



WHITE PAPER

Alternatives - Must be an Alternative to Something



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This paper was written to show an investor the basics of underwriting alternatives (hedge funds, private equity funds, etc) and what to expect from the portfolio. In the investment world we play in – primarily that of individuals – investors are long markets. We will use US markets as our reference point. We define key terms such as open-ended and closed-ended funds. We delineate three key themes to look for when underwriting a fund investment (liquidity, concentration, and leverage) and discuss at a high level how they work together in a portfolio. At the conclusion of this (unfortunately long-winded) paper, an investor will feel more comfortable with alternatives' slang terminology, how to consider different strategies, and how the strategies will potentially add value to his or her portfolio.

Base Portfolio – Prior to Alternatives

Before we get into alternatives, let's start with what a base portfolio is – a base portfolio is a collection of unlevered (without "leverage," or debt), long, liquid assets such as stocks and bonds. A classic asset allocation example and as-simplified-as-possible base portfolio is 60% stocks and 40% bonds. For this example, we will use 2 indices – S&P 500 Total Return Index (SPXT Index) and the Bloomberg US Corporate Debt High Yield Index (LF98TRUU Index; "BBG HY"). These indices are also the reference indices we will discuss later.

Before we get started on numbers, we want to make a few things clear. We are going to make assumptions in this piece. We're going to assume the portfolios are actively rebalanced back to 60/40 or the original allocation mentioned in each particular example. As portfolios become more complicated with alternatives, rebalancing is not always possible for reasons such as fund liquidity and friction caused by transaction costs and tax implications.

We will additionally discuss multiple outcomes to each situation. This does not mean that our hypothetical examples are the only potential outcomes. We are very big believers in the Anna Karenina principle (https://en.wikipedia.org/wiki/Anna_Karenina_principle). Per Wikipedia, "The Anna Karenina principle states that a deficiency in any one of a number of factors dooms an endeavor to failure. Consequently, a successful endeavor (subject to this principle) is one for which every

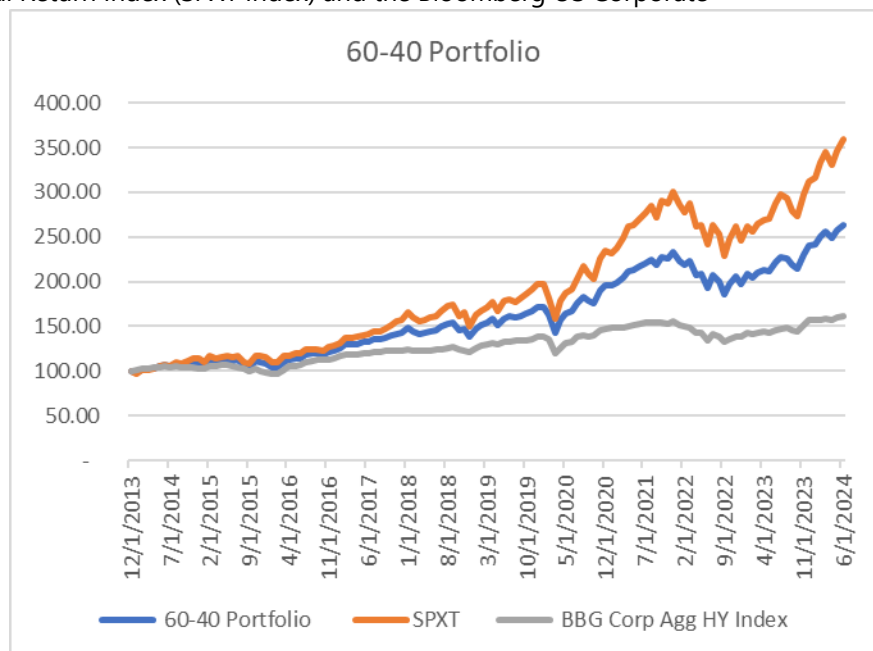


Chart 1: 60-40 Portfolio (Blend of 60 % SPXT and 40% BBG HY), SPXT (SPXT Index), BBG Corp Agg HY Index (LF98TRUU Index) - Data: Bloomberg Professional, Poxono Capital

possible deficiency has been avoided.” This principle is based on the opening line of Leo Tolstoy’s novel Anna Karenina – “All happy families are alike; each unhappy family is unhappy in its own way.” We think this applies to finance. We think of endless amounts of ways companies can fail, portfolio managers can make mistakes, etc., and we spend time underwriting investment processes with the goal of avoiding managers with deficiencies. This paper is written to discuss certain topics and styles of alternatives. This paper doesn’t include all potential outcomes and prior to making an investment decision, you should consult a financial professional.

Additionally, all examples here are for illustrative and educational purposes – they do not include fees and other potential expenses.

Anyway, the classic base 60-40 portfolio returns are displayed in Chart 1. From 12/31/2013 to 6/28/2024, the 60-40 portfolio is +164% vs +259% for SPXT vs +61% for BBG HY.

You may ask yourself, “why include the credit allocation of 40% if it underperforms the SPXT? I could have made more money.”

