VIRTUS INVESTMENT PARTNERS

MYTH: Equities outperform hedge funds over the long run

A research report authored by
Ineichen Research & Management

EXECUTIVE SUMMARY

> Alternative investments are still not fully destigmatized by many investors, despite the fact that their inclusion in balanced portfolios has proven their merit at least twice during the previous decade. The purpose of this series of reports is to demystify some of the misconceptions still surrounding alternative investments.

> The marketing one-liner that "hedge funds produce equity-like returns on the upside and bond-like returns on the downside," while tongue-in-cheek, is not entirely untrue.

> There is a Wall Street aphorism that says a bull market misleads the average investor to mistake himself for a financial genius. This wisdom also applies to the recent period of reflation and central bank intervention, where the abundant liquidity lifted nearly all boats. However, there is vast empirical evidence that equity (and bond) markets can indeed fall too. Herb Stein's Law applies: "If something cannot go on forever, it will stop."

> The S&P 500® Index, with dividends reinvested, has compounded at a rate of 4.2% for the 15-year period from 2000 to 2014. The average hedge fund portfolio, net of fees, has compounded capital at a rate of 5.8% over this period. This is a big difference; there must be a trick.

> The trick to a higher rate of compounding capital is not to lose it. This, in theory, is quite simple: just own investments that compound positively, thereby avoiding those that compound negatively. In other words, the hedge fund business is at least as much about avoiding negative compounding as it is about embracing positive compounding. High, long-term positive compounding is the result of avoiding large losses and periods of capital destruction. That's the trick. Losses destroy the rate at which capital compounds.

> The 4.2% return of long-only equities is a bit like "nature," it's available for everyone and obtainable without applying specialized skill. The 5.8% return isn't. It's "man-made," doesn't appear in "nature," and requires applying risk management skill to the erratic vagaries of financial markets. Hedge funds often intermittenly underperform long-only equities. The funny thing is, it doesn't matter.

"It seems long, but it won't last forever."
—Bambi's mother

Equities outperform hedge funds over the long run

There is a Wall Street aphorism that says a bull market misleads the average investor to mistake himself for a financial genius. This wisdom also applies to the recent period of reflation and central bank intervention, where the abundant liquidity lifted nearly all boats. The various stimuli of the past couple of years probably would even make Lance Armstrong blush. However, markets oscillate; bull markets start and eventually end. Or, as Herbert Stein (1916-1999), Chairman of the Council of Economic Advisers under Presidents Richard Nixon and Gerald Ford, put it: "If something cannot go on forever, it will stop."

"A random market movement causing the average investor to mistake himself for a financial genius."
—Alternative definition of an equity bull market

Which return sequence below do you prefer, portfolio A or B?

Figure 1: The Tale of Two Return Sequences

Which return sequence do you prefer?	
Portfolio A:	**Portfolio B:**
-11%	+42%
+2%	+32%
+105%	+25%

Source: IR&M

Portfolio A is represented by the S&P 500® Index with dividends reinvested, a proxy for the long-only equity market. The three returns are the five-year returns for the 15-year period from January 2000 to December 2014. Starting at 100 in January 2000, a -11% return brought the portfolio to 89 by December 2004. The subsequent 2% total return lifted portfolio A to 91 by December 2009. Adding a 105% return from a starting point of 91 brought the portfolio to 186 by the end of 2014. (All numbers are rounded.) The annual growth rate from 100 to 186 over 15 years is 4.2%.

Portfolio B is represented by the HFRI Fund Weighted Composite Index, a proxy for the average, well-diversified hedge funds portfolio, net of one layer of fees. Starting at 100 in January 2000, a 42% return brought the portfolio to 142 by the end of 2004. 142 is arguably a big difference to the 89 in the long-only example. It is this big difference that put hedge funds on the agenda of many investors, institutional as well as private. The subsequent return of 32% lifted the portfolio from 142 to 187 by the end of 2009. The

"It is better to have a permanent income than to be fascinating."
—Oscar Wilde (1854-1900), Irish author, playwright, and poet

subsequent 5-year return of 25%, which was low by historical hedge funds standards, brought the portfolio to 234 by the end of 2014. The annual growth rate from 100 to 234 over 15 years is 5.8%.

