iCapital

2022 OUTLOOK

The Year of Higher Hurdle Rates and Lower Potential Returns – and What To Do About It

KEY TAKEAWAYS

- U.S. economic growth may slow in 2022, but steady progress against COVID-19 should result in a new normal.
- 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.
- With inflation persisting, investors will face a higher hurdle rate to achieve inflation-beating returns.
- We believe there are six opportunities for investors to realize returns that may potentially exceed their hurdle rates in 2022, and most of them are in the alternative space. They fall in two categories: strategies for potential hypergrowth and investments that can serve as inflation and rate shock-absorbers.

Ideas for Potential Hypergrowth:*

- **#1:** Venture capital will continue to provide significant opportunities for value creation. It is the source of the biggest innovations, and investors want to get in early on the next Google, Moderna, or Tesla. Careful selection is critically important in this space, given the major disparity in the returns generated by VC funds.
- **#2:** The crypto ecosystem of cryptocurrencies, tokenization, and decentralized finance (DeFi) applications could provide opportunities for hypergrowth as compelling as those available from venture capital.

Ideas for Inflation and Rate Shock Absorbers:*

- **#3:** Private credit could continue to provide a considerable yield advantage over high-yield bonds.
- **#4:** Real assets – including real estate, infrastructure, farmland, and natural resources – look especially attractive now, given their track record for performing well during periods of high inflation. We particularly favor commercial real estate, which has historically delivered strong returns in high inflation regimes.
- **#5:** 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.
- **#6:** The premiums available now on put options could make selling these options an attractive additional source of income for investors.

** Future results are not guaranteed and loss of principal may occur. This material is for discussion purposes only, and does not purport to contain a comprehensive analysis of the risk/rewards of any idea or strategy herein.*

A Little Slower Pace for Economic Growth

After a blockbuster and eventful 2021, we expect 2022 to be a little slower, both in terms of growth and market returns, but potentially as eventful. COVID-19 will likely still be with us. We should, however, increasingly move to a new normal, given the expanded medical toolkit now available to manage new variants and regional flare-ups, even while those may lead to occasional travel restrictions.

Global gross domestic product (GDP) growth should slow from 5.8% in 2021 to 4.4% in 2022 (see Exhibit 1).[1] Inflation should still be elevated, averaging 3.9% in 2022, the same level as in 2021.[2] A gradual easing of supply chain bottlenecks is likely, but that process may take several quarters. The latest spike in cases and proliferation of the Omicron variant creates additional uncertainty.

In the meantime, shelter and real estate inflation is likely to heat up, rising 5.5% in 2022, versus 3.4% in 2021.[3] In recent congressional testimony, Federal Reserve (Fed) Chair Jerome Powell acknowledged the presence of shelter inflation, noting that upticks in rents are contributing to the overall rise in inflation.[4] Oil inflation, however may begin to ease as Brent crude is forecast to end 2022 at $71.50 per barrel (bbl) versus $77.78 in 2021.[5]

Finally, two forces will be pushing in opposite directions in terms of growth. The fiscal stimulus (Build Back Better plan) initially expected to pass in 2021 now might not be voted on in the Senate until 2022 and, if passed, could add 0.4 percentage points to real GDP in 2022.[6] Still, that will be offset by actions from the Fed, given that it might finish tapering its asset-purchase program sometime around March, and may raise interest rates three times by the end of 2022. So, what does all of this mean for the markets?

Exhibit 1: Slight slowdown of growth and elevated inflation

Street Consensus Forecasts

Real GDP (YoY)	2021	2022
Global	5.8	4.4
United States	5.6	3.9
Eurozone	5.1	4.2
China	8.0	5.2
Japan	1.8	2.9

CPI (YoY)	2021	2022
Global	3.9	3.9
United States	4.7	4.4
Eurozone	2.5	2.5
China	1.0	2.2
Japan	-0.2	0.7

10-Yr. Rates	2021	2022
United States	1.51	2.04
United Kingdom	0.97	1.40
Germany	-0.18	0.09
Japan	0.07	0.13

Commodities	2021	2022
Oil, Brent ($/bbl)	77.8	71.5
Nat. Gas ($/mmBtu)	3.73	3.85
Gold ($/troy oz.)	1829	1687

Source: Bloomberg, as of December 31, 2021. Forecasts based on the median consensus across the Street. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

The S&P 500 Index is likely to return close to 10%, in line with earnings growth that is also expected to be around 10%.[7] For this forecast to materialize, however, multiples would have to stay unchanged. Historically, we have seen either some multiple compression or range-bound multiples throughout a rate-hiking cycle (see Exhibit 2). We think there is a risk that multiples move lower as the Fed gets closer to hiking rates.[8] That possibility is a source of potential downside risk to expected market returns. Ultimately though, given that earnings growth remains strong, we believe a less accommodative stance from the Fed may slow the pace of equity returns (since we cannot count on multiple expansion anymore), but should not derail it altogether.

Exhibit 2: Historically, rate hikes have had a moderate to minimal impact on stock price multiples

Changes in Price-to-Earnings Multiples During Periods of Rate Increases

Rate Hike Date Range				NASDAQ Multiple (Forward P/E)				
	Start	End	Δ in Fed Funds (bps)	Avg. 6-mo. Before Start	Start of Hike	Avg. During Hike	End of Hike	Avg. 6-mo. After End
1994 – 1995	Feb-94	Jul-95	300	-	-	-	-	-
1999 – 2000	Jun-99	May-00	175	-	-	-	-	-
2004 – 2006	Jun-04	Jun-06	425	28.0	28.3	**26.8**	24.7	25.8
2015 – 2019	Dec-15	Mar-19	200	22.0	22.4	**22.1**	24.5	23.4

Rate Hike Date Range				S&P 500 Multiple (Forward P/E)				
	Start	End	Δ in Fed Funds (bps)	Avg. 6-mo. Before Start	Start of Hike	Avg. During Hike	End of Hike	Avg. 6-mo. After End
1994 – 1995	Feb-94	Jul-95	300	16.5	15.1	**14.5**	14.0	15.4
1999 – 2000	Jun-99	May-00	175	24.1	25.3	**24.8**	25.1	24.8
2004 – 2006	Jun-04	Jun-06	425	17.7	17.4	**16.1**	14.9	15.4
2015 – 2019	Dec-15	Mar-19	200	17.3	17.3	**17.8**	17.0	17.5

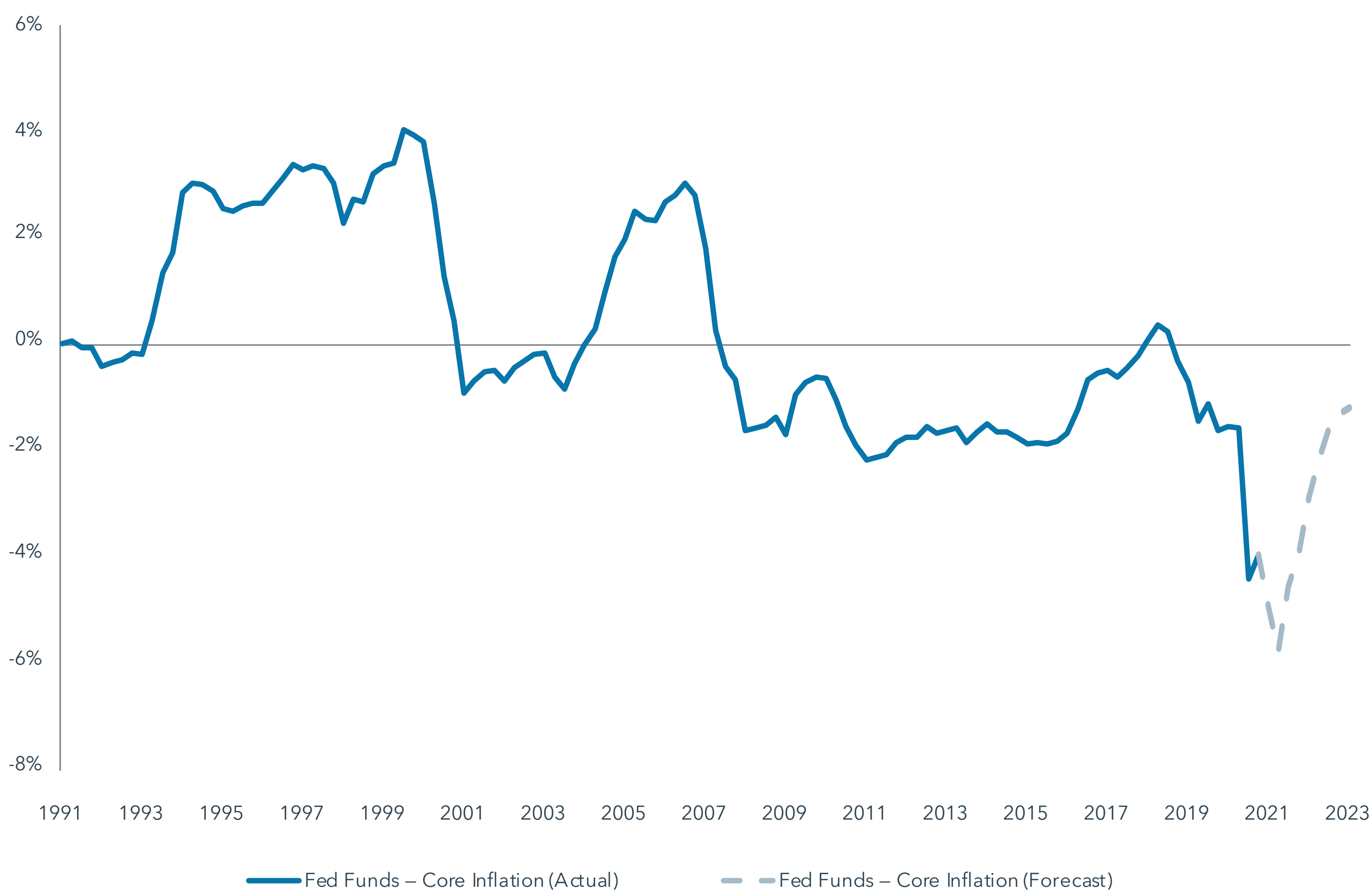
Source: Bloomberg, iCapital, as of December 31, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Also, as rates move higher and liquidity conditions tighten, dealmaking activity may come in a bit below the record-breaking pace seen in 2021. Still, we do not anticipate a severe dampening of deal activity. We note that a slow, gradual rise in rates, coupled with a strong economy, have historically been met with increasing corporate confidence and a supportive backdrop for dealmaking.[9] According to Dykema's annual M&A Outlook Survey, more than 75% of surveyed professionals and advisors expect the U.S. mergers and acquisition (M&A) market to strengthen in 2022.[10] Additionally, interest in special purpose acquisition companies (SPACs), which have had blockbuster years recently, is expected to stay strong in 2022, as investors seek access to emerging technologies and sellers take advantage of the vehicle's ability to provide a quicker exit and route to going public than traditional initial public offerings (IPOs) do.

Higher rates in 2022 shouldn't significantly curtail risk-taking, and the parallels being drawn by some analysts to economic conditions in 1999 are overblown, in our view. There are two main reasons why we think so, as illustrated in Exhibits 3 and 4. First, in 2022 we still expect the real interest rate to be negative, unlike the late 1990s when rates were positive and above the economy's neutral rate, conditions that suggested a tightening stance from the Fed. Policy may be incrementally less accommodative in 2022, but it will not be in tightening territory just yet. Second, the forward earnings yield on the S&P 500 Index versus the 10-year U.S. Treasury should still be above the long-term 30-year average of 1.89%.[11] Compare that with 1999, when this spread was negative and well below the historical average. So, while we do expect lower returns from risk assets, we don't anticipate that the incremental increases in rates will derail them altogether.

