AIMA & CAIA
Risk Rating Guidelines for Alternative Funds in Canada

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6th Edition

Table of Contents

EXECUTIVE SUMMARY

This 6th edition of the AIMA & CAIA Risk Rating Guidelines for Alternative Funds in Canada focuses on the internal risk ratings placed on funds by dealer platforms in Canada and how they may differ from the historical risk-adjusted return of the specific fund or strategy indices (and for alternative mutual funds and alternative ETFs, how it may differ from the prospectus risk rating, as mandated by the Canadian Securities Administrators or CSA).

This 6th edition is meant as a guideline for further dialogue between asset managers and dealers around these important strategies. We hope dealers can more accurately consider these strategies' risk profiles with regards to an individual investor's risk and overall portfolio's risk.

For background, in September 2017, the CSA implemented new risk rating guidelines to which all prospectus-based offerings must adhere. This methodology is based upon standard deviation, which is adequate for most traditional long-only strategies but may also understate the risk in alternative investment strategies, which tend to have "fat tail" risk events. However, CIRO (Canadian Investment Regulatory Organization) dealers often place too high a risk rating on alternative funds, thereby significantly limiting their potential inclusion in retail investor portfolios and reducing access to these products than can provide diversification, volatility protection and non-correlated returns.

Under the hedge fund and alternative mutual fund/ETF banners, there are a variety of strategies. For example, Equity long/short strategies buy equities that are expected to go up in value and sell short equities that are expected to fall. Global macro strategies invest in securities around the globe capitalize on macroeconomic or geopolitical themes. Relative value arbitrage strategies buy and sell securities base on an educated view on a price discrepancy. Equity long-only strategies buy an investment that they anticipate will go up in value. A long-only product creates a profit if the investment goes up and a loss if it goes down. CTA/Managed Futures actively managed portfolio of futures contracts for commodities. Event-driven strategies take advantage of pricing inefficiencies before or after a corporate event, like an earnings call, merger, acquisition, bankruptcy or spin-off. Market-neutral equity strategies have neutral investment exposure to equities by sector, market cap or region, often employing pair trading, which matches a long position with a short position with high correlation. Long/short credit strategies employ a variety of strategies to invest across the capital structure on both a long and short basis. Convertible arbitrage strategies go long a convertible bond, shorting the shares to take advantage of pricing inefficiencies. Distressed debt strategies invest in companies or government entities that are experiencing financial or operational distress, default or bankruptcy. Emerging manager strategies focus on just that, emerging markets. Multi-strategy funds are a combination of multiple hedge fund strategies, meant to provide a more balanced approach. Strategy execution will vary greatly by manager, with differing parameters for managing shorting, leverage, liquidity, counter-parties, concentration, currency and more.

To more accurately reflect the historical risk-adjusted data for hedge funds and alternative mutual funds (including ETFs), AIMA and the CAIA Association have proposed a system based on the median trailing standard deviation of funds within PivotalPath indices. See Table 1 below.

Table 1 – Proposed risk rating for hedge funds and alternative mutual funds based on the median trailing standard deviation of funds within PivotalPath indices

Low	Low to Medium	Medium	Medium to High	High
Not applicable to alternative strategies	0% to 6%	6% to 11%	11% to 16%	Over 16%
	Market Neutral Equity	Equity Long-Short	Equity Long-Only	Digital Assets
	Multi-Strategy	Event-Driven	Emerging Markets	
	Long-Short Credit	CTA/Futures		
	Relative Value Arbitrage	Distressed (hedge funds)		
	Global Macro			
	Convert Arb			
	Volatility Arbitrage			

Source: CAIA Association, AIMA, PivotalPath. Data as of 12/31/2024.

We have also proposed a methodology for risk ratings of private credit funds. Private credit funds make loans to largely corporate borrowers outside of the traditional banking system. These loans are privately originated and have a wide variety of borrower terms. Loans made to private credit borrowers are illiquid and are not typically offered for sale on a regular basis. Many loans made to private credit borrowers are floating rate, where the interest rate charged on the loan rises with changes in the interest rate market. In times of rising rates, floating rate loans benefit from increases in interest rates, while fixed income investments such as sovereign bonds decline in value during times of rising rates. The key consideration for the risks in private credit are the seniority vs. subordination of the loan and the degree to which the loan has covenants that reduce the risk to the lender/investor by requiring disclosures and limiting financial activities of borrowers.

The least risky loans in the private credit industry are those that are senior in the capital structure and secured by collateral such as the equity of the corporate borrower, property, plant, equipment, or receivables. Senior and secured loans will be rated in the low-to-medium risk category, while unitranche loans will be rated in the medium risk category. Unitranche loans are loans made by a single lender to a borrower that combine senior and subordinated debt into a single tranche. For example, a senior loan might only be extended at a level of 3-5 times the EBITDA of the firm. Debt levels in excess of that threshold would typically be made in a second and subordinated loan are included in the unitranche structure. Finally, other private credit strategies that may take substantial risks are classified with a medium-to-high risk rating. This includes leveraged private credit funds that borrow a portion of the capital used to originate loans, funds that invest primarily in covenant-lite, subordinated, or unsecured

loans, as well as mezzanine loans offered to private equity borrowers at debt levels that can exceed six times EBITDA.

Table 2 – Proposed risk rating for private credit funds based on S&P & Cliffwater indices

Low	Low to Medium	Medium	Medium to High	High
Not applicable	0% to 6%	6% to 11%	11% to 16%	Over 16%
	Senior/Secured	Unitranche	Leveraged Credit	
			Mezzanine	
			Distressed (private credit)	
			Subordinated	

Source: CAIA Association, AIMA/ACC, 2024.

Alternative investments are diverse and play a key role in a balanced portfolio by offering diversification, risk reduction and non-correlated returns to the investor. It is important that at all stages of the market cycle Canadian retail investors can access adequately both offering memorandum (hedge funds and private credit funds) and prospectus (alternative mutual funds and alternative ETFs) products. However, need to be evaluated properly and individually based on manager and strategy using robust due diligence procedures in advance of investing as well as on an ongoing basis.

I. Introduction and purpose of this guideline

Within the retail investor channel, CIRO (Canadian Investment Regulatory Organization) investment dealer firms have long overlaid additional internal risk rating policies over and above the CSA's requirement of using standard deviation alone to classify into risk categories. All too often, this unfairly results in all alternative funds being unfairly rated as high risk, thereby limiting the number of investors who can access these products. Historical data clearly shows that alternative funds offer diversification, risk reduction and non-correlated returns throughout the market cycle, especially amid a rising interest rate environment. For more AIMA/CAIA research on the benefits of alternative investments, see the AIMA/CAIA Trustee papers.

In September 2017, the CSA implemented new risk rating guidelines to which all prospectus-based offerings must adhere. This methodology is based upon standard deviation, which is adequate for most traditional long-only strategies but may understate the risk in alternative investment strategies, which tend to have "fat tail" risk events. For instance, many alternative investment strategies (e.g., market neutral equity and relative value fixed income) have low return volatility, which may result in a low-risk rating. This result may cause confusion at distribution channels as money market funds are also rated low risk. To add to the confusion, many distribution channels have only three risk rating categories (low, medium and high), as opposed to the five under the CSA framework (low, low/medium, medium, medium/high, and high).

To facilitate fair access of risk-reducing products to retail investors while allowing fair platform access to independent (and often emerging) fund managers, it is imperative to lower if not remove the automatic high-risk rating barrier across alternative fund strategies.

We advocate that:

1. Additional risk ratings systems at investment dealers be revisited for alternative funds to better reflect historical risk-adjusted data from funds within PivotalPath indices.
    a. Risk ratings must more fairly align with the true risk of an alternative fund strategy, which can often reduce risk and dampen volatility in a balanced portfolio.
    b. Alternative fund strategies should not be rated automatically high risk due to their ability to use short-selling, leverage, etc.
2. Any risk rating scale at the investment dealer or the fund manufacturer should include five categories of risk (rather than only three) to ensure greater flexibility and consistency with prospectus risk ratings.
    a. Those five categories should be: low, low-medium, medium, medium-high and high.

If investment dealers continue to believe that standard deviation is not sufficient as a sole metric to properly evaluate risk, perhaps the CSA or CIRO might consider exploring a more robust, mandated risk rating process for better industry consistency and transparency. Specific rationale and considerations on these are outlined below.

Table 3 – Nomenclature cited in guideline

Alternative funds	Hedge funds, alternative mutual funds, alternative ETFs and private credit inclusively
Hedge Funds	Alternative funds offered by offering memorandum (OM) in retail channel
Alternative mutual funds	Alternative mutual funds and alternative ETFs per NI 81-102 and offered by prospectus
Risk rating category/scale	Scale tiered by three (low, medium high), five (low, low-medium, medium, medium-high, high) or ten (1 lowest -10 highest) risk levels
Fund category	Canadian Investment Funds Standards Committee (CIFSC) category
Liquid alternatives	Including alternative mutual funds, alternative ETFs, U.S. alternative mutual funds and alternative UCITS, in general

II. Alternative UCITS and U.S. mutual funds risk rating methodologies

The inclusion of robust risk ratings in Canada is unique and not closely replicated in other large global markets.

For U.S. alternative mutual funds, each distributor has its own internal process with respect to determining suitability, but there is no national system for risk ratings.

In Europe, alternative UCITS use the value at risk method[1] and the commitment method for measuring global exposure. The commitment method is a standardized approach to calculating the gross notional exposure and global exposure (net leverage/gearing) arising from a portfolio's derivatives.

While risk ratings have likely served the Canadian investor and the financial services sector well, it is imperative to give investors the ability to access the diversification, risk reduction and non-correlated returns that alternative investments provide, and not block the inclusion of these in broad portfolios.

III. Internal risk rating scales at investment dealer firms

CIRO investment dealers today are not required to adopt the risk rating outlined in fund manufacturer prospectuses (as per the CSA). However, most have their own proprietary internal risk rating scale. Often, this is a three-tiered scale (low, medium and high) or a five-tier scale (low, low/medium, medium, medium/high and high), though at least one dealer in Canada uses at ten-tier scale (1 lowest – 10 highest).

[1] The value at risk method is discussed further below.

