



The Other Free Lunch in Investing: Time

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Executive Summary

- Loss aversion, a human behavioral bias, drives the costly short-termism behind yield chasing and volatility fearing investment decisions
- Fear of volatility costs investors in the form of poorly constructed portfolios, and drives higher returns for more volatile assets
- Playing to short-termism, private equity, hedge funds and high yield bonds deliver lower returns for the risk assumed than public equities
- The most reliable way to outperform is to overcome our short term fears and capture the return premium offered through a low cost, diversified portfolio of volatile assets that offers a reliable risk premium
- Simple strategies outperform complex ones

Introduction

“Gyrations in Berkshire's earnings don't bother us in the least. Charlie and I would much rather earn a lumpy 15% over time than a smooth 12%.”

- Warren Buffett, Berkshire Hathaway Chairman's Letter, 1996

It is commonly said that the only free lunch in investing is diversification. We are the first to agree that a well thought out and fundamentally informed strategy for diversification is critical. But diversification has its limits, especially when confused with volatility reduction, and when taken too far tends only to increase complexity and decrease return.

Risk is often confused with market volatility and therefore diversification is misinterpreted as lowering volatility. Risk is anything that can lead to poor returns. Fear of short term volatility drives such behavior as yield chasing as well as investing in high fee private equity and hedge funds. Over time, volatility smooths out, for those who are willing and able to endure it. ***To the patient investor, a long time horizon is the true free lunch of investing when combined with sensible diversification and low fees.***

Examples of shortermism abound. High yield bonds, in spite of their illiquidity and equity-like risk, attract investors due to their high current income while our own studies show that investors are not compensated adequately for the credit and liquidity risks of high yield bonds compared to replication portfolios of Treasuries plus equities. More recently, the media has rebuked the hedge fund industry for their poor performance over the last decade relative to promised equity-like returns. With private equity, an increasing number of studies show that industry-wide results at best match the returns of public equities in spite of their higher risks from leverage and illiquidity¹. Warren Buffett's quote above captures his long term thinking, which has served his shareholders well by capitalizing on opportunities made available by investors who fall prey to their innate behavioral biases.

¹ <http://www.nakedcapitalism.com/2014/06/debunking-myth-private-equitys-superior-returns.html>

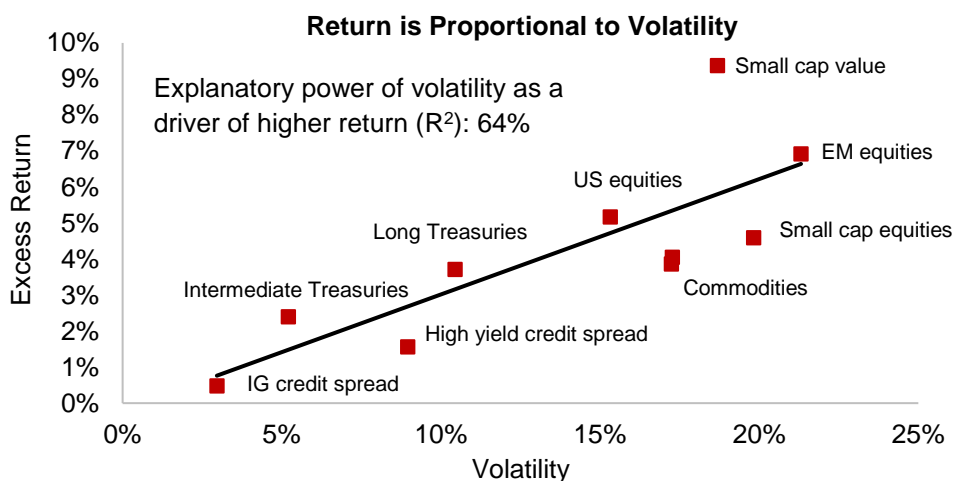
In this paper, we show the costs of the well documented behavioral bias of loss aversion². Loss aversion drives investors to act short-term and miss out on high long term returns by fearing volatility and preferring investment strategies that mask volatility in exchange for high fees or illiquidity or both of these additional risks. These tradeoffs have not delivered for investors in the past, nor would we expect them to in the future.

Short-termism drives our greatest investing mistakes

Loss aversion is the behavioral finance theory that explains investors' disproportionate preference for avoiding losses relative to pursuing the opportunity for gains. This bias explains investors' preference for high current yield, which gives them a false sense of limited risk with high return, when in reality the risks are increased. It also explains investors' irrational preference for hedge funds and private equity due to their lower volatility, which masks the higher risks from high fees, frequent trading, leverage and derivatives. All of which inevitably lead to a high probability of poor performance given extremely competitive markets.

Volatility has come to be used interchangeably with risk. But most losses in diversified public market portfolios are not permanent, they are a temporary result of market volatility and therefore different than long term risk. But this market volatility invokes fear emotions on the way down, driving investors to sell after losses, turning drawdowns into permanent losses. The reverse happens when markets rise, invoking greed, the fear of missing out and confirmation bias³, resulting in buying after prices have already gone up. **Said another way, loss aversion drives us to make investment decisions based on the short-term fear of temporary loss, which causes us to lose focus on the long term.**

The fact is loss aversion, or the fear of volatility, is in part what leads certain asset classes to deliver reliably high returns. The short-term led fear of temporary ups and downs helps drive a higher risk premium in more volatile assets. The chart below shows the excess return versus volatility for various asset classes since 1973. We can see that volatility explains much of the excess returns that these asset classes have delivered. Setting aside the benefits of long-term focused fundamental diversification, **our compensation comes from our willingness to endure volatility.**



Source: Bloomberg, Ken French Data Library, Barclays. Data from Jan 1973-Sept 2016.

