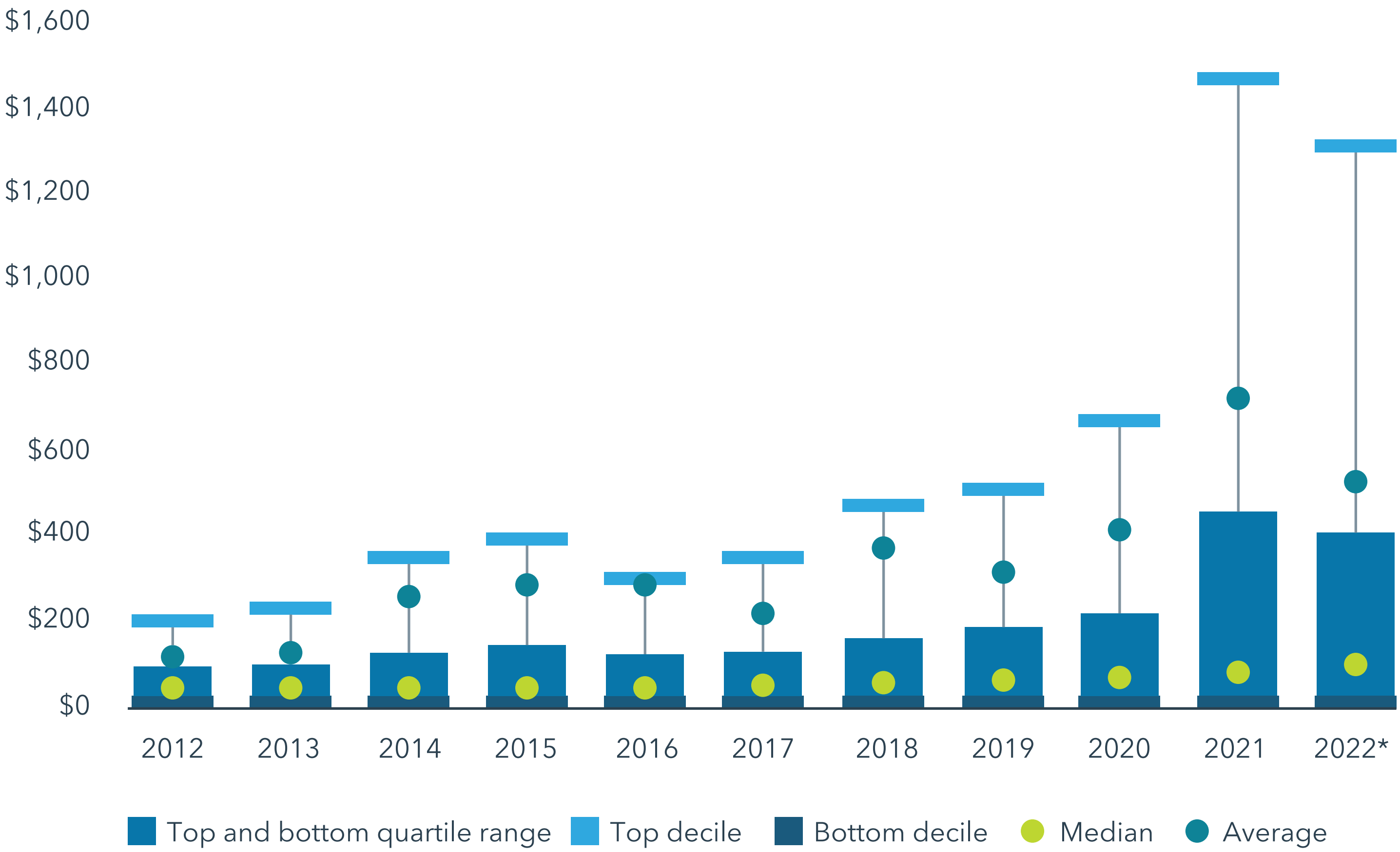
U.S. venture capital deal activity, 2010-Q1 2022



Source: PitchBook, as of June 14, 2022. For illustrative purposes only.

