

Institutional Insights

Considerations When Implementing Alternative Investments in Multi-Asset Class Portfolios

Fidelity has developed a framework for allocating to alternative investments based on proprietary research that outlines suggested portfolio mixes across the liquidity spectrum

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KEY TAKEAWAYS

- Institutions and advisors allocate to liquid and illiquid alternative investments for a variety of potential benefits including enhancing a portfolio's returns, managing risk, or improving diversification.
- As product and strategy innovation opens the door to broader usage of alternative investments in multi-asset class portfolios, investors of all types are increasingly seeking guidance on suggested allocation levels.
- Fidelity has explored return, volatility, liquidity, and other variables for traditional and alternative asset classes to help develop a potential implementation framework for four investor personas with varied financial considerations and needs.
- The framework suggests allocation ranges based on liquidity needs and the risk/return benefits of investing in alternatives: it includes illiquid allocations of up to 10% for a retiree, up to 15% for a high-net-worth individual, or up to 30% for an endowment; and liquid allocations of up to 20% for an investor with high liquidity needs.
- Institutions and advisors can consider these potential ranges in portfolio construction decision-making for themselves or their clients, while this framework also addresses potential nuances, challenges, and opportunities in implementing alternatives.

Introduction

Institutions and advisors allocate to liquid and illiquid alternatives to help enhance a portfolio's returns, manage risk, or improve diversification. As product and strategy innovation opens the door to broader usage of alternative investments in multi-asset class portfolios, investors are increasingly seeking implementation guidance on suggested allocation levels—particularly for alternatives further out on the illiquidity spectrum.





Given the many potential benefits of alternative investments, investors have increasingly sought to explore the question of, "How much?" In this article, Fidelity will present a framework it has developed based on proprietary research of return, volatility, and liquidity characteristics of traditional and alternative asset classes. The framework sets forth potential allocation ranges based on liquidity needs and the risk/return benefits of investing in alternatives. It also addresses some nuances, challenges, and opportunities of these investments, particularly illiquid alternatives.

A framework for investing in alternatives

Fidelity's research on alternative investments has highlighted the potential return, risk, and diversification benefits that can result from adding these strategies to a traditional portfolio. (For more, please see "Alternative Investments and Their Roles in Multi-Asset Class Portfolios," August 2023). Considering these benefits, one may ask why an investor wouldn't put most of their portfolio in alternatives? Our research has demonstrated that liquidity constraints, risk tolerance, and return objectives are among the considerations that will determine the upper bound for most investors. Exhibit 1 outlines a high-level snapshot of our analysis using four investor cohorts, with some suggested ranges based on liquidity needs and the risk/return benefits of investing in alternative investments that we'll explore in the following sections. Of note, the starting portfolios are illustrative and based on a mix of traditional stocks and bonds, but actual portfolios are likely to hold more asset classes.

EXHIBIT 1: Fidelity has developed an implementation framework with potential allocation ranges for alternatives for four investor personas, based on liquidity needs and the risk/return benefits of investing in alternatives.

Starting Portfolios, and Possible Allocation Ranges to Consider

	Persona 1: Investor with high liquidity needs	Persona 2: Retiree	Persona 3: High-net-worth individual (e.g., mid-career professional, executive)	Persona 4: Small endowment or high-net-worth individual with a specific legacy goal
Eligibility		Accredited Investors		Qualified purchasers
Starting Allocations (traditional stocks/bonds)	 60%/40%	 30%/70%	 60%/40%	 70%/30%
Liquid Alternatives	10%–20%	5%–15%	5%–10%	5%–10%
Illiquid Alternatives	0%	0%–10%	5%–15%	10%–30%

Source: Fidelity Investments. Starting allocations represented by the S&P 500 Index for stocks and the Bloomberg U.S. Aggregate Bond Index for bonds. Fidelity's research utilized return, volatility, liquidity, and other variables in consideration of the potential benefits and risks of allocations to liquid and/or illiquid alternatives. Meant as a general guide and not meant to be prescriptive and we note some investors may fit in a different category; e.g., a mid-career investor may be closer to the endowment category if their assets are already very high; meanwhile, a retiree may be ineligible for investing in illiquid alternative strategies. Alternative investment strategies may not be suitable for all investors and are not intended to be a complete investment program. Alternatives may be relatively illiquid; it may be difficult to determine the current market value of the asset; and there may be limited historical risk and return data. Costs of purchase and sale may be relatively high. A high degree of investment analysis may be required before investing. Eligibility requirements for qualified purchasers and accredited investors (both individuals and organizations) of sophisticated investment vehicles entail specific criteria including net worth and income, among other variables. Investors should consult their financial professionals to determine their eligibility.

While these suggested ranges are not meant as recommendations, they may provide a starting point for institutions and advisors who are weighing allocations to alternatives in portfolio construction. Institutions and advisors will also need to explore many important considerations for investing in alternatives, including eligibility, liquidity, costs, and risk.

Eligibility:

Eligibility is often one of the first questions to consider when implementing alternatives: Depending on the vehicle used to deliver an alternative investment, it may be available only to accredited investors or qualified purchasers who meet certain net worth, asset, and/or income minimums.

- An accredited investor is an individual with a net worth exceeding \$1 million (excluding the value of a primary residence) and/or an income of more than \$200,000 in the last two years (or joint income of \$300,000 in those two years); or an organization or trust with total assets of more than \$5 million.
- A qualified purchaser is an individual who owns not less than \$5 million in investments; or an organization or trust with not less than \$25 million in investments.

Investors may want to consult their financial professionals to determine their eligibility. For the purposes of our research, we selected characteristics that reflect the broadest range of investor types.

