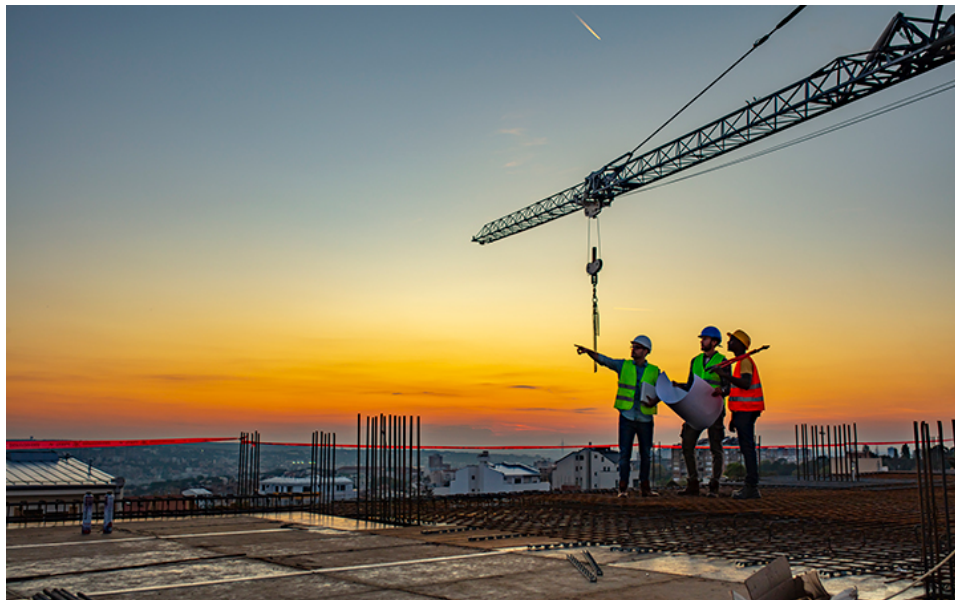


Global Investment Committee | January 22, 2025

Portfolio Implementation Guide for Private Investments



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Investors have become more open to allocations to private investments in recent years as they seek improved risk-adjusted returns and diversification benefits. Historically, based on Cambridge Associates data, private equity, private credit and private real asset strategies have offered return premiums to investors willing to accept their greater illiquidity.¹ Today, given the growing availability of lower-minimum investment options, more investors have access to these strategies, once reserved for only the largest institutional investors.

Despite greater access, however, allocations to private investments present implementation challenges for investors, given their limited liquidity, long investment and distribution periods, and irregular cash flows. In these pages, we seek to provide applied wisdom for effective implementation, with an eye towards practicality and achievability. We introduce the major subcategories under each asset class and the typical means of allocating to private investments, touching on how investors can pursue their social and environmental goals in the process.

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We conclude with implementation paths for three levels of total investment, designed to achieve the asset class-level allocation targets in line with the Global Investment Committee’s allocation guidance. We also introduce the Global Investment Manager Analysis (GIMA) Alternatives team’s 2025 investment themes, which may guide investors’ new allocation decisions in the coming year.

Implementation Challenges with Private Investments

Allocating to private investments presents several initial hurdles for investors. In addition to lesser transparency, liquidity and accessibility than traditional asset classes, private investments show much greater dispersion in their returns and risk profiles, at both a strategy and manager level. Moreover, given their unique investment terms, each private investment strategy may have differing eligibility requirements, investment periods, expected lives and manager compensation terms.

Even after navigating this complexity, investors face the task of maintaining allocations at or near their intended target weights. Unlike with traditional asset classes, where investors may rebalance routinely, within any given trading day, private investments require long-term capital commitments, whether to drawdown or evergreen structures. Drawdown structures act as closed-end funds, with capital returns coming from a combination of portfolio yield and appreciation from realizing underlying investments at an undetermined point in the future—often after several years. Meanwhile, evergreen structures resemble open-end funds, but with fewer subscription and redemption options. After making capital

commitments, investors typically have limited knowledge of the anticipated holding periods or prospects of the underlying investments, given the many idiosyncratic forces that may influence both short- and long-term returns.

As such, investors must approach their capital allocation decisions thoughtfully, including sketching out multi-year allocation blueprints, to maximize faithfulness to long-term targets and to achieve appropriate diversification. We discuss practical applications in the "Implementing Private Investments in Client Portfolios: Guidance on Weights and Timing" section below.

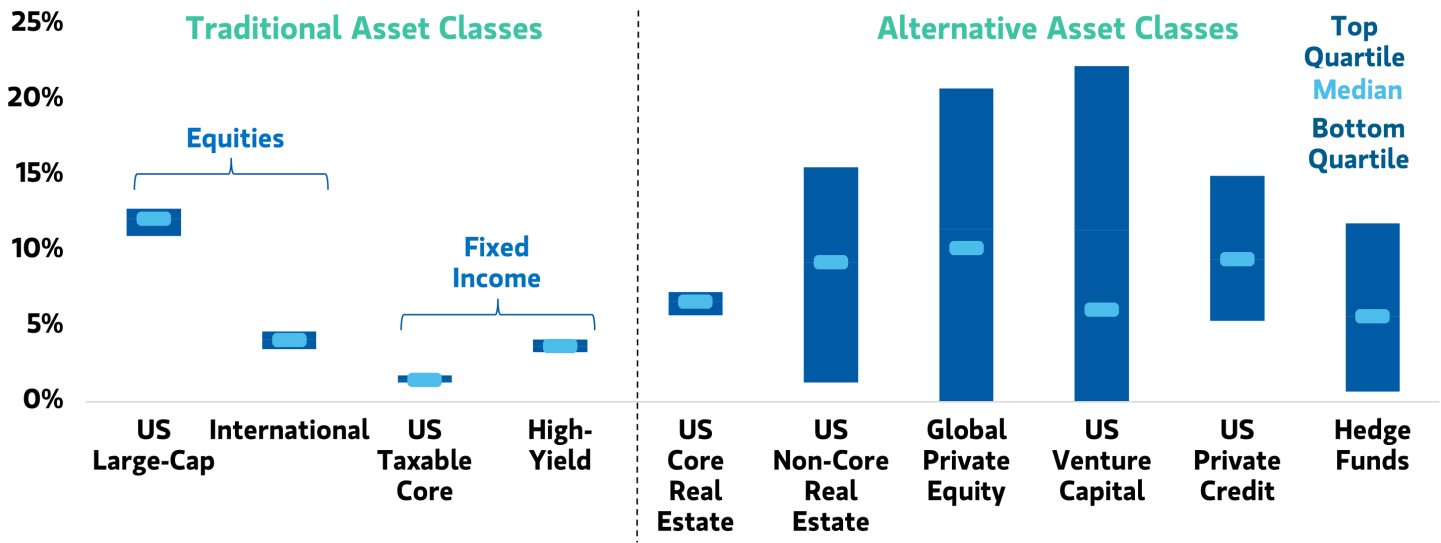
Achieving Diversification in Private Investments Portfolios

As with traditional asset classes, allocating broadly to high-quality underlying strategies helps to improve portfolio-level risk-adjusted returns. For private investments, effective diversification extends across four major dimensions: manager selection, strategy, vintage year and geography.

Manager Selection

Compared to traditional asset classes, private investment strategies typically experience much greater dispersion on a manager-by-manager basis, even within the same asset class or sub-asset class. Based on historical data, presented in Exhibit 1, the differential in top- vs. bottom-quartile managers has often exceeded 10% within a given vintage year, sometimes reaching 30%, while spreads for traditional asset classes typically do not exceed 2%. Among other variables, the wide dispersion in private investments managers emerge from deal selection, leverage, strategy nuances and timing.