For some individuals, a pure equity portfolio may be appropriate, but I’ll dive into (what we believe) is the most important thing the credit allocation provides: volatility suppression. The 40% credit allocation suppresses the overall portfolio volatility generated by the equity allocation (among other things, like cash flow from interest payments etc., but that can also be generated in other ways or may not be a part of a client’s needs or desires). The 60/40 portfolio has a realized volatility of ~11.5. What does that mean? That 60-40 portfolio— based on historical data dating back to 12/31/2013— moved up and down, on average, 3.3% per month. The SPXT has a realized a volatility of 15 since 12/31/2013, so a portfolio of just SPXT would generate the highest return based on the historical returns shown in Chart 1, but an owner of that portfolio saw the portfolio move up or down on average 4.3% per month. On the other hand, the high yield allocation has a ~7.5 realized volatility since 12/31/2013 and an owner of that portfolio saw the portfolio go up or down 2.1% per month. Therefore, you have a lever or a balance to change to attempt to manage the portfolio’s volatility if realized volatility patterns persist. For example, if you had a 70-30 portfolio of SPXT and BBG HY since 12/31/2023, you would have made 185% (vs 164% in the 60-40 portfolio) and had realized volatility of 12.4, which means the portfolio moved up and down roughly 3.6% per month on average. In exchange for the 0.3% of movement more per month, the portfolio generated another 20+%. Was that worth it? Maybe. That would be something to discuss with your financial advisor.

In summary, the balance of the classic portfolio is of personal preference and need. An individual needs to determine how much portfolio volatility or movement of value each month (day, week, year, etc.) he or she is willing to stomach. Additionally, the balance of equity (SPXT) and credit (BBG HY) can be changed at different points in the cycle to take advantage of a view on risk-adjusted return.

Why Add Alternatives to Your Base Portfolio?

We believe alternatives, in general, provide you with more levers to complete two major objectives –

- (1) Attempt to compound capital at a faster rate
- (2) Attempt to suppress volatility in the portfolio and have smaller profit and loss swings

I think these two things are generally mutually exclusive. There are some exceptions such as litigation finance, but the exceptions are rare once the strategy reaches scale. The exceptions tend to go away because there are large capital inflows into the space that compress returns as the supply-demand balance between the total addressable market (investment universe) and the capital inflows becomes more even.

“Alternatives” is a big universe of styles, strategies, and fund types. When trying to understand what alternatives you would like to add to your portfolio, you should think about what a potential manager does, how they size positions, and how they build their portfolio; as well as how the fund’s returns will interact with your base portfolio and how large of an allocation the fund should be in your portfolio. Each strategy, style, etc. has a lot of small details that make each one unique within their own smaller universes.

For example, let’s look at the indices of alternatives provided by Bloomberg. Bloomberg breaks the indices down into two major groups: hedge funds and private equity.

Overall, we believe there are a lot of factors that determine how an alternative asset management will perform: everything from investment process to operational due diligence. For this paper, we are focusing on our most important three key factors of the investment process and strategy structure: **Liquidity**, **Leverage**, and **Concentration**. We will dive into all three later, but first we have to figure out what we want our alternatives portfolio to do.

What’s better? Volatility Suppression or Compounding Capital?

It depends. Every investor can use alternatives for different things. (I will use some terms like gross exposure and net exposure in this next couple of paragraphs – don’t worry. We will describe the terms in detail later.) When you look at the chart below, none of the indices selected outperform the S&P 500 Total Return Index. There are periods of outperformance, but the S&P 500 has reigned supreme over the period. There are issues with indices like these, such as survivorship bias, and not all of the indices should be compared to the S&P 500 – for instance, direct lending should be compared to something closer to high yield, but the equity index outperformance is something to note.

We will use examples to help us illustrate some concepts. Let’s start with an individual entrepreneur with \$30M in net worth in an industry that is very closely tied to public markets. He or she may not be interested



in being exposed to more market risk in their portfolio. For that reason, he or she may only want to invest in low systematic risk alternatives, such as a multimanager long/short equity hedge fund that has a lower portfolio-level volatility. At the same time, that strategy may have tax implications that the investor doesn't like for the capital he or she has available to invest. However, the investor's time horizon may be long enough that he or she is willing to take on more systematic risk over long periods in exchange for better tax implications. For that reason, he or she can change to a longer-term private equity strategy that does not mark-to-market, and therefore has a lower portfolio volatility and potentially better tax implications.

If an investor wants to aggressively compound capital, he or she may invest in early-stage venture that has a lot of risk, but potentially a lot of upside and portfolio volatility (note that venture had periods of meaningful equity outperformance such as post-Covid). Venture funds are unfortunately very long (often, the fund manager has a hold of your capital for potentially 10+ years). Let's say you are ok with the volatility of a portfolio like venture capital, but you need better liquidity. There are a couple of ways to accomplish that, for instance a long/short hedge fund with a high net exposure and a gross exposure greater than 100%.

