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Long-Short Equity

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This paper seeks to describe long-short equity funds, to explain the tools long-short managers use, and to explore the potential benefits and risks of using this strategy. We then explore what role long-short equity funds could play in an investor's portfolio.

Introduction

Institutional investors accept increased investment risk in exchange for the prospect of higher returns. Less risky investments, such as fixed income, are unlikely to satisfy many institutional investor's return requirements. Equities are inherently riskier (i.e., more volatile) than fixed income investments and are expected to deliver greater returns. As a result, equities represent a major component of most institutional investors' portfolios.

Equity managers hired by institutional investors are typically given specific assignments or "mandates" that delineate the securities available for investment. For example, a manager may be hired to run a portfolio of large capitalization US equities. Such mandates are usually constrained in one or more ways to control *active* risk (i.e., the risk generated by a manager's "bets" relative to a benchmark index, as distinguished from market or benchmark risk). Most often, managers are required to be "long only"—that is, "short selling" is not permitted.[1]

[1] Short selling is the process of selling shares of a security without owning them. The mechanics of short selling are more fully explored in the appendix.

In this paper, we are concerned with enhancing active return and controlling active (not benchmark) risk. To generate positive active returns, long-only equity managers assume active risk by choosing securities they expect will rise in value, while avoiding those they expect will decline. This process allows a manager to profit *only* when the stocks they own rise in value. A long-only manager can thus capitalize on "bad" stocks only by *not owning* them or owning a smaller position relative to the weighting in the index they are benchmarked against. This constraint limits the ways in which a truly skilled manager can act on investment ideas. However, because most equity managers have a mandate to invest in a similar fashion to their benchmark, their returns will largely be linked to the returns of that segment of the equity market. As a result, they will likely produce good absolute returns in a bull market. However, if markets decline, the manager has few tools to mitigate or avoid losses.

Removing the "long-only" constraint allows skilled managers to more fully express their investment ideas and potentially generate larger active returns by both owning (i.e., going "long") stocks they expect to rise, and borrowing then selling (i.e., going "short") stocks they expect to fall. This less-constrained form of investing is referred to as "long-short" investing.

History

Seeking to profit from a drop in prices is not a new concept. Holland's seventeenth century tulip mania resulted in an early example of a futures market. Such markets today allow investors to, among other things, short assets expected to fall in value. The modern form of a long-short equity fund traces its lineage to 1949 when Alfred Winslow Jones founded The Jones Fund. Jones sought to reduce risk by shorting stocks, thereby *hedging* against the effects of market declines. Jones also charged a performance fee that sought to align the interests of the portfolio manager and the investors, with each profiting from the fund's success. Both the long-short equity portfolio structure and the performance fee concept proved durable.

The long-short equity concept was gradually applied to other asset classes. Starting in the late 1980's, several endowments began investing in long-short equity "hedge funds." Preservation of capital, not just increased returns, was an essential consideration for many of these early long-short equity investors. Others were seeking exposure to a larger opportunity set and specifically to managers who they perceived had better stock picking skills.

Today, long-short equity strategies are a significant part of the investment landscape and a meaningful portion of total hedge fund assets. Pension funds and other investors have allocated a significant amount of capital to long-short equity strategies through "dedicated" (i.e., individual manager) long-short allocations and hedge funds-of-funds (i.e., multi manager portfolios). As of March 2019, $917 billion was invested with more than 2,760 long-short equity investment managers.[2]

[2] Source: Hedge Fund Research, Inc (HFRI)

Additional flexibility

Investment flexibility makes long-short equity managers different from long-only managers. The loosening of investment constraints results in a broader opportunity set and a larger "toolkit" with which to work. A typical long-short manager has the latitude to invest in companies throughout the world, often regardless of market capitalization, sector, or liquidity constraints. The table below provides a brief overview of the tools available to long short equity managers, as well as the potential benefits and risks.

TABLE 1

	Potential Benefit	Potential Risk
No Relative Benchmark	Manager focuses on producing absolute versus relative returns	May prove difficult to distinguish manager alpha from beta
Short Selling	Can make money when markets or individual stocks fall	Can lose money when markets rise
Hedging with Derivatives	Derivatives can provide downside protection	Derivatives introduce counter-party risk
Leverage	Magnifies gains	Magnifies losses
Tactical Decisions	Can adjust market exposure to benefit from (or hedge against) both bull and bear markets	Markets can maintain significant biases longer than a manager may stay solvent

Allowing a skilled manager more room to maneuver could provide a greater opportunity to add value. After all, it is hard to argue with a manager who wants to short-sell an inferior stock or decrease equity exposure during a bear market. However, allowing a manager more freedom is also a double-edged sword because the manager may be wrong more often than they are right. In this case, these tools may amplify the losses from poor decisions.

Active, unconstrained portfolios

Though many investors classify long-short managers as "alternatives" or assign them to a hedge fund "bucket," most long-short equity managers should be considered a form of equity management along the spectrum of active investment management. This classification is appropriate because the primary source of returns and volatility in long-short equity portfolios is the equity market, unless the portfolio is truly "market neutral".