Exhibit 3: Real rates are expected to move higher but remain negative

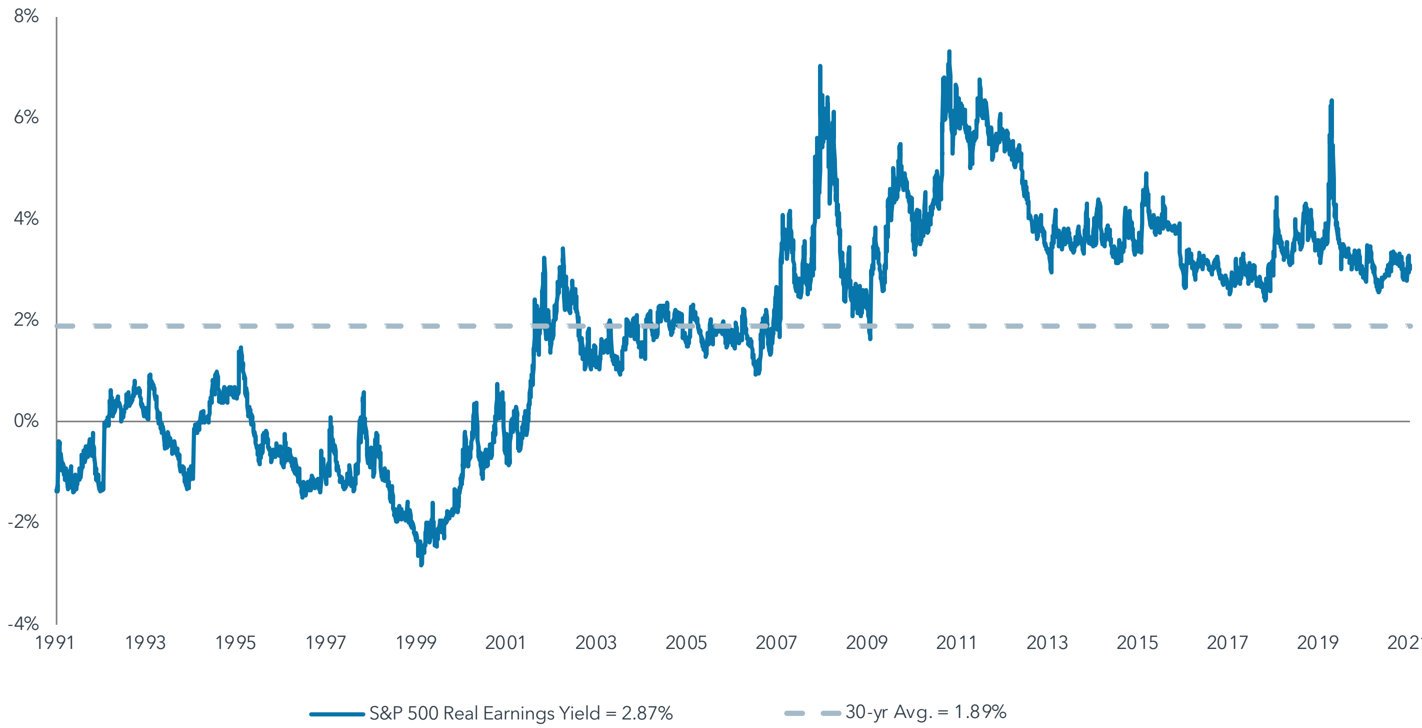
Fed Funds Effective Rate Less Core Inflation



Source: Bloomberg, as of December 31, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Exhibit 4: S&P 500 earnings yield to U.S. 10-Yr. spread still above long-term average

S&P 500 Earnings Yield Less U.S. 10-Yr. Treasury



Source: Bloomberg, as of December 31, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

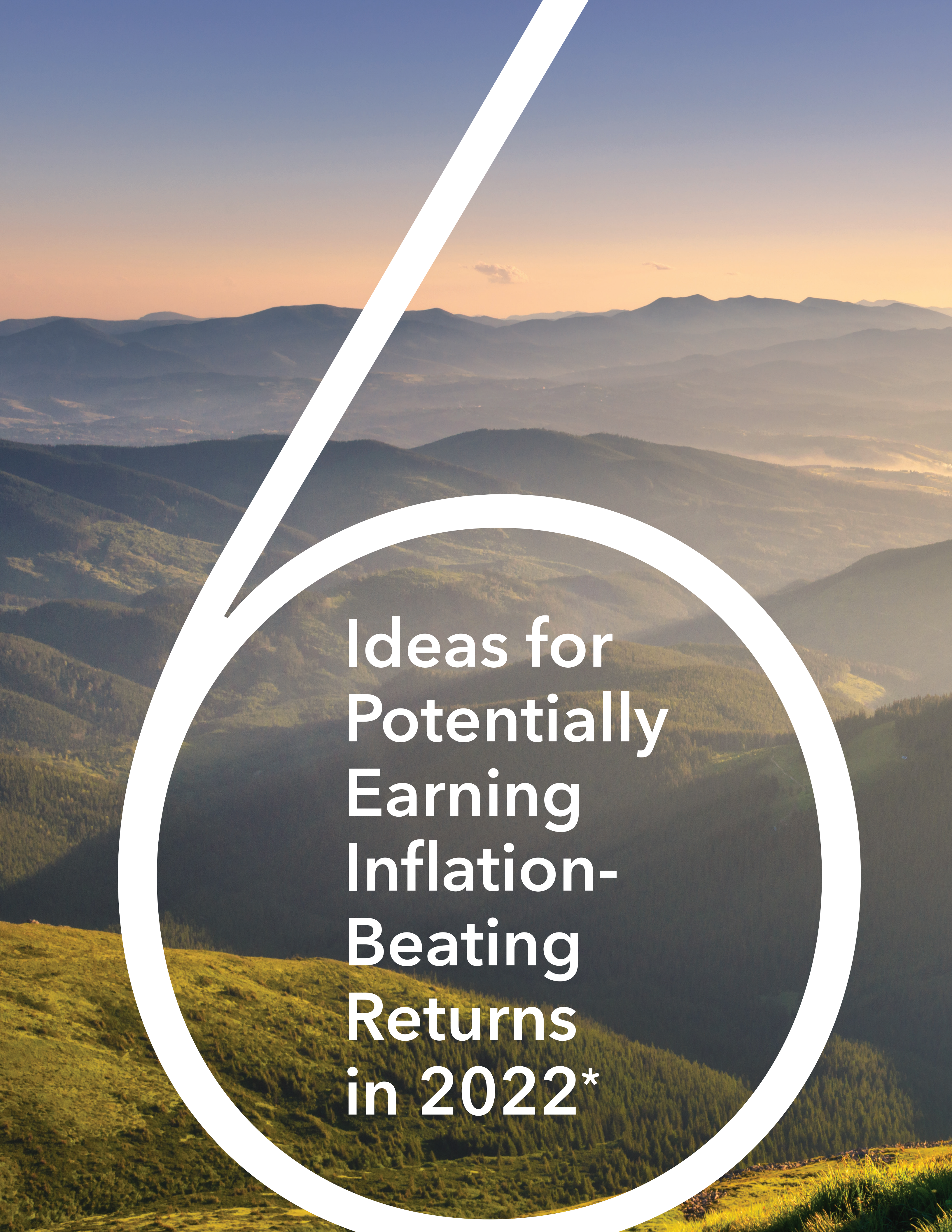
The rate hikes, however, would not bode well for fixed income. The two-year rate is expected to rise by 39 basis points (bps) to 1.12%, and the 10-year rate is likely to rise by 53 bps to 2.04% by year-end 2022.[12] This likelihood means that the Bloomberg Barclays Capital Aggregate Bond Index, which was down 1.54% in 2021 in terms of total return, could be poised to have another downbeat year.[13] The S&P 500 earnings yield to U.S. Treasuries spread is still above the long-term average.

All in, this backdrop means that a traditional 60% stocks/40% bonds portfolio could return 5.2%,[14,15] barely enough to overcome the expected sub-4% inflation rate. With this possibility in mind, the biggest challenge for investors in 2022 will be finding how to earn a healthy rate of return above the rate of inflation.

We think private markets may offer several opportunities for potentially better portfolio returns in 2022. Private equity, private credit, commercial real estate, and other solutions within alternative investments have long been staples in institutional portfolios. For example, endowments now allocate roughly half of their portfolios to alternatives.[16] High-net-worth individuals have increased their allocation to alternatives[17] from roughly 7% in 2008 to 14% in 2021.[18] However, in the independent wealth management space, only 31% of registered investment advisors (RIAs) are offering alternatives to their clients.[19] Of those that do, alternatives make up only 3% of the average product mix.[20]

Everyone now has a higher hurdle rate, from institutions that need to earn a target rate of return above inflation to individuals who are retired and need to generate inflation-beating cash flow from their portfolios. The implication of this higher hurdle rate is that to avoid debasing real values, portfolios need to earn close to 4% in 2022 (the expected rate of inflation) and preferably more than that to realize gains in real terms.

We think there are six options for investors to earn better returns in 2022, depending on their objectives. **We group them into two broad categories: strategies for potential hypergrowth, and investments that can act as inflation and rate shock absorbers.**



6 Ideas for Potentially Earning Inflation-Beating Returns in 2022*

Strategies for Hypergrowth

One way to beat inflation is to identify investments that are experiencing hypergrowth and have the potential to deliver returns well in excess of today's high hurdle rate. Currently, that growth is happening in two places: venture capital (VC) and the crypto ecosystem, in which VC is an avid investor.

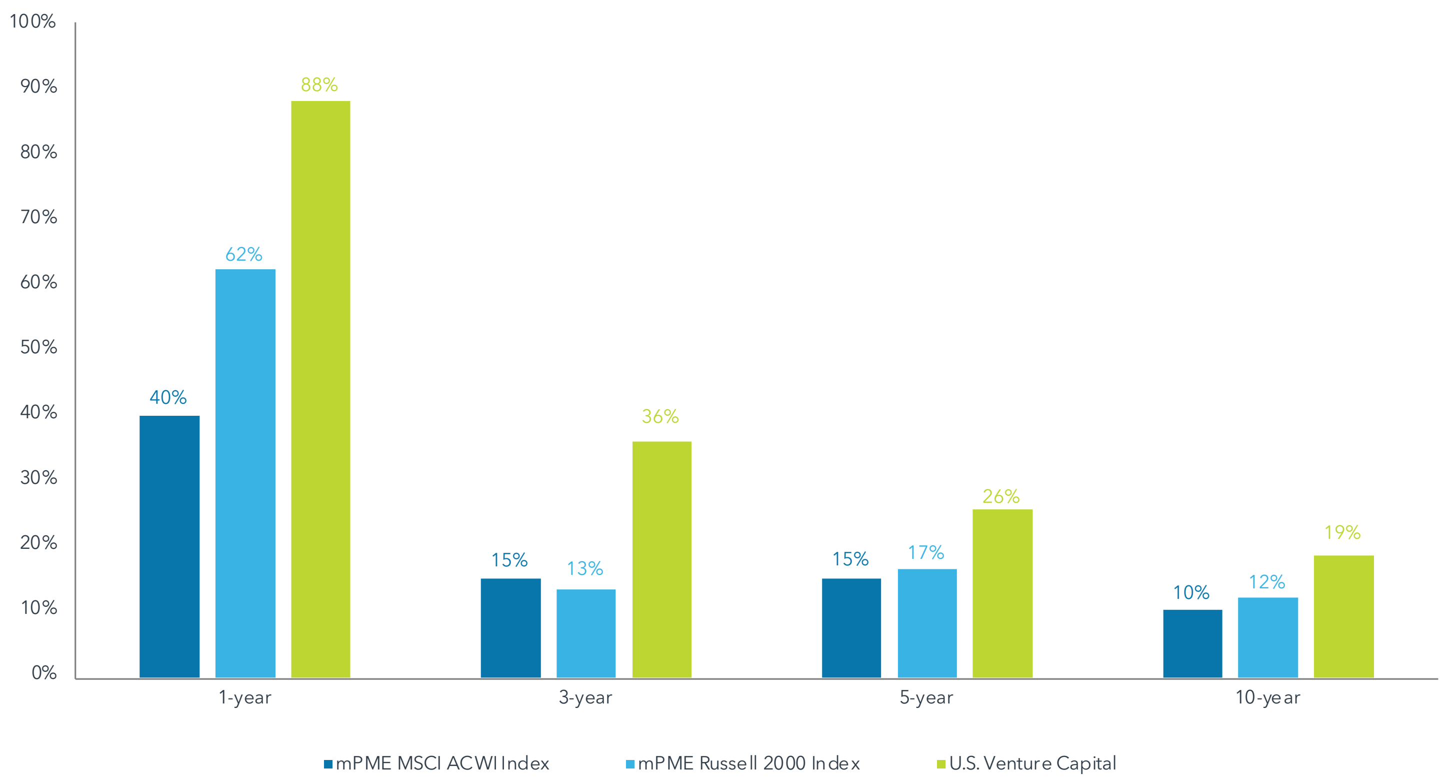
Idea #1: Venture Capital

Venture capital had a blockbuster year in 2021, and we expect interest in VC will continue throughout 2022. At more than $2 trillion, VC assets constitute half of private equity assets under management (AUM).[21] VC fundraising growth outpaced private equity in 2021 – growing 12% versus 3.2% for private equity.[22] It is clear that investors' interest continues to be on finding the next Google, Moderna, or Tesla earlier in their life cycle.