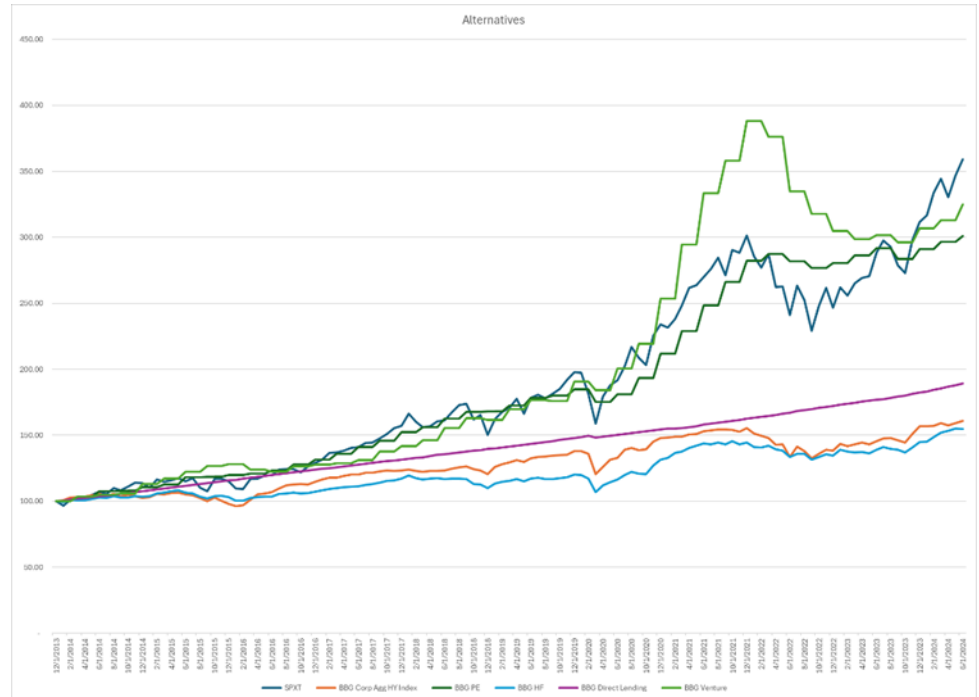


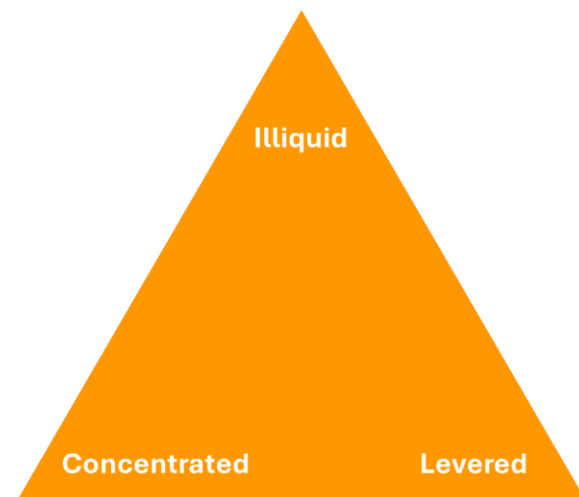
Chart 2: SPXT (SPXT Index), BBG Corp Agg HY Index (LF98TRUU Index), BBG PE (PEALL Index), BBG HF (BHEDGE Index), BBG Direct Lending (BHDL Index), BBG Venture (PEVC Index) Data: Bloomberg Professional

We can go on and on with examples regarding how someone can choose between compounding capital and portfolio volatility suppression when selecting the types of alternatives to consider, but the moral of the story: ask your financial adviser to sit down and go over what you want to get out of your allocation to alternatives. You can see by the select index performances above (Chart 2) that alternative returns have different return profiles.

Liquidity, Leverage, and Concentration

At Poxono, we like to work with managers who build portfolios based on two of the three tenets – not all three. Imagine it's a triangle – a strategy, in our opinion, should only be on one side of the triangle (incorporate two of the risks).

Each fund that is considered for an investment should be constantly evaluated for the three points of the triangle and an investor should expect a manager to tweak or slightly change its strategy, portfolio construction, and investment implementation slightly from time to time – a portfolio manager that stops evolving with the ever-changing market is a watchpoint for any investment.



We will start by discussing each one separately, then discuss how we think they work together.

Liquidity

Liquidity can mean a couple of things in alternatives – fund liquidity and security, or investment, liquidity. We will spend time on both in this section. Let's start with the security-level liquidity, or the liquidity of the investments that the alternative investment manager invests in – equity, credit, currencies, rights, claims, etc. We will discuss fund liquidity later.

Security-Level Liquidity

Investopedia defines liquidity as "the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price." In our opinion, the key point of the definition is that liquidity is a scale – very liquid to illiquid. Not all publicly traded stocks are liquid and not all private positions are illiquid. For example, on an institutional scale, we can find private equity positions that are easier to liquidate than traded stock or credit positions at current marks.

Investors will see hedge funds provide statistics such as "days to liquidate" or other statistics to help an investor in its fund understand the position-level liquidity. In our opinion, the manager is attempting to show the fund's ability to liquidate the book to cash quickly to avoid further drawdown in major market events or fund redemptions. We caution alternative investors to view security-level liquidity statistics with an understanding that liquidity is a scale. In our career experiences, the liquidity statistics measured during less volatile markets are difficult to realize during more volatile markets such as major market events or fund winddowns.

Fund-Level Liquidity

We will generalize alternatives into two major fund types – open-ended or closed-ended funds.

Open-ended funds or “evergreen” funds are traditionally “hedge funds” with positions within the fund that are relatively easily liquidated (versus those of, for instance, a private equity fund). An investor can subscribe to an open-ended hedge fund at a particular net asset value (“NAV”) – most opportunities to subscribe are on the first of the month. It is often quite easy to subscribe to a fund if you meet the qualifications. There will be subscription documents to fill out and then the investor wires the money – redeeming is another story.

Redeeming from an open-ended fund is more complicated. There are a couple of things that an investor should look out for such as lockup periods, redemption notice periods, ‘gates,’ and side pockets.

A redemption can be subject to a lockup period. For instance, a hard lock means you cannot redeem for a period –which could be one or two years post-investment. There can also be a soft lock. In the case of a soft lock, an investor who absolutely needs his or her money back can redeem, but the investor will be penalized. For example, that penalization could be for 3% of your balance and that penalty would be paid to other investors in the fund.

Redemption notices are also important to understand. Managing a portfolio of alternatives requires a lot of planning. The notice period is normally in the range of 30 to 90 days’ notice. If an investor wants their money back at the end of year (12/31) and there is 90 days’ notice, the investor needs to notify the manager and fund administrator prior to the end of September.

On top of the notice period, an investor’s money may come back in portions. There are fund-level gates and investor-level gates. A fund-level gate means the fund will only redeem a certain percent of fund assets at the opportunity to redeem. For example, the fund only has to pay 5% of the fund’s net asset value in redemptions if the fund’s documents have a 5% fund-level gate. Each investor who participated in the redemption will receive its pro rata portion of the redemption.