Volatility should not be feared as losses are temporary. Rather than understanding and accepting this basic fact about markets, many investors go to great lengths to avoid volatility and in the process increase true

² https://en.wikipedia.org/wiki/Loss_aversion

³ https://en.wikipedia.org/wiki/Confirmation_bias

risk through methods which include taking on liquidity risk, increased trading, and using leverage and derivatives to build complex trading strategies that are not well understood. True long term risk is anything that could be expected to lead to low returns.

It is not just human behavioral biases that lead to reliable risk premiums in volatile assets but another example is flawed regulatory constructs. Insurance companies and banks are mandated to hold capital against their liabilities. Regulators assign risk weights to various asset classes based on their perceived riskiness, which often means volatility. This means regulations push such companies to favor hedge funds and higher yielding bonds over equities, which have increased risks of opacity, and illiquidity among other risks, without offering adequate compensation. This is just one more reason why more volatile assets have a structural advantage.

Our research shows that the best way for investors to outperform is not to attempt to time markets but rather to overcome their fears and invest in diversified portfolios that deliver a high return premium in exchange for enduring volatility. In the rest of this paper, we look at how private equity, hedge funds, and high yield bonds by their very nature capitalize on our behavioral weaknesses and lead to increased risk while delivering lower returns, in the name of masking volatility or delivering higher current income.

Private equity does not compensate investors for illiquidity and leverage risk

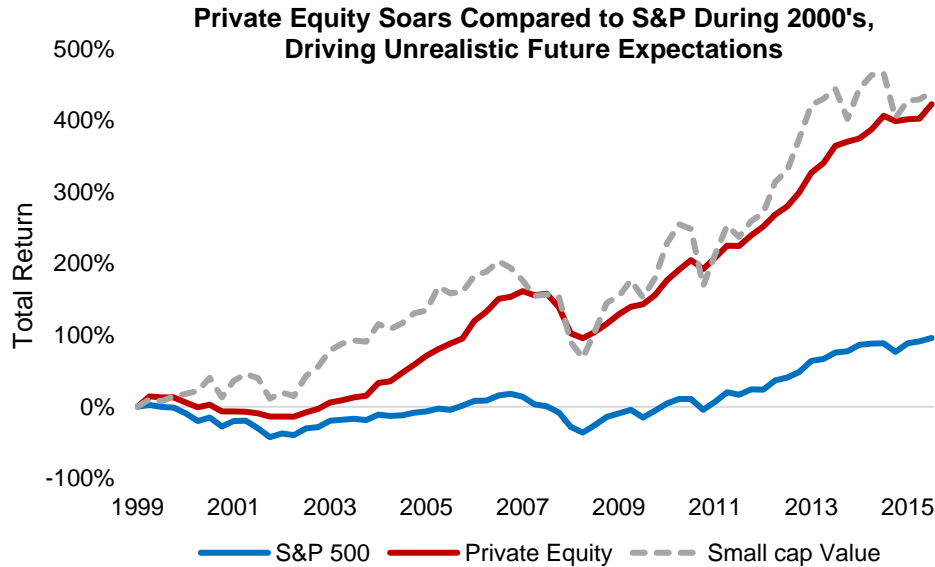
Private equity returns have outpaced the S&P 500 since the collapse in the dot-com equity market bubble. This has driven return expectations for private equity to unrealistic levels in spite of a growing number of studies, including a comprehensive one by the Center for Economic and Policy Research (CEPR)⁴, showing more recent realized returns barely match the S&P 500. This is in spite of subjecting investors to the additional risks of liquidity and leverage. Other than being locked into these funds and their high fees for a decade at a time, why would investors tolerate such unspectacular returns with so much unnecessary risk?

We think the answer again has a lot to do with the human tendency to fear short term loss. There is a range of strategies that get bucketed as private equity including venture capital funding fledgling businesses (about 15% of the industry), to large buyout firms attempting to take mega cap companies private. But the bulk of activity comes from taking private small companies (average deal size in 2015 was \$116mln and average exit was valued at \$257mln⁵) that appear cheap according to valuation metrics like P/E ratios, and then adding leverage. By taking these companies private, pricing becomes estimates rather than actual current transactions. The cost for this smoother return profile is high fees - investors typically pay managers a 2% annual management fee plus 20% of returns. Further, investors give up control over when they must commit capital, which often happens during market drawdowns, forcing these investors to sell their existing liquid depressed assets managed for lower fees in order to fund the purchase of other depressed assets at higher fees. Whether public or private, markets are competitive, which is the nature of capitalism. It should come as no surprise then that high fees eat away all of the potential benefit that should ordinarily come with such strategies, in aggregate.

We start by comparing the recent history of private equity returns to public equities, represented by the S&P 500 in the chart below. Looking only at this short period of time, one might extrapolate this 6% per annum advantage to private equity to persist into the future, which we think is adequate compensation for the leverage, illiquidity and additional risks that comes with high fees. ***If one expected this outperformance by private equity to continue, we could understand the attractiveness of the “asset class”.***

⁴ <http://cepr.net/images/stories/reports/private-equity-performance-2016-06.pdf>

⁵ https://www.preqin.com/docs/samples/2016-Preqin-Global-Private-Equity-and-Venture-Capital-Report-Sample_Pages.pdf



Private Equity is the Cambridge Private Equity Index. Small cap Value is the S&P 600 Value index. Source: Cambridge Associates, Bloomberg. Data from Jan 2000-Jun 2016.