The superior long-term performance of portfolio B stems from avoiding large losses and long periods of negative compounding. Portfolio B, therefore, is more "boring" as the returns do not swing around as much as with portfolio A. One of the many ironies of investment life is that regulators, large parts of Main Street, and an astonishingly large part of Wall Street think that portfolio B is riskier than portfolio A. It isn't. It is less liquid, but not necessarily riskier.[1] The returns are higher and the market risk is lower, nearly irrespective of how we calculate risk: Volatility of portfolio B is lower and drawdowns are much lower. We could argue that portfolio A represents "nature" while portfolio B is a return sequence that is "man-made."

"If investing is entertaining, if you're having fun, you're probably not making any money. Good investing is boring."
—George Soros (1930-), American business magnate, investor, and philanthropist

Figure 2 shows how it's done by avoiding large losses. The first returns are the monthly returns of the S&P 500 Index since 1990. We applied a color-coding whereby returns worse than -5% are highlighted in orange and returns lower than -10% are highlighted in red. It is these losses that destroy the rate at which capital compounds. We called this "nature" because all investors can obtain these returns passively with index funds or ETFs these days. No active risk management skill is applied to the first sequence of returns.

"The first rule of investing is don't lose. And the second rule of investing is don't forget the first rule. And that's all the rules there are."
—Warren Buffett (1930-), American business magnate, investor, and philanthropist

Figure 2: Nature vs. Man-made Returns

"Nature"

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	-3.1	5.5	-1.7									
2014	-3.6	4.3	0.7	0.6	2.1	1.9	-1.5	3.8	-1.6	2.3	2.5	-0.4
2013	5.0	1.1	3.6	1.8	2.1	-1.5	4.9	-3.1	3.0	4.5	2.8	2.4
2012	4.4	4.1	3.1	-0.7	-6.3	4.0	1.3	2.0	2.4	-2.0	0.3	0.7
2011	2.3	3.2	-0.1	2.8	-1.4	-1.8	-2.1	-5.7	-7.2	10.8	-0.5	0.9
2010	-3.7	2.9	5.9	1.5	-8.2	-5.4	6.9	-4.7	8.8	3.7	-0.2	6.5
2009	-8.6	-11.0	8.5	9.4	5.3	0.0	7.4	3.4	3.6	-2.0	5.7	1.8
2008	-6.1	-3.5	-0.6	4.8	1.1	-8.6	-1.0	1.2	-9.1	-16.9	-7.5	0.8
2007	1.4	-2.2	1.0	4.3	3.3	-1.8	-3.2	1.3	3.6	1.5	-4.4	-0.9
2006	2.5	0.0	1.1	1.2	-3.1	0.0	0.5	2.1	2.5	3.2	1.6	1.3
2005	-2.5	1.9	-1.9	-2.0	3.0	0.0	3.6	-1.1	0.7	-1.8	3.5	-0.1
2004	1.7	1.2	-1.6	-1.7	1.2	1.8	-3.4	0.2	0.9	1.4	3.9	3.2
2003	-2.7	-1.7	0.8	8.1	5.1	1.1	1.6	1.8	-1.2	5.5	0.7	5.1
2002	-1.6	-2.1	3.7	-6.1	-0.9	-7.2	-7.9	0.5	-11.0	8.6	5.7	-6.0
2001	3.5	-9.2	-6.4	7.7	0.5	-2.5	-1.1	-6.4	-8.2	1.8	7.5	0.8
2000	-5.1	-2.0	9.7	-3.1	-2.2	2.4	-1.6	6.1	-5.3	-0.5	-8.0	0.4
1999	4.1	-3.2	3.9	3.8	-2.5	5.4	-3.2	-0.6	-2.9	6.3	1.9	5.8
1998	1.0	7.0	5.0	0.9	-1.9	3.9	-1.2	-14.6	6.2	8.0	5.9	5.6
1997	6.1	0.6	-4.3	5.8	5.9	4.3	7.8	-5.7	5.3	-3.4	4.5	1.6
1996	3.3	0.7	0.8	1.3	2.3	0.2	-4.6	1.9	5.4	2.6	7.3	-2.2
1995	2.4	3.6	2.7	2.8	3.6	2.1	3.2	0.0	4.0	-0.5	4.1	1.7
1994	3.3	-3.0	-4.6	1.2	1.2	-2.7	3.1	3.8	-2.7	2.1	-4.0	1.2
1993	0.7	1.0	1.9	-2.5	2.3	0.1	-0.5	3.4	-1.0	1.9	-1.3	1.0
1992	-2.0	1.0	-2.2	2.8	0.1	-1.7	3.9	-2.4	0.9	0.2	3.0	1.0
1991	4.2	6.7	2.2	0.0	3.9	-4.8	4.5	2.0	-1.9	1.2	-4.4	11.2
1990	-6.9	0.9	2.4	-2.7	9.2	-0.9	-0.5	-9.4	-5.1	-0.7	6.0	2.5