These internal risk ratings are intended to provide additional risk protection for the dealer, advisor and investor with regards to KYC (Know Your Client)/KYP (Know Your Product) suitability. However, the internal risk ratings have the net impact of reducing Canadian investor access to alternative funds due to the inaccurate and unjustly high-risk ratings imposed on these strategies vs their historical risk-adjusted returns.

Since the first edition of the AIMA/CAIA Risk Rating Guideline in January 2019, many CIRO dealers have reviewed their internal risk rating systems with some positive progress. For example, many CIRO dealers are accepting risk rating outlined in the prospectus for alternative mutual funds and alternative ETFs. On a case-by-case basis, CIRO dealers have lowered risk ratings for select hedge funds from high to a more appropriate level based on the fund's historical risk/return profile. However, for many hedge funds and private credit funds, where dealer platform access is granted, all too often the default remains high, contrary to the historical risk-adjusted return profile.

While we appreciate that neither we nor the CSA can enforce a risk methodology among the dealer community, we recommend CIRO dealers use a more flexible scale of at least five risk categories. This allows for greater flexibility and improved accuracy when placing a fund in any one category, while also providing consistency with the CSA's prospectus risk ratings.

IV. Language in the fund OM and prospectus

Fund managers/manufacturers should include volatility band language in both the OM for hedge funds and private pools and in the prospectus for alternative mutual funds to ensure best guidance to dealer firms on suggested risk rating. This will ensure that investment dealers have a fair metric with which to commence their due diligence and review of the product.

V. Global Hedge Fund & Alternative Mutual Fund Universes

Under the hedge fund and alternative mutual fund/ETF banners, there are a variety of strategies. For example, Equity long/short strategies buy equities that are expected to go up in value and sell short equities that are expected to fall. Global macro strategies invest in securities around the globe capitalize on macroeconomic or geopolitical themes. Relative value arbitrage strategies buy and sell securities base on an educated view on a price discrepancy. Equity long-only strategies buy an investment that they anticipate will go up in value. A long-only product creates a profit if the investment goes up and a loss if it goes down. CTA/Managed Futures actively managed portfolio of futures contracts for commodities. Event-driven strategies take advantage of pricing inefficiencies before or after a corporate event, like an earnings call, merger, acquisition, bankruptcy or spin-off. Market-neutral equity strategies have neutral investment exposure to equities by sector, market cap or region, often employing pair trading, which matches a long position with a short position with high correlation. Long/short credit strategies employ a variety of strategies to invest across the capital structure on both a long and short basis. Convertible arbitrage strategies go long a convertible bond, shorting the shares to take advantage of pricing inefficiencies. Distressed debt strategies invest in companies or government entities that are experiencing financial or operational distress, default or bankruptcy. Emerging manager strategies focus

on just that, emerging markets. Multi-strategy funds are a combination of multiple hedge fund strategies, meant to provide a more balanced approach. Strategy execution will vary greatly by manager, with differing parameters for managing shorting, leverage, liquidity, counter-parties, concentration, currency and more.

While alternative mutual funds are still new to Canada and regulations require that these funds publish no track record at the fund's inception, there are other markets to refer to in order to estimate the risk of alternative mutual funds.

The global hedge fund universes are proxied by the Center for International Securities and Derivatives Markets (CISDM) or another provider of hedge fund indices. For U.S. alternative mutual funds, the Morningstar series of indices are also used as relevant comparisons. For alternative UCITS funds in Europe, relevant comparison indices are published by alternativeUCITS.com.

Table 4 – Three-year trailing risk statistics for hedge funds and equity indices

3-Year Risk Measure	CISDM Fund of Funds	CISDM Commodity Trading Adviser CTA	CISDM Equity Long-Short	CISDM Fixed Income Arbitrage	S&P TSX Composite
Standard Deviation	3.6%	8.2%	7.8%	4.8%	18.1%
Maximum Drawdown	-6.9%	-8.2%	-13.3%	-9.1%	-22.0%
Skewness	-0.4	+0.6	-0.1	-2.1	-0.1
Sharpe Ratio	0.02	0.4	-0.5	-0.5	0.05

Source: CAIA Association, CISDM. As of December 31, 2024.

With the more complex portfolio construction of alternative funds, standard deviation alone is not a complete measure of risk. Notice that the skewness of funds of funds and equity long-short funds in the table above is much larger and more negative than that of the S&P TSX composite. That is, alternative mutual funds are more likely to have larger negative returns than is suggested by their standard deviation alone.

In order to avoid confusion between the risk ratings of long-only and alternative mutual funds, it is important to interpret the risk of alternative mutual funds using the same framework that the CSA presents for long-only funds. However, due to the more complex risks of alternative mutual funds, standard deviation cannot be used as a stand-alone risk measure. For example, including funds of funds and fixed income arbitrage in the low-risk category may be inappropriate, despite their historical standard deviation below 3%, as these funds clearly have higher risks than experienced by the money market and short-term fixed income funds that dominate the low-risk category of long-only funds.

VI. Proposed Risk Ratings for Hedge funds, Alternative mutual funds and Digital assets

A hedge fund is an investment pool or investment vehicle that is generally characterized by the following:

- privately organized in most jurisdictions
- typically charges performance-based fees in addition to management fees
- can usually apply leverage, actively trade derivative instruments, establish short positions, invest in structured products, and can hold relatively concentrated positions
- operates under fewer regulations than the traditional counterparts, which typically affords an unconstrained investment universe (i.e., can invest in public or private securities of any kind) and investment strategy

Hedge funds are typically less regulated than public investment vehicles because of their privately organized nature. Hedge funds are simply a legal structure and should not be viewed as a singular strategy defined by sharp lines of division from other investments; in fact, as alternative investments evolve, the lines between hedge funds and other alternative investment strategies have continued to blur.

Hedge fund returns can offer low correlation with traditional investments and therefore serve as diversifiers. Bear markets regularly fuel the interest of those investors who saw their traditional stock portfolios decline in value. Many investors recognize the advantage that hedge funds have with regard to investment mandate flexibility, such as being able to go both long and short to maximize the value of their information about stocks, bonds, and other securities. Many investors seek the attractive risk-adjusted returns of the hedge fund industry.

A critical dimension in understanding hedge funds is the spectrum of trading strategies that underlie their performance. Hedge funds as a group are identified, at least in part, by their use of sophisticated trading strategies, and hedge funds are primarily differentiated from one another by their trading strategies. The diverse strategies that comprise the universe of hedge funds are often organized into a classification of hedge fund strategies, such as those articulated in prior section.

For the purposes of risk management and asset allocation, the various hedge fund strategies are often grouped according to their risk exposures. There is no universally agreed upon method of organizing and distinguishing between hedge funds. As an investor, it is up to you decide which grouping is most appropriate. The goal is to be aware of your exposures and ensure you produce an appropriately diversified portfolio. There are generally four groupings of hedge fund strategies by risk exposure:

1. equity strategies, which exhibit substantial market risk;
2. event-driven strategies, which seek to earn returns by taking on event risk, such as failed mergers, that other investors are not willing or prepared to take, and relative value strategies,

which seek to earn returns by taking risks regarding the convergence of values between securities;
3. absolute return strategies, which seek to minimize market risk and total risk (i.e., little to no beta exposure);
4. diversified strategies, which seek to diversify across a number of different investment themes.

Equity Strategies
These hedge fund strategies invest primarily in equities and always retain some net equity market exposure. For example, many long/short equity funds may have 100% gross long exposures, 60% gross short exposures, and 40% net market exposure. While the fund is exposed to only 40% of the beta risk of the underlying market (assuming an equivalent beta in the long and short portfolio), investors are taking 160% exposure to the manager's stock selection skill. Note that funds with low net exposure are likely to outperform stocks in a rapidly declining market while underperforming stocks in a strong bull market.

Event-Driven and Relative Value Strategies
Event-driven and relative value strategies share a common theme of investing in a catalyst. More specifically, the investments they hold have a valuation discrepancy that should narrow due to a definable catalyst. In the case of event-driven strategies, the catalyst is typically a hard catalyst, or a catalyst with a specific date and trigger that can be quantified. For example, a merger arbitrage manager knows that the valuation discrepancy in an M&A arb trade will be realized no later than the date of the merger. For relative value strategies, the catalyst are typically soft catalysts, meaning there is no specific trigger that will force the valuations to converge. For example, a convert arb manager may have a trade that offers an attractive spread between the bond and the stock, however if the bond maturity is not for many years, there is nothing beyond general market forces and rational investing that will ensure the arb trade will converge in a timely manner.

Returns of hedge funds in the event-driven and relative value categories have historically experienced the lowest standard deviation as well as the largest values of negative skewness and excess kurtosis.

Absolute Return Strategies
Absolute return products are investments in which the returns are designed to be consistently positive rather than being linked to or assessed against broad market performance. These hedge fund managers generally claim that their investment returns are derived from their skill at security selection, as opposed to beta exposures.

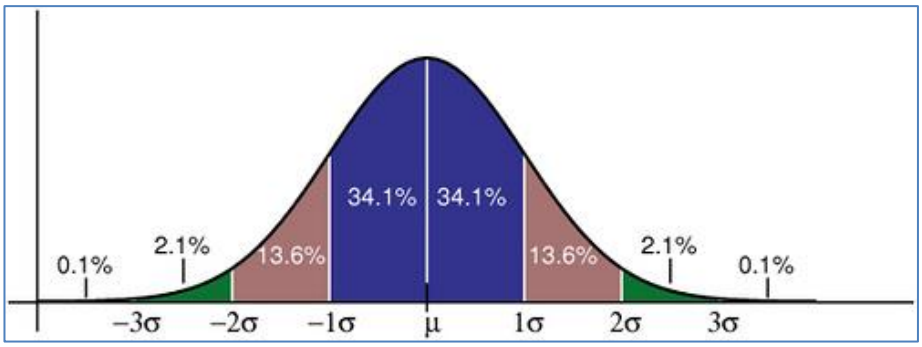
These hedge funds tend to have a small skew or none at all and to exhibit low values of leptokurtosis or even generate platykurtosis, in which the tails of the distribution are thinner than in a normal distribution.