In our experiences, investor-level gates are more common. Investor-level gates apply to an individual investor’s redemption notice. For example, a fund could have four quarterly gates. If the investor notified a manager of a full redemption on time prior to the 12/31 net asset value, the investor would receive 1/4th at the 12/31 net asset value. The balance would be redeemed at 3/31, 6/30, and 9/30. The investor’s dollars would be subject to the returns of the fund on the balance of the assets. Additionally, the redemptions are not paid on 12/31, 3/31, etc. in most cases. The fund pays the redemptions after the net asset value is finalized, which can vary depending on the strategy and asset class.

A side pocket is a unique topic in our opinion. In its best light, the side pocket is designed to protect the investor in the fund from itself. In fund documents, there could be a side pocket provision. This allows the investment manager and the fund to separate assets from the general pool of assets for a variety of reasons, but in our opinion, the most common reason is because the fund is facing redemptions. When the fund is

facing a lot of redemptions, the manager may side pocket illiquid assets to prevent being a forced seller into the market. The side pocket gives the investment manager time to realize the maximum value for all of the fund investors. This prevents the investors who didn't redeem from "holding the bag" or being the ones that have to take losses from a forced selling situation later on and allowing the early redemptions to realize the value of the asset without the forced selling price action.

The investor is still prevented from receiving their money back. Let's say a fund manager side pockets 50% of the fund on 12/31. An investor who had \$10M in the fund who fully redeemed on 12/31 and was not subject to any gates would receive its pro rata position in the side pocket, or \$5M—which would still be managed by the fund manager—and it would receive \$5M in cash after the NAV is finalized.

Closed-end funds are finite. In theory, an open-ended fund can be open as long as there are investors. A closed-end fund has a defined life in the fund documents. In our experiences, closed-end funds are reserved for relatively more illiquid assets. The fund life is split into two major periods – investment period and harvest period.

The investment period is when the money is deployed. Subscribing or committing to a closed-end fund is different than subscribing to an open-ended fund. If an investor subscribes \$10M to an open-ended fund, the investor sends \$10M in cash. If an investor subscribes or commits \$10M to a closed-end fund, the investor will receive a series of capital calls that total up to \$10M. For example, an investor may receive five \$2M capital calls over a two-year investment period. The investor has a defined period to fund those capital calls after the call is received. If the investor fails to fund the call on time, there are typically penalties. Additionally, investors should be aware that some funds charge management fees differently on committed versus invested capital. Lastly, not all commitments are fully called, but generally most closed-end funds fully call capital.

The investment period may last two years, for example, and that clock can start at either the first close or the last close. Another difference in closed-end funds is that there are multiple times to commit to the fund, and the date on which you commit to the fund may have benefits. For instance, if you commit to the first close, you may receive a fee discount. If you commit to the final close, you have more information about the pool of assets, but you may be subject to payments to the prior closed-end fund/investors at a pre-defined rate. The payment is effectively for the prior-close investors' cost of incubating and carrying the portfolio.

The investment period may also allow recycling. For instance, if an investment in the fund realizes prior to the investment period's end, the management company can re-deploy into a new investment. The fund documents will lay out the details of recycling. Also, after the investment period concludes, most uncalled commitments expire.

Once the investment period ends, the fund's harvest period begins. The harvest period is when the investments realize, and the fund makes distributions. The harvest period is less operationally eventful – no capital calls. The harvest period is about asset management. If assets begin to require more time to realize, a harvest period may require extensions. For example, an investment period can be two years, and the harvest

period can be six years. For example, the harvest period may be subject to two one-year extensions at the investment manager's discretion.

Each fund liquidity document should be analyzed very closely. There can be differences that help a strategy be more resilient during difficult markets. For that reason, make sure you understand why the fund's liquidity structure makes sense given the underlying securities.

Leverage

Leverage is effectively a loan against your asset. Investopedia defines leverage as "using debt or borrowed capital to undertake an investment or project. It is commonly used to boost an entity's equity base." We will use a real-life example, then dive into it as it applies to a hedge fund. That definition applies seamlessly to traditional long-only assets. In our definition of leverage, we are going to include funds that use derivatives or shorting to increase the gross exposure to greater than 100% of equity capital. For instance, an "all weather" or low systematic risk credit hedge fund may have 20-25% cash on the balance sheet but it has leverage from credit default swaps, for example. The credit default swaps could be a small market value position (not using a lot of cash) but could reflect materially more short exposure.

Leverage to Amplify Directional Risk

For instance, if you own a home and you have \$100,000 in equity and the home is worth \$1,000,000 – you have a \$900,000 loan and the loan is your leverage. Said another way, you have \$100,000 in equity capital at risk but \$1,000,000 in exposure or 10x leverage. Let's say housing prices go up by 10% in one year, so your home is now worth \$1,100,000. You made a 100% return on your equity because of your leverage – if you owned the home without the loan, the asset only went up 10% and therefore your equity would have only gone up 10%. The levered equity position had a realized volatility of 100 (your equity value in your home, on average, moved up or down ~6% a trading day) and the unlevered asset price had a realized volatility of 10 (the asset price, on average, moved ~0.6% a trading day).

Alternative asset managers who use leverage to compound returns generally take more directional risk. Directional risk is a view that the investment performance depends on an asset price going up or down. For instance, in the house example, the investment manager hopefully has a view that the asset is going to go up 10% rather than down 10% because you lose everything in the "down 10% in home value" scenario but you gain 100% in the "up 10% in home value" scenario. Therefore, by using leverage, in the "up 10% in home value" scenario, you have compounded capital faster than the asset class's unlevered performance. Each investor should talk to their fund manager and understand how the manager uses leverage and how the leverage will add to investor's performance volatility.