Over the last 10 years, VC has surpassed public equities – on average delivering 645 bps of outperformance – with VC returning 18.69% per year, compared with 12.24% return for the modified public-market-equivalent Russell 2000 Index (see Exhibit 5).[23, 24, 25] However, looking under the hood, VC has the widest interquartile spread of any public or private asset class. During the past 10 years, top-quartile managers returned 21% on average while

Exhibit 5: Venture Capital has outperformed other asset classes over long periods

Horizon Return Compared To Modified Public Market Equivalent (mPME)



Source: Cambridge Associates, US Venture Capital Index Statistics, as of June 30, 2021. Note: VC annualized return is based on Cambridge Associates US Venture Capital Index which calculates a pooled horizon return, net of fees, expenses, and carried interest. Note: Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. It is expressed as a money-weighted return and is comparable to private market horizon return. mPME is calculated by accounting for private market contributions and distributions. Contributions are invested "on paper" in the public market index (in this case the Russell 2000 Index) and distributions are taken out on the public market index in the same proportion as in the private investment. With each distribution, mPME "sells" the same proportion of the dollar value of shares owned by the public equivalent as the private investment sells in private shares.

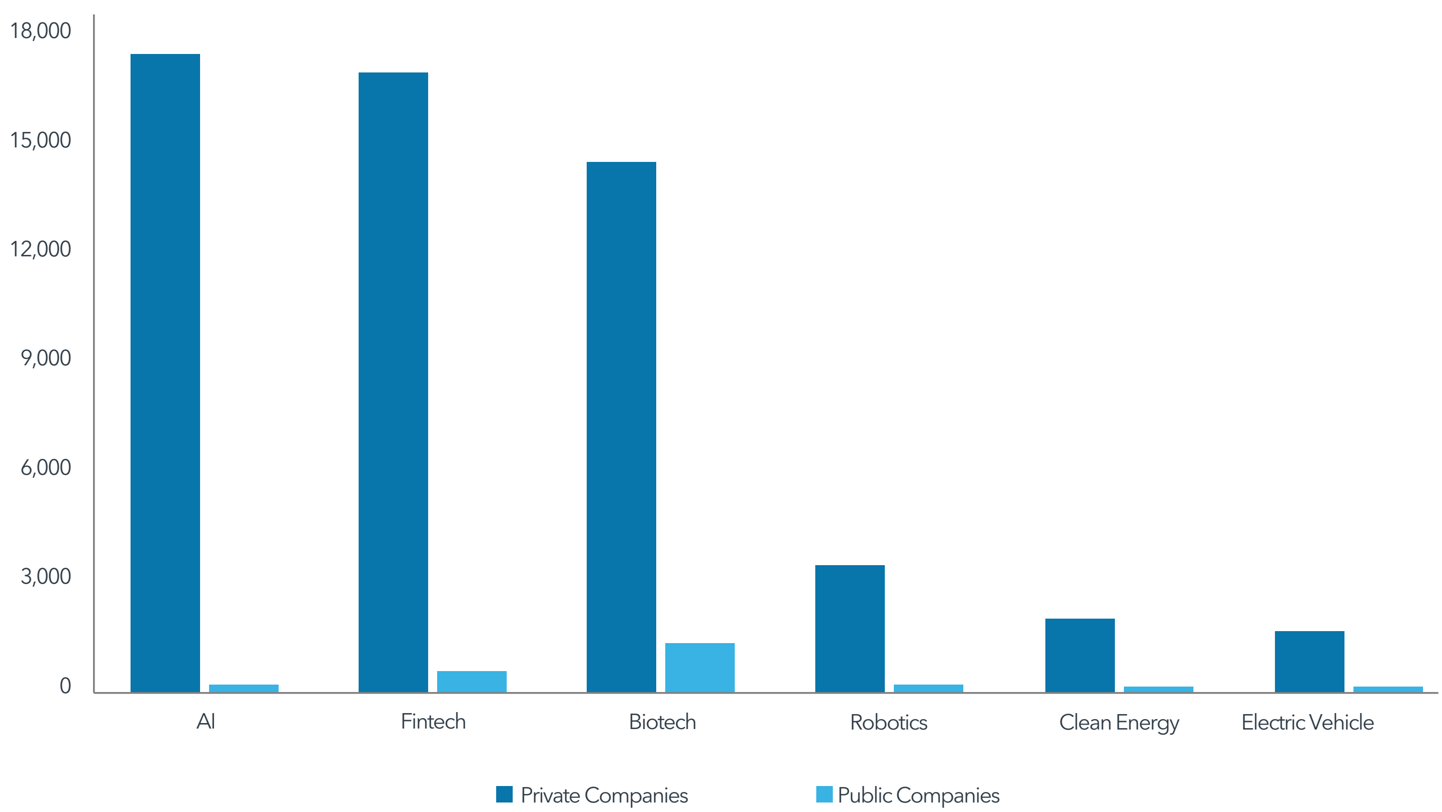
bottom-quartile managers averaged a negative return of 3%.[26] Manager selection is crucial in venture capital, and allocating consistently to top-quartile funds is key to delivering investor returns in this space.

Can the outperformance of the broad VC category continue? It's 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. Here are some reasons why:

- ***Venture capital provides access to cutting-edge innovation.*** Artificial intelligence, robotics, electric vehicles, fintech, biotech, and climate tech are some of the sub-industries attracting innovation buzz right now. While publicly traded companies are participating in these trends, the opportunity set is growing most rapidly in private markets. The number of private companies in each of these categories far exceeds what is publicly available (see Exhibit 6). For example, only 3% of fintech companies are publicly traded,[27] and this is an area that is attracting a lot of venture capital attention. Fintech experienced a record funding year and claims the most unicorns (privately held startups valued at $1 billion or more) among these categories, at 206.[28] Health care was the top industry in terms of VC dollars raised in 2021, with 22% of the total.[29]

Exhibit 6: In all the hottest innovation categories, private companies far outnumber public ones

Number of Public vs. Private Companies



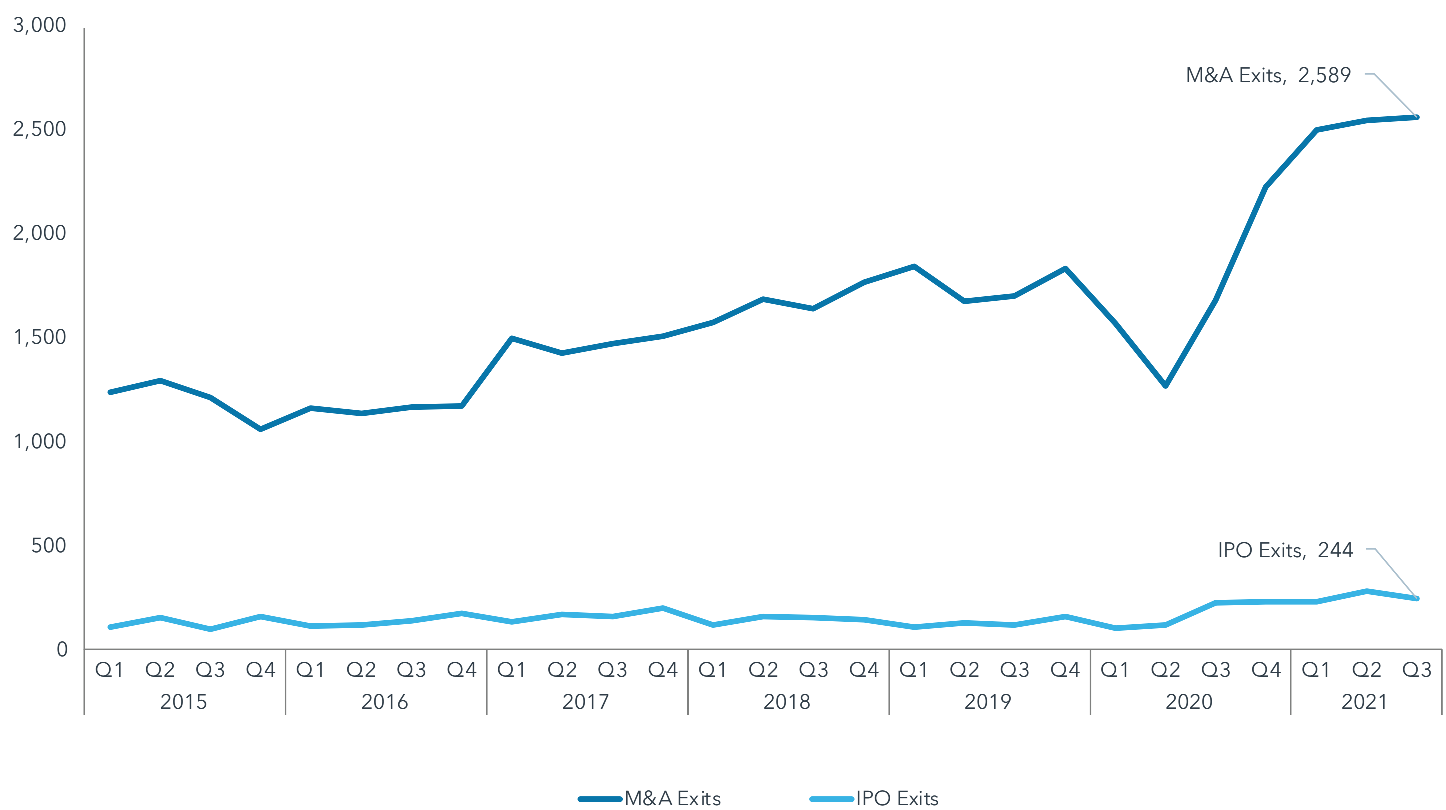
Source: PitchBook Data, as of November 8, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

- ***Record cash on balance sheets should drive a continuation of strong M&A interest.*** While the IPO market set records in 2021, for VC-backed companies, M&A was the most significant source of exit activity, in line with historical patterns (see Exhibit 7). Given that cash on corporate balance sheets globally is hovering near an all-time high of $6.8 trillion,[30] and companies will need to drive earnings growth by capitalizing on the megatrends of digitization, health care innovation, and sustainability, we expect the strong appetite for M&A will continue. Private equity dry powder, at $1.4 trillion as of March 2021, is also at record levels.[31] Over the coming period, buyout managers will be looking for add-on acquisitions for their middle-market or larger companies, and VC-backed companies may offer that. Even if the IPO market slows from its record pace set in 2021, we expect continued strength with strategic exits in 2022.

- ***Valuations have (so far) moved in tandem with value creation.*** Valuations have reached elevated levels everywhere, and VC-backed companies are no exception. For example, the median valuation for late-stage deals in 2021 was at unicorn status, reaching $1.1 billion, as of third quarter 2021. This is more than double 2020's median valuation of $523 million – an increase of 110% for 2021.[32] Are managers paying too much for these unicorns? Not when you look at the step-up multiples on exit. ***For example, amid a blockbuster IPO year, the average public listing price was 1.8 times higher in the third quarter than the last private***

Exhibit 7: Strategic exits were high in 2021 – a trend we expect to continue in 2022

Global M&A and IPO Exits



Source: CBInsights, State of Venture, Q3 2021. Note: IPO includes both IPOs and SPACs. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

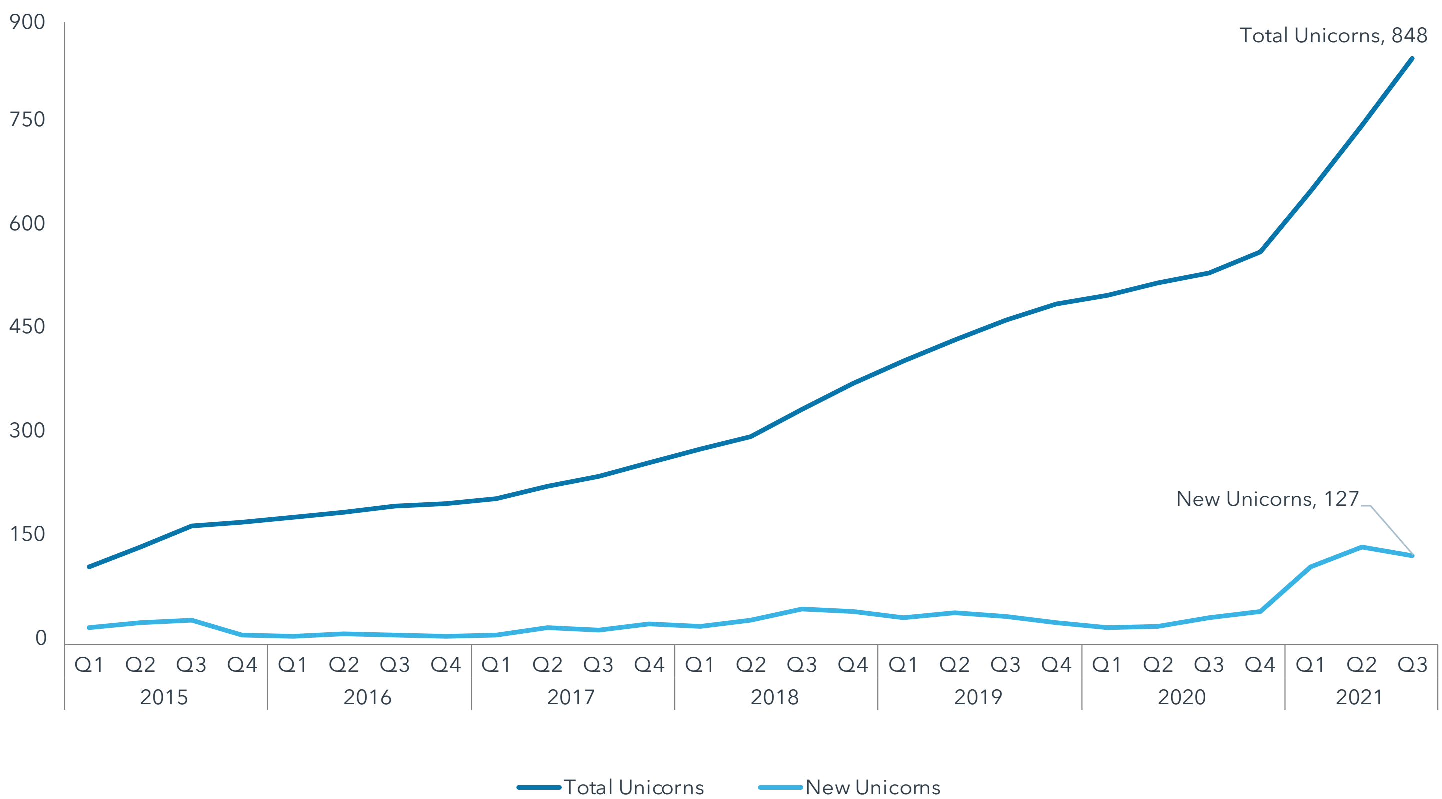
investment round. The median M&A step-up was an incredible 2.8 times in the third quarter.[33] Meanwhile, value created in between private rounds was even higher—close to 4.5 times.[34]