Diversified Fund Strategies
Macro, systematic diversified funds (i.e., managed futures funds), multi-strategy funds, and funds of hedge funds can be an attractive addition to an investor's portfolio from the perspective of

diversification. These funds can offer high returns, reasonable risks, and low drawdowns. In addition, macro and systematic diversified funds have exhibited a return pattern that is remarkably symmetrical, very close to the normal distribution.

Standard deviation is the most widely accepted and easily understood measure of volatility risk. By measuring the amount that a fund's returns deviate from its mean return, standard deviation gives the investor an idea of the range in value that can be expected for their investment. Standard deviation is a risk measure that allows for easy, relevant comparisons across peer groups.

Figure 1 – Standard deviation of a normally-distributed return series



Source: CAIA Association

Effective September 1, 2017, Canadian mutual fund managers were required to adopt a new prescribed risk classification methodology to determine the investment risk levels of publicly offered mutual funds (including exchange-traded funds ('ETFs')) they manage. The new risk classification methodology requires managers to determine the investment risk level of their funds using 10-year standard deviation and to disclose that risk level in the Fund Facts document ('Fund Facts') and in the ETF Facts document ('ETF Facts'), as applicable, using a prescribed five-category risk level scale. The standard deviation ranges and investment risk levels are as follows:

Table 5 – Standard deviation to risk rating

Standard Deviation Range	Investment Risk Level
0 to less than 6	Low
6 to less than 11	Low to Medium
11 to less than 16	Medium
16 to less than 20	Medium to High
20 or greater	High

Source: IFIC Classification Guidelines

From a sound practice perspective, risk ratings for hedge funds and alternative mutual funds should be:

- Calculated using the methodology outlined in Appendix F of NI 81-102;
- Calculated annually in conjunction with the filing of disclosure documents. Ideally, the calculations would be made not more than 60 days prior to the date of the applicable Fund Facts, ETF Facts, prospectus renewal or amendment; and
- Reviewed by the investment dealer's product area, legal and compliance areas with final approvals and any supporting documentation and/or rationale well-documented and stored in a secure location.

Although a system for rating funds that has a complex calculation across multiple risk factors could be devised, AIMA and the CAIA Association have designed a system that is less complex, based on the median trailing standard deviation of funds within PivotalPath indices. Note that no alternative mutual funds will be rated in the low-risk category.

Table 6 – Proposed risk rating for hedge funds and alternative mutual funds based on the median trailing standard deviation of funds within PivotalPath indices

Low	Low to Medium	Medium	Medium to High	High
Not applicable to alternative strategies	0% to 6%	6% to 11%	11% to 16%	Over 16%
	Market Neutral Equity	Equity Long-Short	Equity Long-Only	Digital Assets
	Multi-Strategy	Event-Driven	Emerging Markets	
	Long-Short Credit	CTA/Futures		
	Relative Value Arbitrage	Distressed (hedge funds)		
	Global Macro			
	Distressed (hedge funds) Convert Arb			
	Volatility Arbitrage			

Source: CAIA Association, AIMA, PivotalPath. Data as of 12/31/2024.

New alternative mutual funds will have no track record and will be benchmarked relative to a global hedge fund or liquid alternatives index. Once the individual funds have a sufficient track record of their own returns, such as three to five years, the risk rating will transition from being based on an external index to being based on the fund's own results.

The chart above is based on the performance of individual funds, not fund indices. Note that the standard deviation of hedge fund indices is calculated by taking the average of all funds within a given

month and then taking the standard deviation of that average over time. The assumption is that investors are accomplishing diversification within each given strategy, which would require investing in a number of funds. Table 6 is based on the median standard deviation of funds within CISDM indices, which will more likely approximate the experience of investing in a single fund or a small number of funds within each strategy group. For example, while the standard deviation of a managed futures index might be 7.4%, the standard deviation of the median fund in that index may be closer to 11%.

Risk Ratings for Digital Assets Hedge Funds and Alternative Mutual Funds/ETFs

Despite recent market volatility, digital assets are a fast-growing sector of the global financial markets. The two dominant cryptocurrency protocols are Bitcoin and Ethereum. While there are over 22,000 cryptocurrencies and digital assets listed on coinmarketcap.com with a total market cap of over $2.75T, as of March 2025. Bitcoin and Ether comprise over 70% of the total value.

Cryptocurrencies are designed to be global and decentralized, meaning that they are generally unregulated. There might be over 500 cryptocurrency exchanges in the world, some of which offer up to 100 times leverage. This unregulated marketplace and the use of high leverage can lead to substantial volatility, as any substantial decline in value is exacerbated by liquidations of highly leveraged long positions. These markets trade 24/7 and volatility might increase during times of lower trading volume, which has largely been driven by retail investors to date, though some institutions and hedge funds are slowing dipping into the space.

From February 2022 to February 2025, the annualized weekly volatility of bitcoin was 54.2% while Ether had annualized volatility of 70.8%. Note that the average weekly moves in bitcoin are 5.4%, while Ether has an average weekly price change of 7.2%. When measured daily or hourly terms, the volatility would be substantially higher.

Table 7: Volaility of Bitcoin and Ethereum

	Annualized Weekly Volatility	Absolute Value of Average Weekly Price Change
Bitcoin	54.2%	5.4%
Ether	70.8%	7.2%

Source: Morningstar, as at Feb 2 2024.

While bitcoin and Ether are the two largest and some might say the most mature in the cryptocurrency market, many other cryptocurrencies and digital assets might have even a higher level of volatility. Given the unregulated and leveraged nature of the cryptocurrency market and the substantial volatility that persists more than ten years into the price history of bitcoin, we place all cryptocurrencies and digital assets in the highest risk category. Despite stablecoins being designed to have low volatility, with values often pegged to a fiat currency such as the US dollar or euro, we also place stablecoins in the highest risk category.

There are questions about how to safely custody stablecoins and there can also be concerns about the collateral pools backing these digital assets, though AIMA's Industry Guide to Digital Asset Custody, AIMA's pending Industry Guide to Trading and pending AIMA Digital Asset Due Diligence Questionnaire are helping to bring institutional sound practice to this evolving space.

VII. Hedge Fund & Alternative mutual fund strategies: Further risk rating metrics considerations

Where an investment dealer is seeking a more advanced process of risk ratings for alternative fund strategies than standard deviation alone, we recommend reviewing the following risk metrics and developing a fair framework that includes some of these outlined below, in addition to assessing the historical use of leverage, any historical style drift, counter-parties, any exceeding of internal position limits and the liquidity terms vs underlying asset liquidity, for example. It is important to note that even where a more robust internal risk rating framework may be required, simply the OM or private fund structure should not automatically constitute a high-risk rating.

1. Maximum drawdown

   Drawdown measures the percentage lost from the peak of an investment's value to the trough or the low point of the investment's value during any given time frame. The maximum drawdown ('MDD') is the largest percentage peak-to-trough decline during the time frame. MDD is a good representation of how a fund reacted to previous market declines. It can be used as a relative measure against its peers and provides some insight into the effectiveness of the manager's risk mitigation techniques and loss prevention strategies. Note that, for a given group of investments, risk as measured by MDD may differ substantially from risk as ranked by standard deviation.

2. Sharpe ratio

   The Sharpe ratio is the average return earned in *excess* of the risk-free rate per unit of volatility or total risk. The Sharpe ratio is a measure of risk-adjusted return comparing an investment's excess return over the risk-free rate to its standard deviation of returns. Generally, the greater the value of the Sharpe ratio, the more attractive the risk-adjusted return. The Sharpe ratio has shortcomings, it reprimands upside and downside volatility. Because the Sharpe ratio assumes that investment returns are normally distributed, it does not capture non-symmetric distributions and may not fully reflect tails in return distributions.

3. Up/Down capture

   "Up capture" indicates how well a fund performed when the market was up. If the up capture is greater than 1, it means that the fund outperformed the market when the market was up. Conversely, "down capture" measures how well the fund performed when the market was down. A down capture greater than 1 means that the fund has underperformed the market during periods when the market was down. Up/Down capture is a good indication of how the fund manager captures profits to the greatest extent possible while implementing effective risk mitigation techniques.

4. Sortino ratio

   The Sortino ratio is a popular downside measure used as an alternative to the Sharpe ratio. The Sortino ratio improves upon the Sharpe ratio by isolating downside volatility from total volatility by dividing excess return by the downside deviation. The Sortino ratio is a variation of the Sharpe ratio that differentiates harmful volatility from total overall volatility by using the asset's standard deviation of negative asset returns, called downside deviation. The Sortino ratio replaces, in the denominator, the standard deviation of returns that are below the target return. The Sortino ratio takes the asset's return and subtracts the risk-free rate, and then divides that amount by the asset's downside deviation. Just like the Sharpe ratio, a higher Sortino ratio is better.

5. Batting average

   "Batting average" is a quantitative measure that shows how frequently the fund manager produces a positive return. A batting average greater than 50% means that the manager has produced a return greater than zero in more than half the performance periods. When considered with compound returns, the batting average indicates whether or not the fund manager is consistent with performance (high batting average and high returns) or if positive returns are the result of just one or two periods of excellent return (low batting average with high returns).

6. Value at Risk ('VaR') and Conditional VaR ('CVaR')

   VaR and CVaR are risk measures used to assess the tail risk of an investment fund. VaR is a measure of the risk of loss for investments. It estimates how much a set of investments might lose (with a given probability), given normal market conditions, in a set time period. An extension to VaR, the CVaR measure is more sensitive to events that happen in the tail end of a distribution. While VaR represents a worst-case loss associated with a probability and a time horizon, CVaR is the expected loss if that worst-case threshold is ever crossed. CVaR, in other words, quantifies the expected losses that occur beyond the VaR breakpoint.

VIII. Proposed Risk ratings for Private Credit funds

Strategies in private credit

Private credit is an umbrella term used to describe the provision of credit to businesses by lenders other than banks. Private credit can be differentiated from other types of lending activity and investment strategies in various ways, including:

- Bilateral relationships: private credit lenders will often have a direct rather than an intermediated relationship with the businesses they are lending to
- Buy and hold: private credit assets – usually loans - are generally not intended to be traded and will be held to maturity by the original lender.
- A flexible approach: Core features of a credit agreement such as repayment terms or covenants will typically be structured to match the unique needs of the borrower.

