THE NEXT DECADE OF ALTERNATIVE INVESTMENTS:
From Adolescence to Responsible Citizenship

CAIA ASSOCIATION®

Continuous education, rigorous due diligence, transparency, and thoughtful reform *should stand as the pillars of the profession, as they stand at the core of the CAIA Association mission.*

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01 | Executive Summary

A global pandemic. The most violent bear market in history. Unprecedented fiscal and monetary stimulus. Dizzying volatility. The fear of the unknown is the enemy of capital market stability.

Still in its infancy, this new decade has ushered in a storyline we would have never expected nor hoped for. How should serious investment professionals respond to these uninvited circumstances? Has the promise of diversification struck back?

And yet, alternative investments have never been a more polarizing topic. Loved by some, hated by others, private capital and hedge funds remain a deeply misunderstood set of asset classes and strategies. Despite the divisiveness, alternatives are here to stay and should continue to collect assets, albeit at a slower pace than in the previous decade.

The Next Decade of Alternative Investments: from Adolescence to Responsible Citizenship aspires to accomplish three goals.

First, to establish context, we examine the meteoric rise, current state, and future outlook of alternative investments. From 2003 to 2018, alternative investments grew from 6% to 12% of the global investment market; CAIA Members expect this growth to continue to perhaps 18% to 24% of global assets by 2025. This trajectory is supported by a combination of factors, notably low interest rates, pension funding ratios, the maturation of emerging markets, and a structural shift in capital formation.

Second, with this top-down backdrop, we take a deep dive into the growth drivers of the underlying industries and asset classes. These assessments and predictions are based on the results of a comprehensive survey of over 1,000 CAIA Members, conducted recently as we prepared for the release of the 4th edition of our industry-leading curriculum. They told us that institutional-quality alternative investments such as private equity, private debt, hedge funds, and real assets are likely to experience different levels of investor demand, as well as potentially encounter different investment-related and/or structural risks. To help illustrate the current dynamics, we interweave two timely case studies—on WeWork and on the intersection of ESG and private capital.

Third, this stage setting and review of the investment case for each asset class or strategy informs the climax of this flagship report: the unveiling of a four-point call to action for the industry that will become our rallying cry in the coming years.

1. Commit to Education With the explosion in allocations to alternative strategies, sophistication and proper knowledge and training have never been more essential for investment professionals. CAIA Association calls for both industry (GP and LP) and regulatory regimes to require higher levels of education on the full spectrum of asset classes to help ensure a deeper level of understanding of their interactions and long-term outcomes.

2. Embrace Transparency All involved need to participate in and support appropriate reforms to improve transparency, alignment of interest, and uniform performance reporting to ensure that investors' interests are always paramount.

3. Advocate for Diversification The careful and informed use of alternative investments in a diversified portfolio can reduce risk, lower volatility, and improve returns over the long-term, enhancing investors' ability to meet their return outcomes. But the message needs an objective and holistic narrative, centered around beta exposure and uncorrelated streams of returns, not grasping for alpha.

4. Democratize but Protect Main Street should be able to access opportunities available through private vehicles but only when sufficient safeguards are in place. In this context, the alts industry must come to terms with its fiduciary responsibility and embrace the highest ethical standards while improving investor education and disclosures. CAIA Association supports the democratization of alternatives, but it must begin with a fiduciary professional who has demonstrated knowledge and training in the complexities of alternatives and is bound by an ethical code of conduct.

As we outline in this report, capital formation has shifted dramatically away from public markets in recent years as issuers pursue better alignment with ownership, less onerous and expensive regulatory requirements, and liberation from the short-term machinations that undergird the stock and bond markets. Further, the heavily alts-reliant "endowment model," personified in the Yale endowment and most of the Canadian public funds, turned 50 years old last year. Institutional allocations to alternative investments are approaching 30%, driven in part by the growing pressure on pension plan sponsors and other fiduciaries to meet outsized plan return assumptions and shrink fast-growing funding gaps.

With such a large portion of the global economy now off limits to retail investors, regulatory bodies are beginning to debate whether to democratize access to this suite of more opaque and complex instruments, making them available to a wider set of investors. The outcome of this debate has the potential to radically alter not just the alternative investment landscape but investing as we know it.

As the professional body for alternative investments, CAIA Association partners with our Members to provide a balanced and authoritative voice in the midst of the disruptive storm that continues to reshape investing. Representing savers, beneficiaries, and the general public, we occupy the objective middle ground, intent on ensuring that financial markets serve the greater good by allocating capital efficiently to the most socially and economically beneficial activities.

In our view, fiduciaries should neither blindly endorse nor demonize alternatives. Instead, continuous education, rigorous due diligence, transparency, and thoughtful reform should stand as the pillars of the profession, as they also stand as principles at the core of the CAIA Association mission.

CAIA exhorts the larger industry—including allocators, managers, regulators, and all others who make up this vibrant space—to **join us.**

02 | A 15-Year Lookback

FROM THEN TO NOW

Alternative Investments Have Doubled Their Share of Global Asset Markets

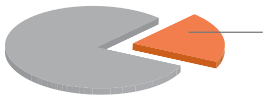
For many years, we have noted in our travels how institutional investors worldwide seem to be making the same coordinated moves in their asset allocations. Today we can see increasing portfolio diversification as investors move from domestic to global portfolios, allocate away from traditional investments and towards alternative investments, and seek to enhance yield by increasing credit risk and liquidity risk in the fixed income space.

Alternatives are Taking Marketshare

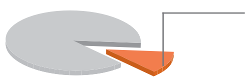
Fifteen years ago, alternative investments comprised 6%, or just $4.8 trillion, of the global investible market, and the CAIA Association was just a small startup. By the end of 2018, the size of global markets had doubled, but alternative investments had almost tripled. We now estimate the size of the traditional global asset market at $102.6 trillion, while alternative investments have grown to $13.4 trillion[1], or 12% of the global investible market. Note that 12% of all worldwide assets are now allocated to alternative investments, with retail investors averaging allocations of 5%[2] and institutional investors having substantially higher allocations.

Percentage of Global Investible Market

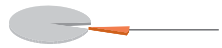
Traditional Investments* ■ Alternative Investments*



18-24% by 2025
Expected by Members, according to the CAIA Member Survey.



12% ($13.4 T) in 2018
with retail investors averaging allocations of 5% and institutional investors having substantially higher allocations.



6% ($4.8 T) in 2004

Global Investible Market (in $Trillions)

Source: CAIA, Bloomberg, MSCI, Preqin

Traditional Assets

- $29.5T Non-Dollar Bonds
- $25.6T US Equities
- $20.8T Dollar Bonds
- $12.5T International Equities
- $5.9T Real Estate Debt
- $4.7T Emerging & Frontier Equities
- $3.6T Cash

TOTAL: $102.6 TRILLION

Alternative Assets

- $4.2T Private Equity
- $4.0T Hedge Funds & Liquid Alternatives
- $3.1T Real Estate
- $0.5T Infrastructure
- $0.7T Natural Resources
- $0.7T Private Debt
- $0.2T Commodities Derivatives

TOTAL: $13.4 TRILLION

* Assets as indicated in the GIM chart.

