INSTITUTIONAL

THE ROLE OF LIQUID ALTERNATIVES IN PORTFOLIOS

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September 2020

1. Summary

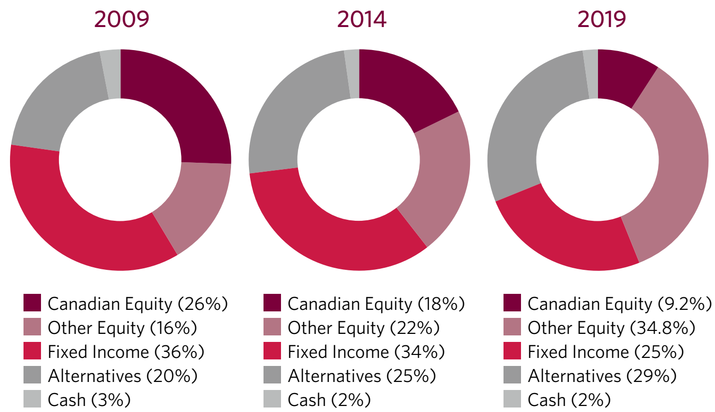
- Investors continue to reduce exposure to traditional assets in favour of alternatives, with a focus on illiquids.
- The realized performance of illiquids is often less attractive than expected, across criteria broader than just expected returns, including diversification and tail-risk mitigation.
- Liquid alternatives complement allocations to both traditional assets and illiquids, by contributing to an increase in expected returns, and diversifying portfolio risk concentrations.
- Return enhancing liquidity is a valuable portfolio attribute: for all investors during periods of equity market stress;[2] for mature plans with current liabilities; and for plans invested in illiquids as a way to mitigate the opportunity cost of lengthy wait times between capital commitments and calls.

2. Introduction

Investors in traditional assets such as equities and bonds face two important challenges: concentrated portfolio risks and relatively low expected returns. As performance in the first quarter of 2020 demonstrated, Balanced portfolios are anything but balanced, and are instead heavily exposed to equity and economic risk. They also have a significant allocation to Developed Market sovereign bonds, for which long-term expected annualized returns appear meager.

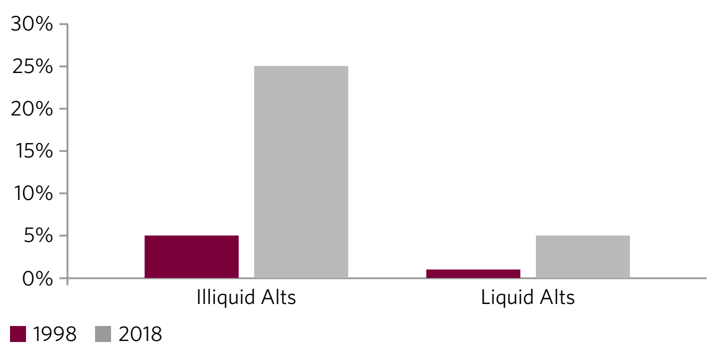
One way many investors have sought to alleviate these challenges is by allocating to alternative assets and strategies (Figure 1). In so doing, they have revealed a broad willingness to bear additional illiquidity risk (Figure 2).

Figure 1 – Institutional portfolio allocations have shifted towards alternatives



Source: This information was prepared by CIBC Asset Management Inc. using the following third-party service provider: Pension Investment Association of Canada. Data as at December 2019.

Figure 2 – Illiquids have dominated the switch into alternatives



Source: This information was prepared by CIBC Asset Management Inc. using the following third-party service provider: Pension Investment Association of Canada. Data as at December 2019

Investors often associate illiquidity risk with a positive return premium. Artificial return smoothing inherent in illiquid alternatives also provides value to long-horizon investors, for instance as a means to minimize funding or contribution rate volatility.[3] And forced illiquidity can mitigate any tendency for investors to effect ill-timed changes in strategic portfolio allocations.[4]

[1] Michael Sager is a Vice-President, Multi-Asset and Currency, in the Institutional Asset Management Team.
[2] In addition to being a source of diversifying return, liquidity can also be important as a source of funding for margin calls and to settle periodic losses from strategic foreign exchange hedges.
[3] Return smoothing requires investors to accept a lower expected return on investments, thereby diminishing the magnitude of any available illiquidity premium.
[4] Analysis of the so-called Investor Gap suggests tactical timing of strategic asset, or manager, allocation decisions has subtracted value for the median investor (Kinnel, (2019), Dalbar (2020)).

Notwithstanding this revealed preference, experience during 2020 Q1 underscored the importance of sizing illiquidity risk appropriately, to complement other features of investor portfolios. Replacing one concentrated risk with another is not an optimal strategy.[5]

Return-enhancing liquidity remains an important, and often under-exploited feature of investment portfolios. Liquid alternatives complement allocations to illiquids, in at least two ways. First, in strategic asset allocations that seek to achieve return targets and funding status objectives within a framework balancing portfolio exposure to identified risk factors, including illiquidity.