The key questions are not only what you are paying up to buy into a company, but also what do you expect to get back? It is possible that the higher rates expected next year will put a pause on multiple expansion, and these step-ups may not be quite as attractive. However, we see two reasons not to be deterred by this possibility. One is that higher interest rates would likely mean lower public equity multiples, and that would make it all the more important to look for higher growth elsewhere. The second reason is that experienced VC managers are not assuming that current valuation multiples will persist, and they are instead expecting some mean reversion. The key to investing through this period is to identify companies that can "outgrow" the multiple compression.

The past year was a standout for VC, and we believe this investment trend will continue. Much of companies' hyper-growth happens early in their life cycle, and for investors this presents an outsized potential for value creation. With funding to start-ups at record levels, we believe more unicorns will continue to emerge (see Exhibit 8). The next Moderna, Tesla, or Google is likely to come from this herd. We think investors can benefit from participating in this value creation process earlier on.

Exhibit 8: As their numbers soar, unicorns are no longer rare

Global Venture Capital Unicorns ($1 billion-plus valuation)



Source: CBInsights, State of Venture, Q3 2021. Note: Unicorns are defined as privately held startups valued at $1 billion or more. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Idea #2: Cryptoassets—All Eyes on DApps

Additional sources of hypergrowth right now are cryptocurrencies, tokenization, and decentralized finance (DeFi) applications, collectively referred to as the crypto ecosystem.

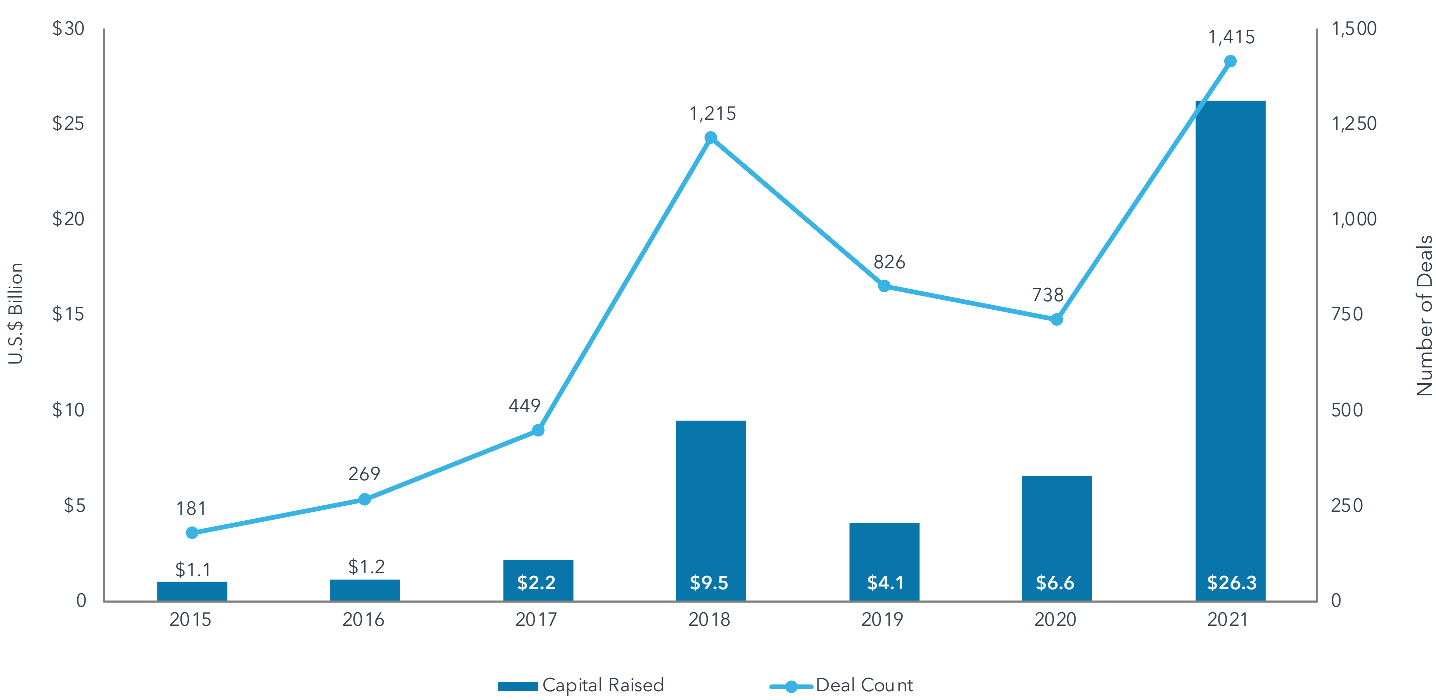
Through the first half of 2021, the number of crypto users globally doubled to more than 200 million.[35] If user growth continues at this rate, the adoption of crypto will outpace the explosive adoption rate of the internet back in the 1990s.[36] At the same time, the global value add from blockchain technology is expected to reach $1.76 trillion by 2030, as businesses increasingly shift toward more digital ways of working, communicating, and transacting with customers.[37] It's no wonder that venture capital deal activity in the cryptoasset/blockchain space had a blockbuster 2021 (see Exhibit 9). What are crypto VCs investing in? In addition to companies building out the blockchain infrastructure making it easier to use for payments, we see the advent of decentralized applications (DApps), smart contracts, and Web 3.0 as significant growth drivers for the ecosystem.

- ***Decentralized exchanges (DEXs) and automated market makers (AMMs):*** DEXs facilitate direct peer-to-peer (P2P) transactions by eliminating the need for an intermediary and instead using protocols that rely on mathematical formulas to price assets and confirm transactions. The total value locked (TVL) on these DeFi protocols – a measure of the market value of cryptoassets deposited in DeFi protocols – has increased from less than $10 billion in the first half of 2020 to north of $250 billion today.[38]

- ***Smart contracts:*** These contracts are programs stored on blockchain platforms such as Ethereum that run on the basis of predetermined conditions. In a significant enhancement to traditional contracts, they are executed in minutes and offer automatic remittance, while doing so at a fraction of the cost. According to Deloitte's 2021 Global Blockchain Survey, more than 95% of senior

Exhibit 9: Deal activity in the crypto ecosystem increased significantly in 2021

Cryptoasset / Blockchain Venture Capital Deal Activity



Source: PitchBook, as of November 8, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

executives see smart contracts as an important benefit of the blockchain and the cryptoasset ecosystem.[39] Adoption of these contracts will grow and drive increased usage by both consumers and businesses.

- ***Web 3.0 and the resulting decentralized social media and gaming:*** Recently, Reddit's cofounder, Alexis Ohanian, stated that his venture firm will partner with Solana Ventures and allocate $100 million to Web 3.0.[40] This next evolution of the internet will dramatically transform how personal data are handled and stored online.

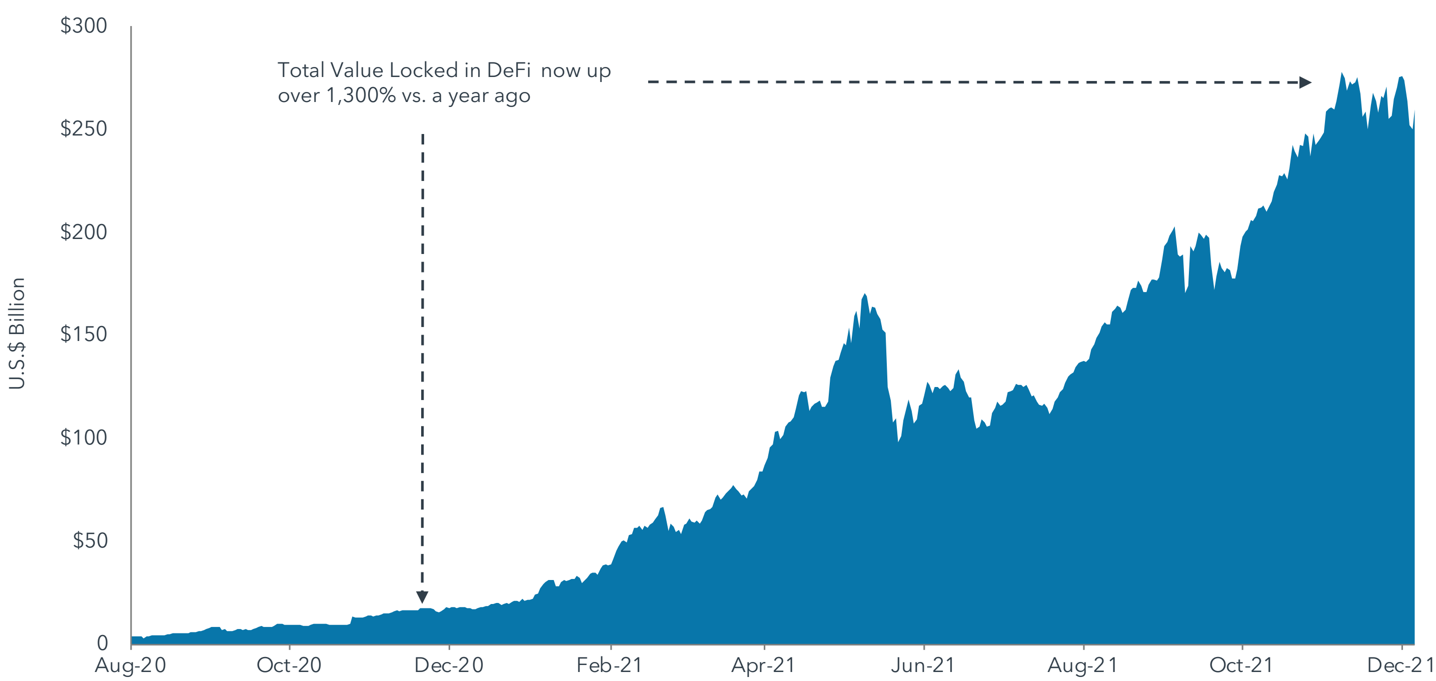
  The core tenets of Web 3.0 are that it is decentralized and runs on the blockchain, with information being stored on multiple nodes simultaneously. There is no single point of failure, and users – rather than platforms – own and are in charge of their data and can be compensated for allowing selective use of that data, as they could be with drug trials, for example. This shift could be a major disruptor to the current centralized data model deployed by social media, gaming, the metaverse, and more, which all derive income from offering companies the opportunities to deliver targeted ads, without providing users any control, or payment, for the use of their data.