Lower Interest Rates Driving Investors Toward Alternative Investments

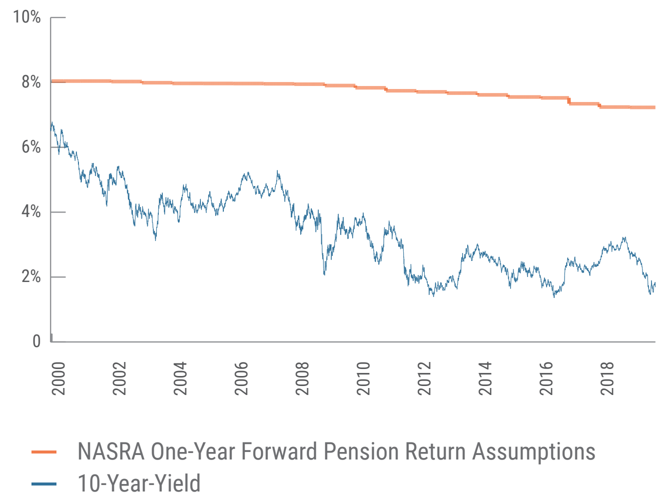
The last two decades have seen global interest rates move to record low levels, with over $15 trillion in fixed income securities, including some non-investment grade corporate debt, trading with negative yields in December 2019.

This has compounded the challenge facing defined benefit pension plans around the world. Forward-looking return assumptions barely changed even as government bond rates fell. Because funding levels remained relatively static the only option left has been to find ways to increase returns to meet the needs of future beneficiaries.

Interest rates in the United States remain in positive territory but have fallen substantially in the past 20 years. In 2000, rates on 10-year US Treasury securities briefly exceeded 6.7%, subsequently falling below 1.4% in July 2016. Since then, interest rates have been range-bound between 1.7% and 2.3%. When government rates were 6%, US pension funds could easily see a path to generate total portfolio returns that met actuarially required assumptions averaging over 8% in the year 2000. Unfortunately, as government rates fell to around 2%, projected return expectations

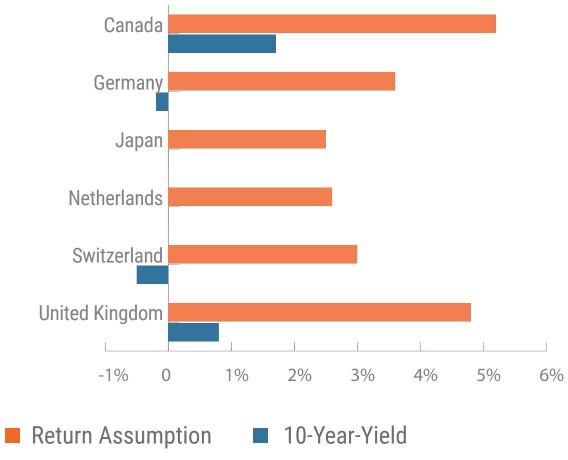
Pension Return Assumptions and 10-Year Treasury Rates

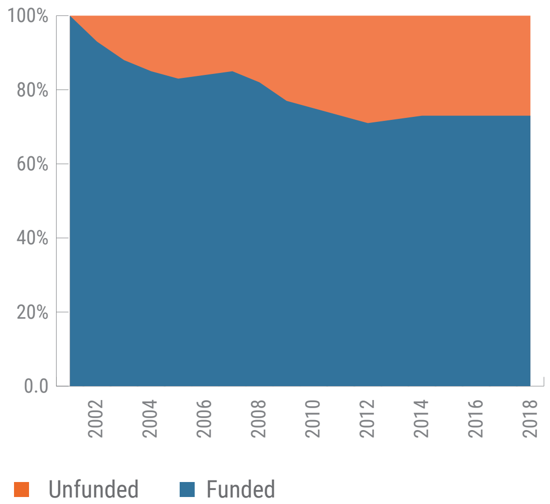
Source: Bloomberg, NASRA, CAIA Association



Return Assumption vs. 10-Year-Yield (2019)

Source: Bloomberg, Willis Towers Watson[3]





Pension Funded Ratio

Source: PublicPlansData.org

Over the last fifteen years, US pension plans generally have not met their expected return targets, as a portfolio invested 60% in US stocks and 40% in US bonds earned 5.35% and a global 60/40 portfolio measured in US dollars earned 4.40%. Additionally, while US pension funds were fully funded in 2001, with assets matching the present value of liabilities, the funded ratio has fallen to between 72% and 77% each year since 2009. That is, pension funds took a big dip in their funded ratio in 2008 and have not yet recovered to those levels of 80% to 85% funded despite strong returns in global markets since 2009.

only fell 0.75% to 7.25% as of 2018. This means the spread between assumed pension returns and Treasury rates has widened from 2.8% in 2007 to 5.3% near the end of 2019.

Non-US pension plans face challenges similar to the United States today, but with a slight twist—negative government bond rates. In 2019, the 10-year German Bund fell into negative territory, joining many other government bonds across the developed markets. The gap between non-US government bond rates and pension return assumptions may not be as wide as that of the United States, but the starting point for a pension plan allocating to government bonds is a money-losing proposition nearly everywhere.

With this backdrop in mind, pensions have three potential solutions:

1. Cut benefits to their constituents,
2. Increase pension contributions to close the funding gap, or
3. Find new sources of returns.

1 and 3 have so far proven to be the most popular solutions, with 2 seeming unlikely to gain much additional momentum in the years to come. A fourth option, one that would require substantial and lasting pension reform, is perhaps worth adding to the discussion, and quickly, given the dire state of funding globally, not just in the United States.

03 | Why Alternative Investments?

There are two key reasons to allocate toward alternative investments: 1) to reduce risks and 2) to enhance returns.

Typically, private equity and venture capital serve as the main drivers of return enhancement, while most other alternative investments serve to add diversification and reduce risk. One key impact of the global financial crisis was that institutional investors sought to reduce downside risk in their portfolios in order to prevent another 55.4% drawdown, such as stocks experienced in 2007-2009. On the return side, as 7.25% became harder to earn, institutional investors were driven toward rising allocations to higher returning alternative investments such as private equity and venture capital.

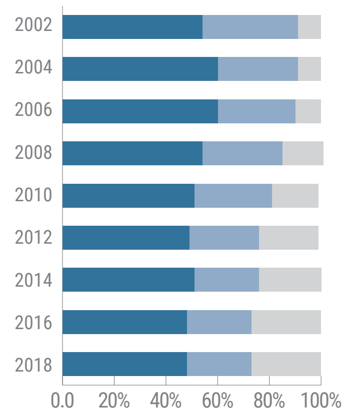
From 2001 to 2009, US pensions increased their average allocation to alternative investments from 8.7% to 15.7%. This trend was only accelerated by the financial crisis, as they continued to grow their alternative allocations at a much higher rate, exceeding 27% in 2019. During this period, the three largest allocations in pension portfolios were private equity, real estate, and hedge funds.

While CAIA Association is a strong believer in long-term pools of capital, such as pensions, allocating across the full spectrum of risk premia including alternatives, we must strike a cautionary note here: Alternative investments should not be seen as a panacea to dig out of an unfunded liability scenario.

This is akin to a desperate casino trip. Private capital allows issuer and owners to align around long-term value creation and unmoor themselves from the short-term gyrations and emotional volatility endemic in public markets. But that advantage does not eliminate the opacity risk typically associated with these types of investments nor the contours of the natural business cycle. It is not a "sure bet" that fresh alpha will be summoned whenever needed. Investors and allocators should be committed to looking through full business cycles if they want to reap the long-term benefits of risk mitigation and return enhancement.