Liquidity:

A second important consideration is liquidity, or the ability to buy or sell an asset at a frequency of one's choosing (whenever needed), at a price that is known with a high level of certainty in advance of a trade. Liquidity can be part of an investor profile; e.g., someone with high or low liquidity needs based on their assets, income, and unique investment goals. Any number of bespoke factors may influence an investor's liquidity profile, such as planning for unexpected cash needs, a health event, job loss, or death.

Liquidity is also a feature of alternative investments and the investment vehicle itself. Some alternative investment vehicles may hold highly liquid stocks and bonds, or highly illiquid private equity investments, adding to their complexity. Many liquid alternative strategies invest in many of the same sophisticated hedge fund strategies (such as macro, equity market-neutral, or managed futures strategies that we used in this research) but with daily liquidity provided via a publicly traded mutual fund or exchange-traded fund (ETF). In addition, the evolution of semi liquid vehicles, such as interval funds and business development companies (BDCs), open up new opportunities in the alternatives landscape. These hybrid structures allow managers to make investments in more illiquid asset classes; (e.g., private credit), but afford investors a greater degree of liquidity than they typically would get in private funds.

At the other end of the spectrum, illiquid investments entail a greater liquidity risk because they offer the potential for higher returns and/or income, but with little or no ability to be sold in the secondary market. Illiquid alternatives, typically held in vehicles such as limited partnerships (LPs), co-investments, and direct investments, generally have long notice periods (several months) to redeem and lockups of greater than five years that limit access to capital. They may invest in highly liquid stocks or bonds as well as illiquid asset classes such as private equity, private credit, or real assets. It is important for investors to understand the tradeoff between returns and illiquidity: longer lockups and notice periods may potentially result in higher risk premiums. For those investors who understand the risks and have the investment profiles to accommodate such an allocation, illiquid investments may merit consideration. (For more on the illiquidity premium, please see Exhibit 3 on page 6).

Cost:

A third challenge to alternatives investing is cost (both direct and indirect). Direct costs include fees, which can be higher for alternative strategies compared to traditional investments, particularly in the private, illiquid space. These may include minimum investment requirements, distribution costs, feeder fund fees, and sales loads. However, our analysis here focuses on returns net of fees, which would account for the higher direct costs. Indirect costs would include administrative burdens such as tax reporting. While we don't account for them in this analysis, it is worth noting these challenges could be addressed by seeking lower-cost solutions or using more liquid structures, which tend to have lower fees. Advanced platforms and technology for wealth managers may also help to mitigate costs. These access platforms are not only making alternative investments more accessible, but they could offer a more scalable and lower cost approach for advisors.

Risk:

We would lastly highlight risk when investing in alternatives. Both liquid and illiquid alternative investments entail the risk of loss of capital. Both also entail the additional risk of selecting underperforming managers, where the loss of capital could be greater due to the higher dispersion of returns among some alternatives. Skilled manager research can help to address the risks of investing in alternatives. Comprehensive research on the underlying strategies, including investment approaches and operational due diligence, can help with appropriate implementation.

Alternatives within the context of multi-asset portfolio construction

Another way to explore return, risk, and liquidity questions is to consider an illustrative efficient frontier showing portfolios with and without alternative investments. Viewing a hypothetical efficient frontier can demonstrate how alternatives can expand the investment universe. In our prior study, we analyzed the risk and return characteristics of nine alternative asset classes alongside nine traditional asset classes from 2005 through 2022 to illustrate the potential to enhance risk-adjusted returns and diversification, while mitigating downside risk.

Using our historical return data, we created two efficient frontiers with constraints that we believe are

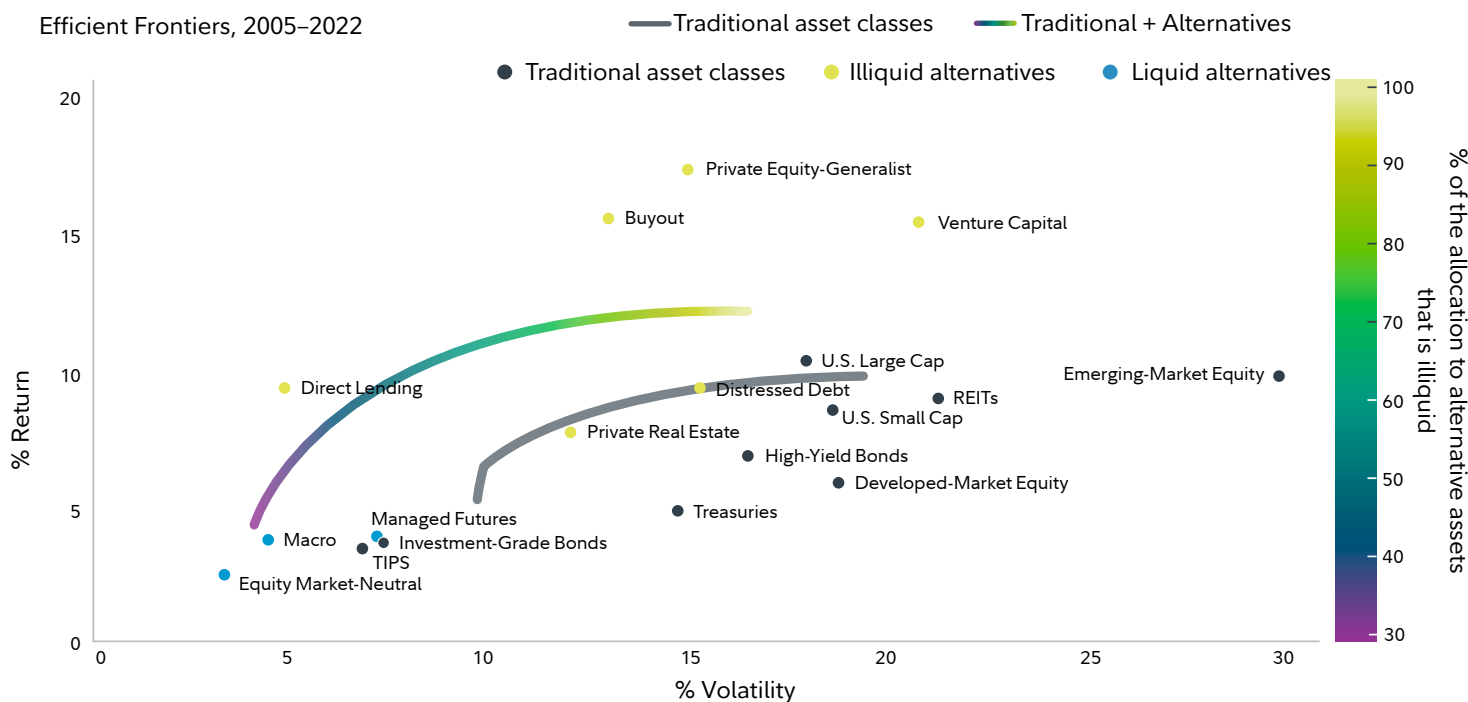
appropriate for a diversified portfolio.¹ The gray line in Exhibit 2 represents a baseline efficient frontier that includes nine traditional asset classes (defined below).