Exhibit 1: Private Investments Have Historically Demonstrated Great Differentials in Top- vs. Bottom-Quartile Managers, Even Within a Specific Asset Class or Sub-Asset Class



We base manager dispersion on 10-year annualized returns for the manager peer groups for each asset class presented in the chart. Source: Cambridge Associates, Thomson Eikon, HFR Research, Morningstar, NCREIF, Morgan Stanley Global Investment Office as of June 30, 2024

PORTFOLIO IMPLEMENTATION GUIDE FOR PRIVATE INVESTMENTS

These observations underscore the critical value of investment due diligence and access to top investing talent, with the goal of improving the probability of allocating to top- vs. bottom-quartile managers. The GIMA Alternatives team evaluates private investment managers along several key dimensions: their likelihood of repeating historical absolute and relative performance; the investment team's depth, experience and stability; the credibility of the proposed investment strategy; and demonstrated success in creating value across multiple market environments. For private equity and private real assets, GIMA looks for managers with ability to deliver operational improvements—plus deep industry-level expertise. Meanwhile, in private credit, GIMA prefers managers that have opportunistically taken advantage of market dislocations, in addition to prudently deploying capital in periods of stable-to-rising credit spreads.

Allocating to multiple managers, even within the same strategy or vintage year, can limit the potentially deleterious effects from the departure of key investment professionals or less favorable underlying investments.

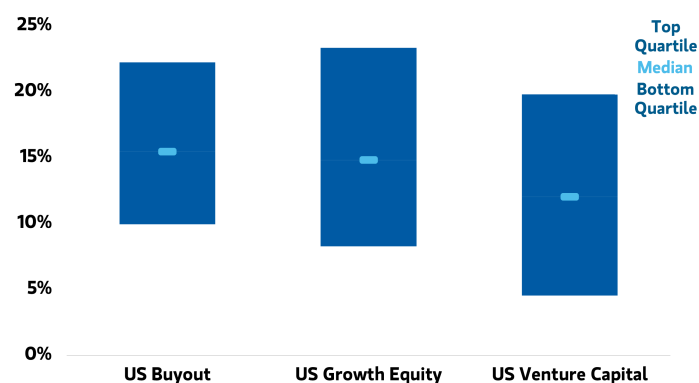
Strategies

Within each asset class—private equity, private credit and private real assets—investors may allocate to several sub-asset classes, which provide differing risk-return profiles based on their underlying assets and their place within the economic lifecycle. We recommend that investors pursue long-term diversification across these sub-asset classes, while maintaining some flexibility to make tactical shifts, based on evolving investment opportunities.

Private equity sub-asset classes provide access to multiple stages in companies' maturation and development. Buyout strategies primarily involve allocations to well-established, cash flow-positive businesses, where leverage and operational improvements can unlock even greater value. With growth equity, investors look to profit from existing businesses with greater growth potential than buyout candidates, which may have positive or nearly positive EBITDA. On the other hand, venture capital strategies involve stakes in less developed and primarily unprofitable businesses, leading to high potential returns with high attendant risks. As a means of diversifying away venture capital's elevated risks, investors may consider fund-of-funds vehicles, which can access top-tier managers while limiting exposure to any specific deal or theme. Fund-of-funds vehicles generally require investors to

incur a second layer of management fees, however. Alternatively, investors could allocate to multiple venture capital strategies, effectively constructing a diversified portfolio that approximates a fund-of-funds vehicle. Exhibit 2 below summarizes the historically increasing dispersion in these sub-strategy cohorts across buyout, growth equity and venture capital.

Exhibit 2: Buyout, Growth Equity and Venture Capital Have Historically Shown Increasing Returns Dispersion, Reflecting Incrementally Higher Associated Risks



Source: Cambridge Associates, Thomson Eikon, Morgan Stanley Global Investment Office as of June 30, 2024, covering the 2005 to 2020 vintage years

Among private credit strategies, investment strategies have distinct risk-return, yield and liquidity profiles. Broadly speaking, these strategies fall into three major categories: direct lending, asset-based finance and opportunistic investing. As indicated in Exhibit 3, these categories include multiple substrategies. Among them, lending strategies are senior in the capital structure and often provide capital to more well-established companies that tend to exhibit lower potential returns and potentials risks. On the other hand, opportunistic strategies may include speculative positions in troubled companies, where managers have determined to pursue potential capital appreciation opportunities unlocked through corporate bankruptcy or restructuring. In some cases, these opportunistic investments can take on hybrid qualities of both debt and equity.

Exhibit 3: Private Credit Strategies Offer Differing Exposures, From Well-Established to Opportunistic Lenders and at Multiple Levels of the Capital Structure

Strategy	Substrategy	Details
Direct Lending	Senior Secured	Privately negotiated loans, with seniority in the capital structure
	Unitranche	Combination of senior and junior debt, typically unique in the capital structure
	Junior or Mezzanine	Junior debt in the capital structure, typically combined with equity warrants
Asset-Based	Collateralized Lending	Securities backed by financial and hard assets, structured to capture and deliver stable cash flows from self-liquidating assets
	Specialty Lending and Financing	Cash flow-producing assets from a broad, non-traditional investable universe, including sectors like aviation, music and entertainment royalties, infrastructure and renewables
Opportunistic	Special Situations	Bespoke capital solutions for companies that exhibit an element of distress, are in transition or fall outside of the scope of traditional direct lending due to inherent complexity
	Distressed	Control or non-control investments in stressed or distressed companies at a significant discount, with the intention to recognize a profit following a corporate turnaround

Source: Morgan Stanley Global Investment Manager Analysis as of Dec. 31, 2024

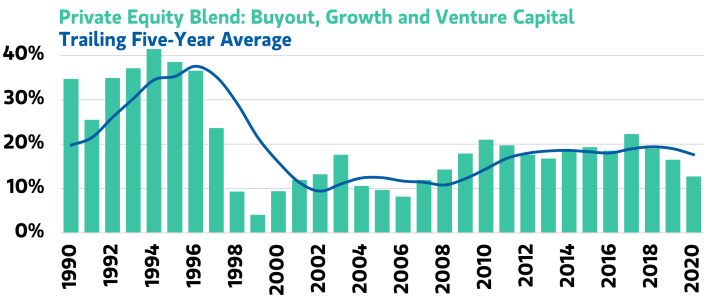
Private real asset strategies can be categorized into two distinct asset classes: real estate and infrastructure. While both real estate and infrastructure are tangible assets, they differ in function. Real estate provides space for living or conducting business, whereas infrastructure delivers essential services to society. Both asset classes can provide lower correlation to traditional asset classes and function as hedges against unexpected bouts of inflation.

Real estate and infrastructure have the potential to generate income and long-term capital appreciation, with an emphasis on one or the other depending on the risk profile of the strategy. A lower-risk real estate or infrastructure strategy will typically focus on steady income generation through well-maintained, developed, and cash flow-positive assets. In contrast, opportunistic strategies seek to profit from capital appreciation, often unlocked through turnarounds, which may include development or major renovations. Managers employ varying levels of leverage to enhance returns on specific projects, with higher leverage equating to higher risk.

Vintage Year

As we review below, allocations to private investments require patience, consistency and discipline. As with traditional asset classes, private investment vehicles experience more and less favorable opportunity sets over time.