Cryptocurrencies, including Bitcoin, experienced a breakout year as investors increasingly turned to them as an inflation and a fiat currency hedge, all while the Fed remained behind the curve (see Exhibit 10). Bitcoin and Ethereum were up 60% and 399%, respectively, in 2021, while the Bloomberg Galaxy DeFi Index, which tracks the largest decentralized finance protocols and apps, gained 156%.[41] 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 does this mean for your portfolio? In 2021, a 3% allocation to Bitcoin within a portfolio of 60% equities, 37% fixed income, and 3% digital assets, would have contributed 10.3% to the overall performance.[42, 43]

Exhibit 10: An astronomical one-year gain in the value of decentralized finance

Total Value Locked in DeFi



Source: DeFi Llama, as of December 9, 2021. Note: Total Value Locked (TVL) is a measure of the market value of crypto assets deposited in DeFi protocols. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Outside of this year, including a 3% allocation to digital assets over the past five years would have enhanced the annualized return from 11.01% for a 60/40 portfolio to 13.30% in a 60/37/3 strategy.[44] Of course, this comes with higher volatility: The standard deviation of returns would increase from 11.67% in a 60/40 portfolio to 14.17% for the 60/37/3 portfolio.[45] However, given the increased return potential of cryptoassets commensurate with the increased risk, a small allocation would not meaningfully affect risk-adjusted returns but could have boosted them in absolute terms.

We would note that, in the future, owning a basket of cryptocurrencies is likely to be a better option than a sole allocation to Bitcoin. Amid the likelihood of peaking inflation and the fact that the Fed is finally responding to it, Bitcoin may not provide the same outsized returns in 2022 as it did in 2021. Instead, we favor a basket of cryptoasset names that are focused around DApps, smart contracts, and Web 3.0.

Going forward, portfolios with a cryptocurrency allocation may deliver enhanced real returns, and as a result, be better able to preserve real value compared with a traditional 60/40 asset allocation (see Exhibit 11). To capitalize on that potential opportunity, investors need to focus on identifying the cryptocurrencies and cryptoassets with vetted protocols that are also experiencing a significant rise in adoption.

Inflation and Rate Shock Absorbers

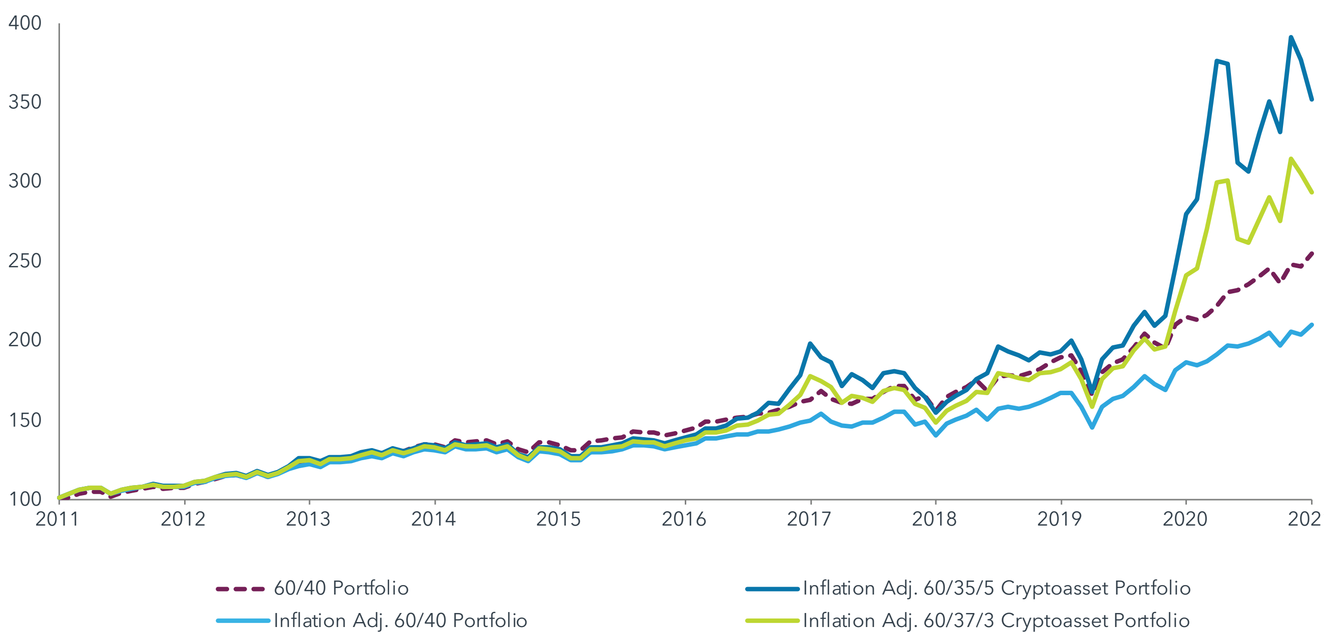
How should one position a portfolio for upside in short-term and long-term yields, particularly given continued above-trend inflation? The answer in 2021, beside stocks, was private credit and real estate. We think these two asset classes will continue to be an important part of the answer in 2022.

Idea #3: Private Credit

Private credit continues to cement itself as a fast-growing asset class, well positioned for both current and anticipated market environments. Private credit AUM has expanded to $1 trillion and continue to edge closer to

Exhibit 11: An allocation to cryptoassets may help mitigate inflation's impact

Growth of Portfolios Amid Inflation, Normalized



Source: Bloomberg, as of December 31, 2021. Note: S&P 500 Index is used to represent equity allocation. Bloomberg Barclays Aggregate Bond Index is used to represent fixed income allocation. Bitcoin is used to represent cryptocurrency allocation. CPI ex Food & Energy is used to represent Inflation. Inflation adjusted portfolios were found by taking the sum of the weighted returns based on allocation and divided by (inflation /100) . For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

the $1.6 trillion U.S. high-yield market.[46, 47] 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. Here are the reasons why:

- ***Direct lending should fare better in a rising rate environment.*** Using a composite of lending-oriented, exchange-traded business development companies (BDCs) as a proxy for the direct-lending space, we note that, on average, roughly 85% of portfolio debt is floating rate.[48] Given the typical floating-rate structure, private credit is not exposed to rate duration risk to the extent that fixed-rate debt is, and private credit would therefore stand to benefit from a move higher in rates, given the expectation that the Fed will hike rates three times next year. Indeed, during the rate hike cycle of 2015 to 2018, direct lending delivered consistently positive returns while high yield struggled to perform on a volatility-adjusted basis. From 2010 to 2020, amid different cycles, direct lending annual returns have averaged 10.4%, while high yield has generated 7.8% annually, or roughly 3% after adjusting for volatility differences (see Exhibit 12).[49]

In 2022, we anticipate robust returns for private credit in response to improving economic conditions and a U.S. economy that is expected to deliver above-trend growth. Historically, direct lending has outperformed when the Institute for Supply Management (ISM) Manufacturing Index was over 50 and rising, over 50 and falling, and when economic activity was expanding and defaults remained low.[50] Over the past 10 years, the ISM index has remained above the 50 level 84.1% of the time, and is a little above 61.[51] During these periods of above-50 ISM readings, default rates have remained low for the high-yield and leveraged loan markets, and private credit default rates have largely tracked them. With the expectation of a 0.75% default rate for both high-yield and leveraged loans in 2022, we anticipate a similar outcome for private credit.[52]

Exhibit 12: Direct lending has delivered stronger risk-adjusted returns than high-yield bonds

Risk-Adjusted Returns: High Yield vs. Direct Lending

Source: Bloomberg, Cliffwater, Goldman Sachs Research as of November 17, 2021. Note: Risk-adjusted returns are based on annual total returns. Direct lending is represented by Cliffwater Direct Lending Index. High Yield is represented by Bloomberg High Yield Index and is adjusted based on volatility neutralization which is performed by reducing the amount of notional amount on the Bloomberg-Barclays HY index such that its realized volatility equates that of the CDL Index. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

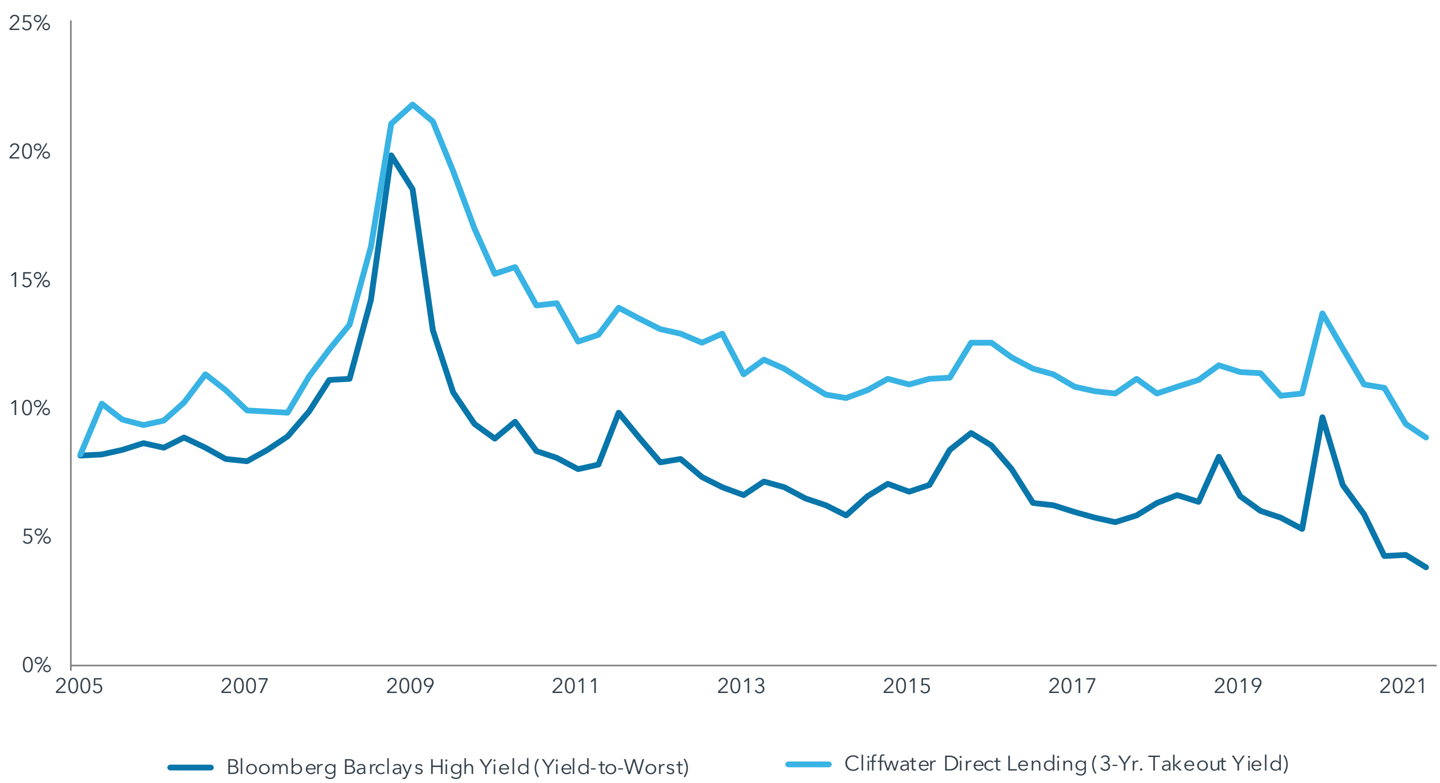
- ***The yield advantage has remained robust for private credit.*** Private credit offers an attractive yield when compared to broadly syndicated high-yield loans. Much like high yield, spreads on leveraged loans – currently 420 bps – are near historically tight levels.[53] However, private credit, due to its floating rate structure, trades at spreads between 400 to 600 bps over LIBOR. In fact, the yield pickup has remained stable since the Global Financial Crisis. With direct lending yielding 8.70% versus high yield's 3.75%, the current spread sits at 4.95%, which is above the 4.59% 10-year average (see Exhibit 13).[54]

- ***Structural drivers should continue to propel private credit issuance.*** Private credit fundraising has maintained a strong pace in 2021, albeit at a marginally lower rate than the previous year. As of September 30, 2021, private credit managers had raised $138 billion of capital, and dry powder now stands at a record $447 billion.[55] This should bode well for private credit because sizable increases in deal size for both the high-yield and leveraged loan markets – currently north of $700 and $500 million, respectively[56] – have impeded public credit opportunities, pushing middle-market companies to tap private credit markets.