Exhibit 2: Late-stage valuations started to tighten in the first quarter

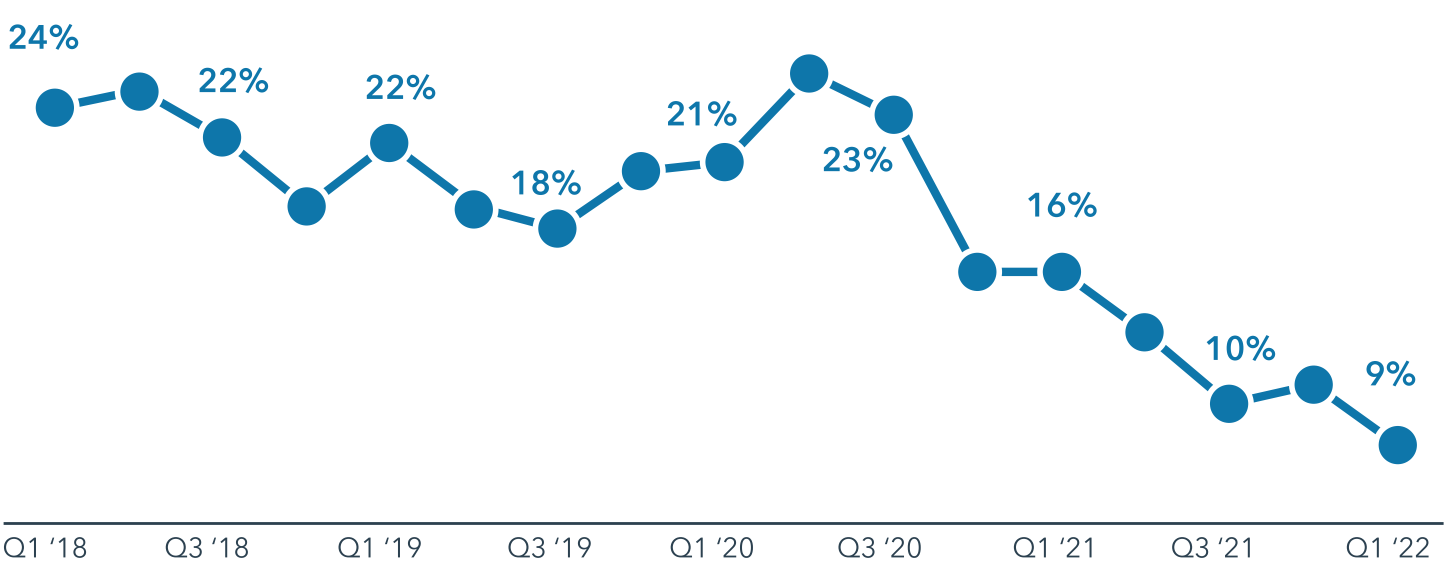
Late-stage VC pre-money valuation dispersion ($M)



*Source: PitchBook US VC Valuations Report, as of March 31, 2022. For illustrative purposes only. *2022 numbers are as of March 31, 2022.*

Exhibit 3: Share of venture rounds down or flat has bottomed out

U.S. down and flat rounds as a share of total rounds (%)



Source: SVB State of SaaS, as of March 2022. For illustrative purposes only.

Record capital remains on the sidelines, so the most innovative companies, which continue to be concentrated in private markets, will be able to access financing in even the most challenging of times. As we highlighted, large tech companies continue to hold record amounts of cash and face pressure to expand earnings. However, we expect a relatively circumspect approach to M&A in the near term as they take stock of the current market situation and wait for a semblance of stability to return, at which point they may increase acquisition activity again. Private capital managers face a similar dynamic, holding record levels of dry powder in a market that may provide increasingly attractive buying opportunities toward the end of the year.

The best privately held companies will weather the storm, but the benefits will particularly accrue to those managers who have experience across multiple cycles. As such, manager selection remains paramount.

Investor question: To what extent will valuations in the venture space correct in the second half of 2022?

At this point, it is not a matter of if private valuations adjust, but when and by how much. This correction is already (and unsurprisingly) showing up in the late-stage VC market, with pre-money valuations starting to tighten (See Exhibit 2).

It is too early to predict the extent to which VC valuations will contract, but we believe they are unlikely to fall quite as dramatically as tech stocks have. Historically, the quarterly mark-to-market valuation methodologies employed by private managers have smoothed out price declines. For example, during the dot-com bubble burst, the value of private equity funds fell 21% from the first quarter of 2000 through the third quarter of 2002.[35] Over the same period, the S&P 500 Total Return Index slipped 44%.[36] Similarly, during the GFC, private equity fell by 30% from the third quarter of 2007 through the first quarter of 2009, versus a 46% contraction for the S&P 500.[37]

IDEA 2:

CRYPTOASSETS

IDEA 2: CRYPTOASSETS—ALL EYES ON DAPPS

What we said

- The crypto ecosystem of cryptocurrencies, tokenization, and decentralized finance (DeFi) applications could provide opportunities for hypergrowth as compelling as those available from venture capital.
- Growth drivers include decentralized exchanges (DEXs), automated market makers (AMMs), smart contracts, and Web 3.0 and the resulting decentralized social media and gaming.
- Past returns are certainly no indication of future results, but given that we are still in the early stages of the adoption of DeFi and its protocols, we see massive potential for growth and disruption ahead.

What happened

Performance of cryptocurrencies and crypto-linked assets has been severely strained so far this year, with Bitcoin slumping 57% and the broader Bloomberg DeFi Index down 72%.[38]

This was primarily due to the aggressive Fed pivot toward fighting inflation after last year's inactivity. As a result, for the first time in two years, cash and parts of fixed income started to become viable alternatives. The effective fed funds rate is now at 1.75% and the three-year AAA municipal bond yield-to-maturity is 2.13%, while growth stocks yield 1.02% and Bitcoin yields nothing.[39]

Bitcoin and other cryptocurrencies have become more correlated with equities—which is warranted since the crypto ecosystem is innovative technology above all else. Like some unprofitable tech companies, cryptocurrencies do not have readily available projected cash flows that could be discounted back to present value. Of course, miners do earn revenue for validating transactions, but that accrues to the miners and not the Bitcoin asset holders. In this absence, cryptocurrencies have traded in-line with unprofitable tech and indeed, their correlation with that index has risen over the past 12 months, from +0.16 to +0.58.[40]

Do we maintain our view?

Near-term caution is still advisable. As with stocks, it would take a stabilization of growth expectations and/or a Fed pivot to pause rate hikes to justify a move higher in cryptoassets. Even in this scenario, we would not expect a surge like we saw in 2020-2021, given much tighter financial conditions and investors scarred by the losses from algorithmic coin collapses, withdrawal halts on crypto yield platforms, and more.