Exhibit 4: Within Private Equity, Vintage-Year Returns Have Varied Widely, Reflecting Fluctuating Returns for Public Equity Markets and Changing Levels for Illiquidity Premiums



Note: Represents pooled IRR based on historical performance across private equity fund strategies (venture capital, growth equity, and buyout), net of manager fees, collected and aggregated by Cambridge Associates and Thomson Eikon. We have not shown returns for vintage years after 2020, as insufficient time has passed to enable an accurate determination of fund-level IRR values. Please refer to Endnote No. 3 for further details.
 Source: Cambridge Associates, Morgan Stanley Wealth Management Global Investment Office as of June 30, 2024

In an economic boom, private equity investments can appreciate materially, while economic softness can bring about corporate distress, even for more established companies. As indicated in Exhibit 4, private equity returns for different vintage years can vary by 10% or more, influenced by interest rates and asset valuations, along with the business cycle. Similar to dollar-cost averaging with traditional asset classes, allocating to private investments across multiple vintage years can moderate this source of returns variability, thereby mitigating concentration to potential weakness in any given vintage year and ultimately seeking to reduce portfolio-level volatility. The line in Exhibit 4 shows the hypothetical five-year average returns to private equity, representing the compounded effect of vintage-year diversification.

Geography

As a further source of diversification, we encourage investors to limit overdependence on any single geography, given the potential for economic slowdowns or market weakness. Investors generally have a broad-brush understanding of a strategy’s likely geographic focus, even if specific underlying investments remain non-transparent. Historically, private investment strategies have concentrated on developed markets—and particularly on the US. As the industry has matured, sponsors have developed institutional-quality strategies across multiple geographies, typically identifying a probable focus, such as Global, US, Europe or Asia.

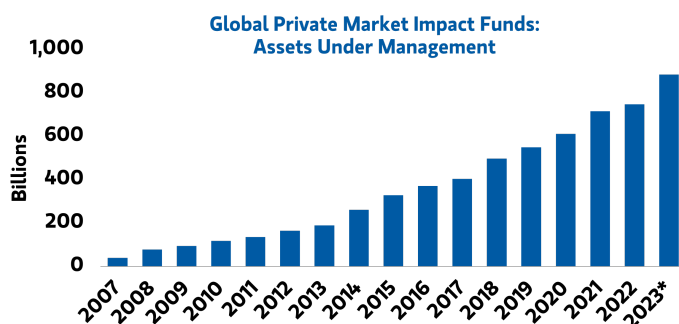
Investing with Impact through Private Investments

Investing with Impact is an approach that aims to identify investments offering compelling risk-adjusted returns, while

also seeking to advance an investor's unique values. Applying this to private markets, investors can pursue an impact strategy across asset classes by identifying attractive opportunities that are thematically aligned with their unique values. These values-aligned investment opportunities are growing rapidly within private markets. According to Pitchbook, in 2023 there was \$885.1 billion in AUM controlled by private market impact fund structures. Exhibit 5 shows the growth of global impact AUM since 2007.

Exhibit 6 introduces three examples of impact themes that investors could pursue through private investments: climate action; diversity, equity and inclusion; and improving lives.

Exhibit 5: Private Market Impact Funds' AUM Has Trended Upwards, Reaching \$885.1 Billion as of June 2023



Note: 2023 data is as of June 30, 2023.

Source: Pitchbook, Morgan Stanley Global Investment Office, Morgan Stanley Wealth Management Investing with Impact as of June 30, 2023

Exhibit 6: Investors Can Pursue Several Goals with Investing with Impact in Private Investments



**Climate
Action**



**Diversity, Equity
and Inclusion**



**Improving
Lives**

Source: Morgan Stanley Global Investment Office as of Dec. 31, 2024

Climate Action

Both governments, through international treaties and supportive legislation, and the private sector have become increasingly committed to ambitious climate-related goals. This backdrop has created significant tailwinds for investment in several sectors globally and opportunities for investors looking to support the transition to a less carbon-intensive economy.

Climate-focused venture capital investments have targeted emerging climate technologies, such as green hydrogen and

carbon capture and storage—plus the growth in alternative sources of protein, which, if scaled, could meaningfully reduce CO₂-equivalent emissions. Meanwhile, renewable energy sources, such as wind and solar power, have become increasingly cost-competitive with traditional energy sources, at appropriate scale. Private credit and real assets strategies have served as the primary means of capitalizing on the expansion and commercialization of renewable energy.

The Morgan Stanley Wealth Management Global Investment Office has written a guide to address the risks and opportunities of climate action investing in private markets (see "[Climate Action Implementation Guide: A Road Map for Private Markets](#)").

Diversity, Equity and Inclusion (DEI)

Investors may prioritize their DEI commitments by investing in two ways: 1) in companies producing goods and services that benefit diverse populations, such as affordable housing or maternal health care, or 2) with diverse-owned asset management firms. According to a 2021 report, the Knight Foundation calculated that diverse-owned asset management firms oversaw just 14% of US-based investable assets,⁴ presenting potential opportunity to discover emerging investment talent.

Diverse teams have the potential for more effective decision-making. In a *Harvard Business Review* article, David Rock and Heidi Grant pointed out that diverse teams tend to process information more logically and carefully—plus deliver greater degrees of innovation.⁵ According to a 2023 McKinsey study, companies with the most diverse teams were 39% more likely to have above-average profitability, as measured by earnings before interest and taxes.⁶

Improving Lives

For investors focused on addressing broader global societal challenges such as inclusive access to health care, affordable housing, education and financial services, private investments support advancements, often through technology, across these themes. Investing with Impact funds have included investments in companies supporting individuals' pursuit of their high school diplomas, bringing mobile health services to rural areas and scaling microfinance programs in emerging markets. These are often overlooked segments with high demand and potential to add diversification to investor portfolios.

In addition to financial metrics, Investing with Impact evaluates holistic success by seeking to measure outcomes. While each strategy will have specific metrics, Morgan Stanley's Impact due diligence process concentrates on those strategies with intentional and systematic approaches to 1) integrating impact goals into the investment process and 2) accountability to investors through impact reporting.

Vehicles for Implementing Private Investments: Increasing Flexibility and Lower Minimums

Traditionally, investors have allocated to private investments through limited partnership vehicles with a drawdown structure. These vehicles allow their sponsors, called general partners, to call investors' committed capital over multiple years, responding to those investment opportunities identified over the investment period. Upon realizing the value of these underlying investments, private investment sponsors seek exits that maximize value for investors. The total length of drawdown structures can stretch to 12 years for private equity and private real asset strategies, while private credit strategies tend to feature shorter total lengths, of five to eight years.

In addition to limited partnerships, investors may allocate directly to private companies, either in a syndicated fashion or as a co-investment with one or more private investment sponsors. From a liquidity perspective, we recommend that investors consider direct investments to have similar characteristics to drawdown structure vehicles, potentially with lower fees. Notably, direct investments can have materially higher risk than for well-diversified drawdown structure vehicles. Given these factors, we encourage caution in considering direct investments, particularly for those investors with lower total investment levels.

Drawdown structures allow sponsors to invest patiently, according to their specific mandate, which allows for prudence in times of elevated valuations or unfavorable opportunities. On the other hand, drawdown structures introduce several challenges for portfolio construction, represented by these variables:

- *Limited visibility into prospective investments.* Other than secondary strategies, discussed further below, investors lack details on sponsors' actual underlying investments. This challenge raises the importance of effective due diligence and familiarity with quality investment teams.
- *Actual investment levels.* Drawdown structures require a written commitment level from investors. In the case of oversubscribed offerings, investors may only receive a portion of that commitment level. Moreover, sponsors may only call a portion of committed capital, depending on the perceived opportunity set.
- *Investment period.* The investment period can proceed over multiple years, with variations in the timing and size of capital calls.
- *Liquidation period.* As with the investment period, sponsors have limited control over timing and size for value realization.