"Man-made"

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	0.0	1.9	0.4									
2014	-0.5	2.0	-0.3	-0.2	0.9	1.3	-0.6	1.2	-0.9	-0.4	0.8	-0.2
2013	2.5	0.1	0.9	0.6	0.5	-1.5	1.3	-0.7	1.6	1.5	0.9	1.0
2012	2.8	2.1	-0.2	-0.5	-2.6	0.3	0.9	0.8	1.3	-0.4	0.4	1.4
2011	0.4	1.2	0.1	1.5	-1.2	-1.2	0.2	-3.2	-3.9	2.7	-1.3	-0.4
2010	-0.8	0.7	2.5	1.2	-2.9	-1.0	1.6	-0.1	3.5	2.1	0.2	2.9
2009	-0.1	-1.2	1.7	3.6	5.1	0.2	2.5	1.3	2.8	-0.2	1.5	1.3
2008	-2.7	1.5	-2.2	1.6	1.9	-1.3	-2.3	-1.4	-6.1	-6.8	-2.7	0.2
2007	1.1	0.7	1.0	1.8	2.0	0.7	0.1	-1.5	2.7	2.8	-2.2	0.5
2006	3.5	0.5	2.0	1.9	-1.6	-0.2	-0.2	1.0	0.2	1.8	2.1	1.5
2005	-0.2	1.8	-0.9	-1.5	1.0	1.6	2.3	0.8	1.9	-1.4	1.7	1.8
2004	2.0	1.2	0.5	-1.5	-0.3	0.8	-1.0	0.1	1.6	0.8	2.8	1.6
2003	0.7	0.0	0.1	2.6	3.6	1.3	1.3	1.8	1.2	2.4	1.1	1.9
2002	0.4	-0.7	1.9	0.3	0.0	-1.9	-2.9	0.5	-1.5	0.6	2.1	-0.2
2001	3.4	-2.2	-1.6	2.0	1.2	0.3	-0.8	-0.4	-2.8	2.0	2.1	1.7
2000	0.6	6.2	0.9	-2.8	-2.0	3.7	-0.6	3.8	-1.2	-1.8	-3.5	2.1
1999	2.2	-1.3	3.1	4.5	0.7	3.6	0.5	0.0	0.2	1.6	5.1	7.7
1998	-0.7	3.3	3.0	1.0	-2.1	-0.1	-0.8	-8.7	0.7	1.2	3.7	2.8
1997	3.2	1.0	-1.6	-0.1	4.4	2.7	3.9	0.3	3.7	-1.5	-0.9	0.9
1996	2.9	1.2	1.5	4.0	3.1	0.2	-2.1	2.3	2.1	1.0	2.1	1.3
1995	-0.2	1.3	1.7	2.1	1.7	2.5	3.2	2.2	2.0	-0.7	1.9	2.1
1994	2.5	-0.6	-1.5	-0.6	0.7	0.3	1.3	2.5	0.9	0.0	-1.3	-0.1
1993	2.3	1.3	3.1	1.5	2.6	2.6	2.1	2.9	1.6	3.2	0.1	3.9
1992	3.8	2.1	0.6	0.3	1.8	-0.4	2.1	-0.3	1.9	2.1	2.8	2.5
1991	2.6	4.0	4.9	1.3	2.0	0.4	2.6	2.1	2.3	1.8	0.3	3.9
1990	-2.1	1.5	3.2	0.0	3.1	2.1	1.5	-3.4	-2.0	0.0	0.8	1.3

Source: IR&M, raw data from Bloomberg. "Nature" returns are for the S&P 500, "man-made" returns are for the HFRI Fund Weighted Composite Index. **Past performance is no guarantee of future results.**

[1]See Alternative Investments Demystified, Volume 1 of this series, "MYTH: Alternatives are risky," July 2014.

The second set of monthly returns on the right hand side of Figure 2 is the (total) returns of the HFRI Fund Weighted Composite Index, our proxy for the average hedge funds portfolio net of fees. The same color-coding was applied. The second sequence is literally less colorful, i.e., more "boring." This is, as George Soros put it, a good thing. These returns are "man-made" as they do not appear in "nature," in financial markets. These returns need to be "fabricated." The discipline that results in these man-made returns is active risk management. It cannot be done otherwise. A certain craft or skill needs to be applied to "nature," – the erratic vagaries of financial markets. This is why sometimes the returns on the left of Figure 2 are referred to as "market-based returns" whereas the returns on the right are branded "skill-based returns."