Note in our analysis, we also show the performance of small cap value equities (unlevered) as a liquid, lower risk (i.e. no leverage or illiquidity) comparison which we use further down in the paper to build return expectations for private equity.

The table below summarizes the performance statistics for public and private equity since 2000 as well as since the inception of the private equity index in 1986. We can see that over the recent past, private equity has outperformed the S&P 500 by over 6% per year but by only 3% over the longer history. Helped by low interest rates, the private equity industry has boomed, and also attracted increased competition. Given this backdrop and longer history, one should expect significantly lower returns in the future, which we explain and estimate next. Note we show volatility in the table only for completeness but it is irrelevant for private equity since it is an illiquid asset.

2000-2016	S&P 500	Private Equity	Outperformance
Annualized Return	4.2%	10.5%	+6.3%
Volatility	16.4%	10.4%	
1986-2016			
Annualized Return	9.9%	13.3%	+3.4%
Volatility	16.0%	9.3%	

Private Equity is the Cambridge Private Equity Index. Small cap Value is the S&P 600 Value index. Source: Cambridge Associates, Bloomberg. Data from Jan 2000-Jun 2016.

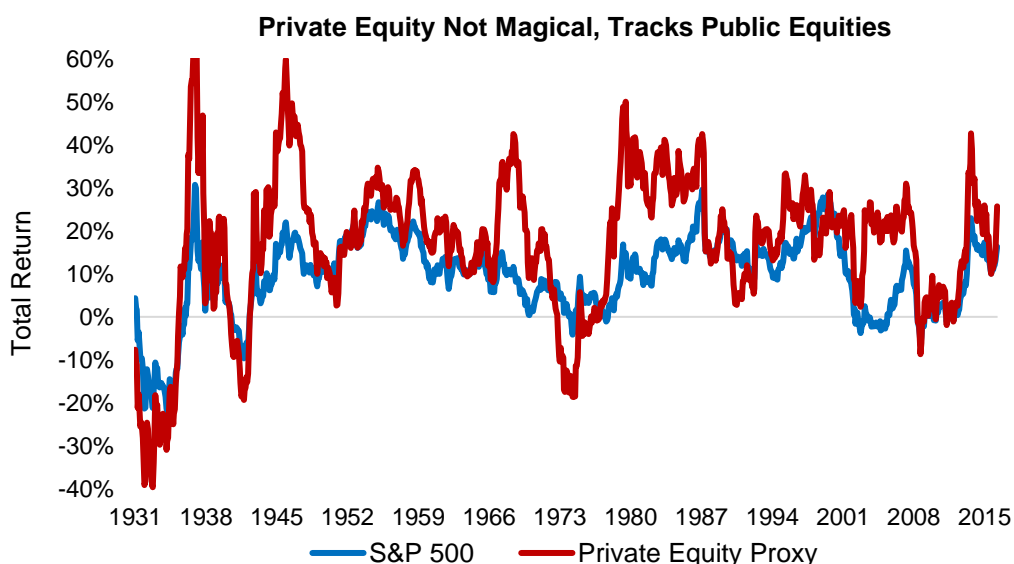
To build return and risk expectations for any strategy we have to start from a logical and fundamental perspective. As discussed above, private equity is primarily the buying of small companies and leveraging them up with debt. To better inform long term expectations, we construct a proxy for private equity going back to 1926 using this understanding. We used the Ken French small cap value index and lever it 1.5 times, which we think is conservative compared to the amount of leverage used in private equity deals. The table below helps us develop more realistic expectations for the asset class going forward. We can see that our private equity construction, which assumes no fees or costs for the additional debt financing, did outperform the S&P 500 by about 6% per year over this 90-year period (small cap value, unlevered, outperformed by 3.5% annually). This would be in the ballpark of fair compensation for all of the additional risks assumed. But when we back out the typical fee structure (2% management and 20% of returns), the

net result is in line with public large cap equity returns, both since 1926 and since 1970. **There should be no surprise that the high fees give all the additional compensation for the illiquidity, small cap, and leverage risks to the manager.**

Jul 1926 – Sept 2016	S&P 500	PE Proxy (Gross)	PE Proxy (Net of 2 & 20)
Total Return	9.6%	15.6%	10.1%
Volatility	18.8%	36.4%	36.3%
Sharpe Ratio	0.32	0.33	0.18
Jan 1970 – Sept 2016			
Total Return	10.3%	16.8%	10.9%
Volatility	15.2%	28.3%	28.2%
Sharpe Ratio	0.35	0.42	0.21

Source: Ken French Data Library, Bloomberg. Data from Jul 1926-Sept 2016.

The chart below shows the rolling 5-year returns of our private equity proxy compared to public, large cap equities. There are a few 5+ year periods when our private equity proxy significantly outperforms public markets, like the more recent period from 2000-2005. There are periods when private equity underperforms public markets, typically during down markets. But most of the time, both asset classes perform similarly, as one should expect since they are both equities. Private equity is no magic bullet to make up for inadequate saving and pension underfunding.