These variables determine a drawdown structure's investment effectiveness, summarized in performance statistics, such as internal rate of return (IRR) or total value to paid-in capital (TVPI) multiple. For traditional investments, time-weighted returns provide for straightforward comparisons between peer strategies. For private investments, variability in cash flows' timing and size limits the ability to make such comparisons. While IRR does capture a measure of time-weighted returns, these values can swing widely based on small changes in the inputs. TVPI multiples do capture value creation quite clearly, but they yield minimal insights on the timeliness of that success.

We recommend reviewing "[Private Investment Pacing: Developing a Commitment Strategy](#)" for details on these variables. Moreover, the Global Investment Office has developed a pacing tool to guide Financial Advisors and their clients. We developed the insights shared in the "Implementing Private Investments in Client Portfolios: Guidance on Weights and Timing" section below.

In addition to single-strategy drawdown structures, investors may also allocate to fund-of-funds or secondary vehicles. Both types of strategies enable greater diversification but involve a second layer of manager fees. Secondary vehicles typically obtain exposures to existing drawdown structures through secondary-market acquisitions. Their sponsors purchase interests from redeeming investors, potentially due to those investors' liquidity needs or rebalancing decisions. As such, sponsors can often receive a discount for these secondary interests, potentially benefiting the end investors in the secondary vehicles. Because of these mechanics, secondary vehicles generally have shorter lives than single-strategy drawdown vehicles. Secondary investments can benefit investors through their inherent diversification and attractive cash flow profiles, given a typically truncated investment period and more immediate capital returns than with primary strategies.

Meanwhile, co-investment strategies blend characteristics of single-strategy drawdown structures and secondary vehicles. They typically feature drawdowns more akin to single-strategy drawdown structures, but their underlying investments involve co-investments alongside multiple sponsors, like secondary vehicles. To investors' benefit, these vehicles may offer more favorable fee terms, greater transparency into underlying investments and multiple layers of due diligence.

In recent years, private investment sponsors have increasingly launched open-end, evergreen private investment vehicles, often in registered format and with lower investment minimums. Instead of the multiyear investment cycle of drawdown structure vehicles, these options feature open

subscriptions with a regular frequency, allowing investors to gain exposure to the underlying investments more expeditiously. Fitting with the illiquidity of the underlying investments, investors do face material restrictions on redemptions from evergreen vehicles, much like drawdown structure vehicles. For this reason, investors should consider these structures as illiquid, similar to drawdown structure vehicles.

Evergreen vehicles’ open subscriptions have supported a democratization of private investments for both individual and smaller institutional investors. Meanwhile, alternative investment managers have benefited from the attendant expansion in their client base. These strategies have tended to fall into the following categories:

1. In private equity, registered vehicles invest in diversified portfolios of companies or private equity funds, which may include direct, co-investments, primaries and secondaries.
2. Private credit
 - *Interval funds* generally focus on seeking enhanced returns and yields through investments in diversified credit.
 - *Perpetual business development companies* aim to generate high current income through privately originated senior secured loans.
3. Within private real assets, *nontraded real estate (REIT)* strategies can generate income through investments in direct core real estate. Moreover, investors may access evergreen structures that invest in infrastructure assets.

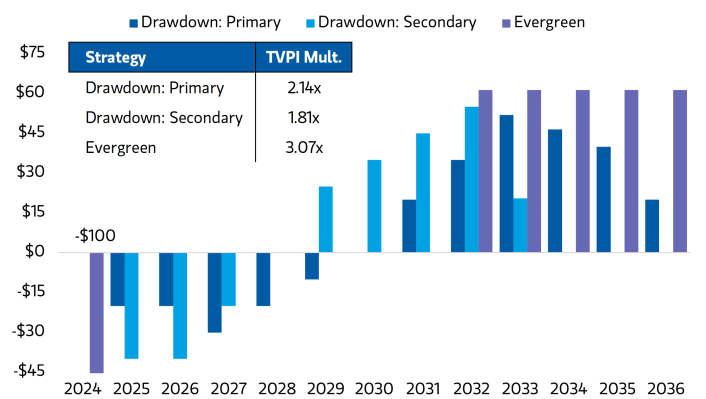
Evergreen vehicles’ widespread asset growth has prompted natural comparisons with their publicly traded counterparts, particularly for nontraded REITs. Amid 2022’s volatility and weakness in public REITs, nontraded REITs’ more attractive returns drew some skepticism on valuation practices. Finally, that significant asset growth has led to some healthy caution on these strategies’ liquidity for individual investors and collectively, should large, simultaneous redemption requests come to fund sponsors. In times of market stress, investors often place high value on liquidity, leading to potentially disconnected valuations for public and private investments. As a result, private investment managers could face pressure with elevated levels of client redemption requests, potentially 1) imposing gates or 2) selling assets at depressed valuations.

For both drawdown and evergreen structures, sponsors typically receive 1) asset-based fees, potentially with a differentiation between committed and invested capital, and 2) incentive fees, normally above a stated hurdle rate. The incentive fee helps align economic interests between sponsors and their investors.

Comparing Cash Flow Profiles for Private Investment Vehicles

In Exhibit 7 below, we review hypothetical investment patterns for primary drawdown structures, secondary vehicles and evergreen vehicles, which we introduce in greater detail below. In this illustrative example, the investor has committed \$100, which the respective sponsors fully call. Each strategy realizes a hypothetical IRR of 12%, but the outcomes vary widely in terms of TVPI multiples, as indicated in the chart. For simplicity, we estimated the evergreen vehicle to deliver equal, annual distributions after an eight-year investment life. Please note that we have not specified the asset class, but rather concentrated on the cash flow properties typical for these structures.

Exhibit 7: Private Investment Vehicles Follow Different Timelines, Impacting Investor Returns



Note: This hypothetical analysis makes assumptions about cash flows to achieve the same 12% IRR values. It does not reflect any specific investment opportunity or give appropriate context to the risks associated with these strategies, including illiquidity, and any strategy-specific factors. We have included this analysis for illustrative purposes only, and it should not be relied upon as investment advice or a recommendation. We depicted the rates of return solely for purposes of the illustration, which are not indicative of any specific investment. Actual results will differ depending upon specific investment vehicles.
 Source: Morgan Stanley Global Investment Office as of Dec. 31, 2024

Implementing Private Investments in Client Portfolios: Guidance on Weights and Timing

Owing to private investment vehicles’ illiquidity and relatively high minimums, clients must wrestle with the most effective implementation path. We begin this section with high-level targets and then delve into specifics, based on investors’ total capital allocation to private investments.

PORTFOLIO IMPLEMENTATION GUIDE FOR PRIVATE INVESTMENTS

In Exhibit 8, we introduce strategic allocation weights for private equity, private credit and private real assets by interpreting the Global Investment Committee's guidance. Certain clients may wish to modify these targets, owing to pre-existing exposures, such as commercial real estate.

Below the asset class level, we provide recommended weightings for the three underlying subcategories, which typically have increasing potential returns, volatility and dispersion in outcomes from the first to the third. We believe that these weights can support investors' risk-adjusted returns, based on investment patterns from leading institutional investors. Moreover, these weights roughly match the availability of constituent strategies on Morgan Stanley's investment platform.