Despite a challenging 2022 so far, our longer-term view on the asset class's potential for growth and disruption has not changed.

Investor Question: After a rough start in the first half of 2022, what are investors to expect from bitcoin/crypto looking forward?

Cryptocurrencies should continue to derive value from their use cases and adoption. The technology's potential to make payments more efficient, transaction settlement faster, personal data ownership more private, and a variety of smart contract execution possible all make this an asset class of interest. We still think decentralized exchanges (DEXs), automated market makers (AMMs), and Web 3.0 should all help potentially deliver outsized returns in the space in the long run, however, as with any innovative tech investment it takes time to scale and move to profitability.

We do continue to believe investors could benefit from incorporating cryptoassets into a diversified portfolio, given its long-term growth and innovation potential. Importantly, we would consider sizing the allocation as with any other highly volatile security with potential but plenty of idiosyncratic risk, perhaps starting at 1% to 3% in an all-equity portfolio, and less than that in a balanced one. Given cryptocurrencies' correlation with equities and their high volatility profile, a commitment may best be made from the equity sleeve of a portfolio.

IDEA 3:

PRIVATE CREDIT

IDEA 3: PRIVATE CREDIT

What we said

- Private credit continues to cement itself as a fast-growing asset class, well positioned for both current and anticipated market environments.
- Amid a 2022 backdrop of rising short-term rates, we see private credit – specifically middle-market direct lending strategies – offering a significant buffer over publicly traded high-yield or leveraged loans.
- Structural drivers should continue to propel private credit issuance.

What happened

The low frequency of data across private markets, including private credit, makes drawing immediate statistical conclusions difficult. The Cliffwater Direct Lending Index dipped marginally in the first quarter to a quarterly total return of 1.8%, the lowest reading since the first quarter of 2020, when the impact of COVID-19 was first felt in the U.S.[41] However, this still represents a trailing five-year annual return of 8.6% that compares favorably to the U.S. High Yield Index (4.6%) and the S&P/LSTA Leveraged Loan Index (3.7%).[42]

Meanwhile, Proskauer's Q1 2022 Private Credit Default Index found a stable and low overall default rate of 1.12% for the quarter.[43]

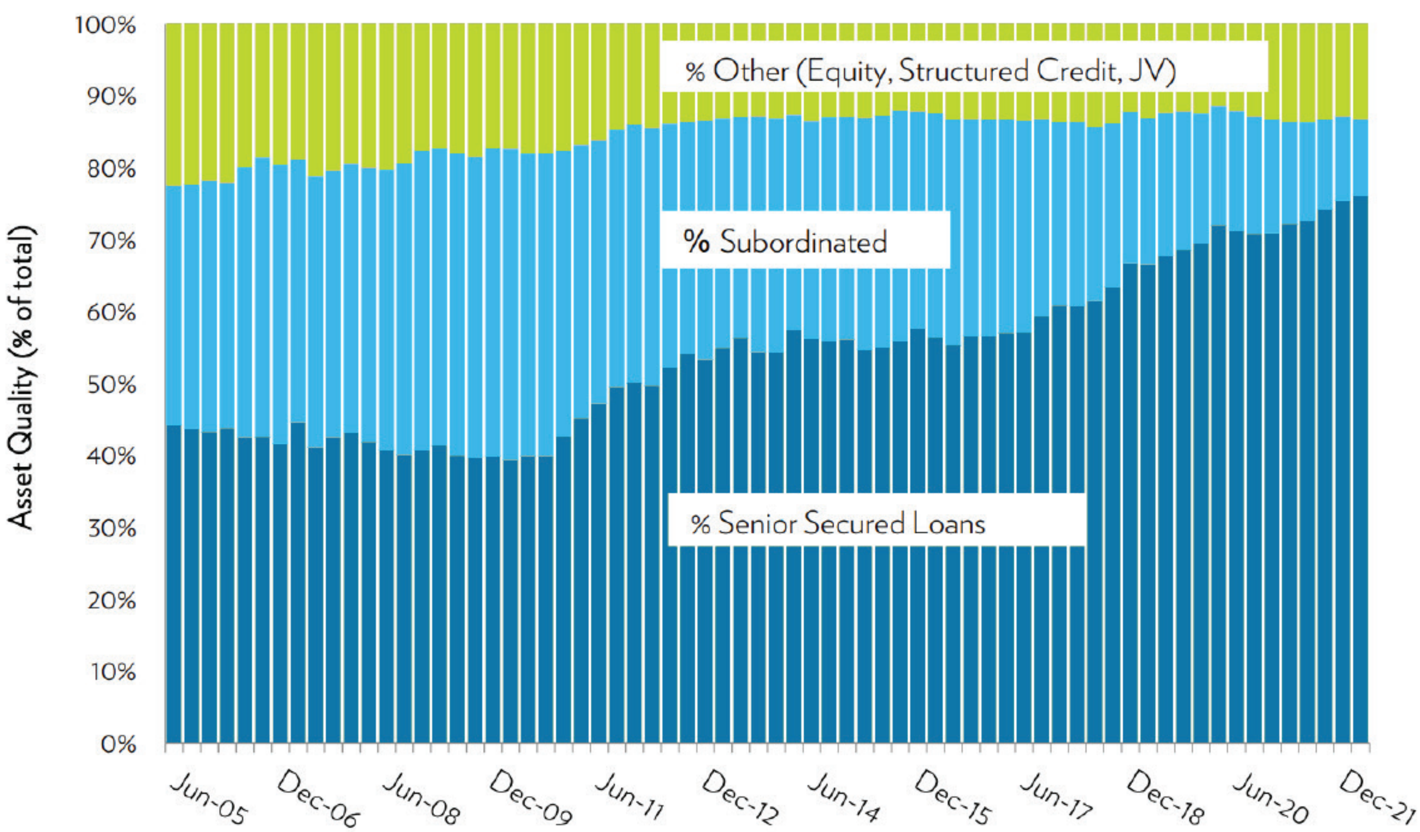
Do we maintain our view?

