

Year Ahead

2022

Hurry Up and Wait



MILL CREEK

Our values appreciate yours

Year Ahead | 2022

CONTENTS

Our 2022 Outlook	2
Strategic Asset Allocation	5
Fixed Income	6
Private Credit	7
Hedge Funds	8
Public Equities	9
Private Equity	10
Parting Thoughts	11

PUBLICATION DETAILS

Authors

Michael Crook, Chief Investment Officer
Sam McFall, Managing Director
Andrew Murray, Managing Director
Nora Pickens, Managing Director

Project management and editing

Rachel Hassett, Communications Director

Report design

George Stilabower (www.gsdesign.work)

Published December 6, 2021

Past performance is no assurance of future results. This publication has been prepared by Mill Creek Capital Advisors, LLC (“MCCA”) and is provided for information purposes only. The information contained in this publication has been obtained from sources that MCCA believes to be reliable, but MCCA does not represent or warrant that it is accurate or complete. The views in this publication are those of MCCA and are subject to change, and MCCA has no obligation to update its opinions or the information in this publication. More information about our Capital Market Assumptions is available upon request. While MCCA has obtained information believed to be reliable, neither MCCA nor any of their respective officers, partners, or employees accepts any liability whatsoever for any direct or consequential loss arising from any use of this publication or its contents. Unless otherwise noted, all market and price data are through November 15, 2021.

© 2021 All rights reserved. Trademarks “Mill Creek,” “Mill Creek Capital” and “Mill Creek Capital Advisors” are the exclusive property of Mill Creek Capital Advisors, LLC, are registered in the U.S. Patent and Trademark Office, and may not be used without written permission.

Hurry Up and Wait

In 2013 venture capitalist Peter Thiel lamented: “We wanted flying cars, and instead we got 140 characters.”

Not quite a decade later, it is more appropriate to say that we still want flying cars, and instead we’re getting teenage truck drivers.¹ Workforce participation levels remain far below pre-COVID peaks, and the US labor market has become very tight. In response, wages have begun to surge. Labor-intensive industries are looking for workers anywhere they can find them, and they must pay up to keep them.

These labor market dynamics come against a backdrop of broadening inflationary pressures, increased consumer pessimism about the economy, and a credibility challenge for the Federal Reserve. However, we believe the market is mispricing some of these risks. Market participants are simply too hawkish when it comes to the likely path of monetary policy.

The Fed is being pressured to “hurry up” and fight inflation. However, it will also face a lot of pressure to remain dovish if inflation begins to subside in mid-2022 and millions of workers remain out of the labor market. We believe “hurry up” will quickly morph into “hurry up and wait.”

“Hurry up and wait” might be the appropriate policy for 2022. If current supply chain bottlenecks have been resolved and market-based measures of future inflation indicate a path back to 2% by mid-year, the Fed should be expected to remain largely accommodative and refocus on the labor market. However, that focus could be misguided, as the gains they seek in labor markets might simply be unattainable.

¹The DRIVE Safe Act, Senate Bill 659, would lower the age requirement for operating commercial vehicles across state lines from 21 to 18.

We believe the market is mispricing some of these risks. Market participants are simply too hawkish when it comes to the likely path of monetary policy.

COVID-19 and the aftermath have been a genuine systemic shock from a social, economic, and governance perspective. Systemic shocks change equilibriums and it is possible COVID-19 has structurally changed the US labor markets. There’s a distinct possibility that labor markets will not return to their pre-COVID conditions and the Fed will remain too accommodative for too long. When we started discussing this risk in April and May of 2021, it was a small risk – worth mentioning but not acting upon. That has changed. We now believe there is a real chance of a Fed policy error in 2022.

Our 2022 Outlook

This time is different

As investors, we're always hesitant to utter the words "it's different this time." However, this time has been different. Firms are usually slow to restart hiring following a recession as they wait for confirmation of consumer demand. For example, it took seven years for job openings to recover after the financial crisis. Following the COVID downturn in early 2020, job openings had recovered to 2019 levels within a year and accelerated to all-time highs by late spring 2021 (Fig. 1).

We also experienced a completely different situation regarding household income. Household income typically falls during a recession and slowly recovers over several years. A combination of fiscal programs (e.g., Paycheck Protection Program, household stimulus payments, and enhanced unemployment benefits) led to higher, not lower, household income throughout 2020 and 2021 (Fig. 2). Households took home more and saved more than they would have sans COVID. It really was *different this time*.

Against this backdrop of record-high job openings and income growth, labor force participation (defined as the percentage of the population working or actively looking for work) has been stubbornly slow to recover (Fig. 3). Jobs are available, but they are not being filled – leading to significant wage growth (Fig. 4). Despite fewer individuals in the workforce, total household wage income has fully recovered.

We need to understand who has dropped out of the labor market to know when they might come back in. In early 2020 it was younger workers who dropped out of the labor force. They coincidentally rejoined when surplus unemployment benefits were initiated (you have to be in the labor force to qualify for benefits). Then a clear trend developed: at the current time women ages 25-44 and men over 55 have the lowest participation rates compared to 2019 levels (Fig. 5).