Average US Public Pension Allocation

Source: PublicPlansData.org



Global Trend of Issuance Driving Investors to Private Equity & Venture Capital

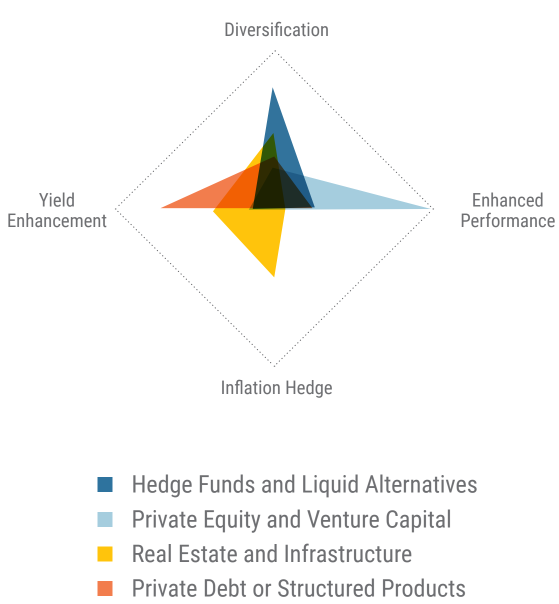
Capital formation is happening more and more in the private markets. The combined market capitalization of Apple, Microsoft, and Amazon at their IPOs was just $2.2 billion, providing public market investors with over $2 trillion in gains.

Contrast that to the IPOs of Facebook and Alphabet (Google) which went public with a combined market capitalization of over $100 billion. The delay of the IPOs of Facebook and Alphabet until they reached $100 billion in market capitalization directed a much larger portion of profits to private market investors compared to public market investors than in the previous generation of IPOs of younger companies. A more modern IPO, such as Uber, raised a much greater portion of their capital from the private markets than from the public markets.

While these companies represent just a few examples of private companies going public, it is clear to us that the relationship between

SURVEY RESULTS

Rationale for Investing based on Member survey data



private and public markets is changing. Companies are staying private longer relative to history, providing private equity investors with higher return opportunities. In fact, the average age of a private technology company has quadrupled from three years in 2001 to 13 years in 2018.[4]

As capital formation continues to shift to the private markets, regulators around the world will be forced to address the perceived inequities this is creating. This will include the shortcomings of public markets as well as the growing risks and lack of transparency from private markets. Additionally, we are likely to see a significant push towards opening private market access to retail investors, something which is already starting to generate buzz, but which comes with substantial risks both for investors and the industry.

We note, for example, that the leverage and valuation of private companies continue to rise. If private equity buyouts take place at 11 times EBITDA today, the eventual profits are likely lower than when EBITDA multiples of nine or less prevailed in 2009-2013. As leverage rises, the probability of financial distress increases, with LBOs up to 10 times more likely to declare bankruptcy than publicly traded companies. As valuations and commitment sizes in the private markets increase, there is evidence of declining profitability of private capital funds.[5]

Retail investor participation will draw increased scrutiny to private capital. Therefore, participation must be accompanied by an increased level of proactive investor education and protections prior to investment.

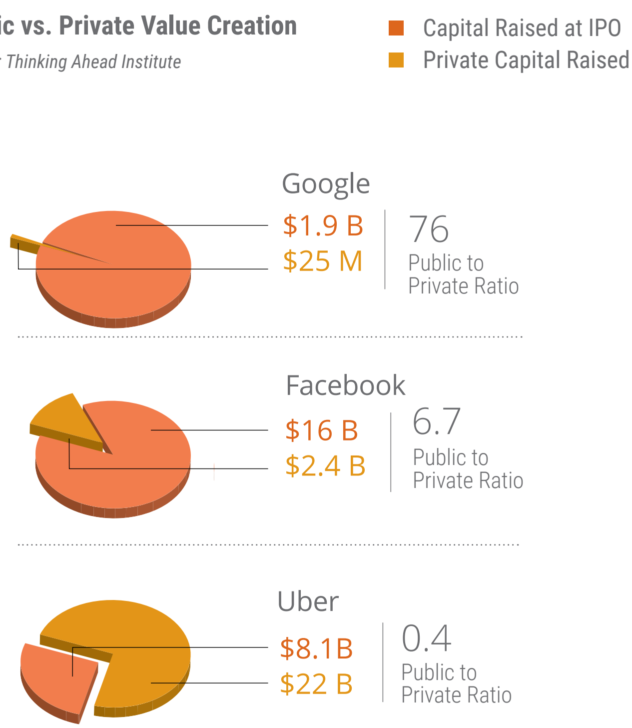
Finally, it is worth noting the increasing globalization of the venture capital market as another contributor to increased interest and investment in private capital.

As recently as 2012, over two-thirds of venture capital investments were made in North American companies. By the end of 2016, over 45% of portfolio companies were in Asia, while only one-third of investments were made in North American firms. Assets allocated to private equity and venture capital are likely to continue to expand, as the capital needs of companies domiciled in emerging markets continue to grow relative to those in developed markets.

In the last decade, over $47 billion has been invested in nearly 600 venture capital funds focused on emerging markets.[6] Notable successes of VC-backed firms in emerging markets include Flipkart, Alibaba, JD.Com, UCWeb, Semiconductor Manufacturing International, Meitu, and Qudian. Many of the most successful venture capital investments in recent years have been in the Chinese market.

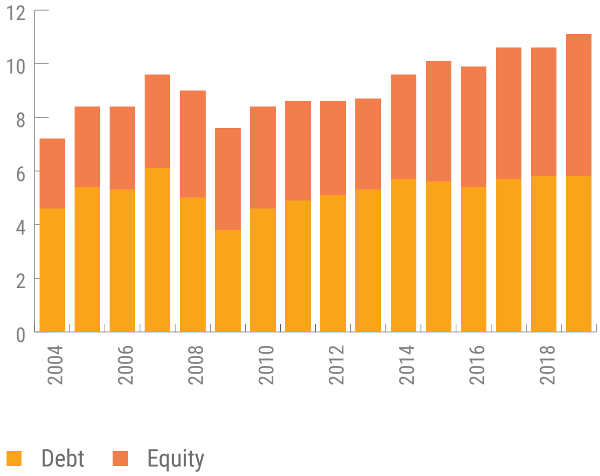
Public vs. Private Value Creation

Source: Thinking Ahead Institute



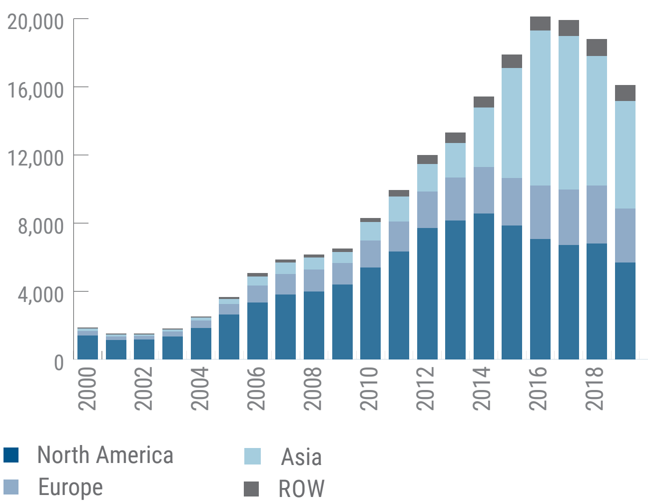
U.S. LBOs: Components of EV/EBITDA Purchase Price Multiples

Source: S&P Global LCD



Number of Venture Capital Deals by Region

Source: Preqin



CAIA Members believe that this trend will continue, with greater investor allocations to private capital allowing companies to remain private longer.

Companies are choosing to delay their IPOs due to the public scrutiny, short-term thinking, and significant regulatory costs of being a publicly traded company.

SURVEY RESULTS

Most Significant Change to the Markets due to private vs. public capital formation based on respondents.

43% Private companies will be able to stay private longer due to greater liquidity in the private markets.