Second, as a means of alleviating the opportunity cost experienced by investors in illiquids during wait periods for initial capital calls and eventual asset divestments. Typical wait times are equivalent to 3 years' investment activity (Bain Associates, 2020); divestment periods can be longer still (McKinsey and Company, 2020).

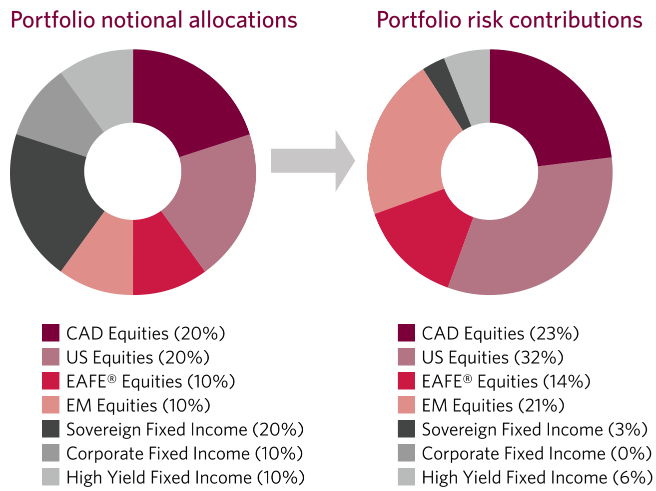
Under-allocation to liquid alternatives has been encouraged by a perception that liquidity is associated with a drag on performance. We challenge this perception. Based on an analysis of expected returns, average correlation, and tail risk mitigation, we argue liquid alternatives represent a core component of a well-constructed investment portfolio.

3. Challenges

Investors continue to allocate portfolio capital away from traditional asset classes and towards alternatives. This migration has been motivated by two themes.

First, to mitigate portfolio risk concentration. Traditional Balanced portfolios appear well diversified, with sizeable notional capital allocations to domestic and global equities, and sovereign and corporate Fixed Income securities (Figure 3).

Figure 3 – Traditional Balanced portfolios exhibit an excessive concentration of equity risk



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bloomberg. Illustrative example. "EAFE" is a registered trademark of MSCI Inc., used under license.

What are Alternative Investments?[6]

Alternative Assets

Assets that cannot be bucketed into one of the conventional investment types, such as equities, bonds and cash.

Returns to these alternative assets are often uncorrelated or less correlated to traditional assets

- **Liquid Assets**
  - Currencies
  - Commodities
- **Illiquid Assets**
  - Real Estate
  - Infrastructure

Alternative Strategies

Investment vehicles are structured to hold a wide range of financial assets—both traditional and non-traditional—managed using non-conventional methods (e.g. short selling)

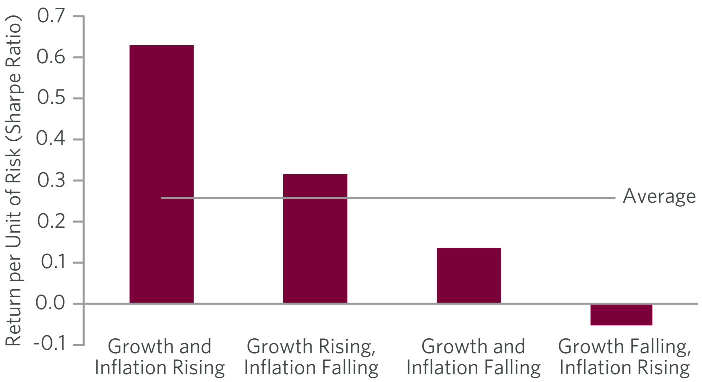
- **Liquid Assets**
  - Multi-strategy / Absolute return
  - Global macro
  - Event-driven strategies
  - Unconstrained bond strategies
  - Equity market-neutral
  - Long/short equity
- **Illiquid Strategies**
  - Private Equity
  - Private Debt

[5] Mark Machin, CEO of the Canadian Pension Plan Investment Board, warned prior to 2020 equity market correction against excessive exposure to illiquidity risk. Source: https://www.bloomberg.com/news/articles/2020-01-20/machin-at-davos-warns-pension-funds-on-rush to-illiquid-assets.

[6] In this paper, we primarily focus our discussion of illiquids on alternative strategies, and specifically Private Equity and Hedge Funds, and address the role of real assets in a subsequent paper. We define Private Equity as Leveraged Buyout funds; estimates suggest this sector represents 60% of the aggregate Private Equity market (Døskeland and Strömberg, 2018).