While we cannot create precise narratives from economy-wide data, there's plenty of evidence that much of the drop in participation can be attributed to working moms and early retirees. Normally we'd expect to see both groups rejoin the labor market following a recession. This time, again, has been different.

It's unlikely that we'll see a normal recovery in the 55+ age cohort. Household net worth has reached all-time highs, and much of the drop in participation for that group can be attributed to early retirement. Women ages 25-44 are harder to predict. Both our base case and the Fed's forecasts assume their participation rates normalize. The most recent data, which indicates women are reentering the labor market at a faster rate, has given some credence to that perspective. However, if labor market participation has structurally declined the Fed could inadvertently make a policy error next year by assuming the post-COVID labor market will look a lot like the pre-COVID labor market. If labor market participation has shifted lower and the natural unemployment rate has shifted higher, inflation could remain persistently higher than the Fed's target (Fig. 6).

The problem for the Fed is that their 2019 Operating Framework ties their credibility to healing labor markets instead of fighting inflation. As a result, an inflation-driven policy error could happen before they can react to it. They will also face political pressure from both sides of the aisle and find plenty of supply-side reasons (excuses?), to remain accommodative. Expect a populist outcry over interest payments on excess bank reserves (in order to raise rates, the Fed will also have to pay higher interest on bank reserves to prevent them from feeding inflation) and to hear plenty of statements like "a tighter monetary policy can't produce more microchips." The path forward will not be a smooth one.

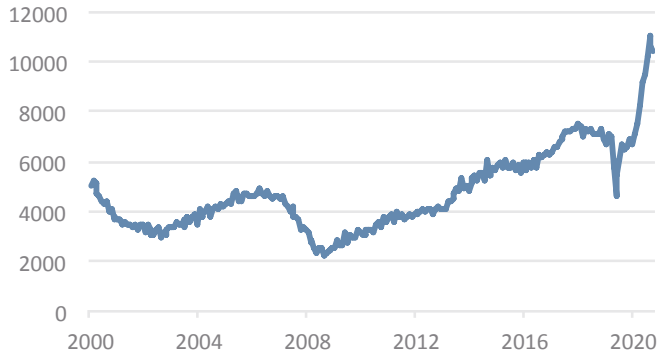
That 60's Show

Current conditions closely resemble how things looked in 1965-1970. US inflation was low (1-2%) during the first half of the 1960s, but it was over 5% by 1970. Much like today, household income was increasing by upwards of 10% per year during a period where the economy's real potential GDP growth was much lower. The difference in aggregate income growth (spending power) and real growth showed up as inflation.

At the time, the Fed did not have a clear theoretical framework for balancing the tradeoffs between inflation and employment. Fiscal spending via President Johnson's Great Society program and monetary policy was coordinated to pursue lower unemployment targets. However, these plans did not account for the impact on inflation. By the time it was clear that policymakers had overestimated potential output, the "Great Inflation" had started.

Fig. 1: Job openings remain near all-time highs

Job openings level (thousands)



Source: Mill Creek, Bloomberg

Fig. 2: Personal income jumped during 2020 and 2021

US Personal Income from all sources (billions)



Source: Bloomberg, Mill Creek. Light blue line indicates pre-COVID trend.

Fig. 3: Labor force participation has been slow to recover

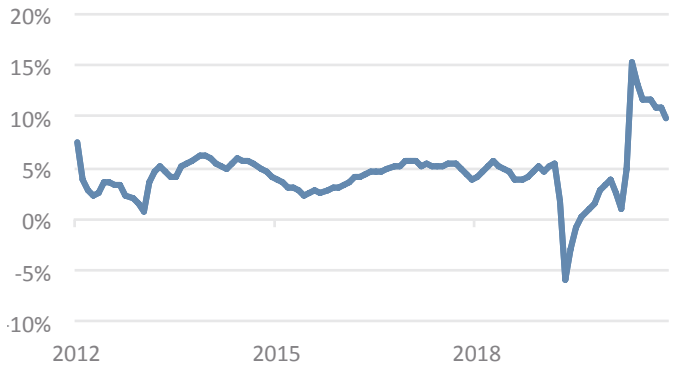
Civilian Labor Force Participation Rate (%)



Source: Bloomberg, Mill Creek

Fig. 4: Current wage growth isn't sustainable without high inflation

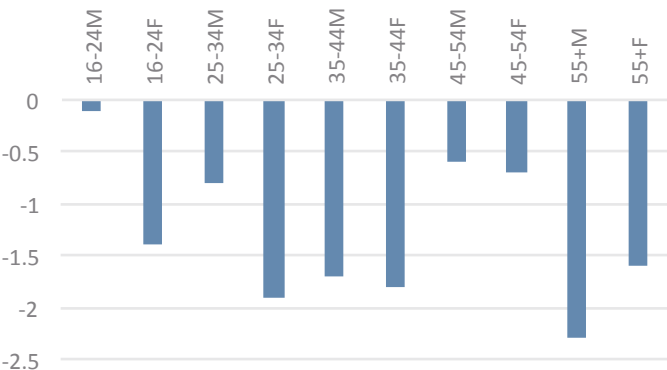
Personal income wage and salary disbursements (BEA)