Table 8: Differences between private credit and other forms of credit

	Private Credit	Traditional Banking	Public debt	Broadly syndicated loans
Typical issuer-borrower relationship	Bilateral, direct	Intermediated, often syndicated	Individual bond holders	Syndicated, banks and investment banks key intermediaries
Typical borrower	SMEs or mid-market companies	Larger businesses	Large, often multinational, businesses	Non-investment grade businesses on the higher-end of mid- market and larger corporates
Backing	Usually secured by assets	Usually secured by assets	Secured and unsecured	Usually secured against lender equity
Use of ratings	Not rated	Rated	Rated	Usually rated
Typical agreement	Bespoke and heavily negotiated	Standardised	Standardised	Standardised

Private credit loans often back merger and acquisition activities as well as leveraged buyouts of mid-cap firms. Corporate lending or 'par' lending focuses on extending finance to performing companies, usually at the top of the capital structure. Generally, the funds in this space require their team to have a wide variety of skills. Beyond credit analysis, the underwriting of debt requires relationships that provide access to borrowers. Lenders also need to understand the distressed and workout processes as well as the value of collateral. Much of the direct lending space is so-called cashflow based lending where the loans are collateralized by the equity of the operating corporate entities.

Asset-based lending, where the lender takes collateral in the form of real estate, equipment, inventories, or accounts receivable is also popular. Investors are attracted to direct lending, as this strategy has historically produced higher yields than bank loans or high yield bonds with, what appears to be, lower downside risk. It is difficult to directly compare the volatility risk of direct lending to high yield bonds, as direct loans are typically held at par as long as the borrower has stable credit quality and continues to service the principal and interest on the loan. Contrast that to the publicly-traded high yield market, where changes in interest rates and liquidity move the market on a daily or hourly basis. Another measure of risk is default rates and recovery rates, where the direct lending market has had an advantage over high yield bonds in recent years. Given the less liquid nature of the private credit market, we must note that the volatility of returns is not directly comparable to public markets or more liquid

broadly syndicated markets. Although loans are regularly marked-to-market, it is not necessarily done on a daily basis.

Because mezzanine debt is typically the most subordinated debt in the capital structure, many investors consider mezzanine debt to be similar in many ways to private equity investments. Mezzanine investments tend to be more popular when the economic or credit cycles are in their early stages. Investors tend to benefit from credit retrenchment following a downturn and are thus able to capture higher spreads at lower levels of leverage.

Unitranche loans combine a senior tranche of debt and a junior tranche of debt in a single loan and provide a blended return to the lender. Common features of unitranche financing include no amortisation (typically with a longer tenor than more traditional senior debt), a bullet repayment requirement, more flexible financial covenant requirements, higher margins and non-call fees to reflect the increased risk profile. Unitranche debt is typically provided in conjunction with a working capital facility (often referred to as a super senior loan) made available by a more traditional bank. The working capital facility will be provided on a pari passu basis with the unitranche facility but will have priority recovery in the intercreditor waterfall (hence its 'super-senior' moniker). The working capital lender will have a restricted suite of default triggers that enable it to take enforcement steps independently following the expiry of an agreed standstill period and subject to various other controls.

Investors in distressed companies purchase debt (usually with a significant discount) of a company after a default on the debt has occurred or after the risk of the debt has substantially increased. A key advantage of distressed investors is to benefit from forced selling, usually by institutional investors that are required to liquidate positions once they have defaulted or moved below a stated credit rating. The main goal of distressed investors is to purchase the debt at a price lower than the realized recovery rate earned after the issues of distress have worked through a private restructuring or the bankruptcy court. Many managers of distressed funds have strong in-house legal teams who understand the legal issues of bankruptcy court, recovery rates, and the ability to control collateral.

While indices of direct lending, mezzanine, and distressed funds exist, we believe that the standard deviation of these funds do not reveal the true risks of these funds. In many cases, the loan is held at par value as long as the loan is performing, which is paying principal and interest as scheduled. Changes in the market level of interest rates and credit spreads or deteriorating prospects for firms that continue to service their debt are not always reflected in the reported volatility or NAV of private funds. Given that much of the private credit universe is below investment grade, we believe that the best comparison is to the returns of publicly-traded high yield bond or leveraged loan indices. While most borrowers in the private debt market are not rated by agencies such as S&P or Moody's, Preqin (2018)[2] notes that borrowers in the private debt market often have a credit quality that would average a B rating if rated. In a study on the performance of private credit funds in the Journal of Alternative Investments (2018)[3], Munday, Hu, True, and Zhang note that distressed debt is more risky than publicly-traded high yield,

[2] 2018 Preqin Global Private Debt Report

[3] Munday, Hu, True, and Zhang, "Performance of Private Credit Funds: A First Look," Journal of Alternative Investments, Fall 2018.

while private credit strategies are better benchmarked to leveraged loan indices than to publicly-traded high yield. The same study notes that there is significant smoothing in direct lending indices that artificially reduces the stated standard deviation.

Table 9 – Historical risks of fixed income investment indices

	Historical Standard Deviation, 2006-2024	Maximum Drawdown, 2008-2009
S&P Canada High Yield Corporate Bond	4.7%	-12.6%
S&P US High Yield Corporate Bond	8.0%	-30.6%
Morningstar LSTA Leveraged Loan CAD	8.3%	-25.0%
S&P Canada B High Yield Corporate Bond	11.3%	-42.5%
S&P CCC & Lower	16.7%	-50.4%
Cliffwater Direct Lending Index	1.8%	-7.7%

Source: CAIA Association, Morningstar, 2024. Note: Cliffwater data begins July 1, 2019.

A low to medium rating can be applied to unlevered private credit funds that focus solely on senior secured lending to borrowers not currently experiencing financial stress or distress.

Source: Cliffwater Direct Lending Index Q3 2023

A medium risk rating is appropriate for Unitranche or mixed private debt strategies that may combine senior and subordinated loans in their portfolios.

Table 10 – Proposed risk rating for private credit funds based on S&P & Cliffwater indices

Low	Low to Medium	Medium	Medium to High	High
	0% to 6%	6% to 11%	11% to 16%	Over 16%
Not applicable	Senior/Secured	Unitranche	Leveraged Credit	
			Mezzanine	
			Distressed (private credit)	
			Subordinated	

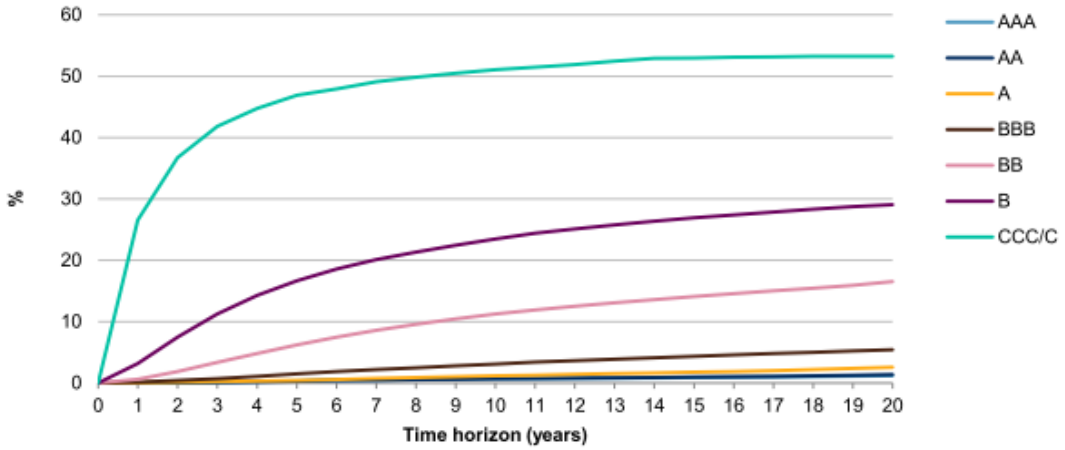
Source: CAIA Association, AIMA/ACC, 2024.

Again, such a rating should be ascribed to private credit funds that are unlevered, diversified by industry, and invested primarily in performing loans with financial ratios and risks equivalent to firms rated B to BB on the S&P scale or B to Ba on the Moody's scale. While most small borrowers in the private debt space are unrated, analysts can estimate a shadow rating, or the rating that might be awarded by a ratings agency by considering the financial ratios of the borrowers relative to the average ratios for each credit rating according to Moody's Financial Metrics. Moody's notes that 4.2% of all speculative-grade

issuers defaulted from 1983-2017, with higher default rates for cyclical sectors such as commodities[4]. Default rates increase as credit ratings decline. From 1981-2018, S&P notes that 10% of BB-rated issuers defaulted within 7 years, 20% of B-rated issuers defaulted within 6 years, and 40% of CCC/C-rated issuers defaulted within three years[5].

Finally, a Medium to High rating should be applied to loans and strategies concentrating on mezzanine/subordinated lending and/or distressed opportunities. Strategies that may apply higher levels of leverage at the fund level to senior assets may also involve a higher overall level of risk.

Figure 3 - Global Corporate Average Cumulative Default Rates by Rating (1981-2021)



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

1. Fund and strategy specific considerations for risk ratings

We would encourage issuers to consider using medium to high or high ratings for funds that use leverage and/or hold lower quality debt. Each issuer should estimate how their anticipated use of leverage and likely default rates of their loans will impact the standard deviation of their fund. Starting with high yield bond index returns, the application of leverage increases standard deviation of the fund, with higher levels of leverage typically leading to higher levels of standard deviation risk. Issuers should also note the cost and term of leverage and avoid funding long-term loans with short-term debt which has historically led to forced liquidations in times of credit crises.

Before making any investment, advisers are encouraged to perform extensive due diligence on the fund structure, fees, and the asset management company. Investors should make sure to fully understand the fee structure, including whether the fees are charged on gross assets (including leverage) or the net assets invested in the fund.

[4] Moody's, "Annual Default Study, Corporate Default and Recovery Rates, 1920-2017," 15 February 2018.
[5] S&P Global Ratings, "Default, Transition, and Recovery: 2018 Annual Global Corporate Default and Rating Transition Study." April 9, 2019.