In reality, Balanced portfolio risk is concentrated in equities, and upon specific states of the macroeconomy; the portfolio will perform well when economic growth is relatively strong and inflation benign. This has been the predominant state through history, and particularly during the past ten years, making this bias an attractive long-term portfolio characteristic. But in periods when other economic conditions prevail, performance will typically undershoot target returns (Figure 4).

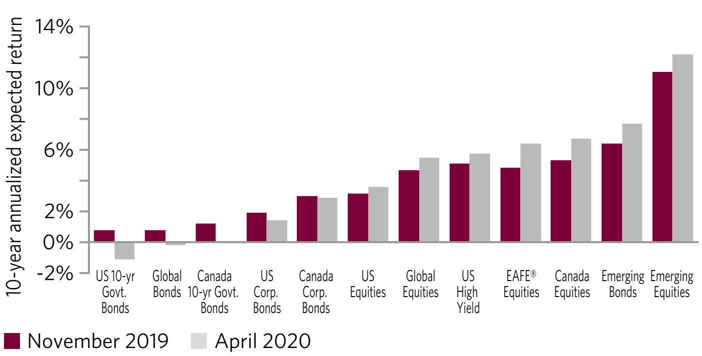
Figure 4 – Traditional Balanced portfolios exhibit high economic risk concentrations



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bloomberg. Calculated over sample period 1988-2020, and using returns in excess of cash to 60/40 Balanced Portfolio. Inflation measured as % y/y in US CPI; growth measured as % y/y in US Real GDP growth. Inflation & growth rising (falling) measured as quarterly observation higher (lower) than trailing 4-quarter average of respective series. Data as at April 30, 2020.

The second theme motivating the migration from traditional assets to alternatives is a search for additional sources of return (Figure 5). Price corrections driven by COVID-19 improved the outlook for equity returns. But expected returns to Developed Market (DM) sovereign Fixed Income markets have continued to decline. Low nominal and real yield levels mean that bonds will be less able to protect portfolios in future periods of equity market stress, or to contribute meaningfully to returns over the long term.

Figure 5 – Long-term expected returns

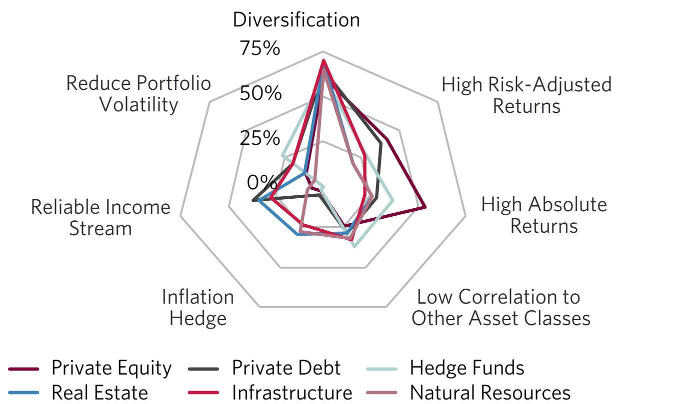


Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Thomson Reuters Datastream. "EAFE" is a registered trademark of MSCI Inc., used under license. Data as at April 30, 2020.

4. Outcomes

The allocation of portfolio risk capital to any asset class, investment strategy, or manager is motivated by the expectation of a commensurate improvement in aggregate portfolio performance. This improvement can be measured across various metrics, depending upon the specific objectives of individual investors (Figure 6).

Figure 6 – Expected performance outcome of portfolio allocation to alternatives, % survey respondents



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Preqin. Data as at March 31, 2020.

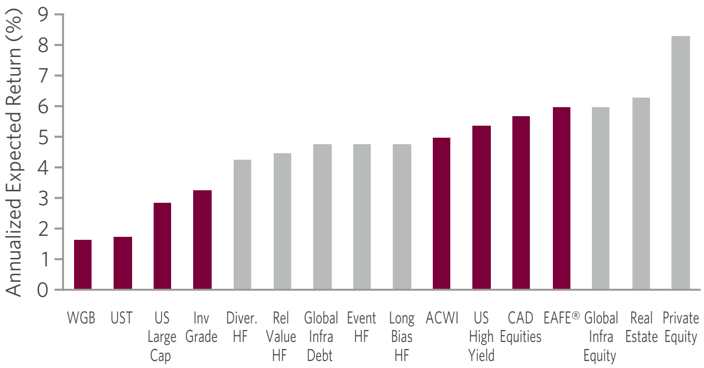
In the following analysis, we walk through a comparison of illiquid and liquid alternatives using two performance criteria: standalone expected returns; and diversification. For the latter criterion, attention typically focuses on long-term average correlations. While these are relevant, recent experience has emphasized the importance of also considering correlations during periods of market stress, and of allocating to strategies able to mitigate capital drawdowns experienced by other portfolio allocations during the most extreme events. Based upon an analysis of these criteria, our conclusions provide strong evidence in favour of an allocation to liquid alternatives.