Source: Bloomberg, Mill Creek

Fig. 5: Females 25-44 and males 55+ have been slow to return to work

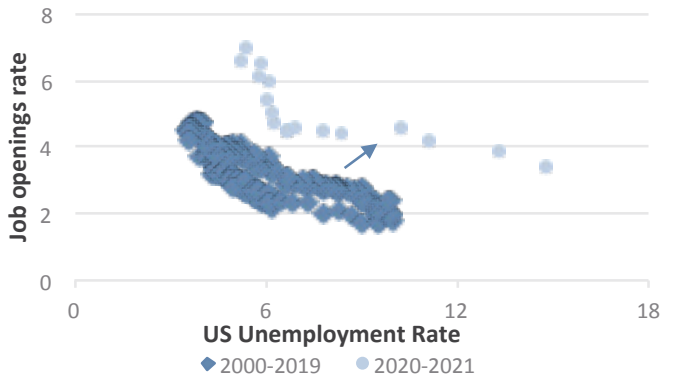
Labor force participation rate, change from February 2020 (%)



Source: Bloomberg, Mill Creek

Fig. 6: Has the natural rate of unemployment shifted higher?

The Beveridge Curve (Unemployment and Job Openings)



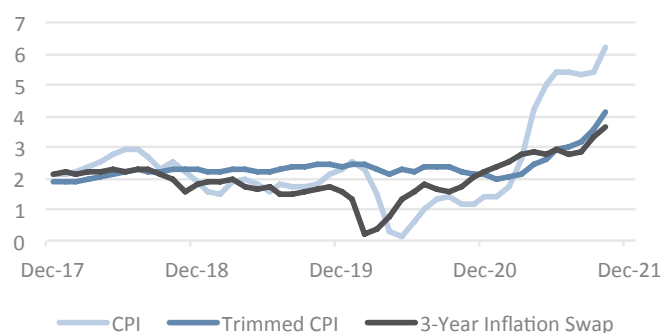
Source: Bloomberg, Mill Creek

Households and consumers are optimistic about labor market prospects, but they are increasingly pessimistic about the rest of the economy. One reason is inflation. A year ago, we warned that 2021 inflation would be higher than market expectations and estimates from professional forecasters indicated. However, even our expectations proved too low. The Consumer Price Index is running above 6% and “Trimmed-Mean” CPI, which is an indication of the breadth of inflation, has accelerated. Market expectations for inflation over the next three years have also moved above 3.5% (Fig. 7).

Our understanding of monetary policy has advanced considerably since the 1960s, and there were plenty of other confounding factors that led to the Great Inflation. However, the risk factors for stubbornly high inflation are still in place.

Monetary policy is not hard science. We believe it is prudent to account for the elevated risk of a policy error in our investment portfolios. The Fed’s actions will ultimately determine whether inflation pressures are transitory or persistent, but both versions of the future are possible at this time.

Fig. 7: Inflation is not as transitory as the Fed would have liked
CPI, Trimmed-mean CPI, and 3-Year Inflation Swaps (%)



Source: Bloomberg, Mill Creek

2021 Benchmark Performance	Year to date	1 year	3 years	5 years	10 years
Global Equities	14.0%	19.3%	16.0%	14.0%	11.4%
US Equities	20.9%	26.3%	20.2%	17.5%	16.0%
Large Cap US	21.5%	26.7%	20.6%	17.9%	16.2%
Mid Cap US	17.8%	23.3%	17.5%	14.4%	14.4%
Small Cap US	11.3%	19.6%	19.2%	15.7%	14.9%
US Growth	23.4%	29.4%	28.3%	24.4%	19.1%
US Value	18.1%	22.9%	11.4%	10.3%	12.4%
International Equities	5.8%	10.8%	9.8%	9.2%	7.4%
Emerging Market Equities	-4.4%	2.7%	9.3%	9.5%	5.2%
US Taxable Bond Market	-1.3%	-1.2%	5.5%	3.7%	3.0%
US Municipal Bond Market	0.4%	0.8%	3.7%	3.2%	2.7%
Hedge Fund Index	7.5%	11.5%	8.3%	6.2%	4.6%
Diversified Commodities	22.8%	28.9%	6.1%	3.3%	-3.6%
Gold	-6.5%	-0.1%	13.3%	8.6%	0.2%

Key Rates (as of stated date)	1/1/21	11/30/20	11/30/18	11/30/16	6/30/11
US 10-Year Treasury	0.9%	0.8%	3.0%	2.4%	2.1%
Barclays Aggregate Bond Index	1.1%	1.2%	3.5%	2.6%	2.4%
BBarc Muni 1-10Yr Blend (1-12) Index	0.6%	0.7%	2.4%	2.2%	1.9%

Source: Bloomberg, Mill Creek. As of 11/30/2021. Returns for periods greater than one year are annualized. Benchmark rates are yield-to-worst. Returns are total return. Indices Used: U.S. Large Cap equities: Russell 1000 Index, U.S. Small Cap Equities: Russell 2000 Index, International Developed Equities: MSCI EAFE Index, Emerging Market Equities: MSCI Emerging Markets Index, U.S. Bonds: Barclays Aggregate Bond Index, U.S. 10 Year Treasury Note: Bloomberg 10 Yr. Treasury Note, Municipal Bonds: Barclays Intermediate Municipal Bond Total Return Index, High Yield Bonds: Barclays U.S. High Yield Total Return Index, Hedge Funds: HFRI FoF Index, Commodities: Bloomberg Commodity Total Return Index, Gold: Bloomberg Gold Sub-Index Total Return Index

Strategic Asset Allocation for 2022

We continue to expect significant headwinds for cash and fixed income over a multi-year horizon. The purchasing power of cash has declined nearly 20% since 2009 and almost 7% since January 2020. High-quality fixed income has held up better than cash but yields remain low.