Additionally, opportunities for direct lending – particularly for sponsor-backed transactions – remain robust, amid high levels of private equity investment activity and $1.4 trillion of private equity dry powder. SPAC sponsors, who committed $120 billion in equity

Exhibit 13: Direct lending continues to offer more attractive yields than high-yield bonds

Yield Comparison: High Yield vs. Direct Lending



Source: Bloomberg, as of September 30, 2021. Note: Cliffwater's three-year takeout yield is calculated by assuming that all loans will be repaid at par in three years, which represents the average life of direct loans. The three-year takeout yield is comparable to yield-to-worst. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

capital, may also be looking for additional debt capital to complete transactions.[57]

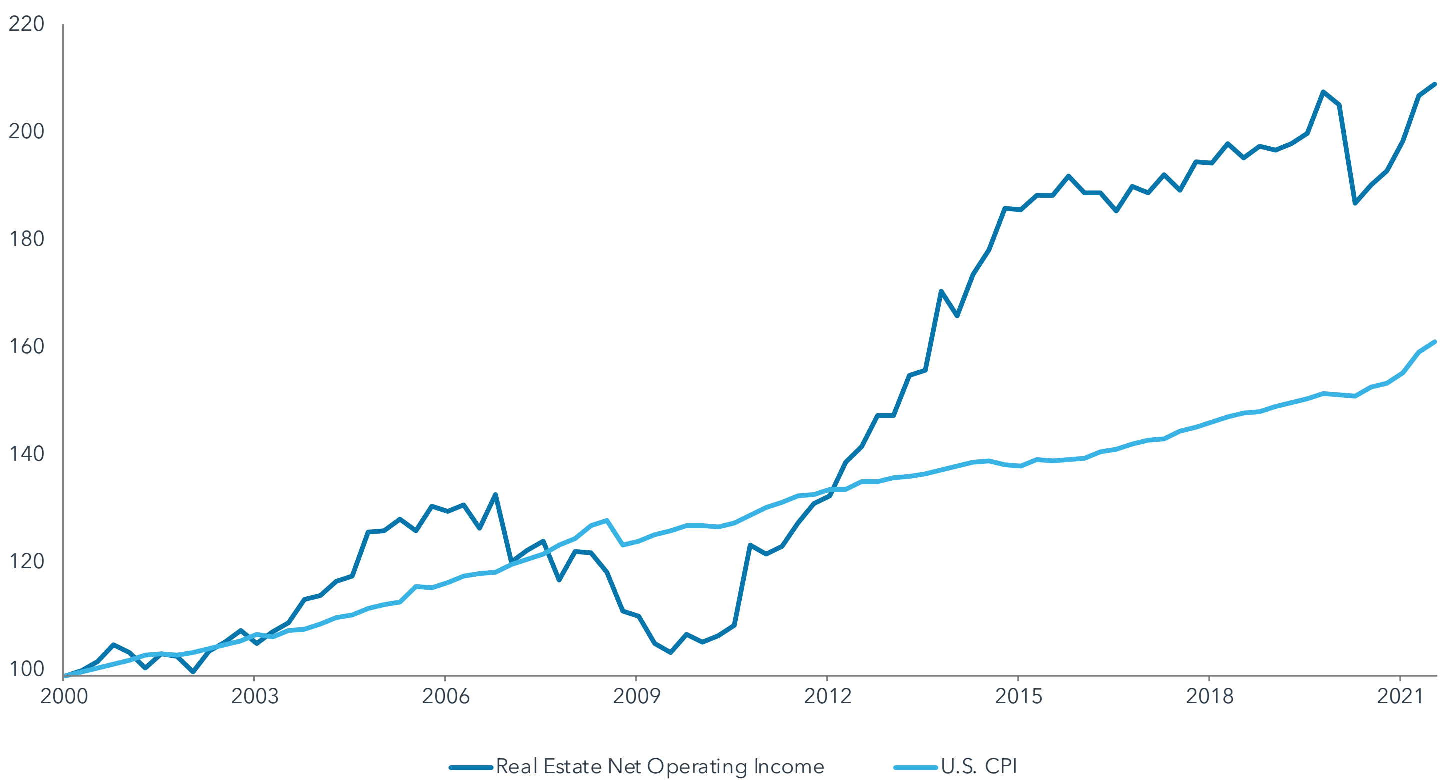
Idea #4: Real Assets, Including Commercial Real Estate (CRE)

In 2022, we see real assets offering an attractive return profile given their favorable valuations, strong income streams, and hedging abilities amid an inflationary and rising-rate backdrop. Grouped into four primary categories – real estate, infrastructure, farmland, and natural resources – real assets are tangible assets that are often key inputs for economic activity. They have historically performed favorably in inflationary environments, but have excelled, particularly, 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.[58] At the same time, many real asset investments also generate strong cash flow, in the form of payments on real estate assets or long-term contractual infrastructure assets.

We specifically see opportunities in the commercial real estate segment. Historically, U.S. real estate returns have averaged 16% to 17% annually during periods with inflation above 2.5%.[59] At the same time, growth in net operating income (NOI) typically rises during inflationary periods[60] as illustrated in Exhibit 14. As a result of inflation hedging characteristics and the sector's strengthening fundamentals, we are constructive on the $33 trillion global CRE market into 2022.[61] Additional reasons for our optimism include:

Exhibit 14: Growth in net operating income has risen with increases in inflation

Real Estate Income and Inflation Since 2000, Normalized



Source: Bloomberg, Bureau of Labor Statistics, NAREIT, as of September 30, 2021. Note: Real Estate net operating income growth represents the average equal-weight basket of commercial real estate sectors: industrial, office, apartment, retail. US Consumer Price Index measures the measure of the average monthly change in the price for goods and services paid by urban consumers. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

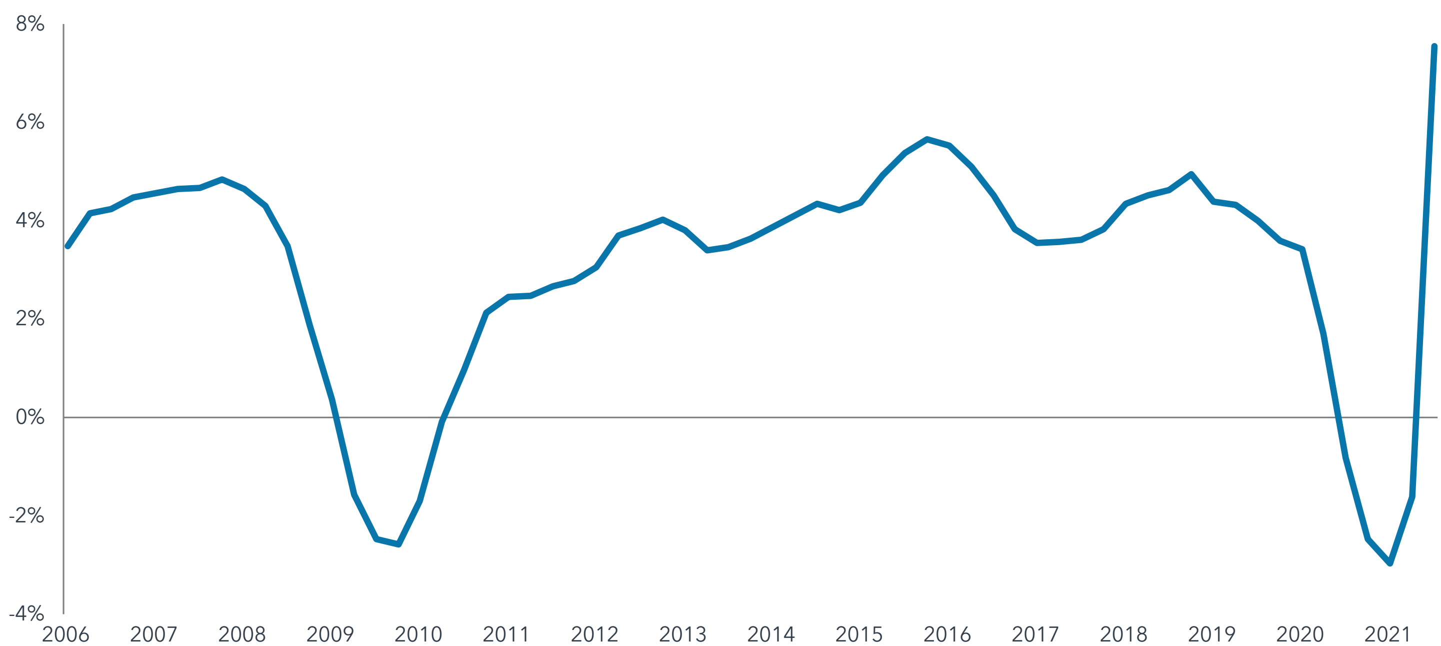
- ***Shelter inflation will likely remain elevated.*** In 2022, we see reason to believe that shelter inflation will remain hot as the ongoing housing boom is likely to spill over into the CRE market, and employment continues to recover. Current expectations are for shelter inflation to come in above 4.5% by the end of 2022.[62] This should bode well for CRE prices, which are significantly correlated to shelter inflation, with an R-squared of 0.79.[63] This implies that a move higher in rents should flow through to an increase in CRE prices.

- ***With economic and reopening activity rebounding, declining vacancy rates are supporting market rents and property values.*** Vacancies in the multifamily, industrial, and retail sectors are at, or near, their lowest levels in over a decade – down more than 30% across the board over the past 10 years.[64] The multifamily sector also saw the sharpest decline in vacancy rates in 2021, which now sit at 4.6%. A growing reopening momentum and an influx of workers returning to offices underscores the improving market conditions. While office building occupancies generally sit at 60%, on average,[65] roughly 40% of the U.S. workforce has returned to the office.[66] Current forecasts point to normalization by the end of the first quarter of 2022, and we expect this further uptick to be supportive of the broader CRE market as return to the office also drives corresponding economic activity in the retail, restaurant, and travel sectors.

We expect low vacancy rates to support strong rent growth in the coming year. Rent growth is now running above pre-COVID-19 rates, with growth on a four-quarter-moving basis at 7.5% (see Exhibit 15).[67] Additionally, the multifamily sector saw NOI growth of 10.9% and net absorptions reaching their strongest level in a decade.[68]

Exhibit 15: Rent growth is now above pre-COVID-19 levels

Rent Growth YoY Change



Source: Bloomberg, Moody's REIS, as of September 30, 2021. Note: Rent Growth is defined as the year-on-year change in effective rent for an equal-weight basket of multifamily, retail, and office properties based in the US metro area. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Over the trailing year, net absorptions were 754,000 units versus 308,000 before the pandemic.[69] Growth in NOI has been constructive for property price appreciation with the CRE sector seeing prices rise 16% year-over-year in 2021.[70] The third quarter of 2021 marked the greatest single-quarter capital return, with 6.6% quarterly appreciation for the NFI-ODCE Index.[71]

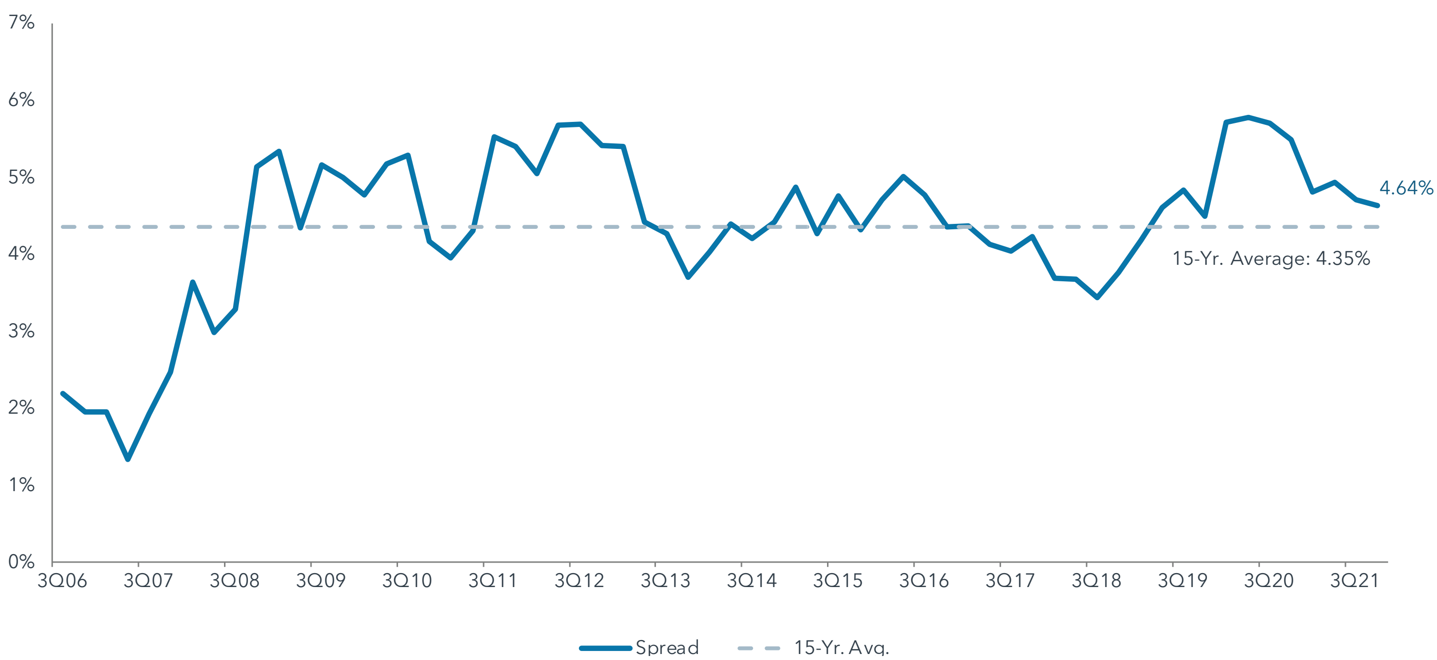
With economic activity expected to be robust and the reopening in full swing, we expect the trend of NOI growth and capital appreciation to continue, and CRE is forecast to grow 8% in 2022, a higher rate than the anticipated 5% appreciation in home prices.[72] But what about the impact of rising interest rates? We think the sector can absorb the increase in rates given its NOI growth (versus a fixed coupon on a bond, for example), and the current spread of capitalization rates versus 10-year U.S. Treasuries, which are in line with the 15-year average (see Exhibit 16).