4.1. Expected Returns

Expected returns to illiquid alternatives, and particularly Private Equity, are attractive compared to public market equivalents (Figure 7). They become less compelling once we identify the risk factors that explain them: Size, Value, Quality, and Leverage (L'Her et. al., 2016, Klymochko, 2019).[7]

[7] Investments in illiquid alternatives, including Private Equity, also impose a cash drag on portfolio expected returns during lengthy wait periods for initial capital calls.

Figure 7 – Annualized expected returns to Private Equity, and other illiquid alternatives, are relatively attractive

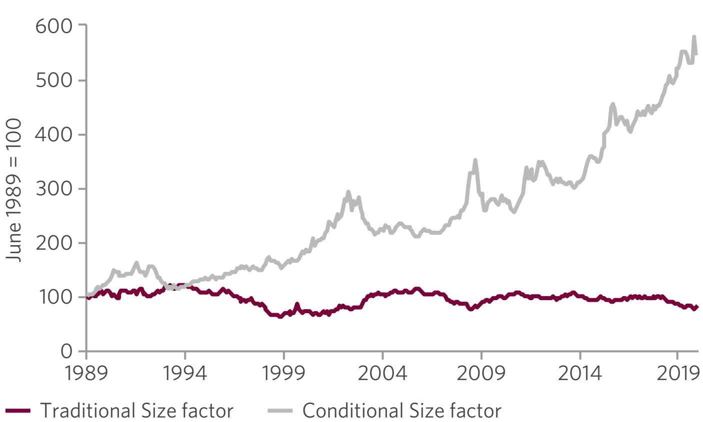


WGB = World Government Bonds; UST = US 10-year Treasuries; HF = Hedge Funds; Diver. = Diversified.
ACWI = All-Country World Index equities

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Thomson Reuters Datastream; JP Morgan. "EAFE" is a registered trademark of MSCI Inc., used under license. Data as at April 30, 2020.

The long-term efficacy of a naïve Size premium has been rejected (Alquist et. al., 2018). But a conditional Size premium is alive and well: a persistent portfolio tilt towards undervalued, good quality small- and mid-cap equities has achieved strong performance over the past three decades (Figure 8; Asness, Frazzini, and Pedersen, 2019).

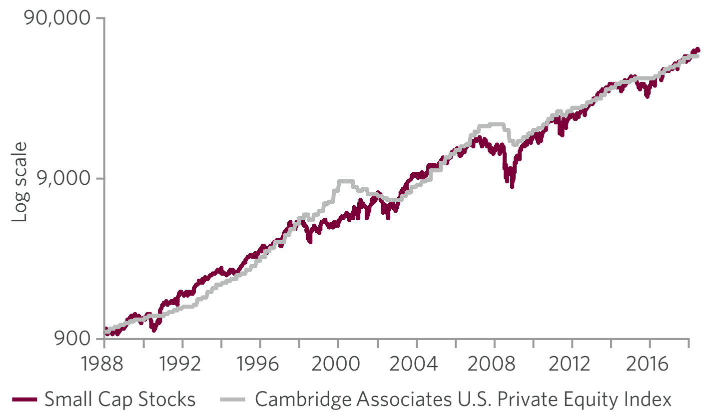
Figure 8 – A conditional Size factor has performed strongly over the past three decades



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: AQR. Data as at April 30, 2020.

This insight challenges the existence of a persistent Private Equity illiquidity premium (Ang, 2014). Instead, it suggests returns to Private Equity are replicable with a targeted—lower cost, more liquid, and transparent—allocation to attractive small- and mid-cap public equities (Figure 9).[8] Except for the largest investors—who are unable to make an appropriately sized portfolio allocation to small- and mid-cap equities, and who have a better chance of persistently allocating to the strongest performing Private Equity funds—this strategy appears to be another way to harvest returns captured by Private Equity over the long term.

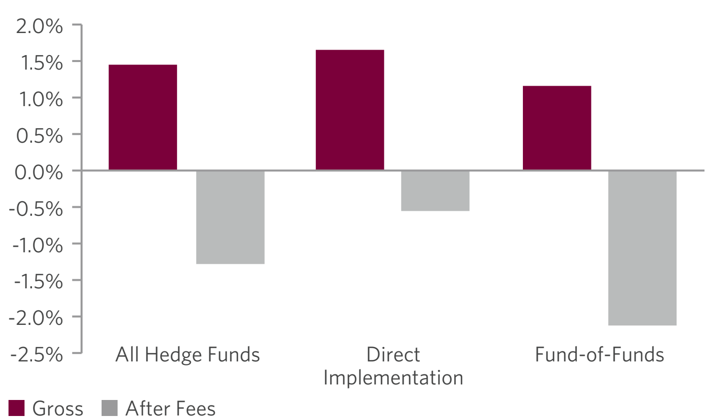
Figure 9 – Liquid replication strategies disrupt the illiquid alternative business model[9]



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: FactorResearch (2018). Data as at December 31, 2018.