37% Private companies desire to stay private longer due to the regulatory burden on public companies.

12% Private equity buyout firms will continue to shrink the number of publicly traded firms.

8% Private company and public company valuations will become more independent over time.

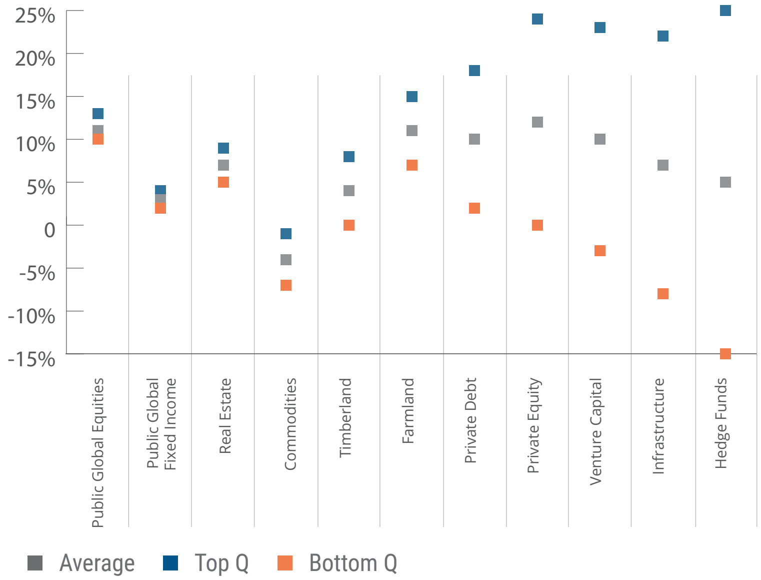
04 THE FUTURE OF Institutional Alternatives

Private Equity Allocations to Rise, but Performance Varies Widely by Manager

According to surveyed CAIA Members, nearly 70% view the main objective of allocating to private equity as return enhancement. 29% of Members also noted that their private equity and venture capital allocation was between 5% and 15%, with another 18% holding more than 15% of assets in this category. More than 50% of CAIA Association Members expect to have a greater allocation to private equity and venture capital in 2025 than they currently hold. Similarly, a Preqin survey shows that the majority of investors are likely to continue to grow allocations to private equity and private debt over the next five years.

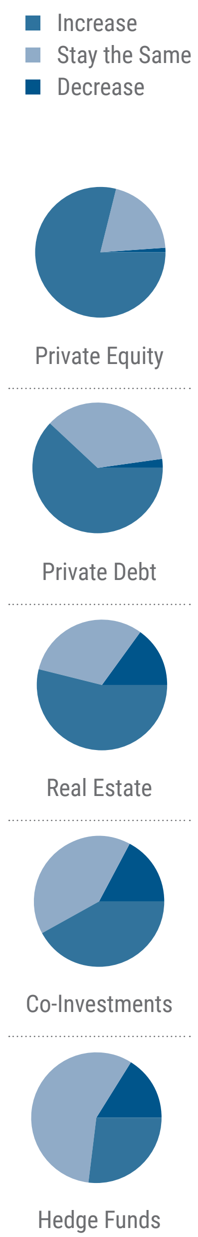
Average, Top Quartile, Bottom Quartile Performance of Managers

Source: CAIA Association, JPMorgan, Preqin, CISDM



Projected Directional Change in Allocation Over Next 5 Years

Source: Preqin



As capital continues this migration, manager due diligence and performance dispersion are important considerations. While the median manager in any given year may have returns similar to public market indices, top quartile managers can outperform bottom quartile managers by 10 to 20 percentage points per year. Avoiding the underperforming managers is key to generating private equity portfolio returns exceeding public market returns. But, of course, not everyone will be above average.

It is worth noting here that efforts to democratize private equity (and venture capital) will likely lead to democratized access to beta rather than alpha. This is not to say that such an outcome would be good or bad, but rather that steps must be taken by industry participants, product providers, and regulators to help ensure that the end investor clearly understands just what they are adding to a portfolio.

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Where the Money Goes

Changing Allocations within Alts

CAIA Members access private equity and venture capital through a variety of structures, including co-investing approaches. In fact, these approaches have become so prevalent that the 4th edition of the CAIA Association curriculum increases the coverage of co-investing, detailing the investment process and providing evidence on the performance of co-investments.

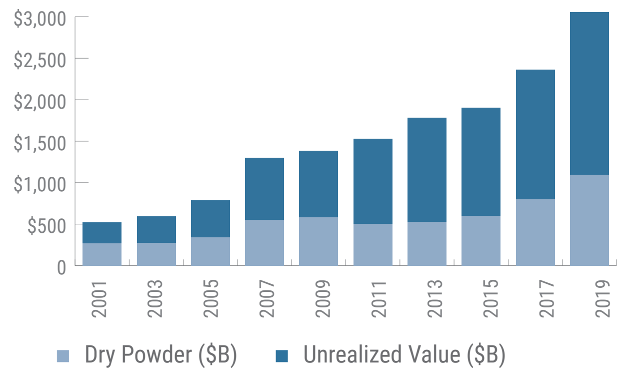
60% of CAIA Members surveyed noted that co-investments, where the investor directly participates in an investment alongside the general partner at lower fees, benefit them by either reducing the overall fees in their private equity portfolio or by giving them greater control over their portfolio company investments. This may allow them to maintain their investments for a longer period than the life of the private equity fund.

While investors continue to raise commitments to private capital funds, these funds have returned more capital to investors over the last decade than they have called. Though exit activities have remained strong, general partners have been hesitant to invest in new portfolio companies at the same rate.

The fact that so much capital has been poured into these approaches in recent years speaks volumes to our earlier points about growth-starved investors looking to access strategies that might deliver the alpha they need to meet their obligations. The additional fact that so many GPs have found limited ways in which to put $1.1 trillion of that capital to work speaks even louder about the realities that these investors need to face.

Growth in Buyout and Venture Capital

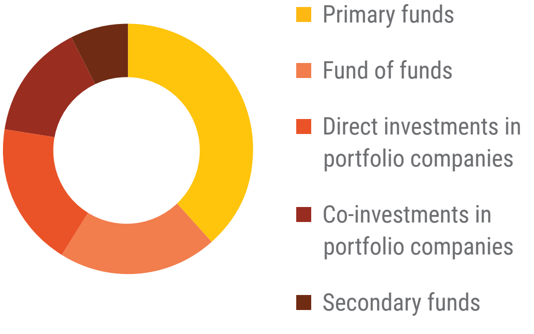
Source: Preqin



While limited partners have sought to increase their allocations to private equity and venture capital, general partners have found it challenging to put that capital to work. At the end of 2019, fully one-third ($1.1 trillion) of the global private equity and venture capital commitments were held in dry powder.

SURVEY RESULTS

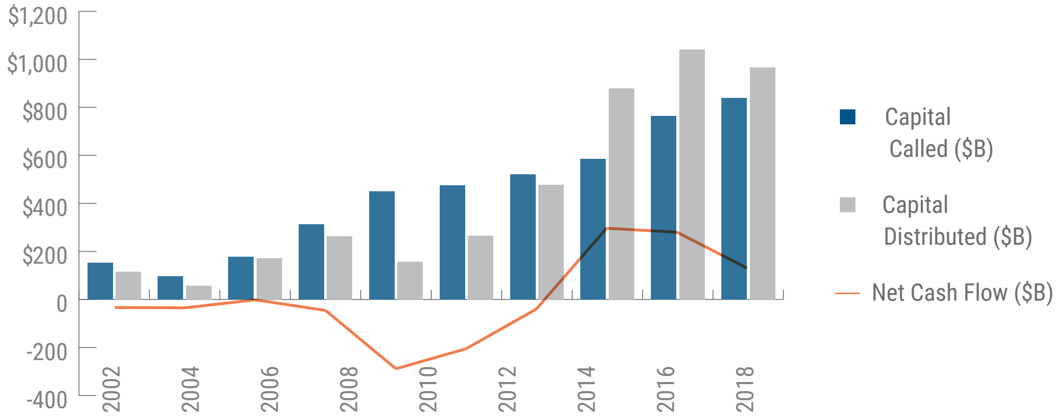
The majority of new private equity/venture capital investments in my portfolio over the next five years will be in:



The 4th edition of the CAIA Association curriculum expands on the prior coverage of distressed and mezzanine investments in private debt by adding an extended discussion on direct lending and workouts of bankrupt borrowers.