Beyond these targets, however, investors still face the challenge of how to achieve them, including questions of granularity and structure.

Exhibit 8: We Provide Recommendation Allocations to Private Investments, Based on the GIC's Strategic Allocations and Consideration of Available Options

Asset Class	Recommended Strategic Allocations	
	Within Private Investments	Within Its Subcategory
Private Equity (Level 3)	50%	100%
Buyout	30–45%	60–90%
Growth Equity	5–15%	10–30%
Venture Capital	0–5%	0–10%
Private Credit (Level 3)	25%	100%
Direct Lending	10–18%	40–70%
Asset-Based	5–10%	20–40%
Opportunistic	2–8%	10–30%
Private Real Assets (Level 3)	25%	100%
Real Estate	7–18%	30–70%
Infrastructure	7–18%	30–70%

Source: Morgan Stanley Global Investment Office and Global Investment Manager Analysis as of Dec 31, 2024

Based on guidance from our Private Equity Pacing Tool, we determined that clients' total investment amount will likely drive their implementation path, with three major breakpoints: \$500,000; \$2 million; and \$5 million. We selected these levels as representative and for their ability to support full implementation of these recommendations.

We define a portfolio's total investment amount as the dollar level if the target weight was achieved immediately. For a \$20 million portfolio, a 10% target leads to a \$2 million total investment amount—the same level as a \$5 million portfolio with a 40% target.

The total investment amount therefore summarizes a portfolio's total opportunity in private investments. Based on

our analysis, the total investment amount helps to determine the pacing of dollars invested, which, in turn, affects the available opportunity set. Given a total investment amount of \$2 million, our Private Equity Pacing Tool generically recommends consistent annual commitments of \$650,000 to \$850,000. The tool can offer more specific guidance in cases of 1) differentiated existing investments, 2) faster or slower achievement for the target allocation or 3) changes to the total investment level.

Exhibit 9 below summarizes the implementation guidance at these differing total investment levels.

Many private investment vehicles have minimum allocations of \$50,000 to \$250,000. With an annual commitment of \$650,000 to \$850,000, a client could invest in two to more funds for the hypothetical total investment amount of \$2 million. As a result, we surmised that the client could likely commit to at least one vehicle within each of the Level 3 asset classes (private equity, private credit and private real assets), but it would be challenging to achieve effective diversification by manager and vintage year at the subcategory level (e.g., buyout, growth equity and venture capital within private equity).

At a total investment amount of \$500,000, investors will likely need to leverage evergreen vehicles in private credit and private real assets, while making a single annual commitment in a registered fund-of-funds or secondary strategy in private equity. Meanwhile, with a total investment amount of \$5 million, the investor could likely allocate annually to multiple strategies within each Level 3 asset class, affording the ability to achieve subcategory diversification.

These recommendations do not preclude investors with total investment amounts below \$500,000 from allocating to private investments. Rather, we believe that lower total investment amounts would require deviations from the playbook above, making it challenging to achieve a strategic allocation target. On the other hand, clients with larger total investment amounts may not wish to pursue granular diversification—and instead allocate chiefly according to the Level 3 asset class targets.

This guidance reflects a longer-term, strategic approach. Investors can benefit from more tactical recommendations when considering specific investments within any given year. For example, following a recession, the opportunistic subcategory in private credit could offer more attractive forward-looking risk-adjusted returns. In a period of greater volatility, investors could seek to mitigate risk by limiting allocations to that subcategory. In the next section, the GIMA Alternatives team shares its 2025 themes, in support of investors' tactical decisions.

PORTFOLIO IMPLEMENTATION GUIDE FOR PRIVATE INVESTMENTS

Exhibit 9: We Have Identified Three Major Breakpoints in Total Investment Amount, Leading to Differentiated Implementation Paths, Including Pacing and Granularity

Total Investment Level	Achieve Targets?		Allocation Path by Asset Class		
	Level 3 Asset Classes	Subcategory Diversification	Private Equity	Private Credit	Private Real Assets
\$500K to \$2 MM	✓ (With Restrictions)	✗	1) Annually via registered single-manager, fund-of-funds or secondary vehicles or 2) one-time via evergreen structure	One-time via evergreen structure	One-time via evergreen structure
\$2 MM to \$5 MM	✓	✗	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures
\$5 MM and Above	✓	✓	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures	Annually via single-strategy, fund-of-funds or secondary vehicles; optionally, evergreen structures

Source: Morgan Stanley Global Investment Office as of Dec. 31, 2024

Themes for 2025. Please review Exhibit 10 for details on GIMA's recommended themes for 2025, which may guide investors' capital allocation decisions in the coming year:

Exhibit 10: GIMA's Alternatives Team Has Identified the Following Themes for 2025

Theme	Implementation	Key Rationale
Powering the Future: The Intersection of Digitization, Deglobalization and Power Generation	- Private Infrastructure - Industrial Real Estate	Private infrastructure appears positioned to benefit from transformational investment opportunities, including data proliferation and artificial intelligence, which are amplifying demand for data centers as well as growing power generation needs. Alongside this, infrastructure can act as both a diversifier with stable cash flows and an inflation hedge. Industrial real estate has benefitted from strong long-term fundamentals, underpinned by demand fueled by onshoring/nearshoring of manufacturing and e-commerce growth.
Made to Measure: Tailored Solutions for an Evolving Market	- Capital Solutions - Special Situations Private Credit	Against the backdrop of significant growth in the leveraged finance markets followed by an aggressive rate-hiking cycle, GIMA believes corporate borrowers will look for bespoke alternative solutions to help address stresses from a higher-for-longer interest rate environment among other potential business challenges. Private lenders can offer bespoke capital solutions to strong companies that are burdened by near-term maturities or unsustainable capital structures vs traditional capital sources.
Operating on the Margin: Driving Value through Operational Expertise	Select Buyout funds with demonstrated operational expertise	Following a decade of conducive financial conditions, the current economic environment characterized by higher-for-longer interest rates and stickier inflation positions private equity firms to prioritize developing strong value creation teams. Select buyout managers with a primary track record of driving organic revenue growth and margin expansion, rather than multiple expansion and financial engineering, look well-positioned to navigate this environment.
A Collateral Move: Yielding New Opportunities in Asset Based Finance	Asset-Based Finance/Specialty Lending	Asset-based finance may provide stable cash flows backed by diversified pools of hard and financial assets. These strategies represent attractive alternative income solutions that can complement and diversify against corporate credit exposure in portfolios. Tighter regulatory scrutiny, regional bank retrenchment and increased capital reserve ratios for banks have increased the opportunity set in asset-based finance.
Secondary Solutions: The Primary Stop for Liquidity & Value	Private Market Secondaries	Secondary investments continue to be appealing for investors seeking J-curve mitigation and a favorable risk/return profile. Liquidity demands persist from LPs who want to manage exposures and generate liquidity for future commitments. GPs are leaning even more on the secondary market to hold onto prized assets longer and drive distributions. GP-led continuation vehicles are becoming an increasingly common avenue for exit activity.
Enhance Portfolio Diversification and Seek Alpha	- Global Macro - Relative Value - Equity Long/Short - Equity Market Neutral	Hedge fund strategies such as Relative Value, Equity Long/Short and Equity Market Neutral may be well-positioned to capitalize on increased market dispersion. Relative Value and Equity Market Neutral strategies seek to generate alpha and positive returns regardless of overall market direction. Additionally, macro investing can serve as a valuable tool in improving the overall risk and return profile of a given portfolio due to positive returns on average as well as its low correlation with stocks and bonds.