Historical returns to Hedge Funds, another illiquid alternative, are also attractive relative to public equities and bonds, on a gross-of fee basis (Figure 10). This is unsurprising: many Hedge Funds exploit inherently sound investment strategies that harvest expected returns from well-established risk premiums and behavioural anomalies that have an attractive expected return.

Figure 10 – Hedge Fund annual returns relative to a representative benchmark



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: CEM Benchmarking. Representative benchmark defined as 40/60 Equity / Fixed Income. Sample is 2000-2016.

[8] The volatility of this replication strategy will be higher than Private Equity, since it is constructed using public securities for which reported returns are unsmoothed. And leverage will be similar between the two strategies.
[9] Similarly, US Venture Capital has not outperformed the Nasdaq index since 2002 (FactorResearch, 2020).

As Figure 10 also highlights, the key issue confronting investors allocating to Hedge Fund strategies has been the magnitude of fees, which have been a major driver of disappointing net performance often realized by investors over the past two decades.

4.2. Diversification

Returns to illiquid alternatives are typically reported on a smoothed basis, reflecting pricing norms that include infrequent marking-to-market. This smoothness is valued by long-horizon investors, for instance as a means of mitigating the volatility of plan funding status and contribution rates. Return smoothing allows illiquids to be a source of diversification, particularly during periods of significant market stress, and a means of minimizing the risk of ill-timed asset allocation decisions.

For our purposes, we wish to consider the true correlation structure of returns to Private Equity, and so unsmooth returns using standard statistical techniques.

Once we strip away artificial smoothness, the diversification benefit of allocating to Private Equity, and other illiquids, is relatively low (Figure 11); average pairwise correlations to public equities exceed 60% in most cases. These unsmoothed correlations are intuitive. Private Equity is a levered play on core public equity. Both allocations exhibit exposure to similar underlying cash flows and to the same principle risk factor, macroeconomic growth (Stafford, 2015).

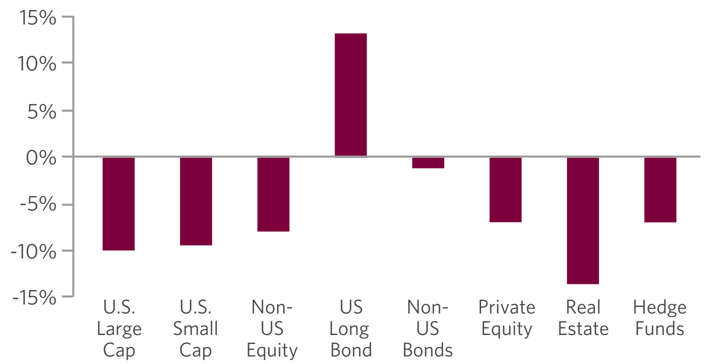
Figure 11 – Monthly pairwise correlations of Private Equity, and other illiquid alternatives, to public equity

Asset class	Private Equity	Infrastructure	Real Estate
S&P 500	0.81	0.67	0.67
MSCI WORLD	0.79	0.78	0.74
EAFE®	0.68	0.81	0.73
Russell 2000	0.70	0.56	0.66
MSCI EMF	0.51	0.65	0.62

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Thomson Reuters Datastream. "EAFE" is a registered trademark of MSCI Inc., used under license. December 2002-May 2020. Correlation matrix equally weighted.

In addition to relatively high average pairwise correlations, and commensurately low diversification benefits, the ability of Private Equity to alleviate negative public equity performance during periods of market stress has not been favourable (Figure 12).

Figure 12 – Performance of selected asset classes & strategies during the 2007/08 Global Financial Crisis (GFC)[10]



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: CEM Benchmarking. Returns standardized to 10% volatility to facilitate comparison. Reported return performance refers to 2007-2008.

Similar to Private Equity, the existence of a distinct Hedge Fund illiquidity return premium, in many cases, is not obvious. Instead, the source of Hedge Fund illiquidity often derives from artificial, manager-imposed lockups and gate provisions, rather than inherent features of asset classes or strategies to which the Hedge Fund manager is exposed.

Nonetheless, many Hedge Funds do invest on the basis of coherent strategies that exploit well-established risk premiums and behavioural anomalies that have an attractive expected return and exhibit a relatively low average correlation to public equity (Figure 13). This is a strong foundation from which to build.