The multi-color line represents a portfolio that can also include nine alternative investment categories that represent liquid alternatives, private equity, private credit, and real assets (also defined in the chart below).

As the asset mix is expanded to include alternatives, the efficient frontier moves up and to the left on the chart, reflecting a higher level of return for the same unit of risk. Further, the right Y-axis shows the percentage of the allocation to alternative assets that is illiquid (the higher this percentage, the more yellow the frontier becomes). In addition, a traditional portfolio can help reduce risk by adding an allocation to liquid alternatives, with the

EXHIBIT 2: An illustrative efficient frontier using returns and risk characteristics of 18 asset classes can show how alternative investments as part of a multi-asset class portfolio may enhance risk-adjusted returns.

Efficient Frontiers, 2005–2022



Past performance is no guarantee of future results. Returns reflect mean annual returns over the period, which were used to construct the efficient frontiers. Left efficient frontier: Every point represents a hypothetical portfolio containing a mix of traditional asset classes, liquid alternatives, and illiquid alternatives, with the right Y-axis representing the percentage of illiquid alternatives, in the overall allocation to alternatives, shifting in color to yellow as that percentage increases to a maximum of 60% as outlined in the portfolio constraints. Volatility reflects standard deviation of the annual returns over the period, which is the statistical measure of market volatility, measuring how widely prices are dispersed from the average price. Traditional asset categories: U.S. large cap equity—Russell 1000 Index; U.S. small cap equity—Russell 2000 Index; developed-market equity—MSCI EAFE Index; emerging-market equity—MSCI Emerging-Market Index; Treasuries—Bloomberg U.S. Long Treasury Index; Treasury inflation-protected securities—Bloomberg U.S. Treasury Inflation Linked Bond Index; investment-grade bonds—Bloomberg U.S. Credit Index; high-yield bonds—ICE BofA US High Yield Index; REITs—FTSE NAREIT All Equity REIT Index. Alternative asset categories: Liquid alternatives—HFRI Macro Total Index and HFRI EH Equity Market Neutral Index; managed futures: SG CTA Index (note, there may be managed futures strategies in both the HFR and SG indexes); private equity—equity-generalist, buyout and venture capital reflect annual return data from Burgiss; private credit—direct lending represented by the Cliffwater Direct Lending Index, distressed debt reflects annual return data from Burgiss; real assets—private real estate represented by the NFI ODCE Index. Burgiss Data used in this research reflects returns of U.S. private capital funds and funds of funds. To identify the asset classes with artificially “smooth” returns, we tested for serial correlation. For those categories where we observed serial correlation (e.g., venture capital, distressed debt, direct lending, and private real estate) we applied statistical techniques to “unsmooth” returns and used “unsmoothed” risk data in our efficient frontier analysis. However, the dots represent the original raw data to reflect the actual investor experience. See endnote 1 for portfolio constraints representing the portfolios along the efficient frontiers, and Appendix on page 13 for unsmoothing and index/asset category definitions. Sources: Bloomberg Finance L.P., Morningstar, HFR Inc., www.HFR.com, © 2023 HFR, Inc. All rights reserved, Burgiss, Societe Generale, Cliffwater LLC, NCREIF, Fidelity Investments, as of Dec. 31, 2022.

same returns, as indicated by the purple portion of the frontier.

The improved efficiency in the efficient frontier on the left is the result of including additional alternative asset classes with diversification benefits or higher historical returns at an equal or lower expected level of risk. This result may also reflect the compensation investors expect for bearing illiquidity and/or tail risk (e.g., the risk of outsized negative returns).

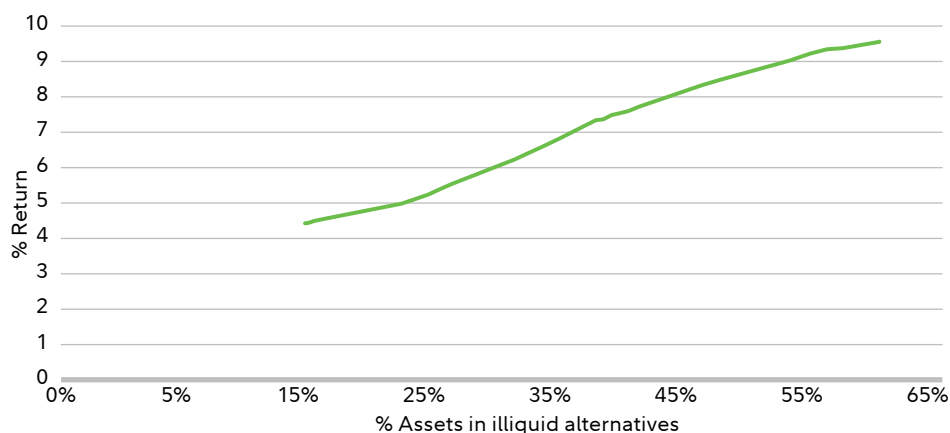
Examining those same efficient frontiers, we can see the potential additional return provided by the illiquidity premium by revisiting portfolios containing illiquid alternatives. Knowing the return of those portfolios, we can depict the tradeoff between return and liquidity by showing that, as the percent of illiquid assets increases, the returns increase (Exhibit 3). This