For a credit alternative example, a private credit or direct lending fund can use leverage to increase the return to beat the Bloomberg Direct Lending index. Let's say a credit fund manages \$100M in loans that pay 8% interest, and the investors in the fund provide all \$100M in equity. Investors would make 8% gross of fees and expense. Now let's add a leverage component. Let's say the investment manager obtains a loan

from a bank for \$25M that charges them 5% interest, and the loan is collateralized by the \$100M in loans. Said another way, investors have \$75M in equity capital at risk and \$100M in exposure, or 1.33x leverage. Now, the investors only have to invest \$75M in equity. \$25M in leverage is provided by the bank for a total of \$100M in loans. The loans still pay \$8M in interest, but now the investors in the fund need to pay \$1.25M (5% of \$25M) in interest on the loan. The loan portfolio is therefore making \$6.75M on \$75M of equity – or a 9% return on equity vs the 8% return on equity for the unlevered portfolio.

For completeness, let's look at the downside of having leverage in the loan example. If \$10M of loans default and recover 0 and don't pay a coupon, the portfolio profit and loss calculation would be very different with the leverage. The unlevered portfolio would receive \$7.2M in interest but take \$10M in principal losses on the loans. Therefore, the portfolio would lose \$2.8M or 2.8% on the portfolio's \$100M of unlevered equity capital. If the portfolio obtained the \$25M loan from the bank, the portfolio would still receive the \$7.2M, but it would also pay the \$1.25M in interest in addition to the \$10M in principal losses. Therefore, the portfolio would be down \$4.05M or 5.4% on the portfolio's \$75M levered equity capital.

Leverage to Remove a Risk

In our opinion, elements of leverage can be used to help suppress volatility by obtaining more exposure while decreasing certain risks, such as systematic risk. Leverage, in this example, is shorting stocks to increase exposure to all stock movement.

For example, we will use a long/short equity hedge fund. Let's say investors have \$10M of equity capital. The hedge fund manager can buy \$8M of a basket of long stocks (\$8M directional systematic up-risk) and sell short \$8M (\$8M directional systematic down-risk) of another basket of 50 stocks. Shorting comes with a cost – let's say it costs the investors \$100k to borrow those stocks to sell them short. Investors would have \$0M net exposure, or 0% of their equity capital and \$16M gross exposure, or 160% of their equity capital – think of gross exposure as your absolute value of your directional risk and net exposure as the combined market value of investors' long and short positions. Said another way, investors have \$10M in equity capital at risk and \$16M in exposure here, or 1.6x leverage.

Why implement a strategy like this? In theory, the hedge fund investment manager is attempting to limit the systematic risk to roughly net the exposure and expose its fund investors to more idiosyncratic risk. Investopedia defines systematic risk as "the risk inherent to the entire market" and idiosyncratic risk as "a type of investment risk that is endemic to an individual asset." The example here relies on a few assumptions, like that both the long and short positions have the same systematic risk, and other similar exposures to risks such as sector, industry, or quantitative factors like momentum and dividend yield. The investor is simply attempting to express the view that the basket of long stocks will outperform the basket of short stocks, regardless of how the overall market performs.

Let's apply some numbers to our example now. The investors' long basket of stocks increased in value by 10% in one year. Investors made \$800k ($\$8M \times 0.1$) on the long side of their portfolio. Investors' short basket of stocks increased by 5% and cost investors \$100k to borrow for the year. Investors lost \$500k ($-\$8M \times 0.05$ –

\$100k). Overall, the portfolio of long and short positions made \$300k. The long portfolio had a realized volatility of 10 and the short portfolio had a realized volatility of 5. Overall, the investors only experienced a realized volatility of 3. In theory, this portfolio with no net exposure could be very helpful if you are investing in a manager that you think is a good stock picker but not a market timer. Lower-net alternative managers like the long/short hedge fund manager are managers who utilize leverage (or greater than 100% gross exposure) to add to returns. The leverage may be acceptable to some because the portfolio, in theory, does not have exposure to systematic risk.

Leverage – Overall

Leverage, or greater than 100% gross exposure, can help you compound capital or suppress volatility – it just depends on the portfolio structure and the asset class. If there is leverage, consider how it is used and what the leverage's role is in either compounding returns or suppressing volatility.

Concentration

Concentration refers to the size of core positions relative to the overall portfolio. For instance, if a portfolio of \$1M has 10 \$100k stock positions, it is more concentrated than a \$1M portfolio with 100 \$10k stock positions. As with other concepts, concentration is a scale.

We described idiosyncratic risk in our comments about leverage. The example described a fund that used low net exposure to reduce the portfolio's exposure to systematic risk and increase idiosyncratic risk. In this case, concentration can do something similar. If an investor is a healthcare/pharma/biotechnology-focused investment manager, there could be four companies racing to develop a new drug, and the investment manager has a view that this drug will be revolutionary. If the manager has a view that the first company to get its drug to market will win 80+% of market share, then that drug likely has the most upside. In that case, one company will go up 5x and the other three will go down 80%. This isn't an exact science, but simply an example. As we said, the manager has a strong view on the drug class: revolutionary. How the investment manager builds the portfolio or how concentrated the bet is in reference to the drug class determines the type of return and the degree of volatility the portfolio will experience.

For instance, I'm going to illustrate two portfolios. In both portfolios, the investment manager believes company A is most likely to get its drug to market first and its stock price will increase 5x. In Portfolio A, the investment manager invests 100% of its \$100k portfolio into Company A stock. The investment manager responsible for Portfolio A also believes in very concentrated portfolios. In Portfolio B, the manager runs a less concentrated book and knows that there could be potential setups with Company A so spreads his or her \$100k investment across all four companies – A, B, C, D – but still has the largest bet on Company A. Assuming the company that gets to market first is randomly selected – each company has a 25% chance, the expected values of both portfolios are the same, but the dispersion among outcomes for Portfolio A & B are very different. Portfolio A MOIC is 5x 25% of the time and 0.2x 75% of the time. Portfolio B MOIC is 2.6x 25% of the time, 1.6x 25% of the time, 0.7x 50% of the time. The dispersion of outcomes is much smaller in

Portfolio B (less volatility) but the upside (ability to compound capital) is much less than that of Portfolio A (2.6x maximum MOIC vs 5.0x maximum MOIC).