Figure 13 – Monthly pairwise correlations of illustrative Hedge Fund strategies and public equity

Asset class	Agg. HFs	Macro / CTA	Credit	Discr. Thematic
S&P 500	0.44	-0.03	0.31	0.12
MSCI WORLD	0.37	-0.11	0.24	0.07
EAFE®	0.29	-0.16	0.17	0.04
Russell 2000	0.26	-0.18	0.15	-0.04
MSCI EMF	0.07	-0.29	-0.05	-0.05

Agg. HFs = Aggregate Hedge Funds; CTA = Commodity Trading Advisor; Discr. = Discretionary.
Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Thomson Reuters Datastream. "EAFE" is a registered trademark of MSCI Inc., used under license. December 2002-May 2020. Correlation matrix equally weighted.

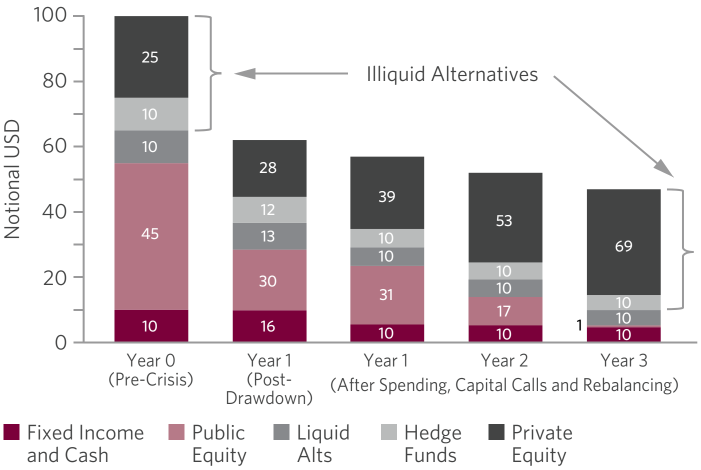
But from Figure 12 above, and similar to Private Equity, Hedge Funds in aggregate did not mitigate losses to public equity during the GFC. They provide some progress towards investor's search for more diversification, but appear to fall short at important times.

[10] A similar conclusion applies to 2020 Q1: Private Equity returned between -9.7% & -11.3%, depending upon definition (Cambridge Associates, 2020).

4.3. Liquidity

Allocations to Private Equity and Hedge Funds also have important implications for portfolio liquidity. Most attention focuses upon the lengthy wait for capital calls associated with allocations to Private Equity, during which committed capital often sits either exposed to the risk from which investors are seeking to diversify, or in low return cash. Once capital calls begin, they typically persist, often including during periods of market stress, when market and portfolio liquidity is often low.[11] Also unfavourable to plan liquidity, Private Equity funds typically take an extended time period to wind down (McKinsey and Company, 2020); capital can be locked into these funds long past the expected timeframe. Both factors can lead to important, undesired shifts in portfolio allocations, and emphasizes the importance of appropriately weighting strategic allocations to illiquid and liquid alternatives within portfolios (Figure 14).

Figure 14 – Portfolio allocations can shift significantly during periods of market illiquidity



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Cambridge Associates (2019). Illustrative example. Data on bars report percentage of portfolio allocated to each asset class and strategy. Data may not sum to 100% due to rounding. In this stylized stress scenario, Year 1 returns for each asset class are assumed equal to the asset class's peak-to-trough drawdown during the 2007-09 Global Financial Crisis, with returns assumed to be zero in Years 2 and 3. Spending is held constant at 5% of the original portfolio value. The annual pace of capital calls is set at 20% of the initial allocation to private investments. Cash outlays are assumed to occur at year-end. Spending in the scenario is drawn from asset classes in a way that targets a consistent level of portfolio exposure to equity (private and public combined).

4.4. Liquid Alternatives

Investor interest in adding to existing Hedge Fund allocations has waned. This is understandable, given disappointing net-of-fee performance. But it should not obscure the attractive long-term expected returns associated with the coherent fundamental and behavioural relationships that many Hedge Fund strategies exploit. The key is to allocate to these strategies in a way that does not incur high fees, low liquidity, and low transparency.

Liquid Alternatives represent one solution.[12] Many are similar to Hedge Funds in terms of the investment strategies they exploit to add value to investment portfolios. They are markedly different in other aspects, including liquidity, transparency, and fees (Figure 15).

Figure 15 – Fees associated with liquid alternatives are often lower than Hedge Funds despite a similarity of investment strategies

Performance	Management (%)	Performance* (bps)
Hedge Fund standard	2.0	20
Current industry average	1.4	17
Liquid alt. indicative fee option 1 **	0.0	15
Liquid alt. indicative fee option 2**	0.1	12