analysis highlights that for those investors willing to wait longer for access to their capital, higher portfolio returns may be available. Moreover, the return premia may be explained by illiquidity as well as other factors not available in public markets. For example, a private equity buyout fund manager may enhance the underlying operating company during the period of ownership, while a direct lending manager may provide borrowers with more efficient debt financing than what is available in public credit markets.

However, it is important to keep in mind the risks of illiquidity: in 2008, for example, some large endowments were forced to sell their private equity investments at steep losses of 30% or more—a reminder that alternatives investing within a multi-asset class context entails more than accessing higher return potential.

EXHIBIT 3: Using Fidelity’s efficient-frontier analysis from Exhibit 2 (with 18 asset classes), hypothetical portfolios with increasing allocations to illiquid alternatives generated higher returns.

Portfolio Returns vs. % Illiquidity (2005–2022)



The illiquidity premium is the compensation investors expect for giving up liquidity

Past performance is no guarantee of future results. Exhibit 3 uses the same asset classes and portfolio constraints as outlined in Exhibit 2, showing portfolios by their increasing illiquid allocations (X axis) and the corresponding returns over the period 2005–2022 (Y axis). The first point on the efficient frontier comprises 14% in illiquid assets, along with 30% liquid alternatives and 56% traditional assets. The underlying asset classes reflect what provides the optimal portfolio mix on the efficient frontier within those allocations. Moving from left to right, with increasing allocations to illiquid investments, the weights for liquid alternatives and traditional assets will change as well. To identify the asset classes with artificially “smooth” returns, we tested for serial correlation. For those categories where we observed serial correlation (e.g., venture capital, distressed debt, direct lending, and private real estate) we applied statistical techniques to “unsmooth” returns and used “unsmoothed” risk data in our efficient frontier analysis. See endnote 1 for portfolio constraints representing the portfolios along the efficient frontiers, and Appendix on page 13 for unsmoothing and index/asset category definitions. Sources: Bloomberg Finance L.P., Morningstar, HFR Inc., www.HFR.com, © 2023 HFR, Inc. All rights reserved, Burgiss, Cliffwater LLC, NCREIF, Fidelity Investments, as of Dec. 31, 2022.

Now that we've highlighted the potential return and diversification benefits of alternatives, and how to address some of the important considerations when implementing alternatives, in the next section we will explore how different investors might include them in their portfolios.

Different investors, different considerations for implementation

Institutions have historically held higher average allocations to alternatives (23%) than advisors, with most exposure in private assets, according to recent research from Fidelity.² Within the widely diverse advisor segment, allocations in both liquid/illiquid strategies were 6%, the research found. For the purposes of this paper, we attempted to bridge these differences by identifying several types of investors. Our research defined four hypothetical investor personas with different asset, risk tolerance, and liquidity profiles to help us build potential allocation ranges.

The first persona represents any individual investor looking for nontraditional strategies but with high liquidity needs. Such an investor may seek a liquid alternative for a combination of return enhancing, diversifying, and defensive features—with the benefit of daily liquidity. This type of investor may have a liquidity profile that requires readily available cash for life events, as outlined above. Such an investor may also have a lower risk appetite in general.

The second persona is a retiree who has amassed significant assets so they meet the eligibility requirements for an illiquid investment. While it may seem counter-intuitive for a retiree to consider an illiquid investment, we would argue for those with adequate assets and the appropriate risk and liquidity profiles, an appropriately sized allocation may be attractive. Depending on the age of the retiree, they may need to balance near-term income needs and may also consider diversifying liquid or semi-liquid strategies.

Implementing Alternatives—Four Hypothetical Scenarios

Persona 1 (investor with high liquidity needs): Consider Tim, a schoolteacher in his mid-40s who is saving for college educations and retirement. On a teacher's salary with lower assets and income, he has a lower risk tolerance and his liquidity needs are higher to plan for retirement/college savings and unforeseen expenses such as health problems. At the same time, he believes the current market environment suggests more muted returns for traditional assets and he would like to access liquid alternative solutions that offer some of the same potential benefits as traditional hedge fund strategies, but with daily liquidity.

Persona 2 (retiree): Tim's parents have been working with an investment advisor for many years and retired early. With their significant assets they meet the eligibility requirements for an income-producing private credit fund and can earn the potential illiquidity premium available from investing in private assets. Their risk tolerance is also lower due to their shorter time horizon, and therefore they are also considering diversifying liquid alternative strategies.

The third persona could be a high-net-worth investor such as a mid-career professional or executive still in the wealth-building years with considerable savings and decades before retirement. Such a person would be well-positioned to access the potential of illiquid alternatives if they can accept investments with lockup periods. They may need to have adequate liquid assets on hand in case of a job loss or other unexpected expenses and may also consider an allocation to liquid or semi-liquid alternative strategies. However, based on their investment profile, these individuals can benefit from the potential enhanced returns that may result from giving up liquidity.