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Portfolio A MOIC is 5x 25% of the time and 0.2x 75% of the time. Portfolio B MOIC is 2.6x 25% of the time, 1.6x 25% of the time, 0.7x 50% of the time. The dispersion of outcomes is much smaller in Portfolio B (less volatility) but the upside (ability to compound capital) is much less than that of Portfolio A (2.6x maximum MOIC vs 5.0x maximum MOIC).

Company	Stock Price Pre-Announcement	First Drug to Market Announcement	Portfolio A			Portfolio B		
			Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement	Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement
A	100.00	X	1,000	100,000	500,000	500.00	50,000	250,000
B	100.00		-	-	-	300.00	30,000	6,000
C	100.00		-	-	-	100.00	10,000	2,000
D	100.00		-	-	-	100.00	10,000	2,000
			Mkt Value	100,000	500,000	Mkt Value	100,000	260,000
			MOIC			MOIC		
			5.0			2.6		

Company	Stock Price Pre-Announcement	First Drug to Market Announcement	Portfolio A			Portfolio B		
			Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement	Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement
A	100.00		1,000	100,000	20,000	500.00	50,000	10,000
B	100.00	X	-	-	-	300.00	30,000	150,000
C	100.00		-	-	-	100.00	10,000	2,000
D	100.00		-	-	-	100.00	10,000	2,000
			Mkt Value	100,000	20,000	Mkt Value	100,000	164,000
			MOIC			MOIC		
			0.2			1.6		

Company	Stock Price Pre-Announcement	First Drug to Market Announcement	Portfolio A			Portfolio B		
			Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement	Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement
A	100.00		1,000	100,000	20,000	500.00	50,000	10,000
B	100.00		-	-	-	300.00	30,000	6,000
C	100.00	X	-	-	-	100.00	10,000	50,000
D	100.00		-	-	-	100.00	10,000	2,000
			Mkt Value	100,000	20,000	Mkt Value	100,000	68,000
			MOIC			MOIC		
			0.2			0.7		

Company	Stock Price Pre-Announcement	First Drug to Market Announcement	Portfolio A			Portfolio B		
			Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement	Qty	Mkt Value Before Drug to Market Announcement	Mkt Value After Drug to Market Announcement
A	100.00		1,000	100,000	20,000	500.00	50,000	10,000
B	100.00		-	-	-	300.00	30,000	6,000
C	100.00		-	-	-	100.00	10,000	2,000
D	100.00	X	-	-	-	100.00	10,000	50,000
			Mkt Value	100,000	20,000	Mkt Value	100,000	68,000
			MOIC			MOIC		
			0.2			0.7		

Expected Value if companies A, B, C, D all have an equal chance of getting to market first

	Market Value	MOIC
Portfolio A	140,000	1.4
Portfolio B	140,000	1.4

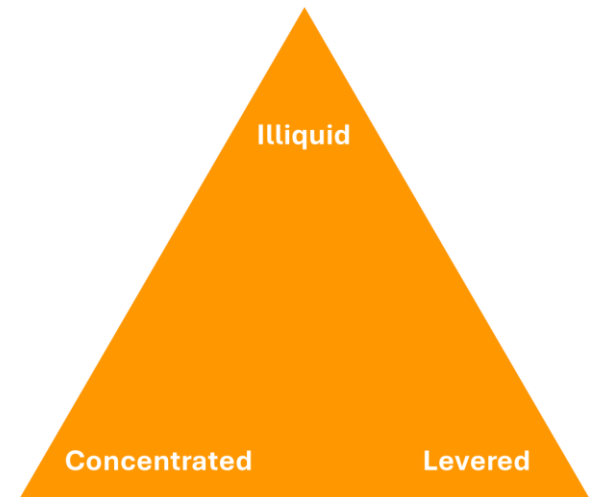
Two of Three is All You Want: Liquidity, Leverage, and Concentration

It's hard to find a manager that combines illiquid assets, concentration, and leverage in a meaningful way. Also, each point on the triangle is not created equal. In our opinion, for example, leverage has the most downside risk. Another factor to consider is where you start your underwriting process on the triangle.

Let's begin by starting the underwriting process from the **illiquid point** on the triangle. We would start from this point when considering most closed-end funds, or funds that primarily invest in assets that are not exchange-traded. In some cases, when a manager combines illiquidity and leverage, the manager is attempting to combine a lower-yielding asset and leverage to "juice" or increase the return to make the asset class competitive versus other assets or its reference index (credit or equity). In some cases, when a manager combines illiquidity and concentration, the manager has a very strong view on a specific investment thesis. We think managers who combine concentration and illiquidity are trying to compound capital faster than the reference index.

An investor will want to first determine the relationship between security-level liquidity and leverage or concentration. In our opinion, a manager can have illiquid assets and high amounts of leverage (60-65% Loan-to-Value, or "LTV") such as a closed-end private equity multifamily real estate fund (in this case, we would also want to make sure the investor has a 7-10+ year investment horizon), but we wouldn't want to see that fund only investing in Philadelphia-area real estate, for example. If the fund were a Philadelphia-focused private equity multifamily closed-end fund, we would like to see lower leverage amounts relative to industry standard (30-40% LTVs) due to the concentration in one specific market. The concentration in one market means the underlying assets are likely more correlated than a collection of assets spread across 30 cities with exponentially more subeconomies and employer types.