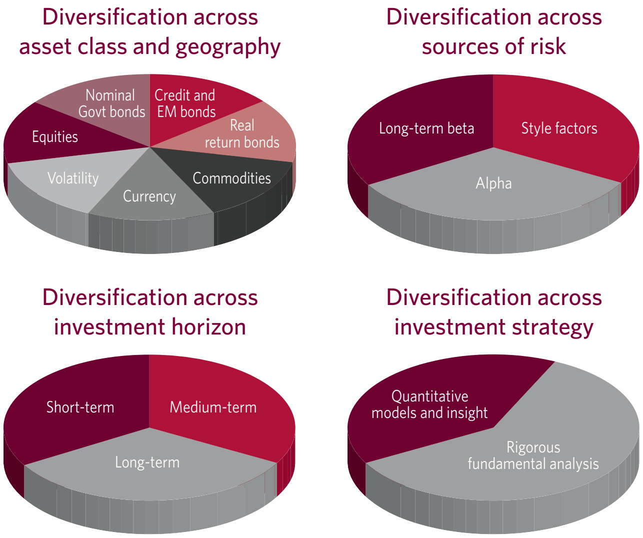
* Per each 1% return target. Performance targets often incorporate a High-Water Mark.
** Illustrative example based on the CIBC Multi-Asset Absolute Return Strategy (MAARS). Indicative only, and subject to adjustment depending, inter alia, on mandate size.
Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Credit Suisse. Data as at February 29, 2020.

One set of available liquid alternatives encompasses single asset strategies. Examples include the CIBC Asset Management (CIBC AM) absolute return Active Currency strategy, which has achieved a continuous twenty-four year track record ranked in the top quartile of the relevant manager universe.

Another set of liquid alternatives integrates multiple long-only and long/short Hedge Fund strategies across several asset classes, within a rigorous risk management framework. This set includes the CIBC AM Multi-Asset Absolute Return Strategy (MAARS). The resulting increase in investment breadth generates an attractive standalone expected return—contradicting the common perception of a performance drag associated with liquid alternatives—and portfolio exposures that load on risk factors diversifying to a traditional Balanced portfolio's concentrated exposure to macroeconomic growth (Figure 16).

[11] According to Cambridge Associates (2019), "...in the Global Financial Crisis, capital calls slowed materially, due to pushback from liquidity-challenged Limited Partners (LP), large bid-ask spreads for assets, severe debt funding challenges, and some General Partners' reluctance to buy severely impaired assets amid a financial crisis. While the next downturn could see a repeat of this slowdown, it would be risky for LPs to assume that capital calls will again dry up."
[12] We address the question of how much to allocate to liquid alternatives in a companion paper.

Figure 16 – Liquid alternatives offer diversification by construction

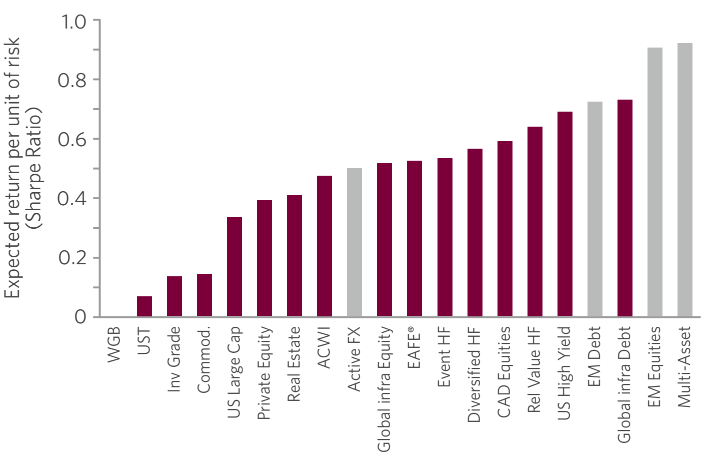


Source: CIBC Asset Management Inc.

High investment breadth and an absence of risk concentration suggest liquid alternatives should compare well against our performance criteria: expected returns; and diversification, onaverage and, particularly, in periods of extreme equity market stress.

From a long-term performance perspective, and in contradiction to the perception of an associated liquidity performance drag, the annualized expected return to liquid alternatives is comparable to Developed Market equity, and illiquids, particularly when adjusted for volatility, and is significantly higher than core DM sovereign Fixed Income (Figure 17).

Figure 17 – Expected risk-adjusted returns to single and multi-strategy liquid alternatives compare favourably to illiquids and traditional public assets

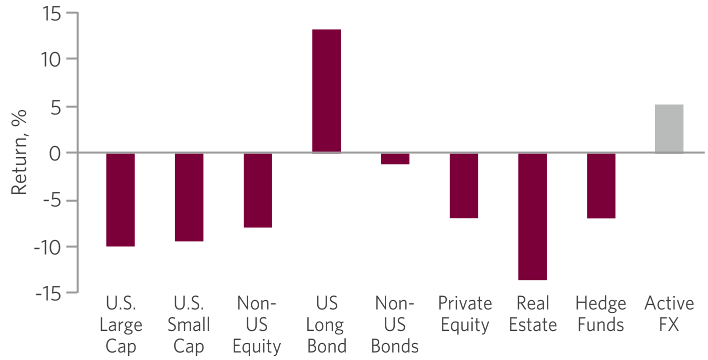


WGB = World Government Bonds; UST = US 10-year Treasuries; HF = Hedge Funds; Diver. = Diversified. ACWI = All-Country World Index equities

Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: JP Morgan Asset Management. "EAFE" is a registered trademark of MSCI Inc., used under license. Data as at April 30, 2020

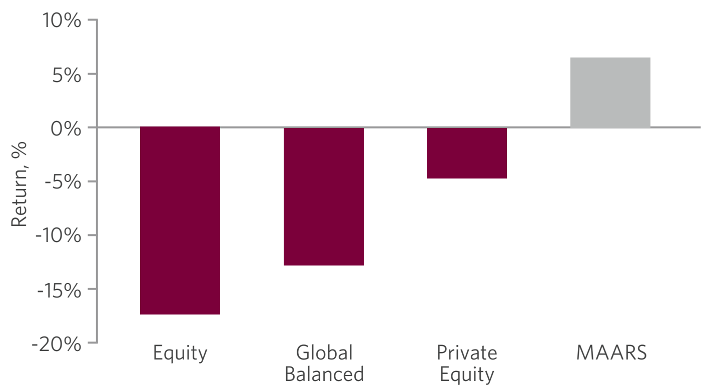
In terms of diversification, and focusing on tail risk mitigation specifically, liquid alternatives have demonstrated an ability to alleviate equity and Balanced portfolio under-performance during periods of market stress. This includes during both the GFC and 2020 Q1 (Figures 18a and 18b). This is an important contrast with Private Equity and Hedge Funds.

Figure 18a – Liquid alternatives demonstrated an ability to alleviate equity under-performance during the 2007/08 GFC



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: CEM Benchmarking. Returns standardized to 10% annualized volatility to facilitate comparison.

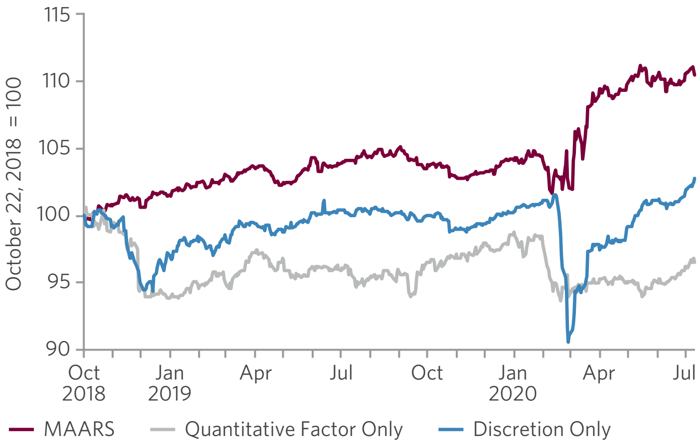
Figure 18b – Liquid alternatives demonstrated an ability to alleviate equity under-performance during 2020 Q1



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bloomberg; Cambridge Associates (2020). Equity is S&P/TSX index. Illustrative Global Balanced constructed as: Equities (30% Canada (S&P/TSX), 15% U.S. (S&P 500), 10% EAFE®, 5% Emerging Market (MSCI EM)); Fixed Income (20% Canadian sovereign bonds (FTSE TSX), 20% US sovereign bonds (Barclays US Aggregate Bond Index)). Returns standardized to 10% annualized volatility to facilitate comparison. "EAFE" is a registered trademark of MSCI Inc., used under license.

And reflecting a diversity and breadth of inputs, risk factors, and investment opportunities, multi-asset strategies also offer evidence of an ability to improve upon the realized performance of single strand investment strategies (Figure 19). True diversification matters.

Figure 19 – High investment breadth in multi-asset strategies facilitates outperformance versus other, narrower strategies



Source: The information was prepared by CIBC Asset Management Inc. using the following third-party service providers' data: Bloomberg. MAARS: Bloomberg ticker - RMAARSO CN Equity; Quantitative Factor Strategies: Bloomberg ticker - QGMIX US Equity; Discretionary Only: Bloomberg ticker - SUNSLBH CN Equity. Returns for each strategy standardized to 5% annualized risk. Data as at July 31, 2020

5. Conclusion

Liquid alternatives are an integral component of well-constructed investment portfolios. They complement allocations to other— traditional and illiquid alternative— asset classes and strategies, by diversifying portfolio loadings concentrated on equity, macroeconomic growth and illiquidity risk factors, and by improving expected long-term portfolio returns. Evidence from the Global Financial Crisis and the 2020 COVID-19 recession suggest liquid alternative strategies can also help mitigate significant tail-risks associated with equity, and related asset, allocations, and alleviate concerns over potential funding and liquidity constraints caused by market price corrections and dislocations.

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Let's Connect

Should you have any questions about this report or anything else, please do not hesitate to connect:

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