Looking forward fixed income returns are unlikely to exceed inflation. We believe investors should hold an appropriate amount of high-quality fixed income, but not more than necessary based on risk tolerance or risk capacity considerations.

Despite double-digit global equity market returns, record corporate profit growth kept equity valuations from moving significantly higher in 2021. Even so, longer-term return expectations remain subdued. Based on current valuations, we expect annualized global equity market returns just south of 7% for the remainder of this cycle. We also believe active management *at the security level* will be increasingly crucial for driving excess returns in public equities. Despite the headwinds created by dollar strengthening in 2021, we have seen that narrative start to play out in international equities.

To the extent that investors can accept some illiquidity, we believe complementing traditional stock and bond portfolios with allocations to diversified private credit, absolute return hedge fund strategies, and private equity will drive better outcomes from a return and risk-adjusted return perspective.

Our 2022 Capital Market Assumptions (CMAs) and Strategic Asset Allocations (SAAs) can be found in figures 8-10 (this and next page). Our CMAs reflect our asset class return and volatility expectations over a full market cycle at the index level. They do not include potential outperformance or underperformance from tactical positioning, security selection, or fees. Our SAAs are intended to be starting points for a portfolio customization process based on a client's specific situation.

Fig. 8: Capital Market Assumptions

Asset Class	Equilibrium Estimated Return	Estimated Volatility
Cash and Fixed Income		
US Cash	1.2%	1.7%
US Taxable Bonds	2.2%	6.1%
US Treasuries	1.9%	6.0%
US Agency Debt	2.0%	5.3%
US Corporate IG	3.3%	7.7%
US Corporate HY	4.6%	9.5%
Municipal Bonds	1.5%	2.7%
Municipal High Yield	3.7%	7.0%
Public Equity		
Global	7.9%	18.1%
United States	7.0%	16.8%
International Developed	7.6%	18.4%
Emerging Markets	8.6%	23.9%
Non-traditional		
Diversified Private Credit	6.0%	6.0%
Private Equity	12.0%	18.1%
Absolute Return	6.7%	7.5%
Commodities & Real Assets	3.0%	16.1%
Other		
Inflation (CPI)	2.9%	

Source: Mill Creek

Fig. 9: Strategic Asset Allocation Models w/o Alternative Investments

Portfolio	Fixed Income	Conservative	Moderately Conservative	Moderate	Growth	Equity
Fixed Income						
US Fixed Income	100%	80%	60%	40%	20%	0%
Absolute Return Hedge Funds	-	-	-	-	-	-
Diversified Private Credit	-	-	-	-	-	-
Equity						
Global Public Equity	0%	20%	40%	60%	80%	100%
Private Equity	-	-	-	-	-	-

Source: Mill Creek

Fig. 10: Strategic Asset Allocation Models w/ Alternative Investments

Portfolio	Fixed Income	Conservative	Moderately Conservative	Moderate	Growth	Equity
Fixed Income						
US Fixed Income	80%	60%	40%	20%	-	-
Absolute Return Hedge Funds	10%	10%	10%	10%	10%	-
Diversified Private Credit	10%	10%	10%	10%	10%	-
Equity						
Global Public Equity	-	20%	35%	50%	65%	80%
Private Equity	-	-	5%	10%	15%	20%

Source: Mill Creek



Fixed Income: Headwinds Continue

Entering 2021, the three-year annualized trailing return generated by taxable bonds was 5.3% (Fig. 11). This is a powerful outcome, given the average market yield during that time was just 1.5%. Accommodative monetary policy and credit spread contraction had worked to drive bond prices higher – producing a higher return than would have been expected based on prevailing yields.

However, fixed-income investors’ favorable return environment took a pause this year as yields drifted higher on the heels of strong economic growth, rising inflation expectations, and less-accommodative monetary policy. At year-end 2021, the three-year trailing return dipped below 5%, and we believe this downward trend will continue next year.

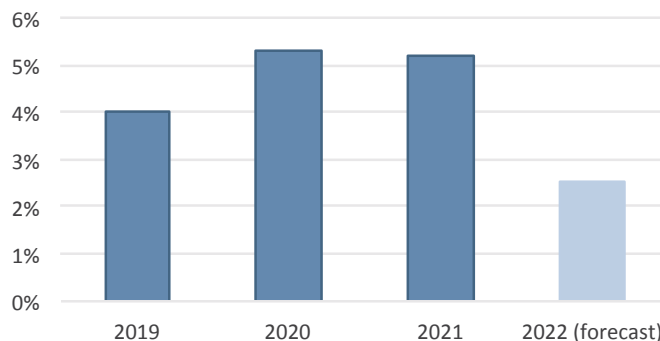
Most notably, the Fed and global central banks have collectively announced their intent to slow asset purchases and raise interest rates over the next 12-24 months. This shift in tone caused certain short-term global sovereign bonds to recalibrate. In some cases, they jumped by +40 to +70 basis points over just a few days which resulted in the worst returns since 2000. While these initial moves are likely overdone, it indicates the challenging road that bonds will face in 2022.