When considering fund-level liquidity, the underwrite is a little bit different because an investor should be looking for a structural flaw within the investment manager's setup – the investment strategy doesn't match the fund type. When considering fund-level liquidity, an investor is concerned about situations surrounding the investors in the fund and if the manager can liquidate the assets efficiently enough to fund the redemptions. The fund-level gates or investor-level gates are tools that the investment manager builds into his or her structure to help them manage the redemptions. A liquid or evergreen fund that is liquid at the investor level and illiquid at the security level is a



Starting your underwriting process from a different point on the triangle can lead to different outcomes. The pathways are *not* always transitive (aka $2 + 6 = 8$ and $6 + 2 = 8$ (transitive) vs $6 / 2 = 3$ and $2 / 6 = 1/3$ (not transitive)). It matters where you start your underwriting process because the beginning point is what you, as an investor, think is the most important concept of the investment strategy. In concentration, the "bottom up" investment process is the key. In illiquidity, the thing that we considered the most important was the security-level liquidity not being exchange traded. Sometimes the most important concept is a part of the investment process and sometimes the most important concept is an attribute of the investments the manager is going to include in his or her fund.

bad combination – you want to have the liquidity of your assets and liabilities match on your balance sheet in any business – the fund management business is no different.

Generally, in both cases (security-level illiquidity and fund-level illiquidity), the manager is attempting to compound capital faster than the reference index.

When starting at the **concentration point** of the triangle, you are likely looking at a manager with medium- to long-term investment horizons – could be in public or private markets – and a very thorough fundamental research process. A manager who runs a concentrated book will talk a lot about the proprietary company models, meeting with management, site visits, etc. This can be referred to as a “bottom up” process – they look at the company innerworkings primarily and consider a lot of the macroeconomic factors as the manager works through its investment process.

In our experience, the managers who also include leverage do it to suppress volatility. This is the example where the manager is using shorting to increase the gross exposure of the fund to isolate the “bottom up” fundamental process. The shorting can be index hedges or pair trades (long one company and short another within the same sector or bucket of risk). We described that the “bottom up” fundamental process primarily focuses on the innerworkings of the company and aims to understand the macroeconomic drivers during that process. If the macro is not the main focus, the manager can short to remove the macroeconomic risk or systematic risk in the portfolio. Therefore, the manager isolates the idiosyncratic risk which their process is designed to excel at understanding and managing. We generally like this combination very much when considering long/short hedge funds.

On the other hand, a manager who adds leverage to very concentrated bets to compound capital is a different underwrite. In our opinion, this manager needs to excel at a very high level in timing markets. This is likely a manager an investor would include as a part of a dislocation strategy. This is not a strategy that is in an alternatives portfolio all of the time – this is something you would add to your portfolio during periods such as severe market drawdowns.

We consider concentration and leverage to not be transitive. The starting point of the underwriting process matters. Separately, illiquidity and concentration have a similar methodology from

A couple of things about short squeezes – when a short starts to go against you, the position size gets bigger – unlike a long where the position size gets smaller. Additionally, liquidity can dry up quite quickly because market makers in options (gamma squeeze) may be forced to increase volume due to positioning. If that isn't enough risk, there is potential pain around borrowing the stock. In order to short a stock, a manager needs to borrow the stock from a long holder prior to selling the share. That sold share may become no longer available, and a short position can be forced to be closed and therefore the loss is realized.



Chart 3: This chart shows GME stock price action from 12/1/2020 to 3/31/2021. Data: Bloomberg Professional

each starting point. When you are combining illiquidity and concentration, the thesis will need to be high conviction, and the investment process will need to be the most important part of the underwriting process. A thorough investment process is a staple of any manager you consider from the concentration starting point. The illiquid component is something that you can manage alongside concentration with fund structure. As long as the fund structure allows for illiquid investments i.e. the fund is closed-end, illiquidity at the security level is acceptable.

Underwriting from the **leverage point** of the triangle is the highest level of difficulty. As we mentioned before, in our opinion, leverage has the most left tail outcomes. If an investor is starting from the leverage point of view, they are likely looking at a long/short or relative value fund of some kind.

Leverage vs. illiquidity is a structural underwrite like we discussed in other sections, but when starting from leverage, there is another point to consider – how quickly something can go from liquid to illiquid. I want to highlight equity long/short hedge fund risks like short squeezes in crowded small float stocks (made famous recently (Jan 2021) by Roaring Kitty and Gamestop/AMC). Shorting, in theory, has infinite risk – a stock, in theory, has infinite upside. When a long/short equity hedge fund has multiple turns of leverage i.e. 200+ gross exposure or multi-managers, position sizes should be kept small because the return profile is very sensitive to the changes in liquidity or illiquidity of a position due to the leverage. M&A is another example of a short going against the investor when there is no liquidity between the price pre-announcement and the target price.

Higher-leverage alternative business models such as multi-managers can work with a concentrated portfolio, but it requires a very liquid portfolio at the security level and locked-up capital at the fund level. As an investor underwrites multi-managers or relative value funds, an investor will tend to see longer locks on capital. While this is also very beneficial for the manager, the longer locks help stop redemptions from forcing realized losses onto the entire investor base during periods of heavy turbulence. Concentration also works when security-level liquidity is a key part of the underwrite. When an investor underwrites the multi-managers, he or she will notice a theme in the pods or managers that last: they all have great risk managers or a trader's mentality. This group is very focused on stock liquidity, position risk-adjusted return, and position size maintenance.

But the returns...

We've spent 10+ pages walking you through how we think about strategies, managers, and fund structure. This is not everything to consider when looking at an investment strategy, but it's a helpful starting point. Each manager is unique, and nothing should be assumed about his or her strategy.

Before we start talking about fees, I want to highlight something in Chart 2. If you invested \$100 in every one of the listed Bloomberg indices in 2013, all of them would be underperforming the SPXT.