Long term, the private credit opportunity set continues to be significant, with the ratio of private credit to buyout dry powder remaining relatively stable at approximately 20%.[44] The fundamental drivers that have propelled the growth of the asset class remain and should allow it to generate strong long-term returns on an absolute and risk-adjusted basis.

Even in the current environment, private credit investors are protected from inflation rises to a greater extent than

Exhibit 1: Underlying quality of private lending has improved over time

Asset quality as share of total lending in the Cliffwater Direct Lending Index



Source: Cliffwater 2022 Q1 Report on U.S. Direct Lending, as of May 31, 2022. For illustrative purposes only.

public fixed income products by yields that are typically floating rate, and offer a spread above interest rates, which has helped drive historical outperformance.

However, we have certainly grown more cautious as the year has progressed, given how unexpectedly fast interest rates have risen, and what it might imply for default rates.

We maintain our fundamentally positive long-term view of private credit. However, in times of market stress it is of heightened importance to partner with established managers of scale. Today's environment represents uncharted territory for many in the private credit industry, which only began to scale in the early 2000s, so experience matters. Greater scale, meanwhile, often provides the capacity to conduct more in-depth due diligence and therefore better identify high-quality companies that are less likely to face liquidity issues. Moreover, managers of scale typically benefit from greater negotiating power, often leading to stricter terms and covenant packages.

Investor question: Do the significant rate rises create a threat of rising defaults?

The flip side of floating rates is that, in a rising rate environment, they could end up squeezing borrowers too much. Lenders can certainly only pass through so much of a rate increase before their borrowers struggle to service their debt loads, particularly in an increasingly volatile market environment. We therefore see the potential for heightened defaults—especially for companies that commanded lofty valuations in recent years and may now see that decline, causing their loan-to-value ratio to spike.

That said, the relative quality of private credit lending has improved over time (See Exhibit 1).[45] The percentage of loans in the Cliffwater Direct Lending Index classified as senior secured grew from 38% at the end of 2009 to 76% on March 31, 2022.[46]

While we expect pockets of stress to emerge and push up overall default rates over the coming months, the structural protections in private lending and senior status in the capital structure should help somewhat moderate the impact.

IDEA 4:

REAL ASSETS, INCLUDING COMMERCIAL REAL ESTATE

IDEA 4: REAL ASSETS, INCLUDING COMMERCIAL REAL ESTATE

What we said

- Real assets will offer an attractive return profile in 2022, given their strong income streams and hedging abilities amid an inflationary and rising-rate backdrop.
- Real assets are tangible assets that have historically excelled when prices of goods and services have risen rapidly. In periods of elevated inflation exceeding an annualized rate of 3%, real assets have outperformed not just equities and bonds, but also private equity.[47]
- We specifically see opportunities in the commercial real estate ("CRE") segment as a result of its inflation-hedging characteristics and strengthening fundamentals. Historically, U.S. real estate returns have averaged 16% to 17% annually during periods with inflation above 2.5%.[48] Growth in net operating income (NOI) typically rises during inflationary periods.

What happened

Private real assets have broadly outperformed traditional assets so far this year, supported by structural and short-term supply/demand dynamics. While stocks and bonds endured one of their worst starts to a year ever, U.S. CRE gained 7.4% (See Exhibit 1).[50] Similarly, the NCREIF Farmland Index and Timberland indices were up 2.6% and 3.2%, respectively.[51] Privately held infrastructure has also been strong in recent quarters, gaining 13% year-over-year in the third quarter of 2021.[52] While we do not yet have first quarter 2022 figures, the S&P Global Infrastructure Index is typically indicative, and it rose 7.5%.[53]

However, real asset performance has begun to show signs of slowing in the second quarter and returns may moderate over the next few years. A reset of pricing expectations in the face of slower economic growth and a higher cost of capital are likely to offset higher income potential from adjustable rents and built-in inflation escalators.

Do we maintain our view?