Indeed, when observing bond returns over the last two decades, the asset class has underperformed during periods of monetary tightening versus more accommodative conditions (Fig. 12). This outcome intuitively makes sense. Rates tend to rise when the economy is expanding and higher growth and inflation levels are priced into the yield curve, which then drives down bond prices.

Although risks remain around the duration and strength of the economic recovery, there’s good reason to believe that we will stay on solid footing over the next 12 months. This stability would allow the Fed to continue down its path of scaling back bond purchases and eventually increasing the fed funds rate. Factoring in persistently low bond yields (1.7% for taxable bonds and 0.8% for municipal bonds), we believe 2022 return potential remains asymmetrically skewed to the downside. Therefore, we are comfortable maintaining our duration underweight in our taxable bond portfolios and overweighting high yield municipal credit, an area that is less sensitive to interest rates and offers attractive relative yield, in our tax-exempt bond program.

Fig. 11: Fixed income trailing 3-year returns are drifting lower

Annualized 3-year total return of Bloomberg US Aggregate Bond Index



Source: Bloomberg, Mill Creek, as of 12/31/2020

Fig. 12: Less accommodative monetary policy is a headwind to fixed income returns

Total Return and Yield to Worst of Bloomberg US Aggregate Bond Index

Monetary Conditions	Start	End	Annualized Total Return	Average yield to worst	Total Return / Yield to Worst
Tightening	Feb-00	May-00	3.95%	7.37%	0.54x
Easing	Jan-01	Dec-01	7.34%	5.80%	1.27x
Tightening	Jun-04	Jun-06	2.93%	4.82%	0.61x
Easing	Aug-07	Oct-14	5.08%	3.10%	1.64x
Tightening	Nov-14	Dec-18	1.66%	2.85%	0.58x
Easing	Jul-19	Oct-21	3.55%	1.60%	2.22x

Source: Bloomberg, Mill Creek

Private Credit is Positioned for High Growth and Inflation

Given the low prospective returns in traditional fixed income, we see value in allocating to diversified private credit strategies. Our focus in private credit is on income-generating niche strategies collateralized by real assets that provide differentiated exposure to a traditional bond portfolio. These areas of the market are often overlooked and challenging to access through conventional liquid fund structures (Fig. 13). They are also capacity constrained and limited in their ability to put large amounts of capital to work over short periods.

In selecting strategies, we place a high value on managers who built a sustainable competitive moat that protects the profitability of their business model from new entrants in the space. We've noticed verticals such as life settlements, insurance-linked securities, and specific areas of consumer finance have encountered varying levels of return degradation relative to other income-generating opportunities. To help guard against this risk, we target relationship-heavy strategies rather than those that can be easily replicated with technology or by other means.

We currently allocate across seven strategies, each of which meets our core investment criteria:

- 1) Display low correlation to the economic cycle
- 2) Hold inflation resilient assets
- 3) Are backed by well-defined and conservatively valued collateral
- 4) Follow a focused and straightforward investment style
- 5) Are led by deeply experienced management teams with access to advantaged deal flow

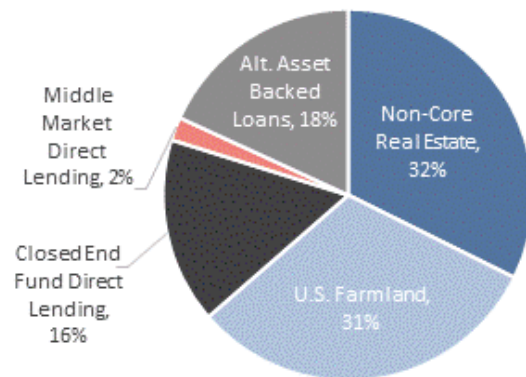
Looking ahead, we will likely add one to three new strategies in 2022 to further diversify our underlying portfolio.

For example, we hold a value-oriented farmland acquisition and leasing strategy. This manager leverages its proprietary sourcing channels to purchase discounted parcels of land, improve assets where appropriate, and lease the land back to highly vetted, professional farmers under intermediate-term contracts. In 2021, this strategy materially benefited from rising crop prices, which boosted land values and income from profit-sharing agreements baked into lease terms (Fig. 14).

While the private debt market offers the potential for higher yields, unique risks associated with the asset class need to be considered before investing. Borrowers in the space tend to be small and unrated, transactions can be complicated to value, and thoughtful deal structuring is required to protect lender collateral.