The following illustration provides an overview of the spectrum of portfolio management. Passive management strategies, or index funds, seek to provide low-cost exposure to a particular asset class or market segment. They seek to replicate the return of their benchmark and do not attempt to add value (i.e., seek positive "alpha"). Traditional long only active managers invest primarily in the asset class that constitutes their mandate, but they seek to add value over their benchmark. These managers try to achieve this goal by holding securities in different weightings relative to their benchmark and perhaps holding some securities outside their benchmark. Long-short managers may identify a certain benchmark as their opportunity set, but they do not necessarily seek to manage portfolios relative to that benchmark. Given an ability to hold both long and short positions, performance is unlikely to closely track that of a long-only benchmark.

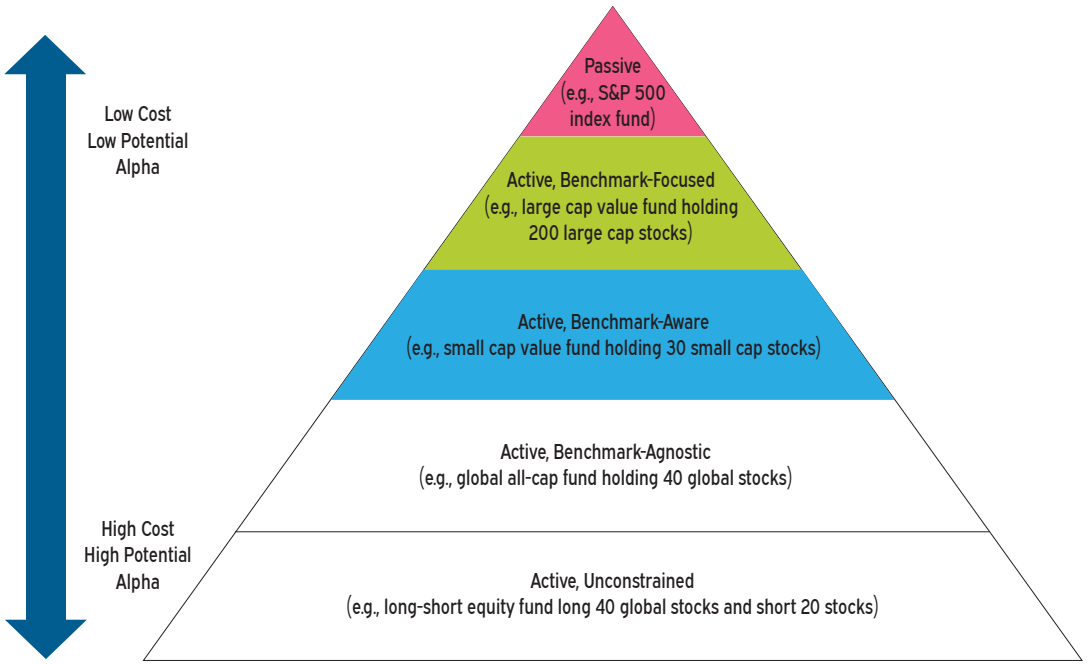

FIGURE 1
Spectrum of Portfolio Management

Potential sources of return

Investors considering long-short managers must believe both in the efficacy of active management and, critically, that they are capable of identifying skilled managers or hiring an advisor who can identify skilled managers. At the very least, investors should expect active managers to produce returns that justify the fees they charge. Positive alpha may be a function of luck or skill, yet the flexibility available to long-short equity managers provides several sources of return not available to long-only investment managers. These sources of return, and risk, are discussed below.

Long positions

The portfolios, and returns, of many long-only managers tend to resemble those of a benchmark. This is partly intentional, as managers attempt to minimize "tracking error" to reduce the "career risk" associated with large negative active returns. They build diversified portfolios that will closely track the benchmark against which they are being compared.

Long-short equity managers generally behave differently. They are benchmark agnostic and may be better equipped to build more concentrated, "best ideas" portfolios.

Short positions

Managers with short positions seek to profit from a stock falling in value. Short positions can be executed for individual securities or for a broader basket of stocks. For example, managers may engage in "basket shorting" whereby they short ETFs to reduce sector-specific or market risk within the portfolio. Alternatively, they can buy put options (e.g., on the S&P 500) or engage in other, more complex, risk mitigation strategies.

The following are characteristics associated with short positions for a long-short equity portfolio:

Lower volatility profile The addition of short positions to a long-only equity portfolio reduces a portfolio's net exposure to the equity market. This change reduces the manager's equity beta, which means the portfolio will generally be less volatile than the overall equity market.

Additional costs When managers execute short sales they must borrow the securities they intend to short. There is a cost associated with borrowing each security. This cost will vary depending on the stock's liquidity, the supply and demand for the security, and prevailing interest rates.

Greater complexity It is far more complex for managers to sell securities that they do not own than it is for them to sell securities that they do own. The accounting, custody, and trading can be complicated and require more sophisticated trading and portfolio management systems.

A second source of gains (or losses) Short positions profit if a security falls in value. However, a short sale theoretically exposes a portfolio to infinite losses because the security sold short may increase in value to infinity before the manager can "cover" the short position.

Leverage

Leverage is a form of borrowing. Borrowing capital to generate returns exposes a portfolio to higher highs and lower lows. A manager using leverage must maintain sufficient liquidity to mitigate the forced sales of securities.