Despite the challenges ahead, we maintain a positive outlook for real assets, particularly private real estate. A housing supply shortage and strong labor market underpin favorable demand fundamentals. First quarter REIT NOI increased 15.1% year-over-year, according to NAREIT, well above the 8.5% annual inflation rate reported in March.[54] Same-store NOI rose 8.4%, the fastest growth in 24 years, and funds from operations (FFO)[55] increased 30.9% to a record high.[56] The real estate market is also supported by ample liquidity and capital—funds closing in the first quarter were oversubscribed by 10% and global dry powder remained near all-time highs.[57]

That said, we expect both lenders and buyers to be more discerning as sustained inflationary pressures raise borrowing costs and eventually push cap rates higher. Additionally, aggressive monetary policy tightening by the Fed will impact commercial real estate broadly. There are signs that rising rates are already affecting deals: Property sales were reportedly down 16% year-over-year in April.[58]

Within CRE, we continue to favor industrial property as we believe supply chain redistribution will support rent

Exhibit 1: Real assets performed strongly in the first quarter

Returns from real asset and public market indexes (%)

	1Q22	4Q21	3Q21	2Q22	YTD	1-Yr
NCREIF-ODCE	7.37	7.97	6.63	3.93	7.37	28.47
NCREIF Farmland	2.63	3.80	1.51	1.47	2.63	9.73
NCREIF Timberland	3.21	4.56	1.89	1.70	3.21	11.83
S&P Global Infrastructure Index	7.47	4.58	1.49	3.23	7.47	17.76
S&P 500 Index	-4.60	11.03	0.58	8.55	-4.60	15.65
Bloomberg US Aggregate Index	-5.93	0.01	0.05	1.83	-5.93	-4.15

Source: eVestment, S&P Global, iCapital, as of March 31, 2022. For illustrative purposes only. Past performance is not indicative of future results.

growth even as demand for durable goods ebbs. We also like multifamily, which has historically been the most resilient real estate sector.[59] Persistent underinvestment in housing has pushed national home prices to record levels—while Millennials are reaching their key home buying phase. Rising mortgage rates exacerbate the situation and expand the pool of renters. However, both industrial and multifamily have seen significant price appreciation, with industrial up nearly 52% and multifamily 24% over the last year, so income may be the primary driver of returns going forward.

Investor Question: Which real assets outside CRE look most attractive?

Inflation that is both higher and more persistent than expected, and faster-than-anticipated rate rises, are conducive to strong performance for private farmland and infrastructure. These are appealing defensive sectors with the ability to pass on inflation and absorb higher borrowing costs, with returns relatively uncorrelated to traditional assets.[60] Returns from farmland, for example, have a 70% correlation to the Consumer Price Index measure of inflation.[61]

Higher agricultural spot prices should start to ripple through into stronger operational returns and support gains via land value appreciation. On the infrastructure side, assets are generally essential services with inelastic demand, and cash flows typically include either explicit inflation protection (e.g., contracts with inflation-linked payments) or an implicit inflation hedge (i.e., prices that can be adjusted during the life of the investment to reflect inflation).[62]

Relatively high inflation over the coming quarters could potentially support outperformance in these sectors, though aggressive Fed action and the potential for a recession are risks to this positive outlook.

IDEA 5:

HEDGE FUND ARBITRAGE STRATEGIES

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What we said

- Hedge fund arbitrage strategies will likely provide strong risk-adjusted performance in 2022, given that asset classes globally are seeing increased volume, in terms of issuance, and greater velocity, given increased volatility.
- Equity arbitrage can benefit from volatility and dispersion, as well as relative relationships within and across global equity sectors. [For] fixed income arbitrage, we expect volatility in fixed income to remain elevated. With spreads beginning to widen late in 2021, we could see better trading opportunities in credit, especially if sector dispersion begins to emerge.
- Each of the past two years has seen new convertible bonds coming to market in amounts around $100 billion. This provides more opportunities to participate in convertible arbitrage. Merger activity was at an all-time high in 2021, with the market poised to exceed $6 trillion in volume.

What happened?

Arbitrage strategies—broadly represented by multi-strategy hedge funds—have outperformed traditional assets this year, capturing only limited downside as equity indexes tumbled and the U.S. Aggregate Bond Index and U.S. High Yield Bond Index each endured their worst start to a year since their inceptions in 1976 and 1983, respectively (See Exhibit 1).[63] In fact, many arbitrage-focused funds were posting positive returns through late May, before the S&P 500 abruptly pivoted to rally 6% over the final seven trading sessions of the month.[64] Many managers lagged during this unexpected rally, causing them to trail for the month and give back year-to-date gains—though some prominent funds remain in positive territory.[65]

Exhibit 1: Hedge fund arbitrage strategies outperformed public indexes through May

Monthly total returns for multi-strategy funds vs. public markets (%)

	Jan	Feb	Mar	Apr	May	YTD	1-Yr
HFRI RV: Multi-Strategy	0.4	-0.1	1.5	-0.4	-1.9	-0.5	-0.2
Sample Fund 1	1.7	0.4	1.5	2.1	-0.7	5.0	12.7
Sample Fund 2	0.2	1.3	0.4	0.7	-0.8	1.9	6.5
S&P 500	-5.2	-3.0	3.7	-8.7	0.2	-12.8	-0.3
Bloomberg U.S. Aggregate	-2.2	-1.1	-2.8	-3.8	0.6	-8.9	-8.2
60% S&P 500/40% BB Agg	-3.4	-1.9	-0.3	-5.8	0.5	-10.5	-4.5

Source: eVestment, HFRI, as of June 13, 2022. Sample funds are two prominent multi-strategy funds with significant arbitrage strategy exposure. For illustrative purposes only. Past performance is not indicative of future results.

Do we maintain our view?

There is reason to believe the outlook for multi-strategy, arbitrage-focused funds remains broadly favorable in a market where higher volatility and wider stock performance dispersion are likely to persist. Although the drivers across the sub-strategies vary, they tend to be less sensitive to directional moves in the markets, instead relying on a diversified portfolio to capture temporary mispricing between assets.