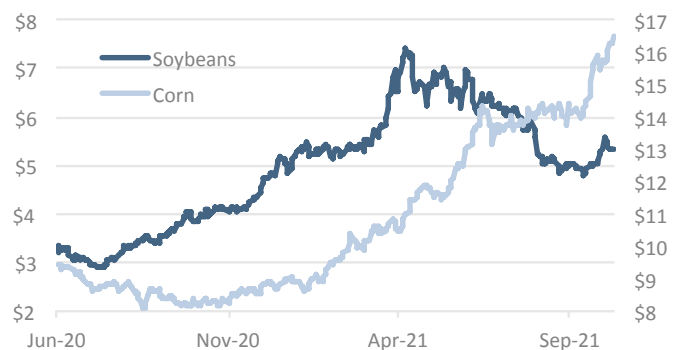
Another crucial factor is the illiquid nature of the asset class. Securities are traded infrequently and are generally monetized through refinancing, self-liquidation, or an opportunistic sale to a qualified buyer. Any unanticipated need to offload fund assets quickly would almost certainly generate a loss for investors. We believe diversification and partnering with first-rate management teams help reduce, but not eliminate, these risks.

Fig. 13: We seek diversifying exposures in private credit
Illustrative sector allocations in our private credit model



Source: Mill Creek

Fig. 14: Corn and soybean prices rose on higher demand
\$/bushel spot price



Source: Bloomberg, Mill Creek

Absolute Return Hedge Funds Are Underappreciated as a Bond Complement

Hedge funds are one of the most challenging asset classes for investors to embrace. It's easy to sort out what the farmland manager mentioned earlier does to create investment returns; they buy farmland and lease it out to farmers. It's a similar story for private equity managers — they purchase operating companies and attempt to increase the value of those firms by improving operations or making changes to the firm's capital structure. In contrast to these two groups, hedge funds strategies can be much harder to understand.

Hedge funds are opaque. They operate in public markets, but they are highly active and have a wide range of strategies. Some bet on specific themes like biotech or data security. Others bet on factors like currency or interest movements. While this complexity can hinder adoption, we believe there is value in having exposure to a well-diversified portfolio of hedge fund strategies.

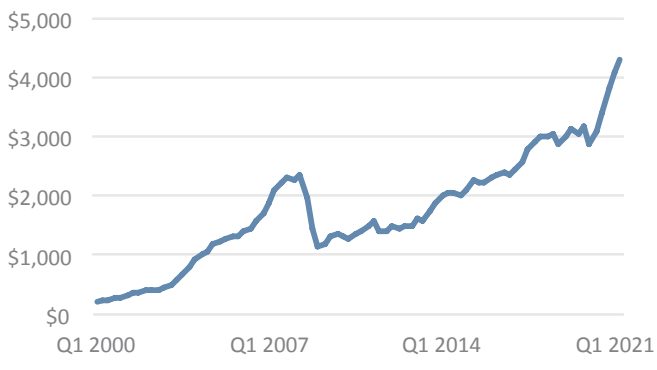
The hedge fund universe is vast, and it recently surpassed \$4 trillion in AUM (Fig. 15). While we wouldn't want "indexed" exposure to the entire hedge fund opportunity set, a tailored strategy can benefit total portfolio returns. We focus on "Absolute Return" hedge fund strategies, which seek to outperform fixed income but are not designed to produce equity-like returns.

We also make tactical positioning changes to our hedge fund positioning as conditions warrant. For example, we have begun unwinding our overweight to credit implemented following the COVID-sell off in 2020.

Looking ahead, we're also seeing many funds add private markets into their opportunity set. One of our underlying managers recently participated in an electric vehicle manufacturing Initial Public Offering after investing in the company's Series F financing round at the beginning of 2021. We expect the trend of top-performing funds crossing over into private markets and seeking longer-duration capital to continue into 2022 and beyond.

Investing in hedge funds does not come without risks. While we attempt to mitigate manager and strategy risk by diversifying across several inherently unrelated strategies, there are periods in the markets when an unexpected event triggers a broad market sell-off that could impact performance. During swift corrections, individual hedge fund strategies can underperform broader equity markets as they go through the process of de-leveraging or reducing their gross exposure. Overall, we believe a well-diversified portfolio of strategies will potentially underperform high-quality fixed income but outperform the equity market during periods of market distress.

Fig. 15: Hedge fund industry assets recently surpassed \$4 trillion
Hedge fund industry AUM growth (millions)



Source: Barclay Hedge, Mill Creek

Public Equities Are Still a Risk Worth Taking

Our 2021 equity view was straightforward. We believed the economic reopening would lead to above-average earnings growth, help improve fundamentals, and create positive equity market returns. Our outlook for 2022 is more nuanced. While earnings growth this year has been robust, we believe it has peaked for this cycle. We anticipate a meaningful deceleration in corporate profitability in 2022 as rising costs and interest rates begin to hurt margins (Fig. 16). Additionally, the absence of unified global bank support to maintain accommodation will likely lead to higher volatility and greater price dispersion across equity markets.

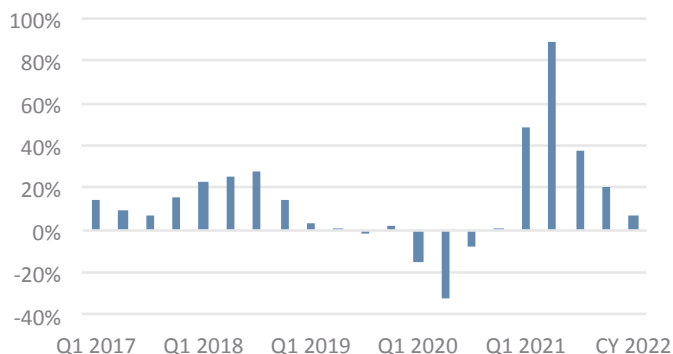
Equity market valuations are not predictive of returns over shorter periods. Still, they become more relevant over 7-10 years and play a meaningful role in developing our Capital Market Assumptions. As we head into 2022, valuations remain elevated across equity markets, and valuations for markets outside of the US remain lower than those for US equities (Fig. 17). Those aspects are reflected in our CMAs, which indicate lower returns for US equities than international equities over a market cycle.