Leverage is divided into two categories, implicit and explicit. Implicit leverage is a function of the derivatives market in which posting a mandated "margin" amount enables the investor to gain control over a larger amount of assets. Most long-short equity managers have implicit leverage in their portfolios through their use of short sales. An important component of short selling is how the proceeds from those sales are invested. Investment managers may leave the money in cash or establish additional long positions. Purchasing additional long positions introduces explicit leverage.

Explicit leverage comes from actual borrowing. Leverage used explicitly has a specific interest rate associated with the investment. For leverage to be beneficial, managers must produce a return on the leveraged investment that exceeds the interest rate of the credit extended to them.

The following table provides an example of the difference between implicit and explicit leverage. The type of leverage is less important to the investor than is the net exposure that results from each. Most long-short equity managers maintain a net long or short exposure of between 0% and 100%.

TABLE 2

Leverage	Long Position	Short Position	Gross Exposure	Net Exposure
Implicit	Purchase 1 share of Stock A	Short 1 share of Stock B, proceeds invested in cash	200%	0%
Explicit	Purchase 2 shares of Stock A	Short 1 share of Stock B, proceeds used to purchase the second share of Stock A	300%	100%

Tactical decisions

Most investment managers are required by their clients to remain close to fully invested to ensure continuous exposure to a particular market (e.g., large cap US equities). In contrast, long-short managers may frequently change "net market exposure." This change can be either intentional or result from the knock-on effect of their views on individual stocks. For example, shorting a stock they expect will fall in price will also reduce market exposure.

As a result, a long-short equity manager may alter an investor's overall market exposure. Long short equity managers can change the net market exposure of their portfolios by holding more or less cash, by adjusting "long" and "short" positions, or by using derivatives (e.g., options or futures on the S&P 500 index).

Historical performance

Many proponents of long-short investing support their case by citing the historically strong performance of the long-short manager universe. Performance for long-short equity managers was not tracked until 1990, and it began as a fairly small universe (e.g., 50 long short equity managers were tracked by HFRI initially). Most hedge fund return composites are self-reported (i.e., managers are not required to provide data), which means they are subject to significant survivor and selection bias, and should therefore be viewed skeptically. See Appendix C for a further discussion of survivor and selection bias.

With this caveat, the long-term performance has been impressive (see the following table). Since 1990, the long-short equity composite produced a return approximately 130 basis points *above* the broad equity market, per annum, with significantly less risk. Long-short equity managers exhibited volatility profiles comparable to portfolios composed of 60% stocks and 40% cash. This makes intuitive sense, given that the average net long exposure usually ranged between 50% and 65%.

	Long-Short (Net of Fees)	US Stocks	International Stocks	60% Stocks / 40% Cash
January 1990—May 2019[3]				
Annualized Return	10.9%	9.6%	4.62%	7.1%
Standard Deviation	8.7%	14.6%	16.83%	8.7%
Correlation with Russell 3000	0.78	1.00	0.78	1.00
Sharpe Ratio	0.93	0.47	0.11	0.49
January 2000—May 2019				
Annualized Return	4.8%	5.7%	3.3%	3.3%
Standard Deviation	8.2%	15.0%	16.9%	9.2%
Correlation with Russell 3000	0.83	1.00	0.87	0.96
Sharpe Ratio	0.38	0.27	0.09	0.17
June 2014—May 2019 (Five Years)				
Annualized Return	3.2%	9.2%	1.31%	5.99%
Standard Deviation	6.4%	12.0%	12.29%	7.22%
Correlation with Russell 3000	0.91	1.00	.80	1.00
Sharpe Ratio	0.38	0.70	0.04	0.72
Return During the GFC (Nov '07–Feb '09)	-24.0%	-41.6%	4.5%	-26.4%

TABLE 3

[3] Throughout this paper we use the performance of the HFRI Equity Hedge index to represent long-short, the Russell 3000 to represent US Stocks, the MSCI ACWI (ex-US) to represent international stocks and 90-Day US Treasury Bills to represent cash. The 60% Stocks / 40% Cash uses the MSCI ACWI as its stocks index. The HFRI index is an equal-weighted composite, and the return data is presented net of all fees and expenses. Returns for periods greater than one year are annualized unless otherwise noted.

However, much of this attractive track record is due to performance during the 1990s. For several reasons, hedge fund returns reported during the 1990s are likely to be less useful in forecasting future returns than the returns reported for the past two decades. First, the longer the time period, the more likely survivor bias is present. Second, Hedge Fund Research, Inc. (HFRI) did not impose strict criteria on self-reporting until 1994, meaning that data prior to this time should be viewed with even greater skepticism. Third, the advent of the internet and the adoption of Regulation FD[4] made company research more of a commodity than it was in the 1990s. This development reduced the information advantage that some hedge funds possessed. Lastly, as the hedge fund universe has grown, the strategies used by managers have become more common, resulting in portfolios more closely resembling each other - and the market—than they did in the 1990s.

[4] On August 15, 2000, the SEC adopted Regulation FD to address the selective disclosure of information by publicly traded companies and other issuers. Regulation FD provides that when an issuer discloses material nonpublic information to certain individuals or entities—generally, securities market professionals, such as stock analysts, or holders of the issuer's securities who may well trade on the basis of the information—the issuer must make public disclosure of that information.

We have a higher degree of confidence that the relative performance of long short equity managers during the past two decades is more representative of what investors should expect from them in the future.