Fixed income arbitrage strategies should continue to benefit from the divergent and uncertain path of global interest rates, and it is possible that credit markets are only in the early stages of their next spread widening cycle (See Exhibit 2). For equity relative value strategies, the re-rating of global stock prices has provided valuation-driven trading opportunities and may provide further tailwinds as the outlook for corporate earnings becomes increasingly cloudy.

Exhibit 2: Opportunities could grow further for fixed income and equity arbitrageurs

US Corporates Option-Adjusted Spread

S&P 500: Shiller P/E Ratio

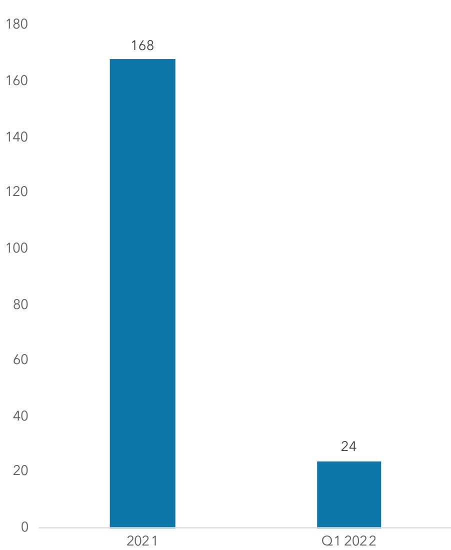
Sources: St Louis Fed, multpl.com, as of June 9 and June 13, 2022, respectively. For illustrative purposes only.

While event-focused arbitrage (mergers and convertibles) strategies have performed solidly, the performance drivers we identified in our outlook actually weakened.

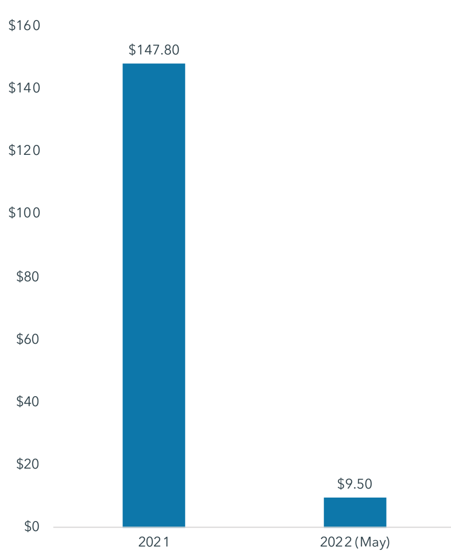
These strategies rely on robust capital markets activity, but deal flow has dried up and a near-term pickup seems unlikely. After record activity in 2021, large M&A deal activity has fallen sharply in 2022 (See Exhibit 3), thereby limiting the opportunity set for merger arbitrageurs. New convertible bond issuance, as well as IPO and SPAC offerings, have similarly dropped off.[66] However, looking at the medium and longer term, managers in these specialized segments are likely to benefit when activity begins to normalize and pent-up deal supply finds its way onto the market.

Exhibit 3: Limited capital markets activity a headwind for event arbitrage strategies

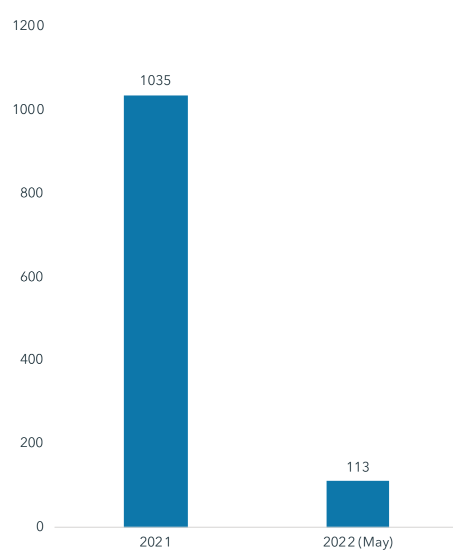
Number of Global "Megadeals" ($5B+)



Global Convertible Issuance ($Bn)



IPO Activity



Source: S&P Global, New Capital Funds, StockAnalysis.com, as of June 13, 2022. For illustrative purposes only.

Investor Question: Can outperforming hedge fund strategies sustain their outperformance in the second half of the year?

While the market environment has been supportive of arbitrage-oriented funds, in fact the best-performing strategy group year-to-date has been macro, which has returned +9.3% through May. Skilled macro practitioners are able to evaluate an array of "top-down" opportunities to take directional positions across asset classes, sectors, and geographies.

This approach has been particularly profitable in 2022 as managers have been able to capture outsized moves in areas such as interest rates and commodities, particularly in the energy complex.[67] Since late last year, the prospect of higher inflation and rising interest rates have severely impacted the performance of risk assets, and recent news concerning the economy and the Fed do nothing to suggest the situation is likely to change in the short term. Macro managers could therefore continue to outperform until these pressures finally abate and allow bottom-up, idiosyncratic opportunities to re-emerge.