Source: Morgan Stanley Global Investment Manager Analysis as of Dec. 31, 2024

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In Exhibit 11 below, we combine these more tactical themes with the strategic allocation guidance from Exhibit 9, which can support investors' capital commitment decisions for 2025 with the underlying subcategories.

Exhibit 11: We Provide Recommendation Allocations to Private Investments, Based on the GIC's Strategic Allocations and Intuitive Consideration of Available Options—Plus Tactical Thoughts from the GIMA Alternatives Team

Asset Class	Recommended Strategic Allocations		Implementation Guidance for 2025: Preference within Subcategories	Key to Coloring		
	Within Private Investments	Within Its Subcategory		More Favorable	Neutral	Less Favorable
Private Equity (Level 3)	50%	100%				
<i>Buyout</i>	30–45%	60–90%	Secondary private equity strategies and select managers with deep operational expertise			
<i>Growth Equity</i>	5–15%	10–30%	Managers who have proven operational capabilities to scale businesses and have generated strong historical value realization			
<i>Venture Capital</i>	0–5%	0–10%	Managers who have proven access, historical value realization and operational expertise			
Private Credit (Level 3)	25%	100%				
<i>Direct Lending</i>	10–18%	40–70%	Evergreen and drawdown structures that provide privately negotiated loans to borrowers of all sizes, often structured as senior secured, unitranche or subordinated debt			
<i>Asset-Based</i>	5–10%	20–40%	Evergreen and drawdown structures that can invest in asset-based finance and real estate debt across the capital structure			
<i>Opportunistic</i>	2–8%	10–30%	Drawdown structures that can invest opportunistically across public and private debt			
Private Real Assets (Level 3)	25%	100%				
<i>Real Estate</i>	7–18%	30–70%	Focus on multi-family and industrial sectors			
<i>Infrastructure</i>	7–18%	30–70%	Evergreen and drawdown structures that allocate to diversified infrastructure opportunities			

Source: Morgan Stanley Global Investment Office and Global Investment Manager Analysis as of Dec. 31, 2024

Conclusion

While private investments have historically offered return premiums and diversification benefits to investors, their illiquidity and heterogeneous structures create implementation challenges. With that in mind, we seek to provide applied wisdom for effective implementation, with an eye towards practicality and achievability. We have suggested ways investors may mitigate those challenges through diversifying by strategy, manager, vintage year and

geography—plus in considering how to emphasize their impact objectives. Democratized evergreen structures may facilitate greater opportunities for individuals and smaller institutions. We have provided guidance on multiyear implementation plans designed to assist investors in achieving their asset class-level targets, considering varying levels of total investment. Finally, we have presented the GIMA Alternatives team's themes for 2025, which may support investors with this year's capital allocation decisions.

Endnotes

¹ Austin, Maureen; David Thurston; and William Prout. "Building Winning Portfolios Through Private Investments," Cambridge Associates, August 2021. Available at <https://www.cambridgeassociates.com/insight/building-winning-portfolios-through-private-investments/>.

Cambridge Associates has developed a Modified Public Market Equivalent (mPME) benchmarking tool, a private-to-public comparison that seeks to replicate private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and the mPMENAV (the value of the shares held by the public equivalent) is a function of mPMEcash flows and public index returns. The mPME attempts to evaluate what return would have been earned had the dollars been deployed in the public markets instead of in private investments while avoiding the "negative NAV" issue inherent in some PME methodologies. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPMEcalculated return. Cambridge Associates referenced that mPME tool in the article listed above.

² Morgan Stanley Research. "How Long Will the Golden Age of Private Markets Last?," October 2021. Available at <https://ny.matrix.ms.com/eqr/article/webapp/411a09ce-21e5-11ec-b650-75bc2cd14629>.

³ Cambridge Associates has established a database to monitor investments made by private equity, venture capital and other alternative asset partnerships. As of June 30, 2022, the database included the 1,529 US private equity funds (buyout and growth equity only) from the years 1986 through 2022 and 2,404 US venture capital funds from the years 1981 through 2022.

Cambridge Associates refers to partnership financial statements and narratives are the primary source of information concerning cash flows and ending residual or net asset values (NAV) for both partnerships and portfolio company investments. Recognizing the alternative asset community's sensitivity to the distribution of information pertaining to individual fund investments, as a matter of policy, Cambridge only releases aggregated figures in its benchmark report.

Vintage year is defined as the date of the fund's first cash flow, defined as the date of the fund's first LP contribution. Any investment activity taken prior to the first LP contribution is not taken into account.

Cambridge uses the pooled horizon internal rate of return calculation to calculate the official quarterly, annual, and multi-year index figures. The horizon IRR performance calculation is a money-weighted return similar to the since-inception IRR; however, it is measuring performance between two points in time. The calculation incorporates the beginning NAV (if any, treated as an inflow), interim cash flows and the ending NAV (if any, treated as an outflow). All interim cash flows are recorded on the mid-period date of the quarter. In order for a fund to be included in a horizon IRR calculation, the fund must have at least one quarterly contribution, distribution or NAV during the time frame being measured. Similar to the since-inception IRR, the horizon IRR is annualized for time frames greater than one year.

⁴ Available at <https://knightfoundation.org/reports/knight-diversity-of-asset-managers-research-series-industry/>.

⁵ Rock, David, and Heidi Grant. "Why Diverse Teams Are Smarter." *Harvard Business Review* (November 4, 2016). Available at <https://hbr.org/2016/11/why-diverse-teams-are-smarter>.

⁶ McKinsey & Co. "Diversity Matters Even More: The Case for Holistic Impact." Available at <https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-matters-even-more-the-case-for-holistic-impact>.

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Disclosure Section

The **Global Investment Committee (GIC)** is a group of seasoned investment professionals from Morgan Stanley & Co. and Morgan Stanley Wealth Management who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend asset allocation model weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

Daniel Maccarrone, Paul Jodice, Keith Fortmiller, Emily Thomas, Funmilayo Lediju, and Patrick Gremban are not members of the Global Investment Committee, and any implementation strategies suggested have not been reviewed or approved by the Global Investment Committee.

For index, indicator and survey definitions referenced in this report please visit the following: <https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions>

Glossary

Alpha is the excess return of an investment relative to the return of a benchmark index.

Artificial Intelligence (AI) A field of study that seeks to train computers to process large amounts of unstructured information in a manner similar to human intelligence, capable of performing tasks such as learning and problem solving.

Correlation This is a statistical measure of how two securities move in relation to each other. This measure is often converted into what is known as correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation coefficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random. A correlation greater than 0.8 is generally described as strong, whereas a correlation less than 0.5 is generally described as weak.

Dispersion is a measure for the statistical distribution of portfolio returns. It is the asset-weighted standard deviation of individual portfolio returns within a comparable composite from the composite return.

Drawdown refers to the largest cumulative percentage decline in net asset value or the percentage decline from the highest value or net asset value (peak) to the lowest value net asset value (trough) after the peak.

Internal rate of return (IRR) is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. Internal rate of return is used to evaluate the attractiveness of a project or investment.