The fourth persona could be a small endowment with \$100 million or less in assets or a high-net-worth individual who has a specific legacy goal. An endowment is a type of institutional investor with millions (or billions) of assets that often has absolute return mandates and, in theory, an infinite time horizon. Endowments generally seek to preserve spending power and grow assets on a real basis; they typically set annual spending rate targets of 5%, reducing their liquidity needs even lower. As seen in prior Fidelity research, large endowments typically have maintained high allocations to illiquid alternatives, at 32%,³ with some investing in a combination of liquid and illiquid solutions. However, small- or mid-sized endowments may consider lower allocations to illiquid assets. An investor who is a trust fund beneficiary might have a similar risk and time horizon profile.

Persona 3 (mid-career): Tim's twin sister, Kim, is a lawyer who is married with children. She works with an investment advisor, and her income and assets are high enough that she meets the eligibility requirements for a private equity limited partnership and the potential illiquidity premium. She has 20 years until retirement, with a higher risk tolerance and lower liquidity needs than both her brother and parents.

Persona 4 (endowment): Tim and Kim's alma mater is a small liberal arts college with an endowment with less than \$100 million in assets. Like many smaller organizations, it has managed to a simple portfolio benchmark of 70% stocks and 30% bonds. But with an absolute return mandate and annual spending rate target, its liquidity needs are low, while its time horizon is long. Such an organization would be well-positioned to consider an illiquid investment with the highest allocation among our four personas.

While some of the persona details above may seem specific, they are meant to map unique profiles to different asset, return, risk, and liquidity needs (Exhibit 4). While not all investors will fit exactly within these four profiles, for the purposes of our analysis, our goal was to develop a research-based framework

for considering allocations to liquid and illiquid alternatives. For instance, a mid-career investor may be closer to the endowment category if their assets are already very high; meanwhile, a retiree may be ineligible for investing in illiquid alternative strategies.

Exhibit 4: Considerations for implementing alternative investments based on asset level, time horizon, liquidity needs, risk tolerance, and ability to withstand losses.

	Persona 1: Investor with high liquidity needs	Persona 2: Retiree	Persona 3: High-net-worth individual (e.g., mid-career professional, executive)	Persona 4: Small endowment or high-net-worth individual with a specific legacy goal.
Eligibility		Accredited Investors		Qualified purchasers
Asset Level (excluding primary residence)	Less than \$1 million	\$1 million–\$5 million	\$1 million–\$5 million	\$25 million or greater for an endowment; \$5 million or greater for an individual
Time Horizon	Varies based on age/asset level	Short	Medium	Long to infinite
Potential Liquidity Needs (Next 5 years)	High	High	Medium	Low
Risk tolerance and ability to withstand losses	Low	Low	Medium/High	High

Source: Fidelity Investments. For illustrative purposes only. Eligibility requirements for accredited investors and qualified purchasers (both individuals and organizations) of sophisticated investment vehicles entail specific criteria including net worth and income, among other variables. Investors should consult their financial professionals to determine their eligibility. See Appendix on page 13 for more details.

Exploring the implementation question of “How much?”

To explore the implementation question for our personas, we next created varying hypothetical portfolio allocations along the liquidity spectrum using return data from 2005–2022. We included three traditional portfolio allocations based on varying combinations of public stocks and bonds depending on the persona (see exhibit 1). Stocks are represented by the S&P 500 Index and bonds are represented by the Bloomberg U.S. Aggregate Bond Index. For liquid alternatives, we used an equal mix of macro, equity market-neutral, and managed futures strategies. For illiquid alternatives, we simplified the representative mix to include equal weightings of three asset classes—private equity (equity-generalist), direct lending, and private real estate. Note the difference between these simplified representative portfolios and the broader mixes used in the efficient frontier analysis in exhibits 2 and 3; see the Appendix on page 13 for more detail.

Of note, these portfolios are hypothetical and do not represent any particular investment solution, as much

as they are based on actual performance data. For example, a traditional portfolio may not include just stocks and bonds, and liquid/illiquid mixes wouldn't necessarily be evenly split between those particular sub-asset classes. Further, this framework assumes the liquid/illiquid allocations would come from the traditional asset mixes of stocks and bonds, but institutions and advisors would need to consider many unique variables with their portfolios to make such a determination. This analysis also assumes all of the portfolios are rebalanced every year to these same weightings, which isn't typically the case with illiquid private assets.

Exhibit 5 sets forth the statistics we utilized as inputs to our allocation analysis by investor persona. These include performance returns for the full period, risk (as measured by standard deviation), Sharpe ratio (a measure of risk-adjusted returns), and downside risk at 5% (a statistical measure of a worst-case return). As we have shown in prior Fidelity research, the liquid alternative strategies demonstrated lower returns but also lower volatility and downside risk; meanwhile, our basket of illiquid investments exhibited higher returns but also much higher volatility.

EXHIBIT 5: Return, risk, Sharpe ratios, and downside risk statistics used in this research (2005–2022).