Due diligence on the fund manager should focus on the experience of the management team including their track record of prior success in this space. Investors should always understand the risk of the strategy and the wide variety of risk structures in the private credit space. To what degree do the loans have strong covenants, strong collateral, and a high standing in the capital structure or are the loans primarily covenant-lite, uncollateralized, or subordinated? If the manager is investing in distressed or lower quality loans, what is their experience in working through the bankruptcy process and successfully recovering a high portion of the loan values? If the strategy is levered, investors should understand the multiple of leverage as well as the cost and structure of the leverage. To avoid a liquidity crisis, the term of the borrowings or investor redemption windows should be similar to the maturity of the loans extended. Generally, ensuring there is a match in liquidity between the fund/investor liquidity terms and that of the underlying assets is of significant importance.

IX. Proposed Risk ratings for Private Equity Funds

Private equity has been one of the fastest-growing alternative investment strategies since the 2010s. In fact, from an assets under management perspective, private equity went from being a niche industry in the late 1990s to the largest industry within alternative investments by the early 2020s

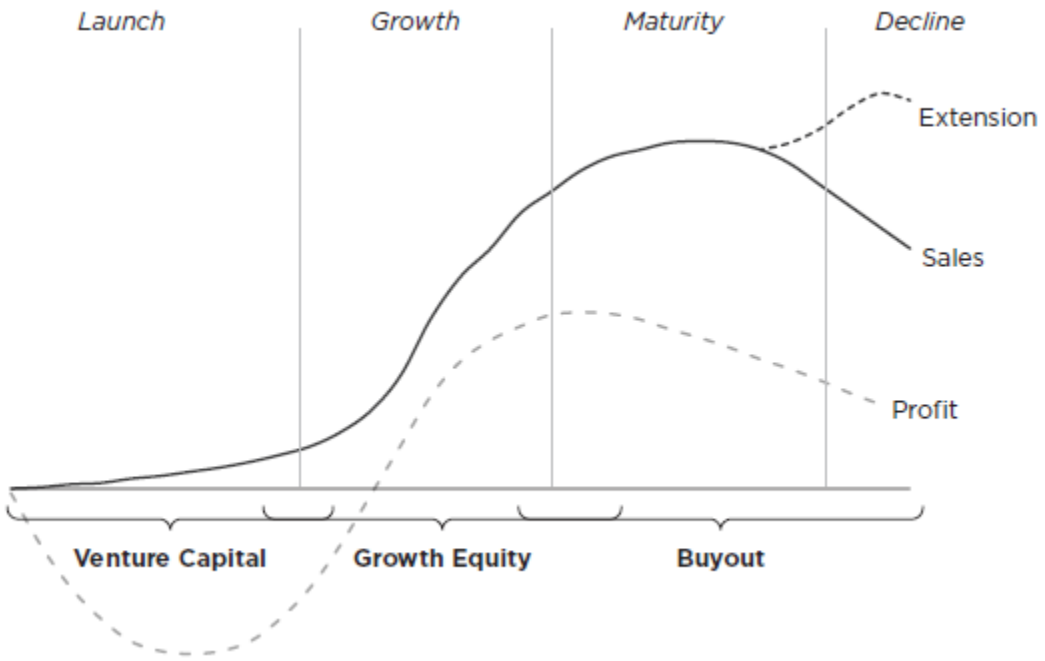
Strategies in private equity

Private equity is broad and encompasses many different strategies. Each strategy focuses on different sectors, characteristics, and stages in a company's lifecycle. Private equity provides the capital investment and working capital that are used to help private companies grow and succeed. Equity investments in privately held companies spans the full spectrum of a company lifecycle. Consider the three types of assets underlying private equity: VC, growth equity, and buyouts. Venture capital and buyouts focus on opposite ends of the life cycle of a company. Whereas VC represents nascent, start-up companies, buyouts represent established and mature companies. Growth equity tends to lie in the middle between VC and buyouts with underlying firms that are too large and established to be considered VC but too small to be publicly traded firms subject to buyouts.

Generally, the earlier in the life cycle of a company, the greater the risk taken on by the investor. In many ways, the payouts to venture capital investments can resemble the payouts to long positions in out-of-the-money calls: The risks are great, but the potential rewards are even greater. As investors move along the life cycle and invest in more mature companies, on average, the risk of failure declines reducing the potential for extreme outsized reward. While historical data reveal elevated risk and return for growth equity and buyout strategies relative to public equity markets, the payouts typically do not resemble that of options. Irrespective of the stage of the life cycle, analysis of historical data suggests private equity investing carries greater risk, with the potential for greater return relative to public markets. This return profile garners substantial attention from institutional investors and has resulted in substantial growth in assets and allocations to private equity across the investor community.

As Illustrated in Figure 4, the three primary private equity strategies span the full life cycle of a business from launch to decline. Notably, strategies span a continuum creating overlap as a company moves through the business cycle. As the private equity market continues to evolve and grow, the lines between the strategies have further blurred and crossed over. Despite the blurring, it remains important for investors to understand the stage of the company for each private equity strategy in order to understand the related business risks associated with each point of the life cycle.

Figure 4 – The Business Life Cycle and Stages of Private Equity Investment



Venture Capital

Venture capital is a large asset class that is often listed separately from other forms of private equity by institutional allocators. The strategy focuses on early financing for young firms with high potential growth that do not have a sufficient track record to attract investment capital from traditional sources, like public markets or lending institutions. Entrepreneurs develop business plans and then seek investment capital to implement those plans, since start-up companies are unlikely to produce positive cash flow or earnings for several years. The equity stakes that venture capitalists initially acquire begin as a substantial but minority position in the company. Control by VC investors is not absolute.

A VC project is primarily distinguished by its small size, lack of revenues, and high risk. The size of the investment can vary substantially, driven in part by the stage of the company's life cycle, and the current market cycle. For much of the 2010s a typical first investment into a US early-stage VC project ranged from $3 to $5 million with a company value between $10 million and $20 million. Following the global pandemic, there was a marked shift in the industry and early-stage investments doubled to nearly $10 million on average, with valuations similarly doubling to $40 to $50 million on average

The eventual goal of the VC investor is to work with the original owners (typically the founders) to build products, revenues, and income to the point of the firm going public via an IPO and, eventually, for the VC investor to exit the investment through sales of the investor's now-listed equity stake. Return targets for VC are large multiples such as 10- or 20-fold increases in value. The pathway to an IPO typically includes additional funding and assistance by the VC investors in management of the firm. As the company grows and matures, additional funding may come from growth equity investors

Growth Equity

Growth equity focuses on companies that have established a reliable base of revenues, an established business model, and have opportunities to expand that require more cash than can be funded by existing revenues. Growth equity is provided as additional working capital and/or to facilitate growth by increasing production capacity and developing markets, geographies, or products. Typical investments in this stage can be $20 million or more, to firms of $200 million or more in size (middle market size), and annual revenues of $25 million to $50 million or more.

Over the last decade, the upper bounds of the profile of growth equity investments have expanded dramatically. Historically, growth equity investors could not meet the capital needs of larger scale businesses, and the primary option for raising additional capital was via the public markets. As a result of growth in the industry, changing regulator environments, and other factors, many companies are staying private for longer and accessing capital from growth equity investors. This has further fueled the growth in the industry, resulting in marked increase in the number of funds and amount of capital raised targeting this strategy.

Growth equity typically does not involve substantial control by the new investors (as opposed to buyouts). Growth equity is usually the last financing round before an IPO or other exit (e.g., a buyout, strategic sale, M&A, etc.). Return expectations for equity growth are more modest (e.g., less than 10-fold) than the large multiples targeted in VC.

Buyout

Buyout investors tend to focus on mature, stable businesses and seek control of the company to have full authority over the decision-making process. Buyout firms target a wide area of businesses ranging from founder-owned, to those owned by another buyout firm, to units/subsidiaries of a larger corporation, as well as publicly traded companies. Historically, buyout investors have been associated with the use of moderate to high leverage in the capital structure. This above average leverage, among other factors, increases the overall risk profile of buyouts relative to public equities. The universe consists of a variety of strategies, several of which are not predicated or reliant upon leverage. The key distinction of buyout is focusing on more mature and established companies as well as seeking control. Buyouts typically involve majority ownership (80%+) by the new investor.

Contrasting the Three Strategies

The major distinctions between VC, growth equity, and buyout fund managers can be summarized as being driven by these three goals:

1. Venture capitalists look to launch new or emerging companies, whereas growth equity managers support the expansion of existing businesses, while buyout managers focus on leveraging an established company's assets.
2. Venture capitalists back entrepreneurs, whereas growth equity may help complete the build out of a sophisticated management team, while buyout managers deal with experienced and established managers
3. Venture capitalists tend to focus on product, market, and strategy, whereas growth equity focuses on business development, institutionalization, and execution, while buyout is most likely to be involved in the day-to-day details of the company, profitability and financial initiatives, and longer-term strategic plans.

Figure 5 summarizes eight major distinctions between VC, growth equity, and buyouts based on assets, revenues, control, time horizon, and so forth. Note how growth equity lies between VC and buyouts with respect to most of the distinctions.