Annual Capital Called and Distributed by Private Equity Funds

Source: Preqin Pro



CASE STUDY

How WeWork Changes Venture Capital

Consider the case of WeWork, which we think will have a significant, long-lasting impact on venture capital investing.

Depending on your version of the events, WeWork rang the bell for the top of the unicorn market either with its August 14, 2019 IPO filing or with its September 5, 2019 valuation cut from $47 billion to just $10 billion. In either way, many have taken it as the signal that former private market darlings will need to show a lot more than a strong brand and rapid growth to succeed in the public markets.

Like the Nasdaq in 1999, the current crop of unicorns saw their valuations increase significantly over a brief period, in this case from January 2017 until the end of August 2019. However, from August 14 until the end of October 2019, 17 of these firms whose private market valuation exceeded $1 billion before their IPO experienced losses of over 20%, including seven that declined between 33% and 50%. We anticipate an acceleration in share price losses for these cash-burning companies as well as declines in the valuation of still-private unicorns.

The demise of WeWork is leading investors in both the private and public markets to rethink the tired mantra that "revenue growth is king" regardless of cash burn. That is, how long will investors fund limitless and growing losses in the pursuit of revenue growth? This time around, the fatal error may have been casting old economy companies in a new economy wrapper.

There are three key lessons that venture capitalists and their investors should learn from the aging of the unicorn story.

First, due diligence and governance matter. It is questionable who demonstrated the most hubris—SoftBank's Masayoshi Son or WeWork's Adam Neumann.

It has been said that SoftBank often makes investment decisions in minutes, leading to the deployment of $100 billion in just two years. The goal of SoftBank seemed to be to invest quickly and to dramatically increase assets invested in portfolio companies, even at the cost of having teams within SoftBank competing to invest in the same portfolio company at different valuations.

As far as governance goes, Neumann had numerous conflicts of interest and self-dealings that should have been discovered and dealt with in the due diligence process. If Neumann's self-dealing nature wasn't discovered early in any legitimate due diligence process, the board of WeWork should have at a minimum disallowed Neumann's personal sale of properties and trademarks to the company and forced him to remove himself from the company's compensation committee. It took the transparency of a public filing to bring all of the self-dealing and other issues to light.

Second, valuation matters. Is WeWork a modern tech company or an old school real estate manager? In any investment, understanding the source of revenue growth—as well as the path to profitability—is critical. The first thing to consider is: does the firm have a new business model or does it have comparable publicly-traded competitors?

Consider WeWork's business model of renting flexible office space. At the beginning of 2019, WeWork offered 10 million square feet of office space for short-term leases with a goal of growing to 40 million square feet. A long-time leader in this space, Regus, owned by the British firm IWG, already had 50 million square feet of short-term office space for lease. In 2018, IWG reported revenue of GBP 2.5 billion and net income of GBP 105 million. Comparing the 2018 results, WeWork had generated revenue of $1.8 billion and net losses of $1.9 billion.

The public markets valued the larger and more profitable IWG at GBP 3.4 billion, or $4.46 billion (GBP1 = $1.31 as of 12/31/2019) while the private markets valued WeWork at $47 billion. What revenue growth and profitability scenarios were necessary to justify WeWork's private market valuation, which was over 10 times the valuation of IWG, when IWG had higher revenues, higher profits, and a greater installed asset base? What revenue and earnings growth assumptions were necessary to meet Masayoshi Son's ambitious market capitalization goal of $1 trillion for WeWork when Apple and Microsoft are the only two companies in history to reach this valuation?

The echoes of 1999 are easy to hear at this point, but this time it was supposed to be different. What was not different was that valuation mattered and due diligence mattered. As Benjamin Graham said, "In the short run, the market is a voting machine, but in the long run it is a weighing machine."

The third lesson? Before investing, make sure that your portfolio companies are likely to make it to the long run before running out of cash.

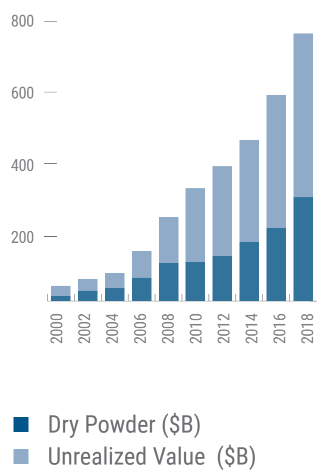
When queried on the impact of WeWork on the future of venture capital, 58% of CAIA Members surveyed had one of two opinions on how markets can be improved. First, better due diligence on the part of GPs, with a focus on valuations. Second, insistence on better internal controls at portfolio companies to prevent the conflicts of interest present in the WeWork saga.

These are lessons that can apply not only to VCs but to all investors.

Private Debt and the Rise of Cov-Lite

Growth in Private Debt

Source: Preqin



Private debt has experienced a dramatic increase in assets in recent years, growing by more than three times since 2008, from $235.5 billion to $749.2 billion. We believe this trend will continue and data from our Member survey shows the marketplace feels much the same way.

While 55% of CAIA Members with allocations to private debt hold less than 10% of their portfolio in this strategy, nearly 40% are likely to raise their allocation by 2025. More than half of survey respondents note that the most important benefits of private debt investing are the opportunities for yield enhancement and alternative sources of income, while nearly one-quarter view diversification as a key driver of their allocation.

There are two major trends driving increased allocations to private debt: low and declining interest rates and regulatory changes that have caused banks to reduce the risks in their lending portfolios.

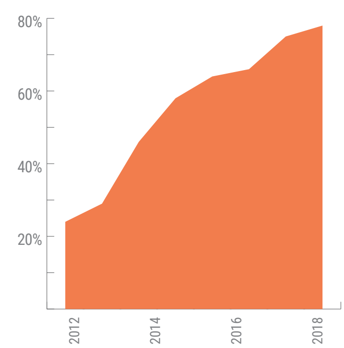
In 2008 and 2009, bank failures in the United States and Europe resulted in government bailouts that voters have made clear should not be repeated. As a result, regulations such as Dodd-Frank and BASEL III have constrained the ability of banks to lend to speculative-grade middle-market companies by implementing capital adequacy requirements and stress tests. With rising risk-based capital requirements, banks have reduced lending to smaller and more risky borrowers in order to ensure that their capital exceeds the requirements of the stress tests. As corporate lending in Europe fell by more than 25% since 2008, borrowers turned to the private debt market to access the capital required for their businesses.

While the private debt market has long focused on strategies such as distressed debt and mezzanine loans to facilitate leveraged buyout activity, much of the recent growth has been in direct lending, where private credit firms underwrite loans directly for corporate borrowers.