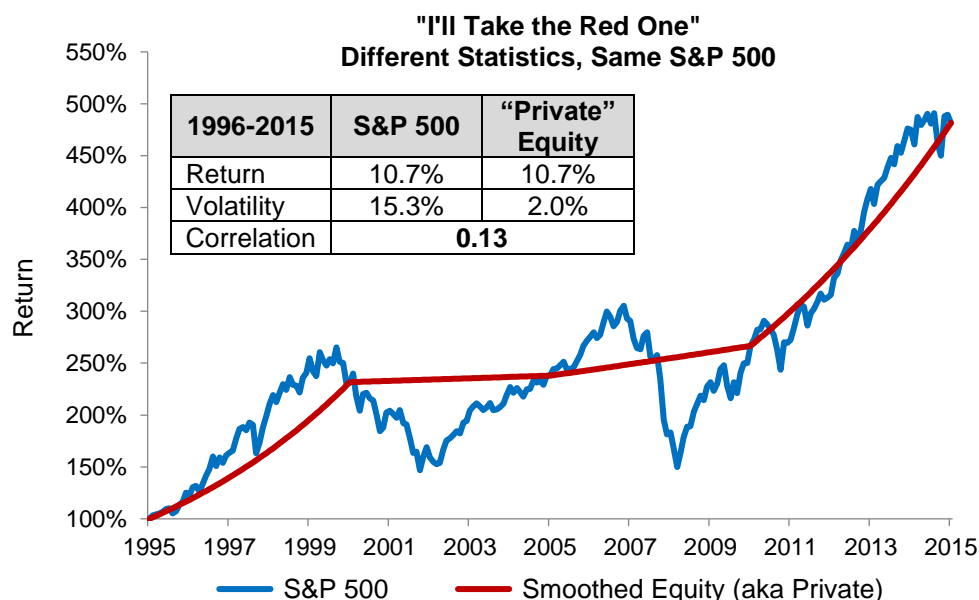
Source: Ken French Data Library, Bloomberg. Data from Jul 1926-Sept 2016.

It is important to note that our private equity simulations do not take into account the frictional costs of leverage and transactions. Including a higher cost for leverage would further lower its returns and drop the net of fee returns below those of the S&P 500 as the recent CEPR studies suggest has happened over the last decade. Furthermore, we would not expect to be able to “hang on” to such a levered portfolio of small cap stocks given their inherent volatility and the likelihood of margin calls through big market drawdowns. But the bigger point is that **small cap value stocks, without any leverage, would have outperformed private equity and in a liquid, low cost package. Investors pay dearly for the false security of lower volatility when in fact they are increasing real risk. This is the more reliable strategy for performing in the top quartile.** By trading off short-term volatility for high fees, these investors give up the potential for

higher returns from low priced, smaller companies while unnecessarily subjecting themselves to locking up capital for a decade.

Private equity is just equities and not diversifying to them

Another commonly touted benefit of private equity is that it is lowly correlated to public equities. Fundamentally this is nonsensical, and as our chart above demonstrates, a promise that has not been fulfilled. Statistics are too easily used to dupe investors and in this case serve to trip up investors by focusing their attention on short-term diversification. Private equity is just public equities whose valuations are adjusted less frequently. This understanding is sufficient to know that both of these asset classes will move in lock step and are not diversifying to each other. Below we construct our own misleading statistics by comparing the S&P 500 to a version of itself with prices updated only every 5 years. While the statistical correlation of these two investments is low and points to them being diversifying to each other, we know they are both the same asset. Armed with this understanding, we can see that investors are paying a very large cost in fees and illiquidity by trading off short term volatility for long term returns.



Source: Bloomberg, Greenline Partners analysis. Data from Jan 1996-Dec 2015.

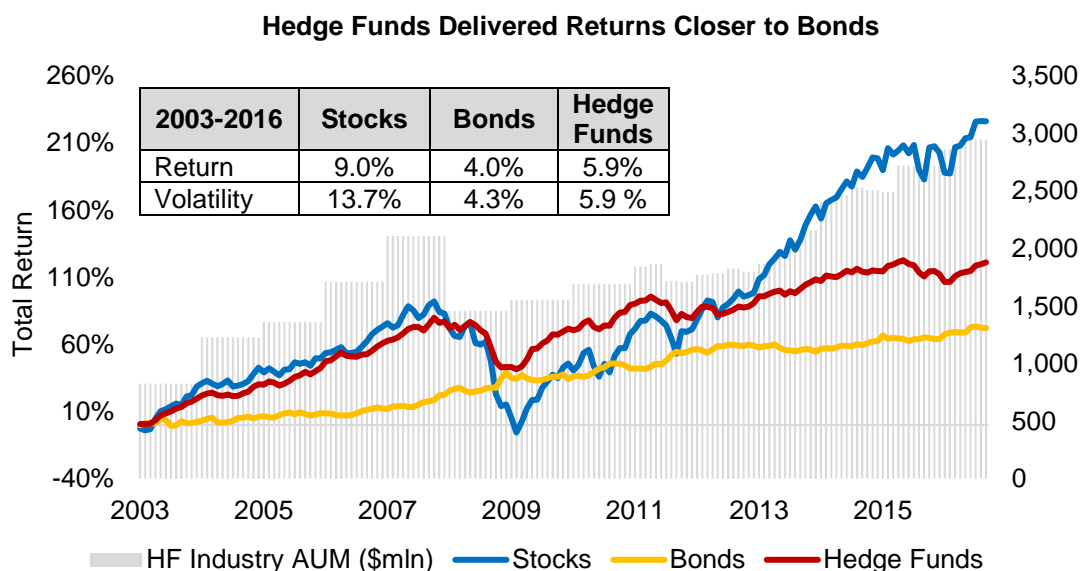
Illiquidity has a real cost to investors that many do not value. From our experience most undervalue the ability to rebalance out of expensive assets and into cheaper ones. Additionally, investors devalue the ability to gain access to their funds when needed, and as their situation changes. As a result, illiquidity tends not to be fairly compensated for as we have shown for private equity and will show for high yield bonds. ***Finance theory suggests liquidity risk should be compensated, but this is only true if investors actually value the benefits of liquidity.***