Table 11: Major Distinctions between VC, Growth Equity, and Buyout

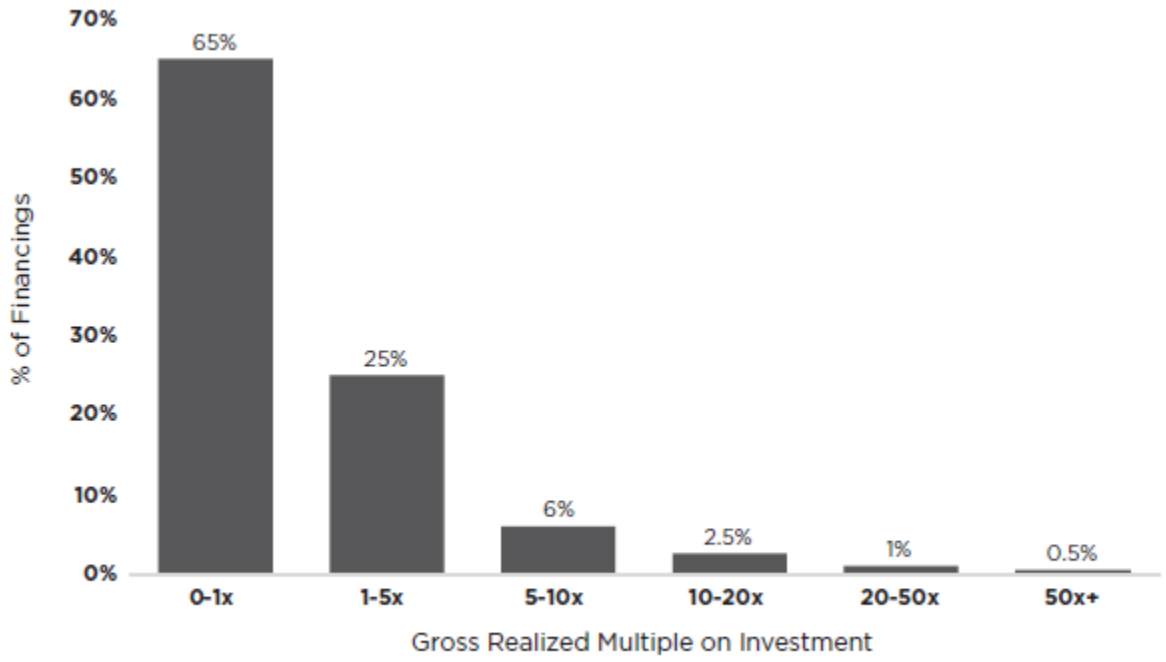
	Venture Capital	Growth Equity	Buyout
Asset Size	$10 million+	$100 million+	$100 million+
Annual Revenue	$0 to $10 million	$25 million+	$25 million+
Control by Investor	Team Approach	No Control Change	Buyer in Control
Use of Capital	Establish Product	Revenue Expansion	Earnings Growth
Time Horizon	5 to 10 years	3 to 7 years	3 to 5 years
Potential Upside	5 to 20 fold	3 to 8 fold	2 to 5 fold
Target IRR	30% to 60%	25% to 40%	20% to 35%
Investment Risk	Very High	Moderately High	Moderate

Risk Factors in the Private Equity Strategies

Within the universe of institutional-quality investments, Venture Capital is most commonly viewed as the highest risk and highest reward option. Furthermore, the earlier stage the strategy, the higher the risk and the higher the reward.

Figure 6 highlights data aggregated by Correlation Ventures in a study of the distribution of returns for US based early-stage venture backed companies. While the dataset focused on financings occurring between 2004 to 2013, the conclusions remain relevant today (even if the numbers have adjusted slightly). The vast majority of venture investments result in a loss. In fact, nearly two-thirds of all early-stage investments in their data set failed to generate positive returns. However, the extreme right skew can more than compensate for those losses, with a single investment resulting in a fund level return multiples of the invested capital. While Venture Capitalists are trying to earn a substantial return on every investment in the fund, they only need one (outstanding) investment to reach the expected fund returns.

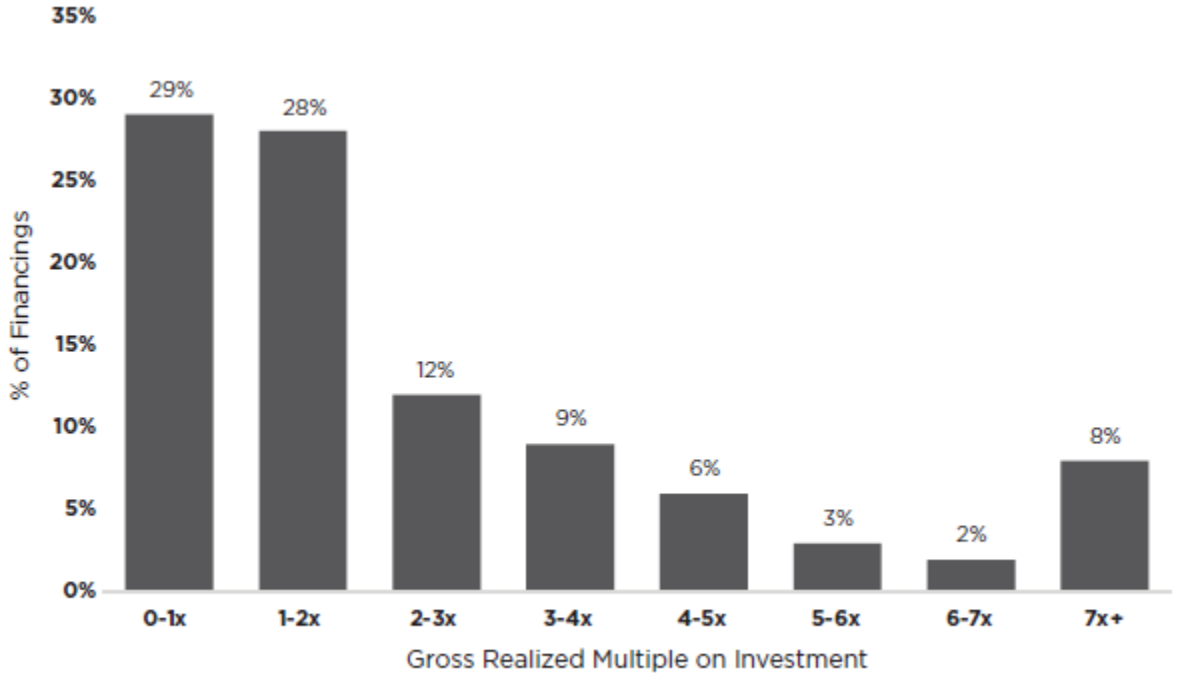
Figure 6: Distribution of early stage venture backed returns by % of Financings



Source: correlation ventures

Not surprisingly, given the reduced risk profile of the investment as it progresses through the business life cycle, the risk / reward tradeoff and likelihood of total loss diminishes relative to the earliest stage of investment. Figure 7 highlights data aggregated by Industry Ventures in a study of the distribution of returns for US based later stage venture backed companies. While the dataset focused on financings occurring between 2004 to 2016, the conclusions remain relevant today (even if the numbers have adjusted slightly). While loss rates are elevated relative to many other investment strategies, they are nearly halved compared to early-stage financings. The skew remains right oriented, however the extreme positive outcomes (10x-50x) are considerably more constrained with the upper bound of the chart ending at 7x+.

Figure 7: Distribution of later stage venture backed returns by % of Financings



Source: *Industry Ventures*

Moving into the growth equity stage, investors should expect some investments to lose money or become impaired from a valuation standpoint. Research has shown that around 30% of growth-stage companies experience some form of impairment at an average loss of 14%.

Understanding that a blurred line exists between where venture capital ends and growth equity begins. When comparing historical performance over the same time period, growth equity strategies have slightly lower risk profiles than venture capital and generated lower returns over long periods of time.

Fundamentally, venture capital and growth equity strategies have different risk-drivers. Early-stage companies are mostly concerned with getting an idea off the ground and generally are not generating sustainable revenue. Growth-stage companies, however, are generating revenue from a product, and are mostly concerned about getting to the next level.

Buyout funds typically have less risk than VC and Growth Equity funds. Buyout funds tend to purchase public companies that are established and mature. Typically, buyouts target successful but undervalued companies. These companies generally have long-term operating histories, generate a positive cash flow, and have established brand names and identities with consumers. Also, the management teams of the companies have an established track record. Therefore, assessment of key employees is easier than assessment of a new team in a VC deal.

Additionally buyout funds tend to be less specialized than VC funds. While buyout firms may concentrate on one sector from time to time, they tend to be more diversified in their choice of targets. Their target

companies can range from movie theaters to grocery stores. Therefore, although they maintain smaller portfolios than traditional long-only managers, they tend to have greater diversification than their VC counterparts.

Given the structure of the private equity market, traditional metrics such as volatility, sharpe ratio, treynor ratio, among others are not available. Determining risk and risk rating requires a broader analysis of qualitative and quantitative information. As with all private market investments, illiquidity risk is front and center for private equity strategies. While the risk profile may vary to some degree within each of the three private equity categories depending on the specific fund strategy, generally the risk profile will be in line with the broader category.

Table 12 – Proposed risk rating for private equity funds

Medium	Medium to High	High	Very High
6% to 11%	11% to 16%	16% to 21%	Over 21%
Not applicable	Not Applicable	Buyout	Growth Equity
			Venture Capital

As noted, traditional metrics are more difficult to apply to private market funds. The risk ratings indicated in Table 10 are a by-product of qualitative and quantitative analysis of the risk profiles of the three categories. Amongst the three categories, Buyout exhibits the lowest risk, but compared to most other strategies is a high risk strategy. Colloquially, buyout is sometimes called levered equity beta, suggesting the profile is akin to owning a levered portfolio of publicly traded equities. While growth equity has historically exhibited lower risk than Venture Capital, both strategies exhibit very high risk profiles. This is due in large part to the risk of loss and permanent capital impairment. Following the burst of the dot com bubble, it was not unusual to encounter a VC fund with a realized loss of 50% or more.

X. Proposed Risk Ratings for Real Assets funds

Generally, Real Assets Strategies refers to alternative investment strategies that primarily invest in and have returns driven by physical property or other assets such as:

1. Real Estate
2. Infrastructure
3. Farmland and Timberland
4. Commodities
5. Artwork

In this section we will discuss the risk ratings for the two largest segments of the Real Assets category, Real Estate and Infrastructure.

Real Estate Funds

There are two broad categories of real estate: residential and commercial.

Residential real estate refers to housing real estate. The most common types of residential real estate are single-family homes, townhouses, condominiums, and manufactured housing. Most investors access residential real estate through structured credit vehicles, like mortgage-backed securities, a type of bond backed by a pool of mortgages, rather than making direct investments in residential real estate.

Commercial real estate refers to property used for business purposes. Commercial real estate is made available for investment and is the main type of real estate that is included in investment portfolios.

There are four major types of commercial real estate properties, each with their unique characteristics and risk factors.

1. Office, which includes urban and suburban office buildings
2. Industrial, which includes warehouses, truck terminals, manufacturing facilities, research and development sites, data centers, cold storage sites, etc.
3. Retail, which includes enclosed malls and open-air retail shopping centers, called strip malls or strip centers.
4. Multi-family, which includes high-rise, mid-rise, and garden apartments.