For these reasons, we have a higher degree of confidence that the relative performance of long short equity managers during the past two decades is more representative of what investors should expect from them in the future. These numbers are much less impressive, but make more intuitive sense. Since long-short strategies are designed to have exposure to the equity market while mitigating risk, it is natural that over the long run—and during bull markets in particular—they will produce lower absolute returns than a long-only equity benchmark. If the market is fairly efficient, an index composed of 60% stocks and 40% cash should serve as a reasonable guide of the expected return for the universe of long short managers.[5]

[5] The weights between stocks and cash should vary depending on what the average net long position of the universe is expected to be. Similarly, the geographic weighting (e.g., using the MSCI USA vs the MSCI ACWI as the equity proxy) should depend on the anticipated composition of the universe.

The past five years has been a particularly poor environment for long-short investors. Generally, the US equity market has performed extremely well, driving the returns of stocks and long-only funds up. Along with the market performing well, there has also been tight dispersion – that is, the spread between the winners and losers has been smaller. This arguably makes it harder for skilled managers to add value through stock selection, both by going long and short. Another reason long-short managers have likely lagged is that many of them invest outside the US, and non-US investments have lagged the US for the past decade. Lastly, interest rates have been extremely low over the past decade, hence the cash that is being held in long-short portfolios is providing a much lower return than it had during past, higher rate environments, such as the 1990s.

Potential to add value

The freedom available to long-short equity managers should provide skilled managers with greater opportunities to add value, but not all unconstrained managers are equally skilled. As the universe grows, it is important to take into account the concept of dispersion. Dispersion attempts to quantify the size of the gap between the winners and losers in a market. As the marketplace expands, strategies may copy each other, but this also provides managers the opportunity to gain an informational advantage on his or her competition. If dispersion is low, manager skill offers less upside than if dispersion is high.

The following table presents the difference in annualized return over ten years between the manager at the 25th percentile and the 75th percentile (i.e., the interquartile spread). This is one way to measure the difference between the most and least successful managers in a given asset class.

Equity Composite[6]	Interquartile Spread
Long-Short Equity	6.0%
US Large Cap Equity	2.3%
US Small Cap Equity	2.6%

TABLE 4

[6] The data presented is for the ten years ending June 30, 2019. eVestment is the source for the public equity data and HFRI is the source for the long-short data.

There is a much larger spread between the stronger and weaker performing long-short managers than there is for long-only US large cap and small cap equity managers. We conclude from this data that there is a greater reward for picking superior long-short equity managers. However, the wider difference in manager returns is not good news for the investors in sub-par strategies, as weak long-short managers can detract significantly more value than long-only public market equity managers. Choosing genuinely skilled active equity managers for a long-short mandate is therefore critical.

Identifying superior managers requires great care and skill. An impressive track record is not enough to conclude that a manager possesses skill. Academic studies examining the performance persistence of hedge funds, that is, the probability of a manager who has done well in the past continuing to perform well in the future, have produced mixed results. That is, some studies imply that there are skilled managers who maintain an "edge" while others reject this notion.[7] Making this even tougher is the fact that hedge fund data often suffers from severe biases including survivorship and backfill bias.[8]

[7] See Gonzalez, Papageorgiou and Skinner (2016)

[8] See Almeida, Ardison and Garcia (2018)

Alignment of interests?

The studies that have examined the efficacy of active management[9] generally arrive at the same conclusion that, on average, professional active investment managers fail to outperform the market over long periods of time, after fees. There are many possible reasons why professional money managers fail to add value. Some reasons, such as the long-term efficiency of capital markets, are beyond the control of investors. In contrast, there are other reasons within the control of investors, such as possible misalignment of interests between investment manages and investors.

[9] See Bessler, Blake, Lückoff and Tonks, (2010), Berk and Tonks (2007), Barrett and Brodeski (2006), Busse and Irvine (2006), Cahart (1997), Brown and Goetzmann (1995), and Kahn and Rudd (1995).

Asset managers (consciously or not) adopt a conservative approach to portfolio construction that minimizes the potential for losing assets.

One example of a potential misalignment of interests is the fixed, asset-based fee charged by investment management firms. As successful investment management firms grow in size, the ultimate goal of maximizing business profits creates a shift in focus from producing the strongest returns for clients to producing returns that are unlikely to cause a client to terminate the manager. As such, asset managers (consciously or not) adopt a conservative approach to portfolio construction that minimizes the potential for losing assets. Specifically, they tend to align their portfolios closely with the benchmark to achieve consistent, albeit consistently lower, returns, thereby reducing the probability of termination.

Long-short equity managers partly mitigate this potential mismatch of interests in at least two ways. First, long-short equity managers charge a performance-based fee in addition to their management fee. The performance-based fee better aligns the interests of investors with those of the investment manager, as they both benefit when absolute returns are positive. Second, long-short equity managers typically institute a "High Water Mark" that suspends the payment of performance-based fees until capital losses are recouped.

Performance-based fees are costly, typically ranging from 15% to 20% of profits. Further, there is rarely a hurdle rate, or benchmark, over which these fees are calculated. As a result, a long short manager who is simply the beneficiary of a bull market will receive handsome performance-based fees regardless of their skill. Similarly, performance-based fees may introduce significant moral hazard in that they provide an incentive for managers to accept significant market risk. Hence, performance-based fees introduce an asymmetrical trade-off.