Contrary to popular belief, private equity has only delivered returns close to public markets, and possibly lower, in spite of subjecting investors to higher risk. The high manager fees eat up any compensation for illiquidity as well as the additional risk from smaller companies and high leverage that capital should earn. Our replication of the asset class using levered small cap value stocks suggests there is every reason to expect the same to be true in the future.

What about hedge funds as a source of diversification and equity-like returns with lower volatility? We next show that this strategy has also under-delivered on the promised equity-like returns and diversification.

Hedge funds are correlated to stocks with bond-like returns

We have written at length about the hedge fund industry and its general disappointing performance in previous papers so will keep this section short. Hedge funds promised investors equity-like returns with lower volatility. **But while we know that lowering volatility by combining uncorrelated return streams is easy, it says nothing of such a portfolio's ability to "manufacture" more dollars in the pockets of clients.** It is the second and more important promise of high returns on which hedge funds have most glaringly failed to deliver. In the 1990's, hedge funds were more of a cottage industry and earning decent returns in aggregate, but their popularity with investors grew as those same investors experienced losses from the dot-com bust in equity markets. The chart below compares their returns to the S&P 500 since this growing popularity began in 2003, prior to which hedge fund assets topped out at \$500mln in aggregate. We compare the returns of the HFRI index of over two thousand hedge funds, to stocks and bonds. Even excluding the poor performing funds that leave the index, hedge funds have actually delivered returns closer to Treasury bonds than to stocks. Note the HFRI has documented biases, from survivorship and backfill among others that cause it to show returns 4-8% per year higher than what actual investors have experienced⁶.

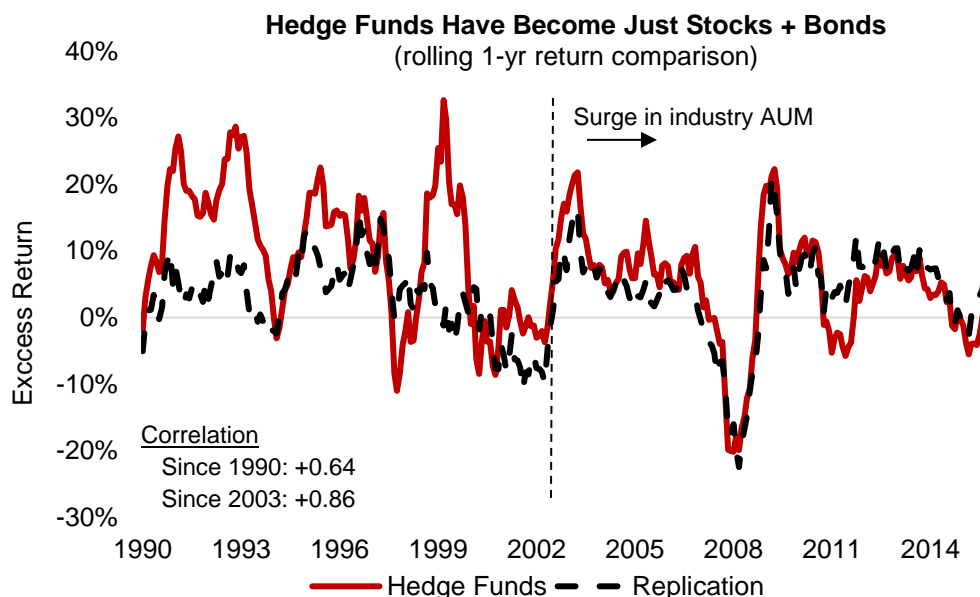


Stocks is the S&P 500. Bonds is the Treasury Bond Index. Hedge Funds is the HFRI Fund Weighted index. Hedge fund industry assets is from Barclays Analytics. Source: Bloomberg, Data from Jan 2003-Sept 2016.

Some argue that hedge funds have delivered returns commensurate with their risk (which they equate with volatility). We would argue the opposite. Hedge funds are a far riskier proposition over the long run with their frequent trading, leverage, use of derivatives, lack of transparency and tax inefficiencies relative to holding a diversified portfolio of stocks and bonds, all in addition to their high fees. We can construct a replication of hedge funds using stocks, bonds and cash knowing that this is the net of what they hold in aggregate and based on a statistical analysis of their beta to different market indices. The chart below compares our replication to the hedge fund index over its full history back to 1990. In the early days of the industry when there were few investors, it delivered more than stocks and bonds, but over the second half of its history it has been worse. If investors want lower volatility and lower returns, then a simple portfolio of stocks, bonds and a large holding in cash will deliver similar performance to hedge funds and without all the risk, fees and liquidity constraints. And it goes without saying that the industry has additionally failed to

⁶ <https://www.ft.com/content/16e4fb60-46ad-11e0-967a-00144feab49a>

deliver on its promise of diversification as it has been all but perfectly correlated to our passive replication since their growth in popularity around 2003.