If Treasury rates rise and the fundamentals of real estate remain robust, the cap rate spread could compress further, and thus offset the move higher in nominal rates.

Additionally, we see continued value in the private real estate market amid record dry powder of $400.6 billion[73] and a reemergence of commitments. This should keep a solid bid under the prices of real estate as managers seek out opportunities. We expect the pandemic-induced bifurcation in investor appetite to persist as capital continues to chase industrial and multifamily properties, whose values are up 41% and 13%, respectively, since the start of the pandemic.[74] In addition, we see demand for niche property types, including medical offices, life science, self-storage, and data centers to continue. These resilient sectors are forecasted to see strong growth through 2025.

Exhibit 16: Cap rates for commercial real estate remain above historical spread vs. U.S. 10-Yr.

Spread of Cap Rates Over 10-Yr. Treasury



Source: Bloomberg, as of September 30, 2021. Note: Spread is reflective of the average cap rate in the US provided by Real Capital Analytics less the U.S. 10-year Treasury yield. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Idea #5: Hedge Fund Arbitrage Strategies

Every asset class offers two fundamentally basic approaches to generate returns: directionally or relatively. While the vast majority of funds in public and private markets invest directionally, others use relative value or arbitrage strategies to drive performance.

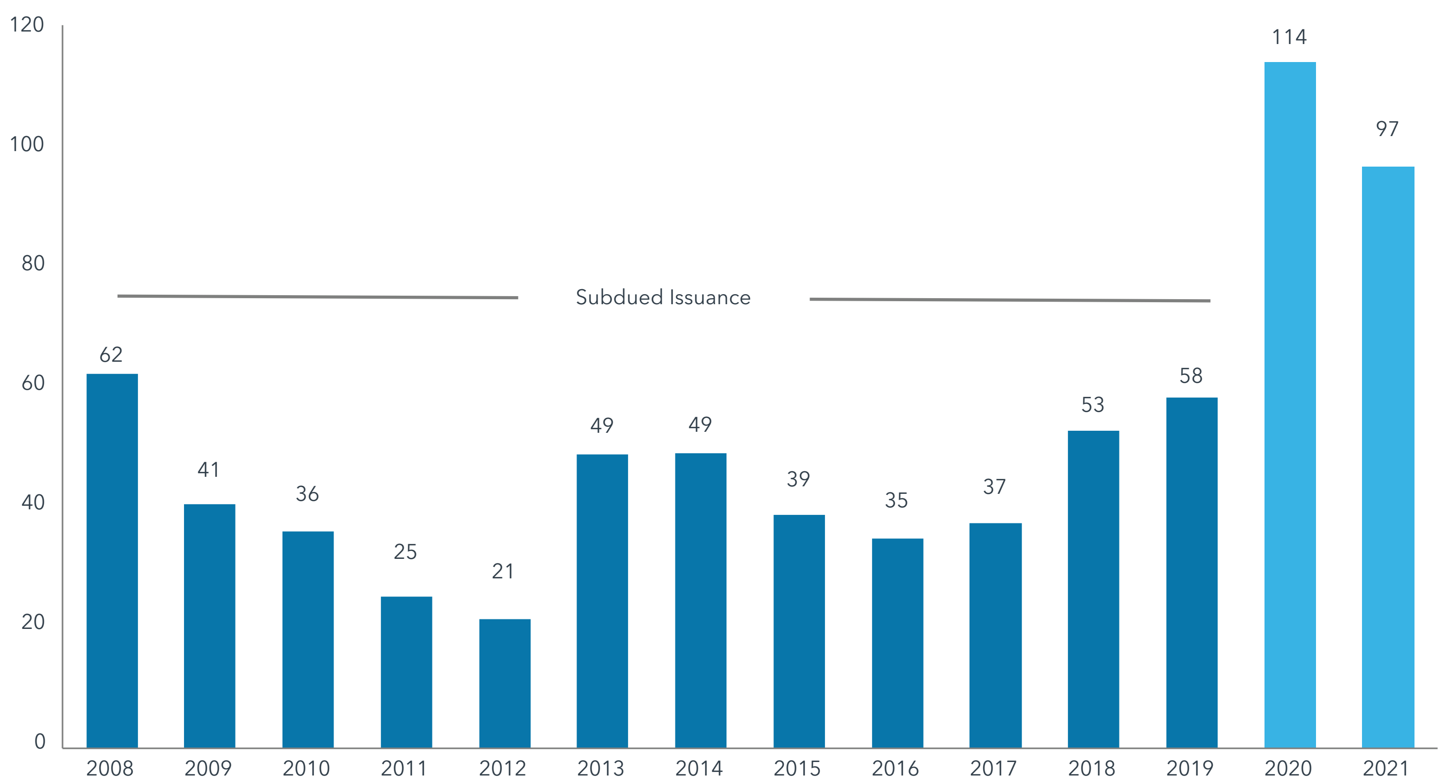
In the same way that directional strategies need rising asset prices to drive returns, arbitrage strategies similarly require certain market conditions to thrive. The two primary factors are volume (i.e., new issuance) and velocity (meaning market volatility). With increasing volume and velocity across asset classes globally, arbitrage strategies will likely provide strong risk-adjusted performance in 2022. The three major arbitrage strategies are equity, fixed income, and event driven.

- ***Equity Arbitrage:*** Equity arbitrage can use both fundamental and quantitative techniques, with each approach ultimately requiring a larger number of stocks moving with greater velocity to maximize returns. Fortunately, for funds executing this strategy, the volume of new issuance through the IPO market has been incredibly robust over the past two years, and we expect the trend to continue. Meanwhile, the volatility of stocks could be periodically higher in 2022, as investors adapt and adjust to the new path of Fed policy and inflation. Investors could benefit from volatility and dispersion, as well as relative relationships within and across global equity sectors, and thereby be less reliant on indices reaching all-time highs.

- ***Fixed Income Arbitrage:*** Volatility has also increased with the rise in rates. The Merrill Lynch Option Volatility Estimate (MOVE) Index, a measure of the implied volatility of U.S. Treasuries, spiked higher in the fall of 2021.[75] With the Fed's winding down of quantitative easing, and rate hikes likely to come shortly thereafter, we expect volatility in fixed income

Exhibit 17: After remaining low for more than a decade, convertible bond issuance has surged over the past two years

Convertible Bond Issuance (in U.S.$ billions)



Source: Barclays Live, as of December 20, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

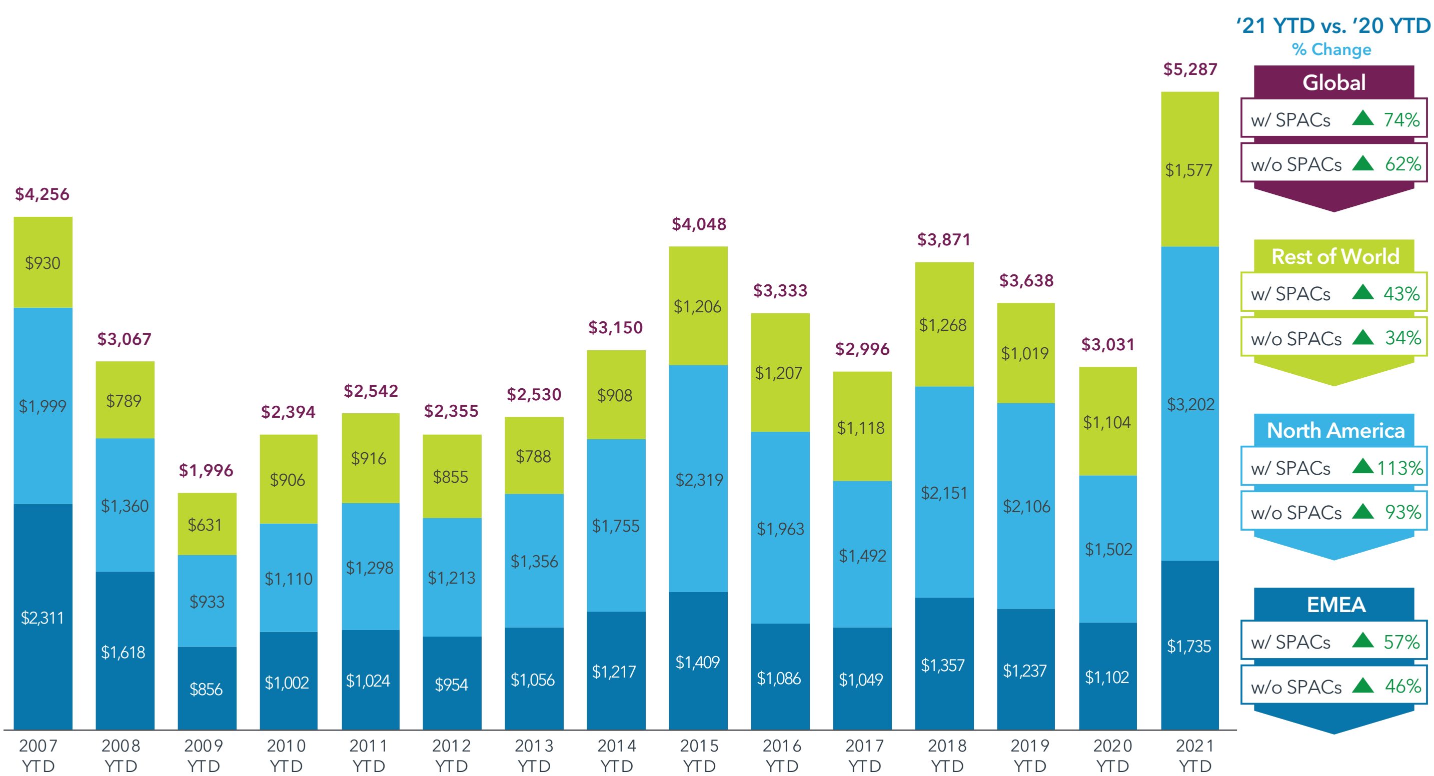
to remain elevated. Additionally, the overall levels of credit spreads are tight and not nearly as attractive as they were in 2020. With spreads beginning to widen late in 2021, we could see better trading opportunities in credit, especially if sector dispersion begins to emerge. These factors create a healthy backdrop for fixed income arbitrageurs to drive performance without directional exposure to credit and duration risk.

- ***Event Arbitrage (Mergers and Convertibles):*** The environment for event-driven arbitrage has also improved tremendously, driven by factors that should continually yield attractive return opportunities without directional market exposure. Convertible bond arbitrage was a fantastic return source for multi-strategy funds throughout the 2000s, but the opportunity set diminished in the 2010s, due to persistently low volatility and tepid new issuance.[76] However, after more than a decade of issuance failing to exceed $50 billion, each of the past two years has seen new convertible bonds coming to market in amounts around $100 billion (see Exhibit 17).[77] This provides hedge fund managers many more opportunities to participate in convertible arbitrage by buying the bond (with the embedded option to convert to a stock), while shorting the cash equity and capturing the volatility premium.

Similarly, merger activity was at an all-time high in 2021, with the market poised to exceed $6 trillion in volume, as companies focus on more strategic ways to deliver growth for their shareholders (see Exhibit 18).[78] Encouragingly, the average gross merger arbitrage market spread – the difference between target acquisition price and prevailing market price after the merger announcement – has also remained elevated.[79] It recently peaked at 8% annualized, as market uncertainty and higher volatility fueled more attractive returns for investors.[80]

Exhibit 18: M&A activity reached an all-time high in 2021

Global Announced M&A Volume by Region (U.S.$ billions)



Source: Citigroup, as of December 31, 2021.
Note: Yearly data covers data from the months of January to July for each year. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

Both convertible bond and merger arbitrage strategies also have a potential kicker for strong returns in 2022: the SPAC market. Total SPAC volume stands at roughly $245 billion on a cumulative basis since the start of 2020, with $120 billion currently seeking acquisitions.[81] This market creates risk arbitrage opportunities with wide spreads, and with so many of these companies rated below investment grade, a large percentage will likely issue convertibles to stay afloat as they aim to grow into their long-term valuation. While the common stock of many companies will likely struggle, the opportunity to capture returns from an arbitrage approach is extremely high.