Additionally, investors can invest in hospitality properties, such as hotels and resorts, and specialty properties (a catch-all category) such as storage facilities, student housing, nursing homes, hospitals, parking garages, and so on.

Investing in commercial real estate properties is like investing in a public or private company, in that each property has its own capital structure. Therefore, real estate investors can select their risk and return preferences as well as seniority in the event of bankruptcy.

Market size and geographic location are also important differentiators. Institutional investors often categorize private commercial real estate equity investments by the size of the real estate market in which the property is located. Real estate markets in major metropolitan areas of the world are called primary real estate markets, which are typically more liquid and have higher growth rates. Secondary markets are in mid-sized markets, and tertiary real estate markets tend to be in smaller markets that have less recognizable names, smaller populations, and smaller real estate projects.

The National Council of Real Estate Investment Fiduciaries (NCREIF) defines equity investments for real estate managers into three categories, known as “styles.” These styles are:

- Core
- Value-Add
- Opportunistic

The three NCREIF equity styles divide real estate opportunities in terms of their risk and return profile.

Several inputs are used to determine which style a real estate property falls into. These include occupancy rates, lease terms, tenant credit ratings, and the property's current ability to generate income. The more certain the future cash flows, the lower the expected risks and returns.

Core real estate includes properties that are the most developed and are expected to generate most of their returns from income. Core properties are the most liquid, least leveraged, and most recognizable properties in a real estate portfolio. Though these properties have the greatest relative amount of liquidity, core properties tend to be held for a long time to take full advantage of the lease and rental cash flows that they provide.

Core property investments share characteristics with debt securities and are expected to experience lower risk and lower return compared to other styles in real estate equity. Investors in core real estate are primarily looking for income.

Value-add real estate includes properties that are either in need of improvements or further development or that have less reliant cash flow. Value-add properties may require heavier investment and may take on more leverage to accomplish renovation, redevelopment, or repositioning objectives. Value-add properties are anticipated to produce less income than core real estate and may have opportunities for capital appreciation.

Opportunistic real estate are properties that may not have been developed yet, are in distress, or present an opportunity to be redeveloped. Opportunistic properties typically require heavy investment and often resemble strategies pursued by private equity managers. Opportunistic real estate carries high risk, due to three main elements, development risk, leasing risk, and high leverage

Table 13 – Proposed Risk rating for real estate funds

Low	Medium	Medium to High	High
<6%	6% to 11%	11% to 16%	16% to 21%
Core	Value Add	Opportunistic	Not Applicable

Infrastructure Funds

Infrastructure can be defined as physical and organizational structures needed to operate a society or enterprise. While infrastructure has existed for centuries, the asset class we know today emerged in the late 1980s and early 1990s. While infrastructure shares similar attributes to real estate and private equity, the asset class has many unique attributes that differentiate it from other alternative investments.

Infrastructure shares some characteristics, or even interacts, with other real assets, such as real estate and commodities. The asset class also shares some characteristics with private equity strategies in terms of investing new capital into a project. However, infrastructure has unique characteristics that differentiate its fundamental value and risk and return profile. These include the following:

1. Essential Services
2. Inelastic Demand
3. High Barriers to Entry
4. Regulation
5. Long Duration
6. Stable, Predictable, and Inflation-Protected Cash Flows

There are three main investment styles for infrastructure investments, similar to real estate.

Core infrastructure are fully constructed assets, provide the most essential services to society, and typically have some form of contracted/regulated cash flow. Core infrastructure assets are typically brownfield assets and are more often regulated through long-term contracts. They have little to no operational risk and are typically already generating cash flow at the time of investment. The income generated from these assets typically has high correlations to inflation and is immune from economic volatility. Investors in core infrastructure are primarily looking for inflation-protected income.

Core-plus infrastructure are constructed assets that provide essential services to society. However, core-plus assets may have more cash-flow variability or require additional investment to develop further or repair the asset. Core-plus infrastructure assets may be brownfield assets with a greenfield investment opportunity. Investors in core-plus infrastructure are primarily looking for income with some room for capital appreciation.

Value-add infrastructure are projects that need improvements and may be operating without current cash flows. Value-add infrastructure assets may be greenfield assets that are currently under construction. Either way, they may require additional investment to expand or update services. These assets may have some operational risk or complexity. If these assets do generate income, this income may be more sensitive to economic activity than other infrastructure assets. Investors in value-add infrastructure are looking for a mix of income and capital appreciation.

Opportunistic infrastructure are projects that need substantial development or improvement, or assets in developing markets. Opportunistic infrastructure assets can be greenfield or brownfield assets but will have high sensitivities to economic growth. Therefore, their revenue profiles may be volatile. Opportunistic infrastructure strategies are the highest-risk strategies with the highest expected returns.

There are four key risks associated with infrastructure investing, including:

1. Demand Risk
2. Interest-Rate Risk

3. Operational Risks
4. Environmental Risks

Demand risk refers to the risk that the actual usage of an asset is below forecasted levels due to lower demand. If this occurs, returns can decline, and default risk could increase if revenues don't cover costs. Interest Rate Risk refers to the fact that infrastructure assets may have higher sensitivity to interest rates due to their long-term durations. Higher interest rates can increase financing costs.
Operational risks include risks associated with developing or maintaining infrastructure assets. These include inefficiencies, higher costs, and unplanned maintenance.
Environmental risks are growing risks for assets that haven't addressed sustainability issues, particularly with climate change. For example, oil and gas assets or conventional power generation have environmental footprints that must be managed.

Table 14 – Proposed Risk rating for Infrastructure funds

Low	Medium	Medium to High	High
<6%	6% to 11%	11% to 16%	16% to 21%
Core	Value Add	Opportunistic	Not Applicable

XI. Alternative fund categories

Alternative strategies are diverse and funds should be compared as best as possible to peers. The Canadian Investment Funds Standards Committee (CIFSC), of which AIMA is a non-voting member, expanded the alternative fund categories to five noted in Table 9 below, which allows for risk-adjusted performance to be better judged relative to a fund's peers.

Table 15 – Categories of alternative funds

CIFSC Categories	AIMA/CAIA Advanced Categories*
Equity-focused	Equity long-only
Credit-focused	Equity long/short
Market neutral	Global macro
Multi-strategy	Relative value arbitrage
Alternative – Other	CTA/Managed Futures
Private Credit	Event-driven
Private Equity	Multi-strategy
	Market neutral equity

	Long/short credit
	Emerging markets
	Digital Assets
	Private Credit
	Private Equity
	Real Estate
	Infrastructure
	Other Real Assets
	Alternative Other
	**should product supply necessitate*

Source: CIFSC, AIMA, CAIA

XII. Due diligence of alternative funds: Investment manager and strategy

Of course, every alternative investment fund is different and must be looked at individually. In the initial phase of risk rating, qualitative due diligence on the fund manager and their proposed product is essential. Before using the proposed risk framework, one should determine whether the new fund is likely to track closely one or more of the benchmark indices.

For example, the average equity long-short fund may have a beta to underlying equity markets between 0.4 and 0.7 resulting from 100% long and 50% short positions. Alternative mutual funds with similar beta as well as gross and net long-short exposures can be appropriately benchmarked to a long-short equity index. However, products such as a 150-50 fund with a beta of 1.0 and 150% long and 50% short exposures are more similar to the risk of a long-only equity index than to a long-short equity hedge fund or liquid alternatives index. Benchmarking 150-50 funds to a long-short equity index is inappropriate, as the long-short equity index would underestimate the risk of the 150-50 funds.

For private credit mandates, it is important to consider the degree of leverage at the level of the borrower as well as at fund level when external financing is obtained to purchase or originate higher levels of loans. Another important aspect concerns the position of the lender in the capital structure of the borrower. The level of seniority has a significant impact on the level of risk. Whether or not a loan is secured and what type of collateral the lender has access to in the instance of default will determine recovery levels and therefore potential future losses in case borrowers get into difficulties. This is why proper loan documentation as well as the quality of financial and non-financial covenants will be among the top areas of focus of any investor due diligence.

The due diligence process should also consider manager specific factors before investors make an investment or risk rating decision. Investors should consider the experience of the manager, including how long the team has been managing investments and how closely their historical experience matches that of the proposed strategy. For example, managers with a track record of managing long-only funds may not necessarily have experience transferrable to the management of long-short funds. Retail

advisors and investors should also perform operational due diligence to evaluate the quality of the fund's trading and risk management systems, internal controls, and the quality of service providers such as accounting, legal, custody and prime brokerage.

For private credit funds, it is important to evaluate the liquidity of the assets relative to the liabilities of the fund. If the assets of the fund are loans with three-to-five-year terms and limited liquidity, an asset-liability mismatch may be created if the liabilities of the fund are that investors can withdraw assets on a quarterly basis or a leverage facility is established with a one-year maturity. Due to amortization and self-liquidating structures, some funds may have effective durations that are shorter than the average loan maturity, requiring investors to carefully analyze loan terms. If the lenders or the investors require liquidity at a time that the loans have not matured, the fund may be unable to easily fulfill those liquidity requests on a timely basis.

See this publicly-available AIMA Due Diligence Considerations for Retail Advisors for initial considerations when evaluating hedge funds, liquid alternative funds and private credit. AIMA members can provide investors with detailed DDQs, including a shortened AIMA Illustrative Questionnaire for the Due Diligence of Liquid Alternative Funds, through www.aima.org.

XIII. Summary: Industry innovation and importance of fair rating of alternative investments

Alternative investment funds are diverse, and play a key role in a balanced portfolio, offering diversification, risk reduction and non-correlated returns to the investor. It is counter-intuitive, then, that these products be rated automatically high risk. This does a disservice to the investors who should be able to access these benefits. It is important that Canadian investors can fairly and adequately access alternative investment funds as part of this balanced portfolio. The high-risk rating assigned to many alternative investment funds is antiquated, inaccurate and inconsistent with historical risk-adjusted returns and overall, serves as a detriment to Canadian investor. This risk rating system must be disrupted and replaced by a modern, fair and accurate approach.