Volatility This is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Risk Considerations

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. Investing in an international ETF also involves certain risks and considerations not typically associated with investing in an ETF that invests in the securities of U.S. issues, such as political, currency, economic and market risks. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics. ETFs investing in physical commodities and commodity or currency futures have special tax considerations. Physical commodities may be treated as collectibles subject to a maximum 28% long-term capital gains rates, while futures are marked-to-market and may be subject to a blended 60% long- and 40% short-term capital gains tax rate. Rolling futures positions may create taxable events. For specifics and a greater explanation of possible risks with ETFs, along with the ETF's investment objectives, charges and expenses, please consult a copy of the ETF's prospectus. Investing in sectors may be more volatile than diversifying across many industries. The investment return and principal value of ETF investments will fluctuate, so an investor's ETF shares (Creation Units), if or when sold, may be worth more or less than the original cost. ETFs are redeemable only in Creation Unit size through an Authorized Participant and are not individually redeemable from an ETF.

Please consider the investment objectives, risks, charges and expenses of the fund(s) carefully before investing. The prospectus contains this and other information about the fund(s). To obtain a prospectus, contact your financial advisor. Please read the prospectus carefully before investing.

Companies paying **dividends** can reduce or cut payouts at any time.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Stocks of medium-sized companies entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

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Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

Principal is returned on a monthly basis over the life of a **mortgage-backed** security. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

Derivative instruments. Options, futures contracts, options on futures contracts, forward contracts, swaps and structured products are examples of derivative instruments. Risks of derivative instruments include imperfect correlation between the value of the instruments and the underlying assets; risks of default by the other party to certain transactions; risks that the transactions may result in losses that partially or completely offset gains in portfolio positions; and risks that the transactions may not be liquid. Please see the fund's prospectus for additional information.

Alternative investments may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; and Risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

It is important to note that only eligible investors can invest in alternative investment funds and that in order for an FA/PWA to engage a prospective investor in general discussions about Alternative Investments and specifically with regards to Private Funds, the prospective investor will need to be pre-qualified through the Reg D system.

Alternative investment securities discussed herein are not covered by the protections provided by the Securities Investor Protection Corporation, unless such securities are registered under the Securities Act of 1933, as amended, and are held in a Morgan Stanley Wealth

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Management Individual Retirement Account.

Hedge funds may involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns.

Private Real Estate: Risks of private real estate include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage.

An investment in **Structured Investments** involves risks. These risks can include, but are not limited, to: fluctuations in the price, level or yield of underlying instruments; interest rates, currency values and credit quality; substantial loss of principal; limits on participation in appreciation of underlying instrument; limited liquidity; credit risk of the issuer; and, conflicts of interest.

Options are not appropriate for every investor. This sales material must be accompanied by or preceded by a copy of the booklet 'Characteristics and Risks of Standardized Options' (ODD). Investors should not enter into options transactions until they have read and understood the ODD. Before engaging in the purchase or sale of options, investors should understand the nature of and extent of their rights and obligations and be aware of the risks involved, including, without limitation, the risks pertaining to the business and financial condition of the issuer of the underlying security or instrument. Options investing, like other forms of investing, involves tax considerations, transaction costs and margin requirements that can significantly affect the profit and loss of buying and writing options. The transaction costs of options investing consist primarily of commissions (which are imposed in opening, closing, exercise and assignment transactions), but may also include margin and interest costs in particular transactions. Transaction costs are especially significant in options strategies calling for multiple purchases and sales of options, such as multiple leg strategies, including spreads, straddles and collars. A link to the ODD is provided below: <http://www.optionsclearing.com/about/publications/character-risks.jsp>

Real estate investments are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. The private equity real estate asset class may involve special investment considerations, including investor net asset minimum criteria; investment vehicle entry and exit conditions; regulatory, tax reporting and/or compliance requirement; and, appropriateness guidelines. In addition to the general risks associated with real estate investments,

REIT investing entails other risks such as credit and interest rate risk. Real estate investment risks can include fluctuations in the value of underlying properties; defaults by borrowers or tenants; market saturation; changes in general and local economic conditions; decreases in market rates for rents; increases in competition, property taxes, capital expenditures, or operating expenses; and other economic, political or regulatory occurrences affecting the real estate industry.

The risks associated with purchasing BDC securities include, but are not limited to portfolio company credit and investment risk, leverage risk, market and valuation risk, price volatility risk, liquidity risk, capital markets risk, interest rate risk, dependence on key personnel, and structural and regulatory risk.

International securities may carry additional risks, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in **emerging markets** and **frontier markets**.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **Technology stocks** may be especially volatile. Risks applicable to companies in the **energy and natural resources** sectors include commodity pricing risk, supply and demand risk, depletion risk and exploration risk. **Health care sector stocks** are subject to government regulation, as well as government approval of products and services, which can significantly impact price and availability, and which can also be significantly affected by rapid obsolescence and patent expirations.

Artificial intelligence (AI) is subject to limitations, and you should be aware that any output from an IA-supported tool or service made available by the Firm for your use is subject to such limitations, including but not limited to inaccuracy, incompleteness, or embedded bias. You should always verify the results of any AI-generated output.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

Environmental, Social and Governance ("ESG") investments in a portfolio may experience performance that is lower or higher than a portfolio not employing such practices. Portfolios with ESG restrictions and strategies as well as ESG investments may not be able to take advantage of

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the same opportunities or market trends as portfolios where ESG criteria is not applied. There are inconsistent ESG definitions and criteria within the industry, as well as multiple ESG ratings providers that provide ESG ratings of the same subject companies and/or securities that vary among the providers. Certain issuers of investments may have differing and inconsistent views concerning ESG criteria where the ESG claims made in offering documents or other literature may overstate ESG impact. ESG designations are as of the date of this material, and no assurance is provided that the underlying assets have maintained or will maintain and such designation or any stated ESG compliance. As a result, it is difficult to compare ESG investment products or to evaluate an ESG investment product in comparison to one that does not focus on ESG. Investors should also independently consider whether the ESG investment product meets their own ESG objectives or criteria. There is no assurance that an ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or a dependable measure of future results.

DEI Signal was launched in response to increasing evidence demonstrating the importance of diversity, equity and inclusion (DEI) in the workforce. Companies are increasingly evaluating their cultures and practices related to gender and racial equality in order to attract and retain top talent, and investors are increasingly asking for this data to be disclosed while seeking to invest with asset managers who are making progress on improving diversity. Recognizing the importance of data transparency to measuring and driving progress, and in alignment with the Inclusion pillar of the Investing with Impact framework, we are collecting over 30 data points from our asset management partners, who, combined, manage roughly 70% of global assets under management. DEI Signal was created as a framework for analyzing the data in a holistic way. The questions focus on policies to support inclusive and diverse workplaces, diverse representation and disclosure. Through these questions, DEI Signal seeks to increase transparency on diversity statistics and shepherd greater diversity and inclusion across the industry.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Smith Barney LLC retains the right to change representative indices at any time.

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Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Indices are unmanaged. They do not reflect any management, custody, transaction or other expenses, and generally assume reinvestment of dividends, accrued income and capital gains. Past performance of indices does not guarantee future results. Investors cannot invest directly in an index.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects. Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.

The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes.

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Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

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This material has been prepared for informational purposes only and is not an offer to buy or sell or a solicitation of any offer to buy or sell any security/instrument, or to participate in any trading strategy. Any such offer would be made only after a prospective investor had completed its own independent investigation of the securities, instruments or transactions, and received all information it required to make its own investment decision, including, where applicable, a review of any offering circular or memorandum describing such security or instrument. That information would contain material information not contained herein and to which prospective participants are referred. This material is based on public information as of the specified date, and may be stale thereafter. We have no obligation to tell you when information herein may change. We make no representation or warranty with respect to the accuracy or completeness of this material. Morgan Stanley Wealth Management has no obligation to provide updated information on the securities/instruments mentioned herein.