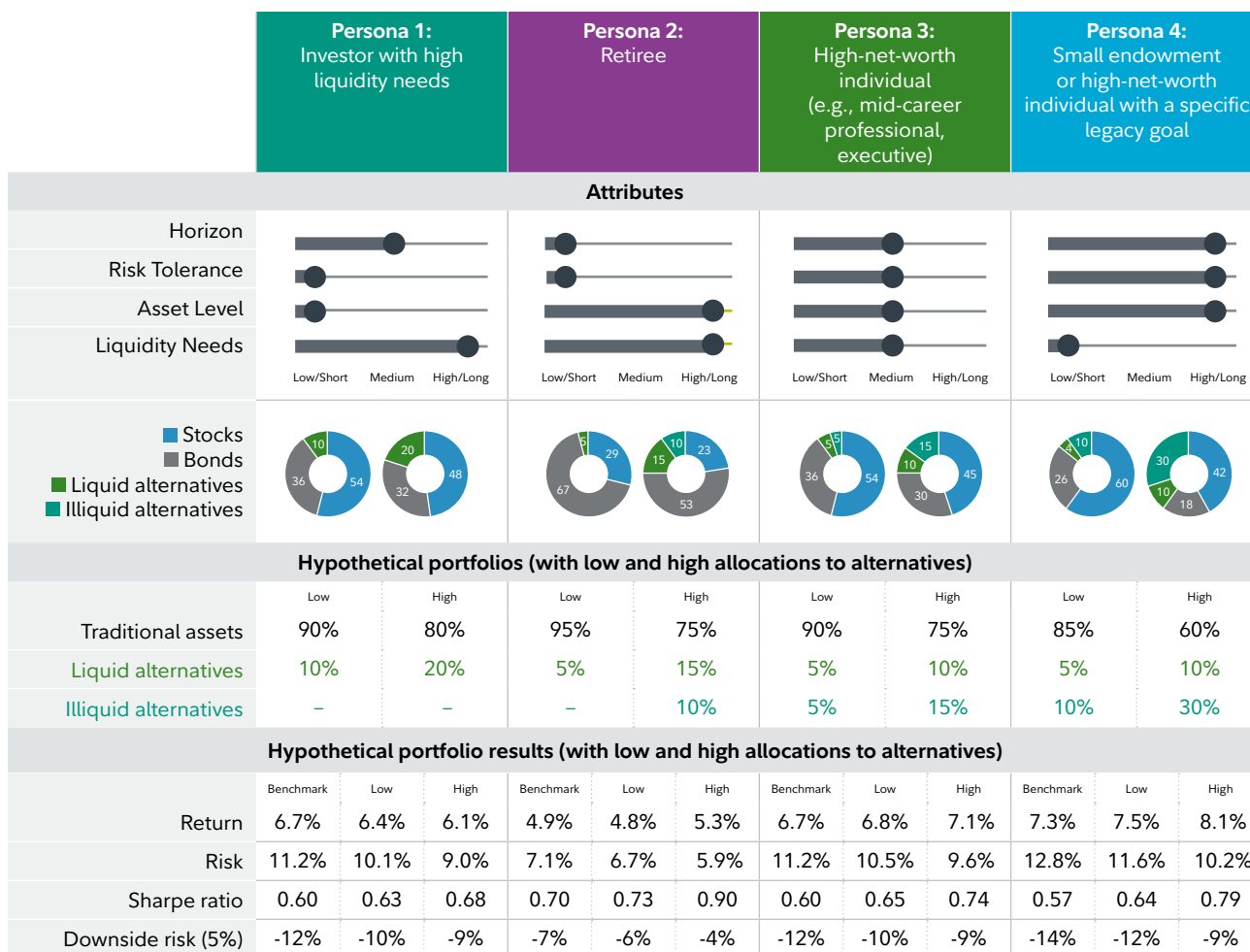
CATEGORY	RETURN	RISK	SHARPE RATIO	DOWNSIDE RISK (5%)
Traditional 30%/70%	4.9%	7.1%	0.70	-7%
Traditional 60%/40%	6.7%	11.2%	0.60	-12%
Traditional 70%/30%	7.3%	12.8%	0.57	-14%
Liquid	3.5%	4.0%	0.88	-3%
Illiquid	11.2%	12.0%	0.94	-8%

Past performance is no guarantee of future results. Returns reflect mean annual returns over the period, 2005–2022. Risk reflects standard deviation of the annual returns over the period. Sharpe ratio is a measure of historical risk-adjusted performance, calculated by dividing excess returns minus the “risk free” return rate by the standard deviation of the returns. A 5% downside risk is defined as return that is the 5th percentile. It is a parametric statistic that measures the worst-case return in the left tail, assuming returns and volatility follow a normal distribution. Stocks/bonds allocations represented by the S&P 500 and the Bloomberg U.S. Aggregate Bond Index. The liquid alternatives allocation is represented by equal weights of macro, equity market-neutral, and managed futures strategies, while the illiquid alternative allocation is represented by equal weights of private equity (equity-generalist), direct lending, and private real estate. Investors should note that actual investment portfolios would likely comprise different or more sub-asset classes. See Appendix for index/asset category definitions. Sources: Standard & Poor's, Bloomberg Finance LP, Morningstar, Burgiss, Societe Generale, Cliffwater LLC, NCREIF, and Fidelity Investments, as of Dec. 31, 2022.

Based on our investor personas and portfolio assumptions, our framework and analysis suggest that risk, downside risk, and risk-adjusted returns generally improve by adding allocations to liquid and/or illiquid alternatives (Exhibit 6). The exhibit offers each persona's traditional asset mix with varying allocations to liquid and illiquid alternatives, along with the accompanying statistics to compare the return, risk, downside risk, and Sharpe ratios of each mix.

The traditional portfolios reflect stocks' strong performance over the full period studied, but with a challenging 2022. Alternatively, we note that some liquid alternative strategies such as macro and equity market-neutral experienced some return challenges during this period as a result of historically low interest rates and inflation. These strategies experienced a strong 2022 amid a structural change in monetary policy with normalizing rates and rising inflation.

Exhibit 6: Fidelity's analysis suggests that risk, downside risk, and risk-adjusted returns generally improve by adding allocations to liquid and/or illiquid alternatives.



Past performance is no guarantee of future results. Pie charts may not sum to 100 due to rounding. Benchmarks: 60%/40% stocks/bonds for Personas 1 and 3; 30% stocks/70% bonds for Persona 2; and 70% stocks/30% bonds for Persona 4. Returns reflect mean annual returns over the period, 2005–2022. Risk reflects standard deviation of the annual returns over the period. Sharpe ratio is a measure of historical risk-adjusted performance, calculated by dividing excess returns minus the “risk free” return rate by the standard deviation of the returns. For simplicity, the stocks/bonds allocations represented by the S&P 500 and the Bloomberg U.S. Aggregate Bond Index. The liquid alternative allocation represented by equal weights of macro, equity market-neutral and managed futures strategies, and the illiquid alts allocation represented by equal weights of private equity (equity-generalist), direct lending, and private real estate. Sources: Standard & Poor’s, Bloomberg Finance LP, HFR Inc., www.HFR.com, © 2023 HFR, Inc. All rights reserved, Morningstar, Burgiss, Societe Generale, Cliffwater LLC, NCREIF, and Fidelity Investments, as of Dec. 31, 2022. See Appendix for index/asset categories.