Hedge Funds is the HFRI. Replication is 40% S&P 500 Value index + 10% Barclays Long Treasury Bond Index and 50% T-Bills. Source: Bloomberg. Data from Dec 2003-Sept 2016.

Hedge funds, like all investors, have benefitted from falling interest rates and accompanying rising valuations, yet their fees have transferred much of this return from those who put their capital at risk to the managers themselves. A simple stocks + bonds + cash replication has at least matched the performance of hedge funds over the last decade (from Jan 2006-Sept 2016, both have earned 3.1%⁷) while stock and bond returns have been significantly higher, and we would expect a similar gap going forward. **A simple, liquid, and fundamentally low risk portfolio of stocks, bonds and cash should outperform diversified hedge fund portfolios without all of their added risks.**

And finally, can high yield bonds and their high current income protect investors from downside risk in a low return environment if private equity and hedge funds cannot? We think they too will be unable to outperform simpler, more liquid portfolios of stocks and bonds.

High yield credit, a lower performing alternative to equities plus Treasuries

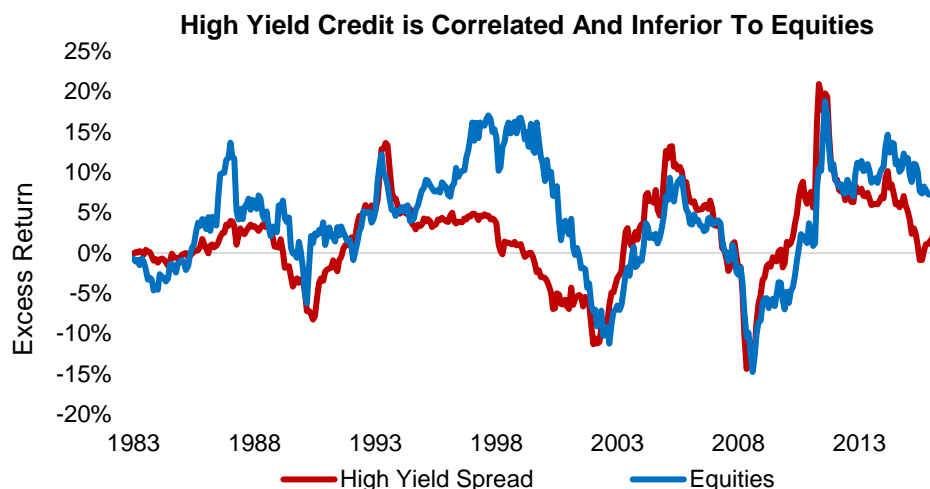
Investors prefer the *perceived* certainty of current yield over the uncertainty of price appreciation, which tends to be volatile and requires patience. For some they have a need for current income. For example, an insurance company would prefer to report higher and more consistent quarterly earnings from their investment portfolio and hence will prefer higher yielding bonds over lower yielding bonds combined with equities allocated to achieve the same total return. Similarly, a retiree may have a need for income to meet spending needs. They prefer the proverbial bird in the hand over relying on generating cash by selling shares. More often than not, these tradeoffs are made favoring the short term certain income over the longer term potential for even greater gain.

Yield gives investors a sense of return without risk, which could not be further from the truth. We often find the opposite in that higher yields often come with even greater risk than is compensated for by the increased yield. We can demonstrate this in the market for junk bonds which entice investors with high current yields

⁷ Source: Bloomberg, Greenline Partners analysis.

but increased risk of default and lower liquidity. But there are numerous reasons why yield is not return and often delivers disappointing results.

To see this we separate a high yield bond into its component parts, a risk-free Treasury bond combined with a credit spread, which is the extra yield offered for the greater default and liquidity risk. To study the true excess risk of high yield bonds, we isolate this credit spread by subtracting the return of comparable (duration-matched) Treasuries. The chart below compares the high yield credit spread performance to that of equities on a risk-adjusted basis over rolling three year periods. We can see that both are highly correlated except that equities have outperformed over the full history of this asset class since 1983.



Source: Barclays. Data from Jul 1983-Sept 2016.

The table below compares the statistics between these two similar risks. The excess return delivered by high yield credit over comparable maturity Treasury bonds has only been 200bp, which is almost half the excess return earned from equities adjusted to the same volatility. Not only has high yield credit underperformed equities considerably, it has more downside risk. In the table we show downside volatility and a ratio of return to downside risk (Sortino ratio) which show this greater left tail risk in credit. **While junk bond investors often believe they are getting stable and high yields, they are only getting lower risk-adjusted returns than equities.**

Full History	High Yield Credit Spread	Equities (risk-adjusted)
Excess Return	2.0%	3.8%
Volatility	9.1%	9.1%
Sharpe Ratio	0.22	0.41
Downside Volatility	8.1%	6.9%
Sortino Ratio	0.25	0.54

High Yield is the Barclays High Yield Corporate Bond Index. Equities is the S&P 500 Index. Source: Barclays, Bloomberg. Data from Jul 1983-Sept 2016.