Asymmetrical fee structures tend to favor investment managers by allowing them to share in the upside potential while not penalizing their asset-based fee revenue should they underperform. Essentially, asymmetrical structures give managers a "free call option" while they control the underlying volatility. Since an option's value increases with higher volatility, a manager who increases the risk of a portfolio increases their potential payoff. As a result, underperforming managers may be encouraged to increase the volatility of the portfolio to reach performance hurdles, while outperforming managers may reduce risk in an attempt to "lock in" profits.

It is not certain that a performance-based fee structure properly aligns interests. Hedge fund managers still have incentives to gather assets, as many millions can still be made on the 1.5% to 2.0% asset-based fee that most charge. In addition, once any manager has gathered assets, they have an incentive to preserve those assets by not taking on too much risk and "keeping it in the fairway."

The asset allocation decision

This section examines the potential benefits of adding long-short equity from several perspectives within the overall asset allocation framework. First, we review the logic of considering long short equity within an investor's equity allocation, as opposed to an alternative classification. Secondly, we discuss the benefits of using long-short equity to reduce portfolio-wide risk.

Long-short as equity

Many investors have categorized long-short equity funds with other hedge funds and sometimes within a broader "alternatives" bucket. The classification of a strategy or asset class on paper is less important than the risk factors that it introduces to an investor's portfolio. In any reasonably diversified portfolio, market risks, as opposed to idiosyncratic risks, will be the primary driver of returns. The chief economic and market risks in a long short equity portfolio are the same as those for equity markets broadly – poor or negative economic growth and a weak stock market. Using this logic, long-short equity managers most appropriately belong in a broad equity category with other equity strategies that exhibit similar market and economic sensitivity.

Long-short equity managers (as a whole) behave like a "lite" version of the broad equity market – precisely as one might expect given their net market exposure. As shown in the table below, over the trailing ten years, their aggregate correlation with the US stock market has been high, although their beta versus the market has been more modest. They produced much better returns during the Global Financial Crisis, but then lagged significantly during the subsequent rebound, likely due to lower market beta or imperfect market timing.

TABLE 5

	Long-Short (Net of Fees)	US Stocks	International Stocks
January 2009—May 2019 (Ten Years)			
Annualized Return	5.1%	13.9%	5.8%
Beta vs. Russell 3000	0.48	1.00	0.97
Correlation with Russell 3000	0.91	1.00	0.86
Return During the GFC (Nov. '07—Feb. '09)	-23.9%	-41.6%	-47.2%
Return in Year Post-GFC (Mar. '09—Feb '10)	28.0%	56.0%	63.5%

Minimize volatility and drawdown risk

While volatility is often used to quantify risk, many investors view the protection of capital as equally important. Reducing losses (i.e., "drawdowns") enables an investor to recover more quickly. The following table examines the impact of drawdowns by showing the return required to recover those losses in one year and, additionally, the number of years a plan would have to produce an 8.5% return to recover the losses.

TABLE 6

Drawdown Scenario (%)	Required 1-Year Return (%)	Recovery Time Period Assuming an 8.5% Annualized Return (Years)
-10	11.1	1.1
-20	25.0	3.7
-30	42.9	5.3
-40	66.7	7.1

Dedicating part of a portfolio to high quality bonds and cash has traditionally been the most reliable and effective way for investors to hedge the downside risk of the equity markets. However, the yields available on cash and fixed income are quite low by historical standards. Therefore, investors have been seeking ways to reduce volatility without sacrificing potential return. This is where the possibility of shifting part of an equity allocation to long-short equities comes into play.

The following chart shows how often the composites for domestic equity, international equity, and long-short equity, have produced monthly returns at different levels. The number of occurrences on the left hand side of the graph (i.e., losses) is substantially lower for long-short equity than for domestic and international equity. This is especially true for the "tail" of the chart (i.e., monthly returns worse than -5.0%).

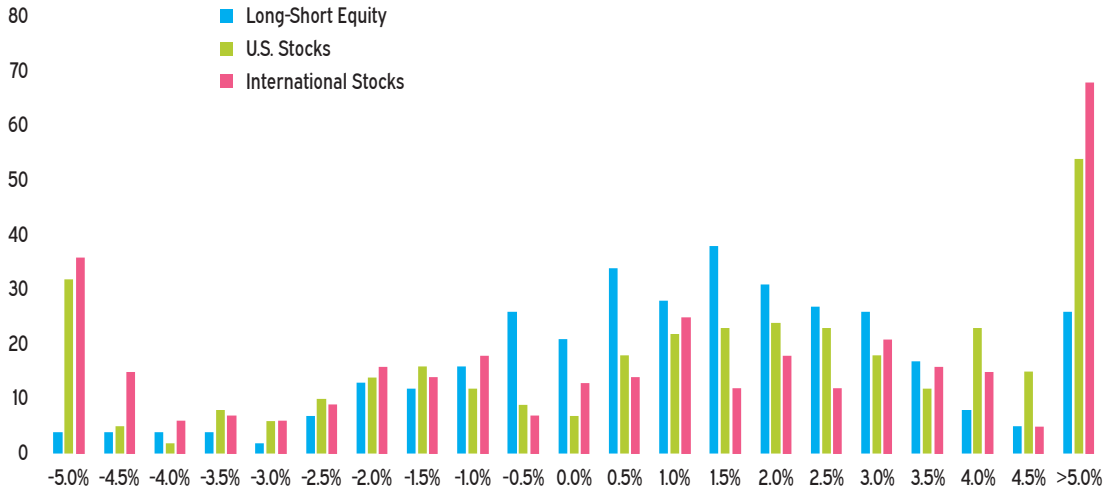

FIGURE 2
Frequency of Monthly Returns
From January 1990 to May 2019

The following table shows the impact of the two large drawdowns for the US stock market that occurred during the 2000's.