The securities/instruments discussed in this material may not be appropriate for all investors. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. Morgan Stanley Wealth Management recommends that investors independently evaluate specific investments and strategies, and encourages investors to seek the advice of a financial advisor. The value of and income from investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies and other issuers or other factors. Estimates of future performance are based on assumptions that may not be realized. Actual events may differ from those assumed and changes to any assumptions may have a material impact on any projections or estimates. Other events not taken into account may occur and may significantly affect the projections or estimates. Certain assumptions may have been made for modeling purposes only to simplify the presentation and/or calculation of any projections or estimates, and Morgan Stanley Wealth Management does not represent that any such assumptions will reflect actual future events. Accordingly, there can be no assurance that estimated returns or projections will be realized or that actual returns or performance results will not materially differ from those estimated herein.

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Morgan Stanley's proprietary Risk Score methodology gauges managers' effectiveness in risk management. Based on extensive historical analysis, we evaluate over 18,000 strategies across 54 categories by ranking them according to several quantitative markers. We take a weighted average of these individual rankings to compute each manager's Risk Score, having found that managers with higher Risk Scores have historically produced more attractive subsequent risk adjusted returns, particularly under adverse conditions. For more information on Risk Score, please see the Risk Score whitepaper.

Morgan Stanley's proprietary Value Score methodology considers active investment strategies' value proposition relative to their costs. We measure perceived benefit from several quantitative markers and compute (1) "fair value" expense ratios for over 10,000 managers across 40 categories and (2) managers' perceived "excess value" by comparing the fair value expenses ratios to actual expense ratios. We then rank managers within each category by their excess value to assign a Value Score, having found that greater levels of excess value have historically corresponded to attractive subsequent performance. For more information on Value Score, please see the Value Score whitepaper.

Morgan Stanley's proprietary Tax Score methodology evaluates investment strategies' quality and tax efficiency. The Tax Score reviews the quality of investment strategies' after-tax returns by measuring upside opportunity, downside mitigation and consistency, which have tended to correlate with strategies' subsequent risk-adjusted returns in after-tax terms. For more information on Tax Score, please see the Tax Score whitepaper.

GIMA defines the Adverse Active Alpha (AAA) ranking model as follows:

Global Investment Manager Analysis provides comprehensive manager analysis for Morgan Stanley's investment advisory platforms on a wide range of investment products, including separately managed accounts, mutual funds and exchange-traded funds in the equity, fixed income and alternative investment categories.

Adverse Active Alpha (AAA)

Adverse refers to the demonstrated ability to outperform in a variety of market environments and when conditions were difficult for active manager relative performance. "Difficult" periods were times when active management did not perform well relative to the index, as opposed to down market periods. At various times, active management has experienced difficult relative performance periods in up, down, and flat markets. We developed a set of factors to help discern which periods were more difficult for active managers that we utilize to identify managers that were able to overcome these headwinds and outperformed in the face of adversity.

Active refers to managers with portfolios that looked different from the index and had moderate to low tracking error. For all products, r_2 is

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used to measure the degree of differentiation from the benchmark in conjunction with tracking error. The ranking seeks to find managers that were active, but not taking outsized bets, and that had some degree of style consistency. The combination of r^2 and low tracking error is fairly uncommon among active managers, but we believe these traits may point toward managers with strong stock picking skills.

Alpha refers to the demonstrated ability to add value relative to an index and/or peers. Back tests indicate that highly ranked managers as a group outperformed the index and style peer group over subsequent periods and relative to active share alone. By combining the “adverse” component with the “active” component, we believe we increase the odds of finding some of the most proficient stock pickers.

Important Considerations Regarding the Adverse Active Alpha and Value Score ranking models:

In our view, the Adverse Active Alpha and Value Score manager rankings are an important part of evaluating managers for consideration. However, we do recognize that these ranking models cannot, in and of themselves, tell us which managers' strategies to invest in or when to buy or sell the strategies. While highly ranked managers historically performed well as a group in our analysis, past performance is not a guarantee of future results for any manager or strategy. Index returns assume reinvestment of dividends and, unlike fund or strategy returns, do not reflect any fees or expenses. Indices are unmanaged and not available for direct investment.

GIMA strives to evaluate other material and forward looking factors as part of the overall manager evaluation process. Factors such as but not limited to manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha or Value Score ranking. Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors. For more information on the ranking models, please see Adverse Active Alpha 2.0: Scoring Active Managers According to Potential Alpha. This Special Report is available by request from your Financial Advisor or Private Wealth Advisor.

ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

***High Adverse Active Alpha is generally defined as falling into the top two quintiles (40%) within the ranking model.** Separately Managed Account and mutual fund rankings could differ. In some cases where the separately managed account product and mutual fund are substantially similar, the separately managed account rating may be applied to the mutual fund and vice versa.

The Global Investment Manager Analysis (GIMA) services Only Apply to Certain Investment Advisory Programs

GIMA evaluates certain investment products for the purposes of some – but not all – of Morgan Stanley Smith Barney LLC's investment advisory programs (as described in more detail in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management). If you do not invest through one of these investment advisory programs, Morgan Stanley Wealth Management is not obligated to provide you notice of any GIMA status changes even though it may give notice to clients in other programs.

Focus List, Approved List and Tactical Opportunities List; Watch Policy

GIMA uses two methods to evaluate investment products in applicable advisory programs: Focus (and investment products meeting this standard are described as being on the Focus List) and Approved (and investment products meeting this standard are described as being on the Approved List). In general, Focus entails a more thorough evaluation of an investment product than Approved. Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List. Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either process and will no longer be recommended in investment advisory programs (in which case the investment product is given a “Not Approved” status).

GIMA has a “Watch” policy and may describe a Focus List or Approved List investment product as being on “Watch” if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming “Not Approved.” The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager or fund to address any concerns. GIMA may, but is not obligated to, note the Watch status in this report with a “W” or “Watch” next to the “Status” on the cover page.

Certain investment products on either the Focus List or Approved List may also be recommended for the Tactical Opportunities List based in part on tactical opportunities existing at a given time. The investment products on the Tactical Opportunities List change over time.

For more information on the Focus List, Approved List, Tactical Opportunities List and Watch processes, please see the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management. Your Financial Advisor or Private Wealth Advisor can also provide upon request a copy of a publication entitled “GIMA at a Glance”.

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Strategies are sometimes available in Morgan Stanley Wealth Management investment advisory programs both in the form of a separately managed account (“SMA”) and a mutual fund. These may have different expenses and investment minimums. Your Financial Advisor or Private Wealth Advisor can provide more information on whether any particular strategy is available in more than one form in a particular investment advisory program.

Generally, investment advisory accounts are subject to an annual asset-based fee (the “Fee”) which is payable monthly in advance (some account types may be billed differently). In general, the Fee covers Morgan Stanley investment advisory services, custody of securities with Morgan Stanley, trade execution with or through Morgan Stanley or its affiliates, as well as compensation to any Morgan Stanley Financial Advisor.

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UMA program may also pay a separate Sub-Manager fee, if applicable.

If your account is invested in mutual funds or exchange traded funds (collectively "funds"), you will pay the fees and expenses of any funds in which your account is invested. Fees and expenses are charged directly to the pool of assets the fund invests in and are reflected in each fund's share price. These fees and expenses are an additional cost to you and would not be included in the Fee amount in your account statements. The advisory program you choose is described in the applicable Morgan Stanley Smith Barney LLC ADV Brochure, available at www.morganstanley.com/ADV.

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