We suspect there are two fundamental reasons for this greater tail risk in high yield bonds:

1. **Liquidity risk:** Corporate bonds, especially high yield bonds, are less liquid than public equities and Treasury bonds. Liquidity risk is correlated to growth and hence the premium investors demand for illiquidity rises when equity prices fall, pushing the price of these bonds down further when such market conditions arise. We can therefore think of high yield bonds as doubling down on this same growth risk embedded in equities while not getting compensated for it on the upside.

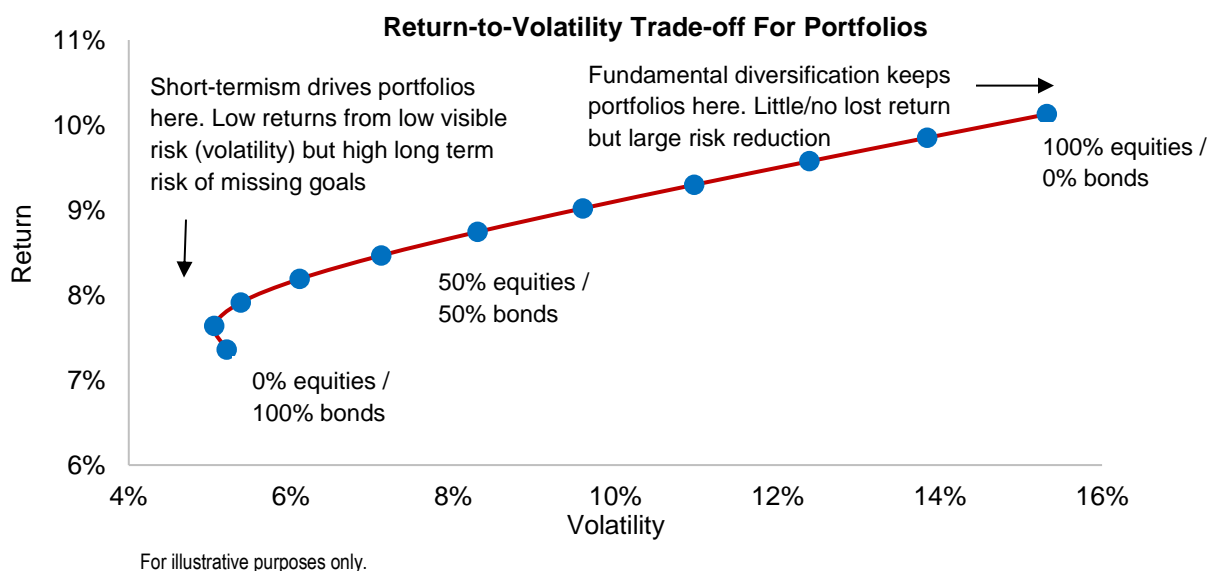
2. **Loss Aversion:** The same investors that irrationally prefer the illusory stability of yield are also those most likely to run for the exits when asset prices fall. Another way to think about this is that a large group of investors who are lured into high yield bonds due to preference for current income and perceived stable returns, push up the price of the asset to be consistently expensive. Then, as yields fall with rising valuations, many of these investors will push out further on the risk spectrum to achieve their income preferences. Whenever markets fall, it is the most overvalued assets that tend to fall the most, leading to greater downside risk.

In short, equities are a better way to gain exposure to rising growth assets than high yield bonds. They have earned a higher return without the liquidity risk of high yield bonds. We have shown how plain vanilla public equities plus Treasury bonds deliver robust, liquid and low risk portfolios that deliver higher returns than more complex strategies. The implications are significant for asset allocation and how investors can best earn higher returns.

Implications for strategic asset allocation: keep it simple to lower true risk and increase return

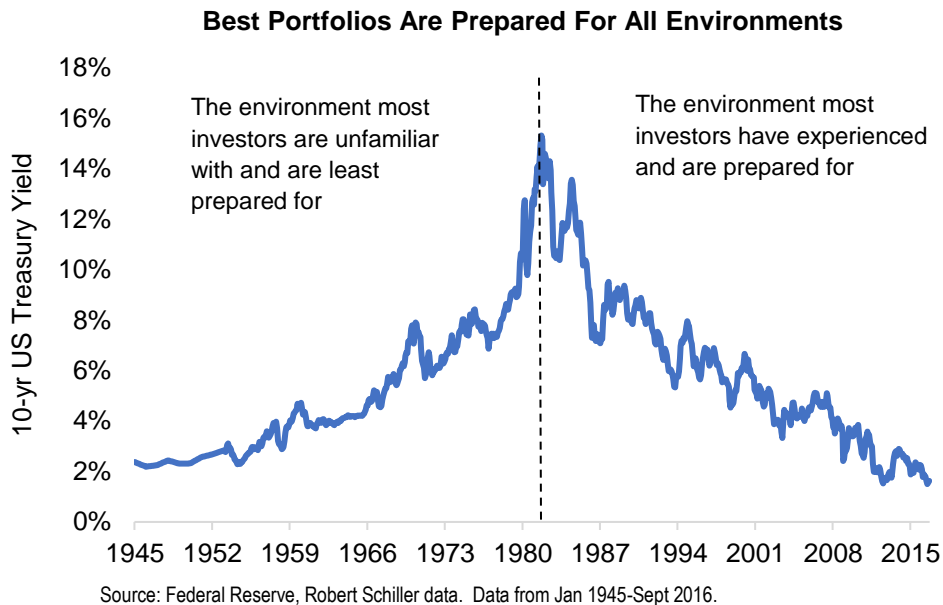
Building portfolios for higher returns does not require complex strategies. We have shown that the opposite is true and that simple portfolios of stocks and/or bonds outperform private equity, hedge funds and high yield bonds. The best portfolios are simple to implement and therefore robust enough to survive the most difficult market environments. Such portfolios may not make money every day but they have the highest likelihood of doing so over time.