Tactically we remain overweight in US equities versus the rest of the world. Momentum remains better for US equities while some regions, like emerging markets, remain under pressure from policy uncertainty. Despite our overweight to US equities, we encourage investors to stick with their international equity positions. Internationally developed markets are not facing the same inflationary pressures as the US, and they will have an easier path to a smooth landing. A Federal Reserve policy mistake could undoubtedly weigh on the dollar and benefit non-dollar assets.

We believe an environment marked by heightened volatility and more normalized earnings growth should benefit active equity managers. Active managers, as a whole, will not outperform market indices. The entire universe of active equity managers, by definition, will produce index-like returns minus fees. However, we believe disciplined stock selectors with concentrated portfolios will be well-positioned going into 2022. They can potentially take advantage of dislocations as central banks retreat from policies that support highly leveraged and unprofitable businesses.

Fig. 16: Earnings per share growth to decelerate significantly in 2022

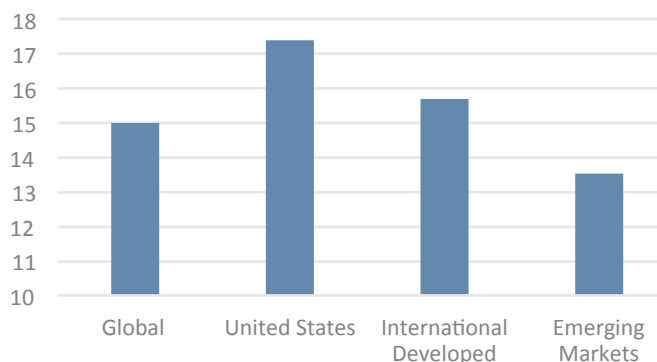
Year-over-year EPS growth of the S&P 500



Source: Yardeni Research, Bloomberg, Mill Creek.

Fig. 17: US equity valuations are elevated relative to rest of world

Cyclical equity market price-to-earnings ratios



Source: Aswath Damodarian Online, Mill Creek.

Private Equity Will Benefit from Tailwinds

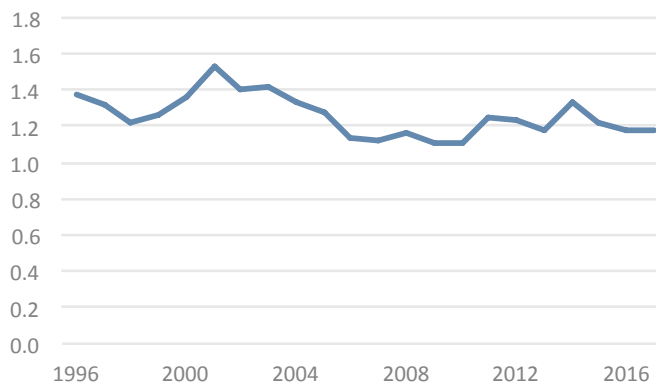
This year has been a record year across all segments of private markets, from venture capital to large-cap buyouts, deal volumes, valuations, and add-on activity have set records. At the same time, valuations have been driven upward, creating some concern that the market may be overly frothy. We believe a very selective approach to private equity commitments is warranted in 2022.

Over two decades of data supports the core thesis of the industry. Private equity assets under global management are estimated to be over \$7 trillion, creating a significant opportunity set for investors. Value-added, active ownership by skilled sponsors can deliver a meaningful premium to public equity markets (Fig. 18). We've also seen significant growth in private equity over the last decade as firms decide to remain private longer into their lifecycle.

Valuations paid for high-growth technology platforms of all sizes are challenging in public and private equity markets. The sheer volume of investments in the space is staggering (Fig. 19). Almost as staggering as the disruption they have caused legacy industries and business processes. There appears to be no end in sight to impact areas like artificial intelligence, data-driven healthcare, and decentralized networks. Not only is it difficult to determine their impact on economic models and industry structures, but it also remains to be seen whether they will ultimately result in profitable returns to investors.

While we remain concerned about pricing in specific private equity sectors, valuations have not risen to the same extent as we've seen in public equities (Fig. 20). Even so, we believe it is essential to focus on specific market segments. Large-cap buyouts will likely be highly correlated to public equity markets. In contrast, we expect middle-market buyout, growth capital, opportunistic investments, and venture capital to offer more manager value-add. With over two hundred institutional-quality private equity funds raised per annum in the US alone, there are abundant opportunities to choose from and pitfalls to avoid.