IDEA 6:

USE OPTIONS TO MONETIZE ELEVATED VOLATILITY TO EARN EXTRA YIELD

IDEA 6: USE OPTIONS TO MONETIZE ELEVATED VOLATILITY TO EARN EXTRA YIELD

What we said

- What makes selling options attractive today is that, despite a reset to lower volatility throughout 2021, volatility levels are still elevated, relative to their pre-pandemic levels.
- Put volatility is systematically higher than call volatility and that spread today is especially elevated. Selling puts can help enhance the traditional forms of yield in a portfolio.

What happened

Volatility moved substantially higher this year, as the VIX Index surged from 16 at the start of 2022 to 35 in May, before moderating in June to its current level of 28.[68] While the entry point to sell volatility at the beginning of the year was not ideal given that it continued to move higher, the strategy of selling put options still paid off as investors who sold a put on the S&P 500 would have been able to enter stocks at a lower level than just buying equities directly. And in an environment where most long-only stock investors only experienced downside and little cash flow (dividend yield on the S&P 500 averaged just 1.45% during the first half of the year),[69] those that sold the put were able to collect a premium that at least partially offset losses elsewhere.

Do we maintain our view?

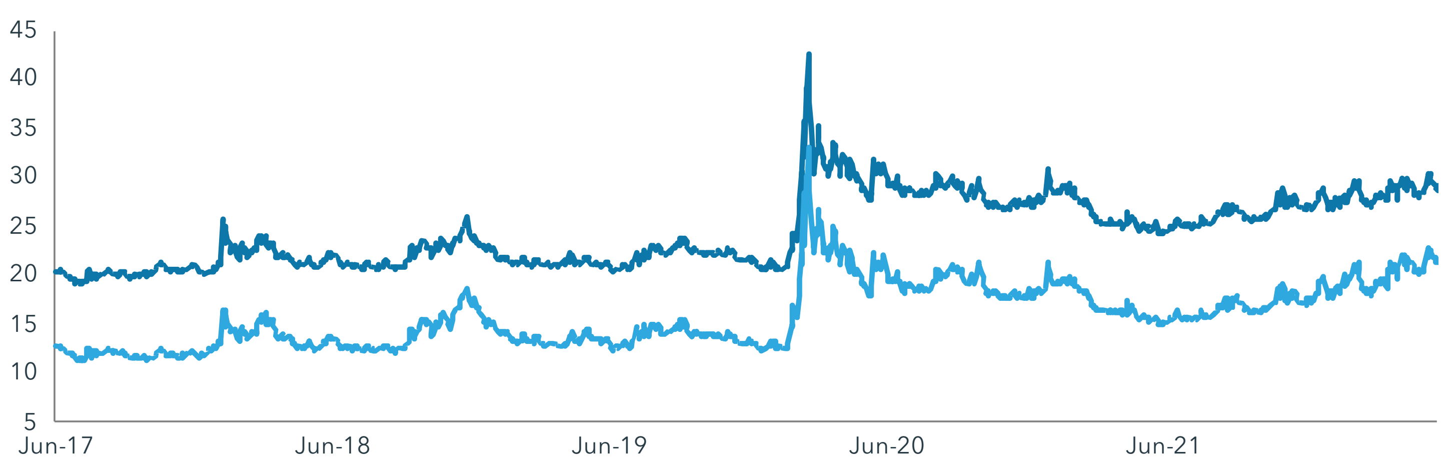
We think strategies that can help monetize elevated volatility still have a role to play for investor portfolios right now. As better value emerges, investors may want to step in to buy the dislocation in equities but may want to do so with some downside protection. On the flip side, in an environment where the economic outlook is still uncertain and the near-term equity upside might be capped, getting paid an income stream/a coupon could be a smart strategy. To this end, as an extension of the put selling strategy we discussed, investors might also find structured note strategies useful.

Investor Question: What factors are currently affecting the attractiveness of structured notes?

If we liked selling put volatility in the beginning of the year, we like it even more now (See Exhibit 1). Implied volatility is a big determinant of the options premium that must be paid if buying an option, or collected if selling one. Importantly, for structured note pricing what often matters is the price of the out-of-the money puts that can be sold. For example, the 20% out-of-the money S&P 500 18-month puts now price at 29% implied volatility, a level that is higher than 92% of observations in the last five years.[70] Similarly, selling 10% out-of-the-money 18-month S&P 500 calls is also attractive since their implied volatility is in the 96th percentile over the last five years.[71] This dynamic allows for certain structured notes to price better.

Exhibit 1: S&P 500 implied volatility has risen this year

S&P 500 18-month 80% and 110% moneyness implied volatility



Source: Bloomberg, as of June 30, 2022. For illustrative purposes only. Past performance is not indicative of future results.

In addition, rates, credit spreads, and a reset in valuations all make structured note pricing more attractive and entering these structures more timely.