TABLE 7

Time Period	US Stocks	Time Needed to Recover	Long-Short Equity	Time Needed to Recover
April 2000 to September 2002	-20.2%	15 Months	-3.6%	9 Months
November 2007 to February 2009	-41.6%	37 Months	-23.9%	24 Months

The long-short equity composite preserved significantly more capital during both downturns, which led to a much quicker recovery than that experienced by the overall stock market. Hence, an investor who shifted some of their equities to long-short would have reduced their volatility as well as their susceptability to fat tail losses (i.e., significant losses of capital). However, the difference in returns among long-short managers can be quite large, so there is no guarantee that any one manager or group of managers will exhibit performance that replicates the composite.

The ability to protect capital during downturns can increase the odds of an investor meeting their long-term goals. However, this assumes that an investor is able to produce solid returns under normal or bullish conditions, as well. Any portfolio that is not 100% invested in equities will lag the broad stock market during a bull market. Hence cash, bonds, and long-short equities (assuming they are not 100% net long) will fail to keep pace when stocks are producing double-digit returns.

How much to allocate?

There is an inherent trade-off in shifting assets from long-only to long-short strategies. While long-short strategies should reduce risk, they have lower return expectations than long-only equity strategies due to lower equity market exposure. Picking superior managers can result in returns similar to or in excess of those of the stock market, however. In an environment where bonds—the traditional hedge against equities—offer paltry yields, it is worth considering long-short managers to hedge part of a portfolio's equity risk while maintaining some upside potential.

The above data demonstrates that long-short equity can be used for risk reduction. For investors that are interested in long-short equities primarily for risk reduction, we believe it is appropriate to allocate up to 20% of the overall equity allocation to long short managers. For investors more focused on long-short strategies because of their ability to enhance returns and who are confident they can identify superior managers, they may consider an even higher allocation to long short managers. Since this approach involves higher fees and lower market exposure than a long-only portfolio, a significant amount of alpha is needed to make up for these impediments. Moreover, an investor should be cognizant that an allocation to long-short strategies will lower the overall beta of their equity portfolio, and thus lead to potential tracking error versus their policy benchmark and peers. Note this can be addressed either tactically or structurally via an equity overlay.

Potential structural risks

Long-short equity investments are generally accessed through limited partnerships, a form of commingled investment vehicle. This process allows the investment manager to restrict "transparency," or information about underlying holdings, to ensure that such information is not exploited by other investors to the detriment of a fund's returns. There are methods to access more detailed information, however, such as accepting non disclosure agreements, using "lagged" portfolio holdings, or using third-party position/risk aggregation services.

Investors must also determine which legal and tax jurisdiction they prefer to use to access hedge funds. Many managers provide both onshore and offshore vehicles. Most tax-exempt institutional investors prefer offshore vehicles due to the ability to reduce the potential for Unrelated Business Income Tax, which may arise through the use of leverage by some investment managers. Using an administrator is preferable as this practice ensures that an independent third-party is privy to and prices the securities in the investment manager's portfolio.

Implementation options[10]

Investors who seek exposure to long-short equity managers have several available options. An institutional investor may choose to invest through a fund-of-funds manager, through a single manager, or directly into a customized program of long-short managers.

[10] Investors may utilize 1940 Act Mutual Funds or Hedge Fund Beta strategies to access long-short equity, neither of which we address at this time.

Funds-of-funds

A fund-of-funds that is focused on long-short equity provides an investor exposure to a broad group of long-short equity managers, generally utilizing five to thirty investment managers. This provides broad diversification by manager and, presumably, by strategy. A diversified fund-of-funds also provides the benefit of volatility reduction within an investor's portfolio of long-short equity managers. This diversification is an important benefit because any one long short manager may exhibit far more volatility than a composite of long-short funds.

The minimum allocation amount for a fund-of-funds investment is usually $1.0 million, which makes it more appealing to smaller investors. Per HFRI, the median management fee for funds-of-funds that have reported since the start of 2019 is 1.25% with a median incentive fee of 5%.[11] These fees are in addition to the management and performance fees of the underlying investment managers. Note that these additional fees are not factored into the performance comparisons shown earlier in this paper.

[11] Source: HFRI. Note that it may be possible to negotiate lower fees.

A fund-of-funds provides limited liquidity, typically locking up capital for at least one year from the time of the initial investment. Withdrawals are generally allowed either quarterly or annually thereafter. Using a fund-of-funds may also limit an investor's ability to control allocations to specific capitalization segments, styles, and regions.