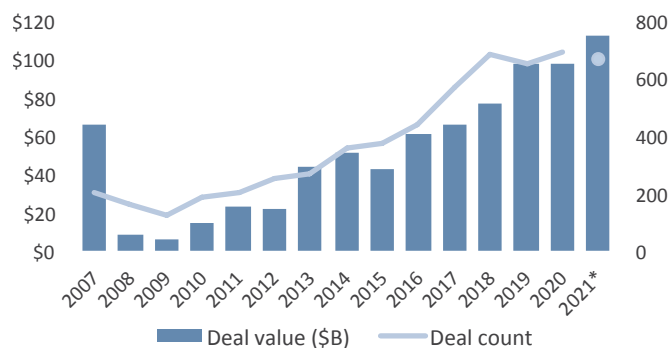
Fig. 18: Private equity has generally outperformed public equities
Public Market Equivalent (KS-PEM) MSCI World



Source: Pitchbook, Mill Creek.

Fig. 19: Software deal activity has surged

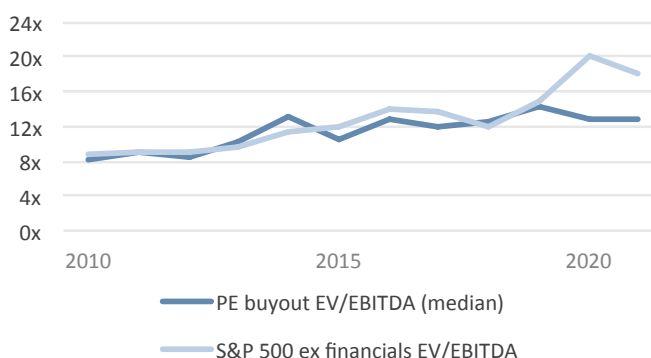
US software deal activity



Source: Pitchbook, Mill Creek.

Fig. 20: Valuations haven't risen as fast in private markets

Median PE buyout multiples versus S&P 500 multiples



Source: Morningstar, iShares, Pitchbook, Mill Creek.

Parting thoughts

The word unprecedented is an overused misnomer to describe the economic and market events of the last 24 months. Nothing is unprecedented. The years 2020 and 2021 have been unusual, exceptional even, but not unprecedented. Throughout history, we've experienced global pandemics, bull and bear markets, changes in tax regimes, periods of near-zero interest rates, changing political tides, and central bank policy errors leading to both deflation and inflation. The future is uncertain, yes, but whatever 2022 brings will not be unprecedented.

From an investment standpoint, we believe uncertainty is best addressed through asset allocation

and active management. We expect both of these factors to play an essential role in driving performance in 2022. However, the start of a new year is always an excellent opportunity to work with your Investment Officer and review changes to your family's or institution's goals and objectives. Especially those that could impact your investment portfolio. It is our experience that action and preparation drive results. Selecting the right portfolio, first and foremost, is the most critical step in that equation.



Annual Planning Checklist for Private Clients

Please refer to our annual financial planning checklist for a broad summary of topics to explore before closing out the tax year. Consult with your investment officer to discuss how these topics relate specifically to you and your family.

Income Planning

- Review opportunities for tax loss harvesting to offset realized gains
- Review opportunities to accelerate / decelerate income and capital gains
- Review charitable gifts and assets to maximize deductions
- Maximize retirement plan contributions
- Consider converting traditional retirement assets to Roth IRAs based on current vs projected income tax rate
- Update 2021 estimated tax liability and ensure payments are made in the appropriate tax year

Balance Sheet and Investment Planning

- Rebalance investment portfolio to target weight and evaluate potential needs for immediate liquidity
- Review current mortgages and opportunities to reduce, pay off or refinance to lower rate
- Complete annual review of trust, retirement and life insurance beneficiaries
- Complete required minimum distributions from IRAs and inherited IRAs as appropriate

Gift and Estate Planning

- Complete annual exclusion gifts (\$15,000 in 2021, \$16,000 in 2022)
- Review opportunities to complete payments of tuition and medical expenses for additional gifting opportunities
- Review lifetime gift opportunities and consider use of increased exemption (\$11.70 million in 2021, \$12.06 million in 2022)
- Review intrafamily loans and opportunities to reduce interest rates

Charitable Giving

- Review long-term appreciated securities for charitable giving
- For IRA owners over 70 1/2, consider up to \$100,000 qualified charitable distribution direct to charity
- Consider other charitable structures such as donor advised funds, private foundations, and charitable remainder or lead trust instruments
- Evaluate opportunities to maximize tax deductions by "bunching" charitable gifts in single tax year

Risk Management and Protection Planning

- Review insurance policies considering changes that may have taken place with tangible assets
- Review wills, trusts, living trust, health care proxies and other important documents to ensure all details up to date

Important Tax Planning Thresholds (2022 vs. 2021)		
Retirement	2022	2021
401(k), 403(b), 457 limits	\$20,500	\$19,500
Catch-up contributions (age 50+)	\$6,500	\$6,500
IRA contribution	\$6,000	\$6,000
IRA catch-up contribution	\$1,000	\$1,000
Limit on annual additions to Defined Contribution plan (for example, SEP IRA)	\$61,000	\$58,000
Limit on annual additions to Defined Benefit plan	\$245,000	\$230,000
Estate and gift tax	2022	2021
Annual gift exclusion	\$16,000	\$15,000
Estate and GST exemption amount	\$12,060,000	\$11,700,000

MILL CREEK

Our values appreciate yours