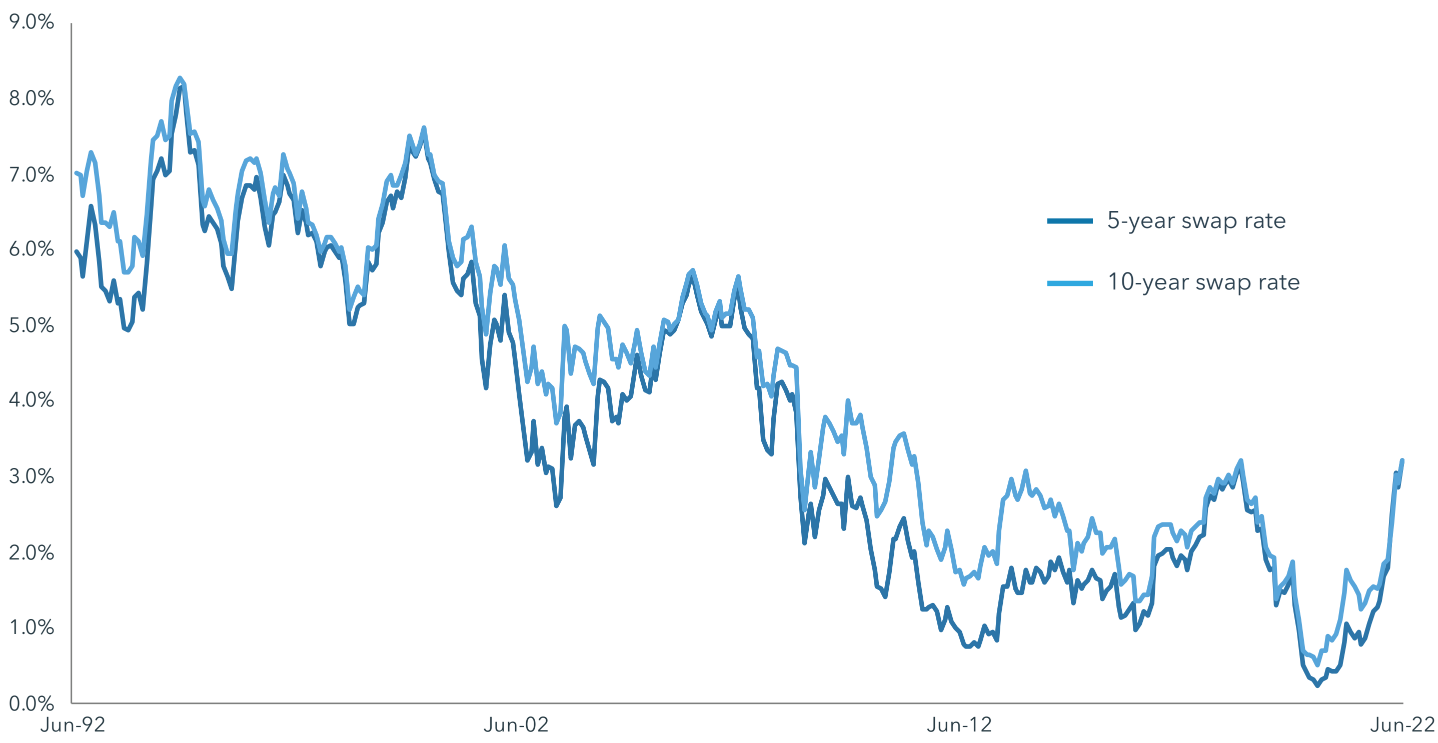
First, higher interest rates raise the "coupon" the issuing bank pays on the bond, which improves opportunities to deploy that funding into the underlying options to structure a certain payoff. The five-year swap rate rose from a low of 0.24% in 2020 to 3.20% at the end of June (See Exhibit 2).[72] Rates could push higher still and we do not expect them to fall back quickly.[73] This is a positive for structured note pricing.

Second, credit spreads impact the coupon an issuer must pay on a bond, based on creditworthiness. This year, the Bloomberg North America Financials Senior Investment Grade CDS Index (made up of senior investment grade issuers) widened from 58 bps at the start the year to 101 bps today (See Exhibit 3).[74] This is not necessarily an indication of deteriorating credit quality (more a reflection of macroeconomic uncertainty, in our view), but nevertheless contributed to better structured note pricing this year. Third, valuations and price moves, relative to recent highs, determine how attractive an entry point is for a structured note. Entering into a structured note with a 20% buffer or an 80% barrier allows a lot more room for error when the market is already down 10%-15% from 52-week highs, versus when the market is at all-time high.

Markets can change quickly, of course, but for now at least these four factors are positively impacting structured note pricing, offering attractive entry conditions.

Exhibit 2: Swap rates have risen to their highest level since 2018

U.S. 5-year and 10-year swap rates



Source: Bloomberg, as of June 30, 2022. For illustrative purposes only. Past performance is not indicative of future results.

Exhibit 3: The financials credit default spread has widened significantly this year

Bloomberg North America Financials Senior Inv't Grade Credit Default Spread (bps)

Source: Bloomberg, as of June 30, 2022. For illustrative purposes only. Past performance is not indicative of future results.

END NOTES

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3. Ibid.
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7. Source: Bloomberg, as of June 30, 2022. Note: run-up to GFC is defined by the full 4-years prior to the start of the GFC recession that officially started on December 31, 2007.
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9. Source: iCapital Investment Strategy, Bloomberg, as of June 30, 2022. Note: Calculation is based off roughly 2,000 listed-companies across the globe that report quarterly financials and are found within the Bloomberg World Large & Mid Cap Index
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33. For more detailed information, please reference iCapital's Q2 2022 Alternative Investment Compendium and 1H 2022 Strategy Rankings.
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36. Source: Cambridge US Private Equity Index, FactSet.
37. Source: Cambridge US Private Equity Index, FactSet.
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39. Source: Bloomberg, as of June 30, 2022.
40. Source: Bloomberg, as of June 30, 2022. Note: Correlation is based on a rolling 40-day period
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IMPORTANT INFORMATION