Single manager

Using a single long-short equity manager is similar to using a single equity manager to gain exposure to other broad equity classifications like small capitalization or international equity. Most traditional long-only managers track their benchmarks fairly closely, so investors have a reasonable idea of the performance to expect. In contrast, even a well-diversified long short manager is likely to display significant tracking error versus the stock market as well as the broad universe of long-short equity managers.

The single manager approach has the appeal of being straightforward, easy to implement, and lower cost than a fund-of-funds. Management fees usually range from 1% to 2%, and performance fees are typically 10% to 20%.[12]

[12] Source: HFRI. The average management fee for long-short equity managers was 1.5% with a performance fee of 20%.

Institutional investors may seek to achieve the "best of both worlds" by constructing a diversified roster of individual long-short equity managers. The use of a direct program increases an investor's control and ability to customize the portfolio to best meet their goals. This approach provides the diversification benefits of a fund-of-funds, but without the added layer of fees.

A direct program requires significantly more expertise, time, and resources on the investor's part, both in the initial planning and implementation stage, as well as in the ongoing monitoring.

Summary and conclusion

The significant loosening of investment constraints for long-short equity managers creates a broader opportunity set and a larger "toolkit" with which to work, thus offering investors the prospect of larger excess returns. Typically, long-short managers are given much latitude with regard to the capitalization, geography, and liquidity of the underlying investments, as well as the ability to use leverage and to engage in short selling. Taken together, the much broader investment universe and toolkit provide skilled managers a greater opportunity to add value.

There is an inherent trade-off in moving assets from long-only to long-short strategies. While long-short strategies should reduce risk, they have lower return expectations than long-only equities due to their lower market exposure and higher fees. By allocating part of a broad equity allocaiton to long-short managers, an investor can reasonably expect to reduce volatility and their vulnerability to fat tails (i.e., large drawdowns). In an environment where bonds - the traditional hedge against equities - offer very low yields, investors may consider using long-short managers to hedge a portion of a portfolio's equity risk while maintaining some upside potential.

Investors should carefully consider how long-short equity managers may fit into their overall asset allocation. While long-short managers should reduce risk when compared to a long-only equity portfolio, they do not provide the same amount or certainty of hedge offered by high quality bonds. Investors should also be conscious of the potential tracking error long-short managers introduce relative to a long-only benchmark. Finally, the prospect of "alpha" plays an important role in the asset allocation decision for most investors when it comes to hedge funds. The greater confidence an investor has in their ability to select superior long-short managers, the more they are usually willing to allocate to long-short equities.

Appendix A

Glossary

Alpha The difference between the return of a portfolio and its benchmark. A positive alpha indicates that a manager outperformed. Alpha should be adjusted for risk (i.e., beta) to better measure the value added by a manager due to skill rather than luck (or randomness).

Basket shorting The process of shorting an ETF (or other group of securities) to reduce sector-specific or broad market risk within a portfolio.

Beta A measure of the systematic, non-diversifiable risk of an investment. Specifically, beta measures the volatility of an investment (e.g., a manager's portfolio) relative to the market. A beta above 1.0 is more volatile than the market, while a beta below 1.0 is less volatile.

Correlation A measure of the degree to which two variables move together. A negative correlation indicates an inverse relationship, whereas a positive correlation indicates a direct or positive relationship.

Drawdown The maximum loss experienced over a particular time frame.

High water mark The highest peak in value that a hedge fund has reached.

Inter-quartile spread The difference in return between the managers whose performance is at the 25th and 75th percentiles.

ISDA The International Swaps and Derivatives Association (ISDA) is a trade organization of participants in the market for over-the-counter derivatives.

Leverage The use of borrowed money to gain additional exposure to an investment.

Liquidity crunch A crisis that occurs when banks sharply reduce the number of loans they make. Because so many companies rely on loans to meet their short-term cash flow obligations, this lack of lending has a ripple effect throughout the economy, often causing a severely negative financial situation.

Long position The state of owning a security; the opposite of a short position.

Margin The amount of equity contributed (and that must be maintained) as a percentage of the current market value of the securities being purchased or held within a leveraged portfolio.

Market Neutral Market Neutral strategies are constructed to be neutral to one or multiple benchmarks or variables. Market Neutral strategies typically maintain net equity market exposure no greater than 10% long or short.

Prime broker A broker that acts as settlement agent, provides custody for assets, provides financing for leverage, and prepares daily account statements for its hedge fund clients.

Short covering The process of a manager buying back the shares of a security they had been short, often to prevent additional losses from a rising share price.

Short selling The process of selling shares of a security without owning them, hoping to buy them back later for a lower price.

Tracking error The amount by which the performance of the manager typically differs from that of the benchmark. Tracking error is calculated as the standard deviation of the difference in returns between the manager and the benchmark.

Appendix B

Terms and mechanics

Service providers

Long-short equity investment managers introduce additional terms and specific mechanics with which investors may not be familiar. The following table provides an overview of service providers typically included in a long-short equity offering and their role.

TABLE 8

	Comparable Long-Only Counterpart	Description of Role
Prime Broker	Custodian and broker	A prime broker facilitates short sales, margin accounts and extends lines of credit.
Administrator	Custodian and pricing service	Evaluates position level security prices, sets the Net Asset Value (NAV) of the fund.
Auditor	Same	Perform annual audit of the partnership.
Legal	Same	Draft all legal documents including offering memorandum and subscription agreements. May provide support for external ISDA/privately negotiated transactions.