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Appendix A – History of Risk Ratings in Canada

CSA guidelines

In December 2016, the CSA made amendments to mandate a CSA risk classification methodology for use by fund managers to determine the investment risk level of conventional mutual funds and ETFs for use in the Fund Facts and in the ETF Facts, respectively. A mandated standardized risk classification methodology could provide greater transparency and consistency than was available, which allowed investors to more readily compare the investment risk levels of different mutual funds. The amendments outlined the use of standard deviation as the sole risk indicator to determine a mutual fund's investment risk level on the risk scale in the Fund Facts and the ETF Facts, and applies to all funds covered by NI 81-102, including alternative mutual funds and commodity pools.

It also requires a mutual fund that does not have the sufficient 10-year performance history to use the past performance of another mutual fund as proxy for the missing performance history: (i) when the mutual fund is a clone fund as defined under NI 81-102 and the underlying fund has 10 years of performance history; or (ii) when there is another mutual fund with 10 years of performance history, that is subject to NI 81-102 and that has the same fund manager, portfolio manager, investment objectives and investment strategies as the mutual fund.

In selecting an appropriate reference index, a mutual fund must consider each of the factors listed in Instruction (2) of Item 5 of Appendix F to NI 81-102 when selecting and monitoring the reasonableness of a reference index. Other factors may also be considered in selecting and monitoring the reasonableness of a reference index if such factors are relevant to the specific characteristics of the mutual fund.

Funds offered via offering memorandum are not required to include a risk rating. More information on this can be read here.

IFIC Guidelines

In June 2017 IFIC published its "Voluntary Guidelines for Fund Managers Regarding Fund Volatility Risk Classification" ('IFIC Classification Guidelines'). In this document, IFIC sorts long-only investment funds into categories of risk based on the three- and five-year trailing standard deviation of historical returns. The IFIC guidelines classify the volatility of funds in the following categories, though IFIC guidelines did not have fixed ranges - ranges were determined annually by reference index returns. While IFIC maintained guidelines for many years, IFIC guidelines have no current effect now that there is mandatory risk rating methodology that does have fixed ranges.

Table 16 – IFIC risk ratings for long-only funds based on standard deviation

Low	Low to Medium	Medium	Medium to High	High
0% to 6%	6% to 11%	11% to 16%	16% to 20%	Over 20%

Source: IFIC Classification Guidelines

As a result of the update of NI 81-102, alternative mutual funds and commodity pools will need to be assigned risk classifications. These funds may hold up to 15% of capital in illiquid securities, as well as have borrowings and short selling up to 50% of the fund's net asset value. Up to 20% of the net asset value of the fund can be concentrated in a single security. Given these expanded investment guidelines, alternative mutual funds have a more complex risk profile than long-only, unlevered funds.

Appendix B - Benchmark Considerations for Hedge Funds and Alternative Mutual Funds

Under the CSA mutual fund risk classification methodology, alternative mutual funds with less than 10 years of performance history are required to use a reference index to complete the remainder of the 10-year period used to determine performance history (standard deviation), which informs their risk rating. Such a reference index can be a composite of several indices. If a reference index is used, its appropriateness must be monitored on an annual basis.

During the comment period following the 2016 release of the CSA's proposed alternative funds framework, many investment fund managers commented that traditional reference indices do not align with alternative mutual funds as they do with traditional mutual funds under NI 81-102. As such, we consider three sample options for the reference index of an alternative mutual fund: (i) traditional indices, (ii) Hedge Fund Research Indices ('HFRI'), and (iii) Hedge Fund Research Indices Performance Tables ('HFRX'), describing the pros and cons of each option. Brief notes on other popular benchmark options (BarclayHedge and Scotiabank) are also included below, as the reasons for selecting various benchmarks can be diverse and should be primarily for reasons to best align with the investment strategy.

Traditional indices

To use a traditional index as a reference, it should reasonably approximate, or be expected to reasonably approximate, the standard deviation of the mutual fund. Traditional reference indices have limited applicability to alternative mutual funds because they do not include performance history (standard deviation) of alternative strategies such as leverage and shorting securities, which are typically used by alternative mutual funds. As such, traditional indices do not accurately represent alternative mutual funds' risk and returns.

HFRI and HFRX

The HRFI and HFRX indices are maintained by Hedge Fund Research (HFR), the established global leader in the indexation, analysis and research within the hedge fund industry. Its indices are considered the industry standard benchmarks for hedge fund performance.

(a) HFRI:

According to HFR, HFRI® Indices are designed to capture the breadth of hedge fund industry performance trends across all strategies and regions. The constituent universe of each HFRI index is submitted to HFR by hedge fund managers on a voluntary basis. Most HFRI Indices are equally-weighted (annual rebalance) while the constituent funds of the HFRI Asset Weighted indices are weighted according to the assets under management reported by each fund for the prior month.

(b) HFRX:

HFR utilizes a UCITS-compliant methodology to construct the HFRX® Hedge Fund Indices. This methodology includes robust classification, cluster analysis, correlation analysis, advanced optimization and Monte Carlo simulations.

Production of the HFRX methodology results in a model output which selects funds that, when aggregated and weighted, have the highest statistical likelihood of producing a return series that is most representative of the reference universe of strategies. In addition, the HFRX methodology defines certain qualitative characteristics, such as: whether the fund is open to transparent fund investment and the satisfaction of the index manager's due diligence requirements.

The main difference between HFRI and HFRX is that most HFRI indices are equally-weighted, while HFRX is asset-weighted. This varies by index.

Table 17 – HFRI and HFRX Indices pros and cons

	Pros	Cons
Traditional Reference Indices	• Well-established and understood • Reported by third party	• Misaligned with most alternative strategies
HFRI	• Applicability to alternative investments • Actual performance history	• Returns are "self-reported" • Constituents are funds that may not comply with NI 81-102
HFRX	• Applicability to alternative investments • Simulated performance history	• Returns are "self-reported" • Constituents are funds that may not comply with NI 81-102

Source: Mackenzie

Other indices

While HFR focuses on hedge funds without limits on investment strategy, the liquid alternative indices follow funds compliant with the UCITS Directive or the U.S. Investment Company Act of 1940, as amended, that are closer in spirit to the proposed rules for alternative mutual funds. Other common industry indices include BarclayHedge and Scotiabank.

BarclayHedge Fund Indices: BarclayHedge produces industry leading benchmarks covering more than 30 indices on hedge funds, managed futures/CTAs, UCITS, foreign exchange and commodities funds sourcing data directly from managers. The Barclay Hedge Fund indices are recalculated and updated real-time as monthly returns for the underlying funds.

Scotiabank Canadian Hedge Fund Index: The aim is to provide a comprehensive overview of the Canadian hedge fund universe. To achieve this, index returns are calculated using both an equal weighting and an asset-based weighting of the funds. The index includes both open-end and closed-

end funds with a minimum asset under management of C$15 million and at least a 12-month track record of returns, managed by Canadian-domiciled hedge fund managers.

Appendix C - Benchmark Considerations for Private Credit

There are very few reliable indices for private credit markets. This is because the private credit markets are still relatively young and continue to be private and illiquid. Only a few loans trade on the secondary markets, in contrast to the broadly syndicated loan space.

The range of indices used in this paper that are published by Cliffwater LLC rely on the publicly available information released by U.S. Business Development Companies (BDCs) on a quarterly basis. This information provides good level of detail related to all individual loans held by the BDCs. BDCs are obliged to provide a fair value of the loans in their portfolios.

The CDLI index published by Cliffwater index seeks to measure the unlevered, gross of fee performance of U.S. middle market corporate loans, as represented by the asset-weighted performance of the underlying assets of Business Development Companies (BDCs), including both exchange-traded and unlisted BDCs, subject to certain eligibility requirements. The CDLI Total Return Index includes three components: Income Return, Realized Gain/Loss, and Unrealized Gain/Loss.

We believe the index is a good proxy for the larger US private credit universe as many of the largest U.S. BDCs are among the largest private credit providers overall. These providers will have BDCs as one among many of their investment vehicles and so it is not uncommon that loans that are present in BDCs will be also present in other private funds and managed accounts portfolios.

It is important to note, that the CDLI index should not be confused with multiple indices that may be tracking the performance of BDCs themselves – i.e. the performance of BDC equity prices. BDCs are closed end corporations that will often be listed on exchanges. They hold loans using significant leverage and their equity prices can and often do significantly diverge from the net asset values of their loan portfolios. The CDLI index looks at the performance of the underlying loans on an unlevered basis.

Further information can be obtained at http://www.cliffwaterdirectlendingindex.com/

Appendix D – About AIMA/ACC and the CAIA Association

The Alternative Investment Management Association (AIMA) is the global representative of the alternative investment industry, with around 2,100 corporate members in over 60 countries. AIMA's fund manager members collectively manage more than US$4 trillion in hedge fund and private credit assets. AIMA draws upon the expertise and diversity of its membership to provide leadership in industry initiatives such as advocacy, policy and regulatory engagement, educational programmes and sound practice guides. AIMA works to raise media and public awareness of the value of the industry. AIMA set up the Alternative Credit Council (ACC) to help firms focused in the private credit and direct lending space. The ACC currently represents over 250 members that manage US$2 trillion of private credit assets globally. AIMA is committed to developing skills and education standards and is a co-founder of the Chartered Alternative Investment Analyst designation (CAIA) – the first and only specialised educational standard for alternative investment specialists. AIMA is governed by its Council (Board of Directors). For further information, please visit our website, www.aima.org. AIMA was founded in 1990, with the AIMA Canada subsidiary formed in 2003.

The CAIA Association, a non-profit organization founded in 2002, is the world leader and authority in alternative Investment education. The CAIA Association is best known for the CAIA Charter®, an internationally recognized credential granted upon successful completion of a rigorous two-level exam series, combined with relevant work experience. Earning the CAIA Charter is the gateway to becoming a member of the CAIA Association, a global network of over 13,000 alternative investment leaders located in 100+ countries, who have demonstrated a deep and thorough understanding of alternative investing. Having grown rapidly, the CAIA Association now supports vibrant chapters located in financial centres around the world and sponsors more than 200 educational and networking events each year. The CAIA Association also offers a continuing education program, where trustees can learn the Fundamentals of Alternative Investments in a 15-hour, video-based program, UniFI by CAIA™. For more information, please visit www.caia.org.