Starting with Persona 1, an investor with high liquidity needs, we would note the addition of a liquid alternative allocation of 10% to 20% improved the overall risk/return profile of a traditional 60%/40% portfolio. While the returns are slightly reduced based on the lower returns from the liquid alternative strategies, their lower risk ensured the Sharpe ratio remained high (and improved) and the downside loss was mitigated.

Moving to the right on the table, or from higher to lower liquidity needs, we next examined the Persona 2 investor in retirement. In this case, the range of liquid allocations was lower at 5% to 15%, but with an improved risk/return profile over a benchmark 30%/70% portfolio. With eligibility for private investments, an illiquid allocation of up to 10% improved return, risk, and downside risk characteristics, resulting in a much higher Sharpe ratio.

Moving further right to Persona 3 (the high-net-worth individual, mid-career professional, or executive) an allocation of up to 10% to liquids, combined with an allocation of 5% to 15% to illiquids, resulted in improved returns relative to the traditional 60%/40% portfolio, along with decreasing risk, downside risk, and increasing Sharpe ratios. For these investors, their eligibility, risk tolerance, and higher asset levels allow them to take advantage of the enhanced returns from private investments that stem from the illiquidity premium.

Finally, we consider the allocation of up to 30% to illiquid alternatives for the small endowment or high-net-worth individual with a specific legacy goal. The return enhancement with this allocation to private investments was notable, increasing portfolio returns by nearly 1% relative to the starting 70%/30% portfolio, but with lower risk and a significantly higher Sharpe ratio. We would note this analysis also includes an allocation of up to 10% to liquid alternatives, although many endowments today have reported weightings higher than that amount.

Looking at the return characteristics across the various portfolios, one important observation is that liquid and illiquid alternatives play complementary roles in portfolio construction. Specifically, portfolios that have positive allocations to both types of alternatives (Personas 2, 3, and 4) have historically tended to deliver a higher expected return with a lower risk than a traditional asset portfolio.

No “one-size-fits-all” with alternative investing

While we feel the research-based framework presented here may be a useful way to approach the challenging task of implementing alternatives, we acknowledge investors should consider these allocations as guidelines depending on their unique investment profiles and objectives. Importantly, implementation must also focus on portfolio construction questions including: where to source an alternative allocation; how to develop a cash flow plan for capital calls and other funding requirements; and how to build the right diversified mix of strategies that balances income, capital appreciation, and diversification needs.

As we noted, we may have defined our four personas based on various characteristics, but investors may meet some but not all of them and could cross into different investor types. Our results and allocations are also dependent on assumptions regarding returns and other inputs. For instance, the liquid alternative strategies we analyzed here have exhibited lower returns (along with lower risk and higher diversification benefits), but private equity, direct lending, or real estate investments in newer, semi-liquid structures could enhance those returns. The variability of returns among managers in any of these alternative categories is also high, and even higher than in traditional categories. Manager research and selection can therefore play an important role and result in meaningfully different returns and outcomes, which we will explore in future research.

For more information on determining allocations in liquid and illiquid alternative investments and related portfolio construction questions, please contact your Fidelity representative.

Appendix

Exhibit 2 and Exhibit 3 methodology details:

- Traditional asset categories: U.S. large cap equity—Russell 1000 Index; U.S. small cap equity—Russell 2000 Index; developed-market equity—MSCI EAFE Index; emerging-market equity—MSCI Emerging-Market Index; Treasuries—Bloomberg U.S. Long Treasury Index; Treasury inflation-protected securities—Bloomberg U.S. Treasury Inflation Linked Bond Index; investment-grade bonds—Bloomberg U.S. Credit Index; high-yield bonds—ICE BofA US High Yield Index; REITs—FTSE NAREIT All Equity REIT Index. Alternative asset categories: Liquid alternatives—HFRI Macro Total Index, HFRI EH Equity Market Neutral Index; managed futures: SG CTA Index (note, there may be managed futures strategies in both the HFR and SG indexes); private equity—equity-generalist, buyout and venture capital reflect annual return data from Burgiss; private credit—direct lending represented by the Cliffwater Direct Lending Index, distressed debt reflects annual return data from Burgiss; real assets—private real estate represented by the NFI ODCE Index. Burgiss Data used in this research reflects returns of U.S. private capital funds and funds of funds.
- We started our analysis in 2005, which represented the longest period for these 18 asset classes. Our analysis began in 2005 because that is the earliest we could obtain high-quality data for direct lending—the largest category of private credit. Longer or different time periods could result in different outcomes.
- We used three indexes to represent liquid alternatives in the research because they have longer track records dating back to 2005, the beginning of the time period in our analysis, and the indexes represent strategies that are often offered in liquid structures. But we would note that liquid alternatives strategies represent a diverse range of investment strategies that would be much wider in scope. We would also note that the HFR and SG index constituent strategies offer a spectrum of liquidity and may include some strategies with lockups or other illiquidity features.
- Unsmoothing: For venture capital, distressed debt, and private real estate, we used the statistical procedure outlined in Coutts et al. (2020), section 1.3 to “unsmooth” returns for venture capital and distressed debt. Specifically, we fit a MA(L) process to the annual return for the given asset class and if there is evidence of autocorrelation, we use the estimated MA(L) coefficients to obtain return series that are not correlated over time. Unsmoothed returns for the Cliffwater Direct Lending Index, a publicly available index with infrequent (quarterly) pricing, were provided by the index provider. Coutts, Spencer J. and S. Gonçalves, Andrei and Rossi, Andrea, “Unsmoothing Returns of Illiquid Funds” (November 25, 2020). Kenan Institute of Private Enterprise Research Paper No. 20-05, USC Lusk Center of Real Estate Working Paper Series, Available at SSRN: <https://ssrn.com/abstract=3544854> or <http://dx.doi.org/10.2139/ssrn.3544854>
- Given that the Cliffwater Direct Lending Index reflects unlevered, gross of fees performance, we made the following modeling adjustments so the returns would align with the other eight alternative asset classes shown in this research, in regard to how most investors can likely access each asset class. First, we assumed a hypothetical leverage (debt-to-equity ratio) of 100%, along with an assumed leverage cost of 2.5% over the Secured Overnight Funding Rate (SOFR); and next we subtracted estimated fees of 2.7%, which reflect management, performance and direct-lending fees typically charged to investors. These estimations are based on Fidelity internal research, academic literature review, and communication with fund managers. Of note, both the mean return and volatility measures increase after these adjustments.