Gross vs. net exposure

The relaxed constraints of long-short equity manager introduce leveraged investments. A long-short equity manager will have a figure representing their gross long, gross short, total gross and net exposure. The table below compares a fully invested long-only manager exposure with the exposure of a long-short manager exposure.

TABLE 9

	Long-Only	Long-Short Equity
Gross Long	100%	100%
Gross Short	0%	50%
Total	100%	150%
Net Exposure	100%	50%

The figure for gross long exposure is the total capital invested in long positions. The figure for gross short represents the total capital invested in short positions. Total exposure adds gross long and gross short together while net is gross long minus gross short. These figures describe the positioning of the investment manager.

Mechanics of short selling

When a long-short equity manager executes a short sale, the manager borrows the security through a prime broker. The manager sells the security and receives proceeds from the sale. The long-short equity manager intends to repurchase the security at a lower cost and deliver the security back to the prime broker.

Appendix C

Biases: Survivorship, self-selection, smoothing, and back-filling

Hedge fund data is prone to various biases that impact the data at the surface level and hence the conclusions that an investor might draw when examining the data. Therefore, it is important to be skeptical when looking at the historical returns of hedge fund indices.

Survivor bias

Longer-term time periods are generally preferable when analyzing performance, to account for market cycles, short-term trends, or other sources of end-point bias. However, the longer the time period, the greater risk there is of survivorship bias impacting the data.

Survivorship bias occurs when databases exclude the returns of funds that have closed or gone out of business. Much as survivorship bias is present in the returns of mutual fund indices and peer manager indices, it exists for hedge fund indices. Moreover, because of the high mortality rate of hedge funds (estimates in some early research were that up to 20% went out of business each year[13]), survivorship bias is particularly endemic to hedge funds. Independent research suggests that survivorship bias alone boosted annual hedge fund index returns by 3-4% per year during the 1990s.[14]

Both intuition and past research[15] imply that the majority of managers who dropped out of a universe were underperforming. Hence, their exclusion upwardly biases the results relative to what an investor in the median fund would truly have received.

Self-selection and back-filling

Returns are also self-reported, meaning that a manager experiencing poor returns may choose to stop reporting. The bias from these unreported final months is not quantifiable, although for failed funds it must be substantial. However, industry insiders claim that many funds stop reporting their returns because they are doing well (i.e., they do not need to attract any more capital) rather than doing poorly. This implies that the self-selection bias causes the index returns to be understated. Additionally, funds that have built a successful track record prior to joining a database may report their prior returns, while start-ups that do not build a similarly good track record do not have the same desire to provide back-filled returns. The backfilling bias in one database was estimated at 4.3%.[16] The true effect and amount of these combined biases is difficult to estimate.

[13] Sources: Fung and Hsieh, "Empirical Characteristics of Dynamic Trading Strategies: The Case of Hedge Funds," 1997; Brown, Goetzmann & Ibbotson, "Offshore Hedge Funds: Survival & Performance 1989-1995," 1996.

[14] Sources: Liang, "Hedge Fund Performance: 1990-1999," 2000; Fung and Hsieh, "Performance Characteristics of Hedge Funds and Commodity Funds: Natural vs. Spurious Biases," 2000; Brown, Goetzmann & Ibbotson, "Offshore Hedge Funds: Survival & Performance 1989-1995," 1996.

[15] See "Mutual Fund Survivorship" by Cahart, et al (2001), and "Survivor Bias and Improper Measurement" by Barrett and Brodeski (2006).

[16] Source: Van der Sluis & Posthuma, "A Reality Check on Hedge Fund Performance," 2003.

Smoothing

Another potential problem with the data is that hedge fund returns are smoothed, due in part to stale asset pricing. This has two consequences. First, volatility appears smaller than the actual risk level. For example, if the price of an illiquid security remains unchanged by the manager while the prices of similar liquid securities gyrate, volatility will be dampened. Second, because the prices of these illiquid securities are not changing when the stock and bond markets move, the reported correlations between hedge funds and equities and bonds are artificially low.

One study found that the beta versus the stock market for the aggregate CSFB/Tremont index increased from 0.37 to 0.84 when adjusted for stale pricing.[17] Another study determined that, even for relatively liquid strategies like long-short hedge funds, smoothing causes an upward bias in excess performance measures (i.e., alpha) and a downward bias in risk measures.[18]

[17] Source: Asness, Krail & Liew, "Do Hedge Funds Hedge?," 2001.

[18] See "Smoothing, Persistence, and Hedge Fund Performance Evaluation" by Huang, Liechty and Rossi (2009).

Making adjustments

One approach is to measure the performance of funds-of-funds, as these should provide a cleaner estimate of the actual experience of long short equity focused hedge fund investors.[19] However, there is no composite of long-short equity funds-of-funds currently available.

[19] This approach was suggested in a 2002 paper by William Fung and David Hsieh titled "Hedge-Fund Benchmarks: Information Content and Biases."

Summary

Hedge fund data is prone to many biases that impact historical returns, and long-short equity is no different. Survivor bias, self-selection, back-filling, and smoothing are all likely present, and artificially inflate reported returns while putting a downward bias on risk measures, especially prior to 2000. Hence, it is important to be skeptical when looking at the historical returns of hedge fund indices.

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