Much of the private credit allocation is held in direct lending to middle-market companies that, if rated, would be non-investment grade, likely averaging a B rating on the S&P or Moody's scale. There is a wide variety of risk within this direct lending space. Many lenders seek to offer senior secured loans backed by the assets of

Proportion of Covenant-Lite Loans

Source: S&P Global LCD



There are two major trends driving increased allocations to private debt: low and declining interest rates and regulatory changes that have caused banks to reduce the risks in their lending portfolios.

In 2012, less than 30% of loans were covenant lite—by 2018, nearly 80% were.

the firm such as inventories, receivables, or plant and equipment. Other lenders offer unsecured debt to these non-investment grade borrowers. There is growing concern, which we at CAIA Association share, that the low level of global interest rates has given control of the market to borrowers who are increasingly seeking covenant-lite loan structures.

In 2012, less than 30% of loans were covenant lite ("cov-lite"), meaning lenders generally had insisted on strong protections by limiting debt ratios or restricting use of assets or cash. By 2018, nearly 80% of loans were covenant lite, where lenders had less insight and transparency into the financial actions of their borrowers. According to S&P Global LCD, the recovery rate for covenant-lite loans structured after 2008 was 56%[7]. During the next global recession or credit crisis, there is likely to be a strong dispersion in performance between lenders with strong credit discipline and lenders whose credit terms did not fully consider the risk of the borrower in the lending agreement. Nearly 58% of survey respondents agree that there will be substantial downside in covenant lite deals and lenders with weaker credit standards, but those with stronger underwriting standards will be much better positioned for the next credit crisis.

Both private equity and private debt are likely to continue to grow in allocations due to the low interest rate environment and the high historical returns on private equity. Another key driver of increasing allocations is the record amount of dry powder in this space, which is capital that investors have committed to private equity and private debt funds that the general partner/fund manager has not yet invested. As mentioned above, the amount of capital in this discussion is staggering, with over 38% ($290 billion) and 35% ($1.1 trillion) of private debt and private equity (buyout and VC) commitments, respectively, held in dry powder. As this money is put to work, the allocations to private debt and private equity in institutional portfolios will continue to increase. The 4th edition of the CAIA Association curriculum expands on the prior coverage of distressed and mezzanine investments in private debt by adding an extended discussion on direct lending and workouts of bankrupt borrowers.

Hedge Funds and the Adoption of Liquid Alternatives

More than half of surveyed CAIA Members consider diversification as the key rationale for including hedge funds, managed futures, and liquid alternative investments in their portfolios. While only 20% expect hedge funds to have positive returns in a year when global equities decline 10% or more, over 92% believe that hedge funds will outperform global equity during times of weakening stock prices.

This script played out dramatically in the first quarter of 2020 and is reinforced through history: volatility of returns on hedge fund indices is approximately half that of global stock market indices. Managed futures, global macro, as well as long/short and market neutral equity funds have historically maintained their value during equity market selloffs.

Assets in the private hedge fund universe have plateaued in recent years, rising from $2.8 trillion in 2014 to just $3.1 trillion in 2018. This increase in assets under management has come entirely from asset performance, as flows have been negative in recent years.

Liquid alternatives, including both UCITS funds in Europe and '40 Act funds in the United States, recently reached $900 billion, up from less than $200 billion in 2008. In fact, most of the recent growth in the hedge fund space has come from liquid alternatives, which have grown from 12% of hedge fund assets in 2008 to over 22% today.

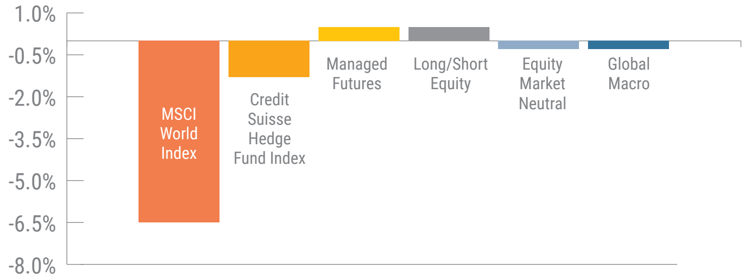
Importantly however, liquid alternative funds exhibit lower risk and lower return profiles than private hedge funds, as the UCITS and '40 Act rules limit the amount of leverage and liquidity risks held by liquid alternative funds. This is key since, perhaps more than anywhere else in the alternatives universe, this is where we most often see products and approaches labelled as democratizing access for investors.

Effectively, the democratization of hedge funds has provided retail investors with a chance to introduce hedge fund beta into their portfolio. Hedge fund beta can be an important tool for any investor who wants to smooth out market volatility

Average Performance During the Largest Monthly Equity Decline

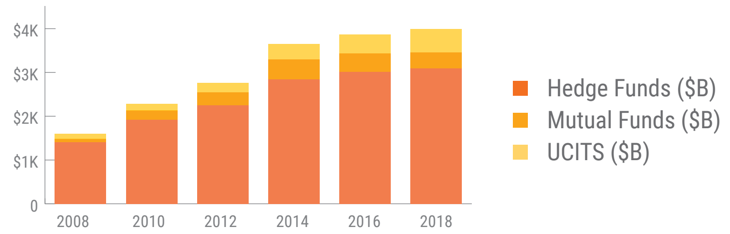
Each Year From January 1994 to June 2019

Source: Bloomberg, CAIA Association



AUM Growth in Hedge Funds & Liquid Alternatives

Source: CAIA Association, HFR, Morningstar, and LuxHedge



and protect against downside risk while staying invested in the market. But the industry needs to commit to the education necessary to help the marketplace understand these facts, while regulators must be diligent as they explore opening additional avenues of access under the banner of liquid alternatives

Here again, millions have found themselves responsible for their own investments as retirement plans move from defined benefit to defined contribution. Are they well-served by greater access to alternatives through liquid alternative funds? Perhaps, but the access must come with education and protection.

Among CAIA Members, two-thirds of those who allocate to hedge funds have an allocation of less than 10%, while more than one-quarter have an allocation exceeding 15%. Looking forward, only 37% of CAIA Members who currently allocate to hedge funds expect to have a higher allocation in 2025 than they do today. To us, this suggests the future asset growth of hedge funds is not as bright relative to other alternative asset classes. The bullish case for hedge fund-style investing really comes down to whether or not hedge funds and liquid alternatives post positive returns during a period of time when stocks move lower or even sideways for an extended period of time. Unless stock returns cool off from their torrid 10-year pace, we are unlikely to see growing allocations to traditional hedge funds, another reason we are seeing such a strong pivot to offering more liquid alternative approaches, as the expectation seems to be that retail capital could be the next source of growth for the space.

One bright spot: fees on hedge funds continue to decline to levels far below the 2 and 20 that dominated in the early days of the industry. EurekaHedge estimates show that hedge fund fees have dramatically declined in recent years from a respective average management and incentive fee of 1.59% and 18.01% in 2006 to 1.16% and 13.27% today. Lower fees should, on average, allow investors to earn higher returns, or at least a higher share of the gross returns earned by the hedge fund managers.

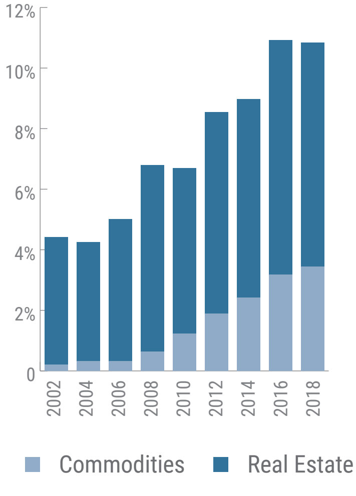
Trends in Real Asset Allocations

When surveyed, CAIA Members have a variety of reasons for investing in real estate and infrastructure, with responses split among diversification, inflation hedging, and as an alternative source of income.