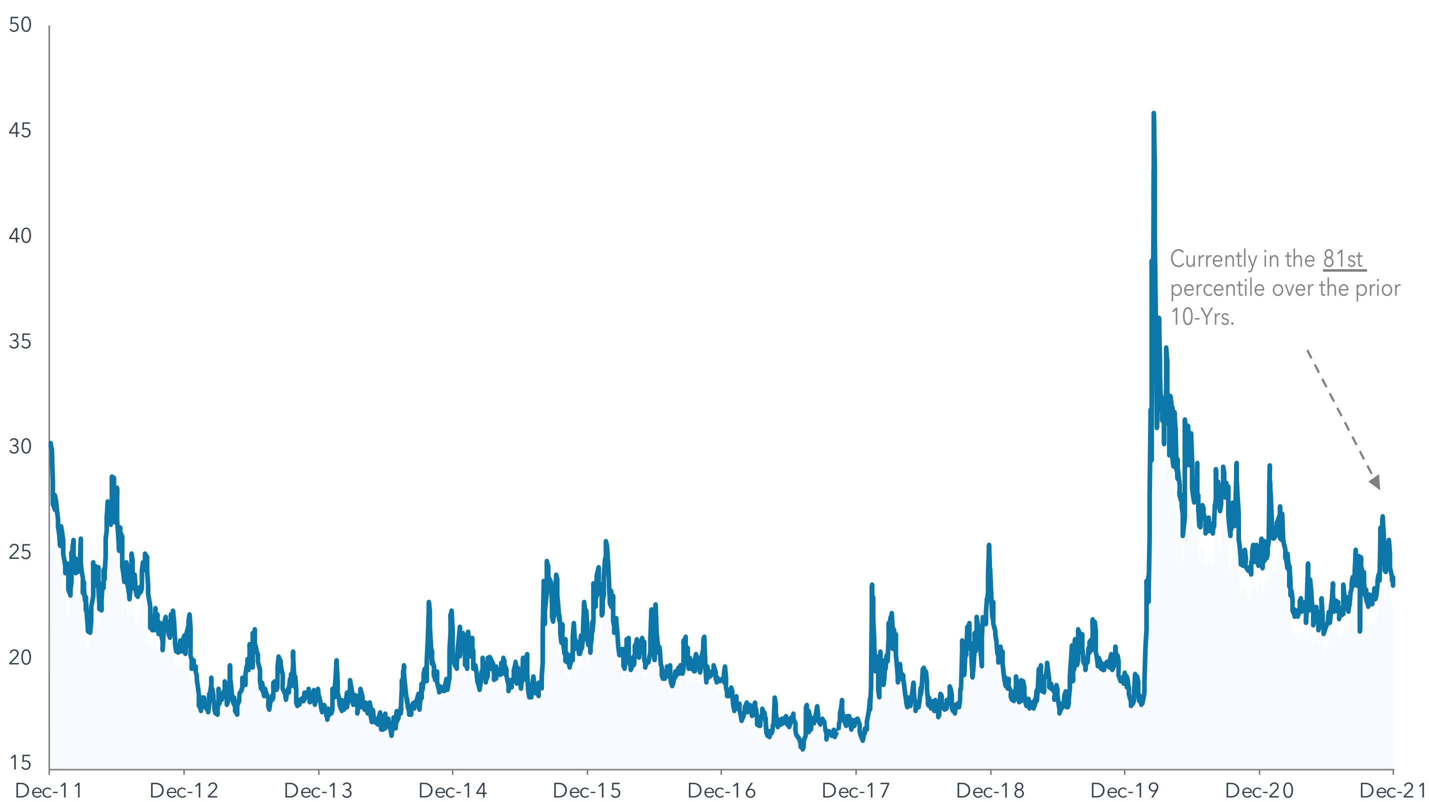
Idea #6: Use Options to Monetize Elevated Volatility to Earn Extra Yield

While rates are likely to rise in 2022, for investors looking to earn a reasonable level of current income, the increase will not be large enough. Beyond real assets and private credit, investors may also look to the options market for additional income opportunities. For example, investors may sell a put option or a call option and collect a premium. Implied volatility is one of the biggest determinants of how cheap or expensive the options premium will be. 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 (see Exhibit 19).

The CBOE Volatility Index (VIX), for example, averaged 19.7 in 2021, lower than the 29.3 in 2020 but higher than the 14.4 between 2017 and 2019.[82] A one-year 90% SPX put option has a premium of 5.5% at today's implied

Exhibit 19: The premium available today for selling puts creates an opportunity for investors to earn extra income

S&P 500 Put Option Implied Volatility



Source: Bloomberg, as of December 31, 2021. For illustrative purposes only. Past performance is not indicative of future results. Future results are not guaranteed.

volatility levels of 24%, and it would cost 2.28% if volatility fell back to the historical average of 14.8%.[83] A one-year 110% SPX call option has a premium of 2.8% at today's implied volatility levels of 16.5%, and it would cost 2.26% if volatility came down to the historical average of 14.8%.[84]

Two conclusions can be drawn from this: 1) It is attractive to monetize today's elevated volatility and capture a higher options premium than would be available otherwise; 2) Put volatility is systematically higher than call volatility and that spread today is especially elevated. It is in the 91st percentile of what it has been over the past 10 years.[85] It makes sense to take advantage of that by selling puts for this added premium. Doing so can help enhance the traditional forms of yield in a portfolio. Of course, there is potential downside risk to this approach, and that risk should be managed prudently.

Conclusion: Investors Will Have Options to Address 2022's Likely Slower Growth and Persistent Inflation

The new normal anticipated for 2022 may provide relief from COVID-19 dominating our lives and investment considerations. The strong growth we saw as the economy recovered from the pandemic may slow down from the torrid pace set in 2021, but the higher inflation that 2021 brought may persist in 2022. Investors will have to overcome a higher hurdle rate to realize significant real returns.

Still, alternative investments and private markets, in particular, may provide a number of opportunities for investors to pursue those higher returns.

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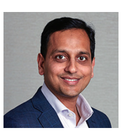

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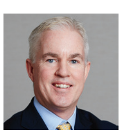

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END NOTES

1. Source: Bloomberg, as of December 31, 2021.
2. Source: Bloomberg, as of December 31, 2021.
3. Source: Goldman Sachs Research, December 12, 2021.
4. Source: Committee on Banking, Housing, and Urban Affairs, U.S. Senate, Coronavirus and CARES Act, November 30, 2021.
5. Source: Bloomberg, as of December 31, 2021.
6. Source: Oxford Economics, November 19, 2021.
7. Source: Factset, December 30, 2021. The S&P 500 is a capitalization-weighted stock index that includes 500 of the largest companies traded on American stock markets, and its performance is often used as a benchmark by investors.
8. Source: iCapital, Bloomberg, as of December 31, 2021.
9. Source: Norton Rose Fullbright, Deal Law Wire, April 2015.
10. Source: Dykema Gossett PLLC, Dykema's Annual M&A Outlook Survey for 2022, August 2021.
11. Source: Bloomberg, as of December 31, 2021
12. Source: Bloomberg, as of December 31, 2021.
13. Source: Bloomberg, as of December 31, 2021.
14. Source: Bloomberg, as of December 31, 2021.
15. Note: 60/40 portfolio is comprised of 60% S&P 500 and 40% Bloomberg Aggregate Bond Index with 2022 expected returns of 10% for the S&P 500 and -2% for the Bloomberg Barclays Capital Aggregate Bond Index.
16. Source: NACUBO, TIAA, 2020 NACUBO-TIAA Study of Endowments.
17. Note: Capgemini defines Alternatives as commodities, currencies, private equity, hedge funds, and structured products.
18. Source: World Wealth Report, 2021 Capgemini Global HNWI Insights Survey, March 2021.
19. Source: Cerulli, Cerulli's 2020 RIA Marketplace report.
20. Source: Cerulli, Cerulli's 2020 RIA Marketplace report.
21. Source: PitchBook, Private Fund Strategies Report, September 30, 2021
22. Source: PitchBook, Private Fund Strategies Report, September 30, 2021
23. Source: Cambridge Associates, US Venture Capital Index Statistics, as of June 30, 2021.
24. Note: VC annualized return is based on Cambridge Associates US Venture Capital Index which calculates a pooled horizon return, net of fees, expenses, and carried interest.
25. Note: Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. It is expressed as a money-weighted return and is comparable to private market horizon return. mPME is calculated by accounting for private market contributions and distributions. Contributions are invested "on paper" in the public market index (in this case the Russell 2000 Index) and distributions are taken out on the public market index in the same proportion as in the private investment. With each distribution, mPME "sells" the same proportion of the dollar value of shares owned by the public equivalent as the private investment sells in private shares.
26. Source: Cambridge Associates, Alts Edge, December 30, 2020.
27. Source: PitchBook, as of July 19, 2021
28. Source: CBInsights, State of Venture, Q3 2021.
29. Source: CBInsights, State of Venture, Q3 2021.
30. Source: Wall Street Journal, S&P Global Data, as of August 2021.
31. Source: PitchBook, Private Fund Strategies Report, September 30, 2021
32. Source: CBInsights, State of Venture, Q3 2021.
33. Source: PitchBook, Private Fund Strategies Report, September 30, 2021
34. Source: PitchBook, US Venture Capital Valuations Report, September 30, 2021.
35. Source: Coinbase, World Bank, Crypto.com, as of September 30, 2021.
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37. Source: PwC, Time for trust: The trillion-dollar reason to rethink blockchain, October 2020.
38. Source: Morgan Stanley, Defi Lama, as of December 31, 2021.
39. Source: Deloitte, 2019 Global Blockchain Survey.
40. Source: Reuters, "Reddit co-founder, Solana venture team up on $100 mln blockchain investment initiative," November 9, 2021.
41. Source: Bloomberg, as of December 31, 2021.
42. Source: iCapital, Bloomberg, as of December 31, 2021.
43. Note: S&P 500 Index is used to represent equity allocation. Bloomberg Barclays Aggregate Bond Index is used to represent fixed income allocation. Bitcoin is used to represent cryptocurrency allocation.
44. Source: iCapital, Bloomberg, as of December 31, 2021.
45. Source: iCapital, Bloomberg, as of December 31, 2021.
46. Source: PitchBook, Bloomberg, as of December 31, 2021.
47. Note: $1.6T represents the size/mkt value of the Bloomberg Barclays US Corporate High Yield Bond Index.
48. Source: CEF Advisors BDC Data, as of December 2, 2021.
49. Source: Bloomberg, Goldman Sachs Research, as of December 7, 2021.
50. Source: J.P. Morgan Asset Management; Institute for Supply Management; Bloomberg; Cliffwate.
51. Source: iCapital, Bloomberg, as of December 31, 2021.
52. Source: JPMorgan, Default Monitor, December 1, 2021.
53. Source: JPMorgan, December 3, 2021.
54. Source: Cliffwater, 2021 Q2 Report on Direct Lending, June 2021.
55. Source: PitchBook, as of September 30, 2021.
56. Source: Goldman Sachs Research, Dealogic, S&P Capital IQ LCD, May 21, 2021.
57. Source: Goldman Sachs Research, SPAC Almanac: Below Par, September 15, 2021.
58. Source: iCapital, AltsEdge, September 30, 2021.
59. Source: BlackRock, Inflation & Real Assets, 2021.
60. Source: Blackstone, "Real Estate Investing at an Inflation Inflection Point," August 19, 2021.
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62. Source: Goldman Sachs Research, November 7, 2021.
63. Source: Morgan Stanley, Credit Over Convexity, November 2021.
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70. Source: Real Capital Analytics, Bloomberg, as of December 3, 2021.
71. Source: NCREIF Data, as of September 30, 2021.
72. Source: Morgan Stanley, Credit Over Convexity, November 2021.
73. Source: PitchBook, Private Fund Strategies Report, September 30, 2021.
74. Source: PitchBook, as of December 3, 2021.
75. Source: Bloomberg, as of December 31, 2021
76. Source: Barclays Live, as of December 20, 2021.
77. Source: Barclays Live, as of December 20, 2021.
78. Source: KPMG, as of October 11, 2021.
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80. Source: Citi, Citi M&A Arb and SPAC Commentary Report, as of December 6, 2021.
81. Source: Goldman Sachs Research, SPAC Analytics, as of December 31, 2021.
82. Source: Bloomberg, as of December 31, 2021.
83. Source: Bloomberg, as of December 16, 2021.
84. Source: Bloomberg, as of December 16,2021.
85. Source: Bloomberg, as of December 9, 2021.

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