The chart below illustrates the tradeoff between return and volatility for a traditional portfolio of stocks and bonds. The most important take away is that when we talk about diversified portfolios the tradeoff is not linear. That is, as one moves left from an all equity portfolio, at first the volatility reduction from adding bonds is large while the lost return is small. That is, **initially there is a huge incremental benefit to diversification**. But after the 50/50 point, the reduction in return is more rapid than the reduction in volatility. While this is only meant to be a conceptual illustration, we think that investors who go to great lengths to avoid volatility tend to end up on the left hand side of this chart - with low returns. While investors who prudently diversify but accept volatility are more likely to end up on the right hand side – with higher returns.



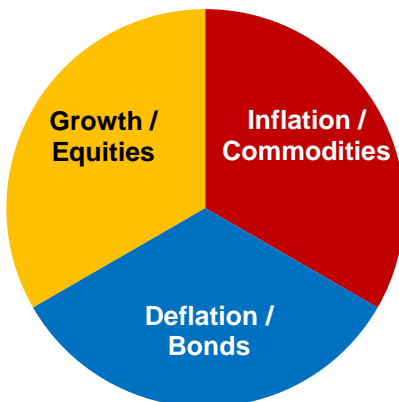
Recent history is what tends to inform most investors' decisions, including their asset allocation. What worked in the more recent past is what investors expect to work in the future. But today, the recent past

has largely been a backdrop of falling interest rates and falling inflation as seen below. This backdrop has influenced the returns of stocks and bonds but also managers with strategies that would benefit from this tailwind as well. Without having to bet on rising interest rates, the most robust portfolios will also be prepared for the opposite environment. ***The exposure that is missing to compliment stocks and bonds in such an environment is inflation protection.***



We know that the primary factors that define economic environments are growth and inflation. Therefore, we think optimal asset allocations can be robustly defined through exposures to assets that respond to changes in these conditions. More directly, stocks, bonds, and commodities are all that are required to build fundamentally diversified portfolios as illustrated below. This is a timeless framework for portfolio construction that will work as well during periods of rising interest rates as it does during periods of falling interest rates.

Robust Asset Allocation Framework



This brings us back to building simple but robust and high performing portfolios. ***The only tried and true way to lower volatility without giving up return is through fundamentally informed (not statistically driven) diversification, which our research shows is maximized by preparing a portfolio for the wealth destroying environments of high inflation and deflation.*** For investors who cannot tolerate high

volatility, diversification can lower volatility while delivering near equity returns. And for those who can tolerate higher volatility, fundamental diversification can actually increase return, all without the need to incur the added risks of high fees and illiquidity.

Conclusion

The desire for certainty sums up the behavioral bias known as loss aversion, which leads to fearing volatility and chasing high current income. Private equity and hedge funds promise equity-like returns with lower volatility. But their high fees transfer most of any *potential* return benefits to the managers and away from the investors who put their capital at risk. Investors are better off investing in different types of stocks and bonds at low costs to fully capture the return and/or volatility characteristics of these vehicles in exchange for putting their capital at risk. We would expect emotionally driven investors, or those whose constraints lead to uneconomic capital flows, to generate lower risk-adjusted results.

Similarly, credit risk in high yield bonds is an equity-like risk in terms of its tendency to perform well in times of rising economic growth and poorly in the opposite environment. But investor's propensity to overvalue current income relative to volatile capital gains that likely come farther down the road has led to this asset class delivering lower risk-adjusted returns than a simple replication portfolio of equities plus Treasuries. And this is in spite of the relative illiquidity of high yield bonds which should merit additional compensation.

The implications for maximizing risk adjusted returns are to keep it simple. ***Investors should not fear volatility and instead should, through a fundamentally diversified portfolio, aim to bear as much as is tolerable in order to capture higher returns.*** Only bonds and stocks from various sectors are sufficient to both achieve most desired return and risk targets and most importantly, allow for the construction of dependable portfolios that are prepared for an uncertain future, without the unnecessary risks of illiquidity, complexity and high fees.

In general, simplicity is grossly underappreciated, especially in investing. A simple investment strategy is more likely to deliver the promised benefits and the most robust approach for weathering the inevitable difficult periods. The same cannot be said for complex strategies involving leverage, derivatives, and excessive trading. The best advice on keeping it simple comes from one of the best investors of our time:

“One of the greatest ways to avoid trouble is to keep it simple. When you make it vastly complicated—and only a few high priests in each department can pretend to understand it—what you’re going to find all too often is that those high priests don’t really understand it at all.... The system often goes out of control.”

- Charlie Munger

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Our investment philosophy is rooted in a deep understanding of the fundamental drivers of risk and return and is therefore broadly applicable across both public and private market portfolios. We manage globally and economically diversified portfolios of equities, fixed income, inflation-linked bonds, and commodities. In addition, we also serve as investment thought partners to our clients on their strategic issues ranging from asset allocation to active manager selection, tail risk hedging, and risk management.

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