Real assets (real estate, infrastructure, and natural resources) AUM has increased from $2.7 trillion to $4.3 trillion from 2004 to 2018[8]. Increases in AUM have also come alongside increased allocation in institutional portfolios. In 2000, for example, public pension funds were allocating approximately 4.0% to real estate and commodities/natural resources. In 2018, US pension allocations average approximately 11.0%.

US Pension Allocations to Commodities/Natural Resources and Real Estate

Source: PublicPlansData.org



CASE STUDY

Climate Change & Real Assets

The impact of increased ESG integration within investor portfolios will, in our view, be particularly transformative for the real assets asset class.

Investors in real assets will be forced to take a more granular view of these non-financial risk exposures, which might include the negative impacts of climate events, regulatory initiatives, or shifting consumer demands within the context of a low carbon economy. We see a continued push towards energy-efficient and low-carbon emission housing within real estate and infrastructure, and a mounting risk of stranded assets in the natural resources space. The 4th edition of the CAIA curriculum, published in 2020, adds significant coverage of ESG topics including applications of ESG strategies within hedge funds, private equity, natural resources, commodities, and real estate.

Real Estate and Infrastructure: Carbon-Neutrality

According to the Environmental and Energy Study Institute (EESI), buildings alone accounted for approximately 40% of total global carbon emissions in 2014[9]. This number is staggering, but it also suggests that total carbon emissions could drastically decrease with proper reforms to the real estate market. While simple in concept, actual and meaningful implementation could prove challenging. In fact, after the Paris Agreement was enacted, the World Green Building Council claimed that every building around the world would have to be carbon-neutral by 2050 if the objectives of the Paris Agreement were to be met[10]. Operating under this assumption, real estate investors will have to ensure their investments are "future-proof" by ensuring new real estate developments have an increased focus on energy efficiency and compliance with any future carbon emissions-based regulation.

Natural Resources Stranded Assets

Investors in natural resources and commodities have the potential to be heavily impacted by ESG-friendly reforms, specifically around climate change. As society becomes more environmentally conscious, the demand for renewable natural resources will likely increase and non-renewables will decrease. As a result, some fossil fuel facilities and electric power plants face the risk of becoming stranded assets.

A stranded asset can be quantified as the difference between the quantity of natural resources around the world and the amount companies think they can exploit. For example, the Carbon Tracker Initiative[11] has identified oil as facing an increasing risk of becoming a stranded asset for oil and gas companies. If the mandates of the Paris Climate Agreement are to be followed, oil and gas producers would have to cut production and capital expenditures significantly. This mismatch in expectations could lead to decreased profitability for public and private natural resource companies that rely on fossil fuels, in addition to future supply shocks for the underlying commodities themselves.

Asset owners who allocate to alternative investments need to be aware of the environmental impact of their real estate and infrastructure investments. One key area of focus to offset the risk of stranded assets in portfolios is investments in renewable energy, largely through private equity and venture capital investments.

In the survey of CAIA Members, nearly half of respondents do not express a preference for investing according to singular environmental, social, or governance principles, but see all three (E, S, and G) as equally important. Additionally, more than half of the CAIA Members who allocate to external managers stated that they consider ESG factors to satisfy constituency demands or to mitigate risks in their portfolio.

Looking through the lens of demographics, it is undeniable that capital will continue to shift into the hands of younger investors, who have exhibited a higher interest level in the impacts that their investments are having on the planet, on society, and on their local communities.We expect ESG considerations to accelerate in importance as research suggests that principle-based investment is vital. Private and patient capital offers a unique opportunity, particularly in impact investing, to align values and beliefs with allocations of wealth in thoughtful and meaningful ways for which public markets are largely handicapped. However, exact definitions of ESG and how to implement sustainable strategies remain fluid. Allocators, GPs, service providers and professional bodies like CAIA Association must unite to create a uniform set of ESG standards, data disclosures, and measurement to serve these rapidly changing client needs.

SURVEY RESULTS

Where are environmental, social, and governance (ESG) factors most important in your portfolio?

- **48%** E, S, and G are all equally important
- **26%** Do not consider ESG factors
- **11%** Governance factors, especially in activist funds and proxy voting
- **7%** Environmental factors, especially in real assets
- **5%** Social factors, especially in impact investments

21

Real Assets Outlook: Growing AUM, especially for income assets

Of the CAIA Members who invest in real estate and infrastructure, the majority have an allocation of less than 10% of assets. However, nearly one-third have an allocation above 10% and nearly 90% expect to have an allocation in 2025 that is greater than or equal to what they currently hold. As long as global interest rates stay low, real estate and infrastructure assets are likely to maintain cash yields in excess of yields from sovereign and corporate bonds, which make these real assets attractive to income-oriented investors. This assumption, of course, does not take into account a structural depression in commercial real estate if the pandemic, and work from home requirements, were to linger for many months.

05 | A Call to Action

Both public and private pensions are facing massive funding shortfalls, a trajectory that lends itself to potential economic risk and social unrest. Millions of individuals who decades ago would have participated in some type of defined benefit plan have gone from being institutionally dependent to being on their own, without the toolset that would equip them to navigate the complex, ever-changing, and opaque marketplace of investing.

Alternative investments have clearly established their staying power, based on their uncorrelated cash flows, risk profiles, and return streams, and are poised to continue playing a more prominent role in retirement planning as we enter the new decade. As such, they have emerged as at least a partial solution to a very significant problem, i.e. ensuring the financial well-being of future generations of workers.

At the same time, the growing capital commitment to alternative investments comes with its own concerns. Issues of transparency, reporting, education, and the alignment of stakeholder interests need serious reconsideration to incentivize appropriate behavior and to protect investors. Further, plan sponsors and individuals cannot count on alternatives alone to address the funding gap.

As an industry, we are obligated to help find a solution to these challenges. Recognizing the seriousness of the circumstances in which we find ourselves, the CAIA Association is taking the lead with a call to action to address these challenges through dialogue and prudent reform.

We therefore commit to leading the charge for change based on the following four-point agenda.

1

Commit to Education

Try as you might, you won't find anyone in our space who is against education; in fact, the word we hear used most often to describe it is "key." But as the world becomes more complex and as digitization and emerging technologies reshape the ways in which capital is invested, industry leaders, regulators, and associations must unite around increasing the sophistication and acumen of the practitioners who are advising clients and allocating capital.

Education can no longer just be key; it must be required. We believe both industry (GP and LP) and regulatory regimes should require higher levels of training on the entire investable universe. CAIA Association will continue to offer its world class CAIA credential with a fresh pledge to ensure the designation remains on the leading edge of alternative investment practice. The CAIA educational experience is uniquely designed to place you into the cockpit of the allocator, investing across the full spectrum of asset classes, and to provide a deep understanding of their interaction and long-term outcomes.

This renewed pledge will require constant dialogue and calibration among our global membership base, deep relationships and constructive discussion with prominent investment managers in alternative asset classes, and regular roundtables with the largest and most influential asset owners around the world. Further, we are marshalling and realigning resources around our post-CAIA education to include strategic thought leadership initiatives like this report in addition to a more structured and focused delivery of our existing journal, blog, multimedia, and curated content.

We are marshalling and realigning resources around our post-CAIA education.

2

Embrace Transparency

Professions begin and end with ethics and standards and what we do in our work must stand up to scrutiny under the brightest of lights. We must shed what remains of the "wild west" mentality and reputation and engender a fair, transparent, and virtuous fiduciary culture that allows investors and beneficiaries to meet their long-term outcomes.