That being said, not all of the indices should be compared to the SPXT. In our opinion, the purple line/direct lending index is a private credit product and should be compared to the orange line/corporate high yield. In that case, direct lending is outperforming, or compounding capital faster than its relative index. In addition, the purple line is much smoother due to less volatility. That's a good combination. As we discussed earlier, outsized returns with very low volatility likely don't last. The flow of capital forces managers to invest in lower-quality assets to deploy capital and compresses yields on the higher assets.

Crowded private credit/direct lending is not great, but it's better than the equity alternatives. All the equity-based indices – from the light blue broad-based hedge fund index at the bottom to the venture and private equity indices – now trail the SPXT. It's hard to find an alternatives strategy that is equity-based and compounds capital. There are some that are less volatile. The private equity (BBG PE) index is up ~\$200 over the chart with realized monthly volatility of ~5.7 while the SPXT is up ~\$260 with a realized monthly volatility

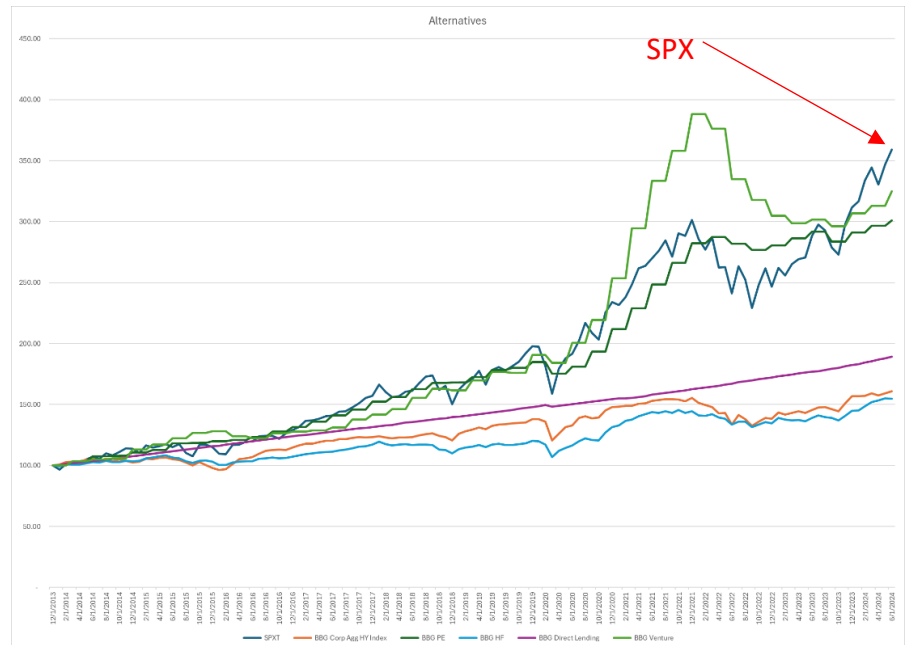
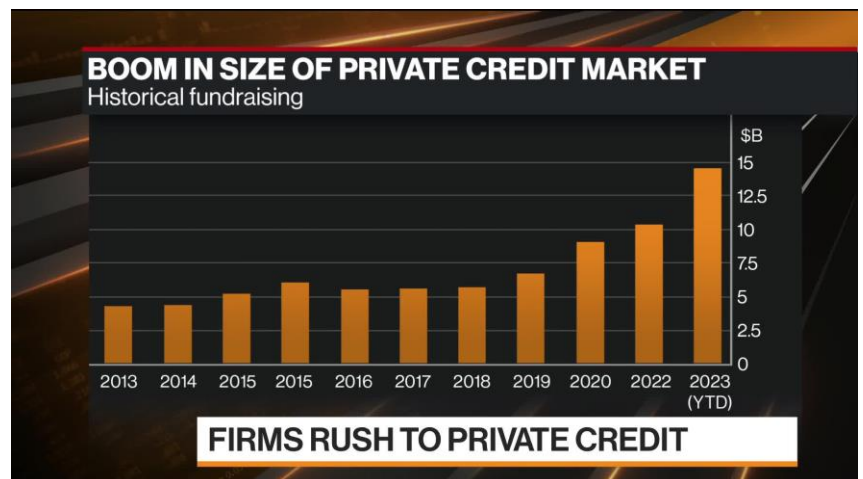


Chart 2: SPXT (SPXT Index), BBG Corp Agg HY Index (LF98TRUU Index), BBG PE (PEALL Index), BBG HF (BHEDGE Index), BBG Direct Lending (BHDL Index), BBG Venture (PEVC Index) Data: Bloomberg Professional



Source: Bloomberg

of 15.0. That's attractive IF an investor is looking for less volatility but still looking for equity exposure. Investors need to determine if being able to withstand a ~4.3% monthly change in either direction for the SPXT vs. a ~2.9% monthly change in either direction for the private equity index is worth the extra \$60 in return over the time period.

Conclusion

The use of alternatives depends on what the end user is looking to accomplish. An investor may look to alternatives because a fund is the only way to build exposure to a certain asset class – parts of litigation finance for example. An investor may shrink an allocation to alternatives because there is now a way to access the same exposure in public markets.

That being said, investing always comes down to the return stream. Based on the historical returns presented earlier of the Bloomberg alternatives credit indices, there are ways to compound capital faster than, and suppress the volatility of, comparable high yield indices. In equity, the alternative offering is less attractive for compounding capital, but there are interesting propositions for investors looking to suppress volatility.

The index performance of each alternative asset class included is disappointing compared to the SPXT, but this is just one decade in a long history of investing. Regime shifts can turn winners into losers and losers into winners. Prior to considering an alternative asset, talk to your investment adviser about your goals and how alternatives may help.

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