Exhibit 5 and 6 index and asset classes:

- Traditional stocks and bonds—stocks are represented by the S&P 500 Index and bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Liquid alternatives—equal weights of HFRI Macro Total Index, HFRI EH Equity Market Neutral Index; managed futures: SG CTA Index (note, there may be managed futures strategies in both the HFR and SG indexes); illiquid alternatives—equal weightings of equity-generalist, direct lending, and private real estate. Equity-generalist reflect annual return data from Burgiss; direct lending represented by the Cliffwater Direct Lending Index (using the modeling approach discussed above to show net of fees returns that reflect leverage); and private real estate represented by the NFI ODCE Index. Burgiss Data used in this research reflects returns of U.S. private capital funds and funds of funds.

Index definitions

Bloomberg U.S. Credit Index is a market value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more.

Bloomberg U.S. Long Treasury Index measures the performance of U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury with a maturity greater than 10 years.

Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L) is a market value-weighted index that measures the performance of inflation-protected securities issued by the U.S. Treasury.

Cliffwater Direct Lending Index is an asset-weighted index of over 8,000 directly originated middle market loans totaling \$223 billion. The CDLI assists investors to better understand asset class characteristics and to benchmark manager performance.

ICE BofA U.S. High Yield Index is a market capitalization-weighted index of U.S. dollar-denominated, below-investment-grade corporate debt publicly issued in the U.S. market.

The FTSE NAREIT All Equity REITs Index is a free-float-adjusted, market capitalization-weighted index of U.S. equity REITs. Constituents of the index include all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets other than mortgages secured by real property.

HFRI Macro Total Index: Investment managers who trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency, and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches, and long and short-term holding periods. Although some strategies employ relative value techniques, macro strategies are distinct from relative value strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to equity hedge, in which the fundamental characteristics on the company are the most significant are integral to investment thesis. In order to be considered for inclusion in the HFRI Monthly Indices, a hedge fund manager must submit a complete set of information to the HFRI Database. Additionally, all HFRI constituents are required to report in U.S. dollars monthly, net of all fees, performance and assets under management. Constituent funds must have either \$50 million assets under management or at least \$10 million USD assets under management on the last reported month prior to the index rebalance and have been actively trading for at least 12 months.

HFRI EH Equity Market Neutral Index: Equity market-neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between select securities for purchase and sale. These can include both factor-based and statistical arbitrage/trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical arbitrage/trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies that may occur as a function of expected mean reversion inherent in security prices; high-frequency techniques may be employed and trading strategies may also be employed on the basis on technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely, or accurately discounted into current security prices. Equity market-neutral strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

SG CTA Index is designed to track the largest 20 (by AUM) CTAs and be representative of the managed futures space. Managers must be open to new investment and report returns on a daily basis. The CTA Index is equally weighted, and rebalanced and reconstituted annually.

NFI-ODCE Index (NCREIF), short for NCREIF Fund Index Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 38 open end commingled private real estate funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s.



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Index definitions continued

The MSCI Europe, Australasia, Far East Index (EAFE) is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in developed markets, excluding the United States and Canada.

MSCI Emerging-Markets (EM) Index is a market capitalization-weighted index designed to measure the investable equity market performance for global investors in emerging markets.

The Russell 1000 Index is a market capitalization-weighted index designed to measure the performance of the large cap segment of the U.S. equity market.

The Russell 2000 Index is a market capitalization-weighted index designed to measure the performance of the small cap segment of the U.S. equity market. It includes approximately 2,000 of the smallest securities in the Russell 3000 Index.

Endnotes

1. Exhibit 2 and Exhibit 3 efficient frontier analysis constrained by the following minimum and maximum allocations: Russell 1000 Index (Min: 0%; Max: 60%); Russell 2000 Index (Min: 0%; Max: 15%); MSCI EAFE Index (Min: 0%; Max: 30%); MSCI Emerging-Markets Index (Min: 0%; Max: 15%); Bloomberg US Long Treasury Index (Min: 0%; Max: 15%); Bloomberg US Treasury Inflation Linked Bond Index (Min: 0%; Max: 15%); Bloomberg US Credit Index (Min: 0%; Max: 40%); ICE BofA US High Yield Index (Min: 0%; Max: 15%); FTSE NAREIT All Equity REITs Index (Min: 0%; Max: 15%); all alternatives categories (Min: 0%; Max: 10%).

2. "A Study of Allocations to Alternative Investments by Institutions and Financial Advisors," Fidelity Investments, April 2023.

3. Ibid.

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