CAIA Association is committed to creating the dialogue and building the teams that will contribute to:

- Improved alignment of interests between GPs and LPs to mitigate "agency" cost; better disclosure on costs, standard of care, risks, and ownership structure
- Proportionately appropriate protection of all stakeholders, including employees, to avoid irresponsible or self-serving financing schemes
- More reasonable, consistent, and defensible management and performance fee levels
- Uniform performance presentation standards that address the inherent flaws in existing yardsticks such as IRR
- Development of ESG standards in private capital
- Robust financial literacy

3

Advocate for Diversification

Up until their peak in mid February 2020, public equities had outperformed nearly every asset class since the global financial crisis of 2008, and a precipitous, steady decline of interest rates has led to strong fixed income performance as well. Along with unprecedented global central bank support, these phenomena had rendered anything other than a traditional 60/40 portfolio unnecessary. Professionals who have entered the industry in the last ten years are experiencing their first significant correction and may undervalue the importance of a diversified portfolio amongst weak public markets and stagnant growth. In fact, this past decade was the first since 1850 without a recession, only one of two in recorded history without a bear market, and included only one down year in the US public equity markets (2018). A careful study of financial history and investment performance, not to mention the swiftest bear market in history, will showcase that the last decade is far from representative; the "easy money" is behind us and allocators will need to work harder to meet investor expectations going forward.

We believe the merits of diversification are roaring back to life in this new environment.

The careful addition and use of alternative investments can mitigate downside risk and enhance upside return potential over the long term. But alternatives should not be viewed as a panacea or desperation move to improve alpha or close unfunded pension gaps. Too often, the narrative around alternative investments over the course of the past decade has been one focused on the "shooting stars" who may burn brightly for a year or two before coming back to earth, or on the "disappointment" many investors may feel as various categories trailed traditional equities. This reductionist view typically includes performance comparisons to public indices and endless debates about the extinction of the illiquidity premium versus publicly traded securities.

> We believe the merits of diversification will roar back to life in this new environment.

While we believe that investors can produce superior returns in private capital, it is far from universal given the wide dispersion of manager performance and the flood of money into the strategies, as outlined in this report. In fact, many of these strategies and funds, particularly private equity and hedge funds, should not be considered asset classes at all given the wide spectrum of goals and approaches.

Going forward, CAIA Association will take a bolder stand in preaching the necessity of diversification as a fiduciary and the benefits of alternative assets in any long-term portfolio. But this debate will need to be framed more holistically than who might be winning some alpha "beauty contest" and always tempered by identifying the associated risks and uncertainties.

4

Democratize but Protect

Changes in capital formation have resulted in large portions of the economy, particularly growth industries, utilizing private markets for longer periods of time. Further, the ability to avoid onerous and costly regulation as well as disruptive activist behavior, and to align themselves more with long-term value creation vs. short-term valuation pops, is causing many companies to consider remaining private indefinitely.

Regulatory regimes around the world are beginning to revisit their very dated definitions of eligible or "accredited" investors that determine whether an individual can access private capital investments. The conditions often utilize income or net assets as a proxy for "sophistication," which excludes many from participating, particularly with the widespread shift from defined benefit to defined contribution retirement plans since these rules originated. This global debate has begun in earnest in the United States with the SEC, at the time of this writing, submitting a draft revised rule for public comment.

CAIA Association sees a number of benefits to expanded investor access to the private markets but only with appropriate conditions and protections. While higher levels of wealth are likely correlated with more disposable income, it certainly doesn't approximate to investment sophistication. We support a mosaic of eligibility conditions that could include the use of a fiduciary professional who is properly trained (e.g. CAIA, CFA, CFP) and is bound by an ethical code of conduct, successful completion of a financial literacy test focused on alternative investments, and simply packaged, easy to understand, retail "liquid alternative" vehicles with standard disclosures. CAIA Association will be publicly vocal in advocating for the right balance of democratization and protection.

About the Survey

To inform this report, CAIA Association recently conducted a survey of our global membership, receiving responses from over 1,000 CAIA Members. The survey aimed to gain Member insights on the key trends and themes that are shaping, and in some cases reshaping, the alternative investment industry. These include ESG investing, the emergence of new sub-asset classes such as private debt, the growing role of disruptive technologies such as artificial intelligence, the fundamental reshaping of the utilization of private vs. public markets, and the continued democratization of access to alternative investment strategies and approaches.

Survey respondents came from 45 countries and included senior professionals from asset managers, asset owners, bankers, consultants, and intermediaries. 57% of respondents were located in the Americas, 34% in the EMEA region, and 9% in Asia Pacific. Asset owners participating in the survey included pensions, endowments, foundations, sovereign wealth funds, superannuation funds, insurance companies, and family offices. These were among the 1,000+ respondents who answered dozens of questions, providing valuable perspective from across the industry to inform the scope of this paper and the CAIA Association's views as we enter a new decade.

About the Contributors

PRIMARY AUTHORS

Keith Black, PhD, CAIA, CFA, FDP
Managing Director, Content Strategy

Aaron Filbeck, CAIA, CFA, CIPM
Associate Director, Content Development

EDITORIAL TEAM

William Kelly
Chief Executive Officer

John Bowman, CFA
Senior Managing Director

Deborah McLean
Managing Director, External Relations

Jeanne Barron
Director, Marketing

Chris Sullivan
MacMillan Communications

Mike MacMillan
MacMillan Communications

DESIGN
Zoe Pappenheimer
ZoeDesignWorks

Endnotes

1. While Preqin estimates total alternative assets of $9 trillion, our estimate of Hedge Funds and Liquid Alternatives and Real Estate Equity differ. Hedge Funds and Liquid Alternatives assets under management estimates come from HFR and Morningstar Direct, respectively. Real Estate Equity estimates come from MSCI Real Estate, who estimate the current total real estate market assets reached $8.9 trillion in 2018. To estimate the Real Estate Equity, we subtracted the market capitalization of the Bloomberg Barclays MBS Index from the total real estate market value.
2. Money Management Institute, "Retail Distribution of Alternative Investments," 2017.
3. www.willistowerswatson.com/en-US/Insights/2019/09/2019-global-survey-of-accounting-assumptions-for-defined-benefit-plans-executive-summary
4. www.cnbc.com/2019/09/18/this-years-ipo-class-is-the-least-profitable-of-any-year-since-the-tech-bubble.html
5. Kaplan and Schoar, "Private Equity Performance: Returns, Persistence, and Capital Flows," *Journal of Finance*, 2005.
6. www.valuewalk.com/2018/05/venture-capital-in-emerging-markets/
7. www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/leveraged-loan-news/leveraged-loans-another-new-record-for-covenant-lite
8. Source: Preqin. Represents fund manager data and does not reflect the size of the total investible market.
9. www.eesi.org/papers/view/the-value-and-impact-of-building-codes
10. www.worldgbc.org/news-media/every-building-planet-must-be-'net-zero-carbon'-2050-keep-global-warming-below-2°c-new
11. www.carbontracker.org/reports/stranded-assets-danger-zone/

The CAIA Association is a global professional body dedicated to creating greater alignment, transparency, and education for all investors, with a specific emphasis on alternative investments. A Member-driven organization representing professionals in more than 95 countries, CAIA Association advocates for the highest ethical standards and provides authoritative, unbiased insight on a broad range of investment strategies and industry issues, key among them being efforts to bring greater diversification to portfolio construction decisions to achieve better long-term investor outcomes. Our Members represent senior leadership in the allocator, manager, regulator, and academic verticals.

CAIA ASSOCIATION®

To learn more about CAIA's Members, mission, programs, and the various issues reshaping the investment landscape, please visit caia.org.