"Cut your losses and let your profits run."
—Old Wall Street adage, often attributed to David Ricardo (1772-1823), British economist

A further, but nontrivial aspect of the returns on the right is that the men and women "fabricating" these returns often have their own money in their funds. This means they have a very simple, hands-on incentive to avoid the loss of capital. (Simple incentives are nearly always better than complicated, or "sophisticated" incentive structures.) Mutual funds generally remunerate management based on a percentage of assets under management. Hedge funds always remunerate managers with performance-related incentive fees as well as a fixed fee. Not surprisingly, the incentive-based performance fees favors the "fabrication" of an asymmetric return profile; profits are welcome, losses are to be avoided at nearly all cost. As Ian Wace, co-founder of Marshall Wace Asset Management, put it at the 2000 Hedge Fund Symposium in London:

"If you're good at something, never do it for free."
—The Joker, Batman's nemesis, in *The Dark Knight*

> *"This business [hedge funds] has nothing to do with positive compounding; it has to do with avoiding negative compounding... The P&L is the only moderator of hubris. You are not given money to lose it."*

When avoiding compounding capital negatively is a major objective, downside volatility and losses are of major importance. Large losses damage the rate at which capital compounds. Consider:

- A 10-year investment of $100 that compounds at 8% for nine years and then is flat in the last year will end at $200.
- A 10-year investment of $100 that compounds at 8% for nine years and then falls by 50% will end at $100.

This is a big difference, especially if you wanted to retire at the end of year 10. It is losses, especially large ones, that destroy the rate at which capital compounds. Paul Tudor Jones, founder of Tudor Investment Corporation and successful practitioner of positive long-term compounding of capital, recommends:

"Take care to sell your horse before he dies. The art of life is passing losses on."
—Robert Frost (1974-1963), American poet

> *"I'm always thinking about losing money as opposed to making money. Don't focus on making money; focus on protecting what you have."*

The discipline that aims to avoid or minimize large losses is called risk management. Europe is a good example of an equity market that has been compounding negatively for many of the last 15 years. Table 1 shows what large losses and periods of negative compounding do to the long-term compounding of capital. The table contrasts a long-only strategy in the European equity market with a proxy for a portfolio comprised of hedge funds that operate in a long-short fashion within the European stock market. The first two columns show total returns and the last two columns contrast two portfolios in the respective indices, starting at 100 in January 2000.

"The bottom line for me is that risk management should be the responsibility of every participant in the investment process, applying experience, judgment and knowledge of the underlying investments."
—Howard Marks (1946-), Chairman of Oaktree Capital Management

Table 1: Long-only vs. Long-short in Europe

Year	DJ STOXX Europe 600 TR Index (%)	Eurekahedge Europe Long Short Equities Hedge Fund Index (%)	Hedge funds underperform long-only equities?	DJ STOXX Europe 600 TR Index (level)	Eurekahedge Europe Long Short Equities Hedge Fund Index (level)
				100	100
2000	-3.8	17.7		96	118
2001	-15.6	10.6		81	130
2002	-30.4	5.3		56	137
2003	15.9	14.5	Yes	65	157
2004	12.2	11.1	Yes	74	174
2005	26.7	18.8	Yes	93	207
2006	20.8	17.1	Yes	112	242
2007	2.4	8.4		115	263
2008	-43.8	-18.8		65	213
2009	32.4	22.0	Yes	86	260
2010	11.6	8.4	Yes	96	282
2011	-8.6	-7.3		87	262
2012	18.2	6.5	Yes	103	279
2013	20.8	12.6	Yes	125	314
2014	7.2	-0.3	Yes	134	313

Source: IR&M, Bloomberg

The funny thing is that hedge funds often underperform the stock market. In the example shown here, hedge funds have underperformed nine times out of 15, i.e., more often than not. But it doesn't matter. The impact from negative returns for the long-only portfolio is so large that looking at underperformance misses the point entirely. It's the performance in the difficult market environments that matter to long-term performance. A portfolio of 100 in European equities including the reinvestment of dividends at the beginning of 2000 rose to 134 by the end of 2014. (Without the re-invested dividends, the market has fallen by 10% over this period.) An equivalent portfolio in European long-short hedge funds went from 100 to 313 in the same time frame. Again, this is a big difference.

"Hedge funds are more important than hedge cutters."
—Ed Milibrand (1969-), British Labour Party politician

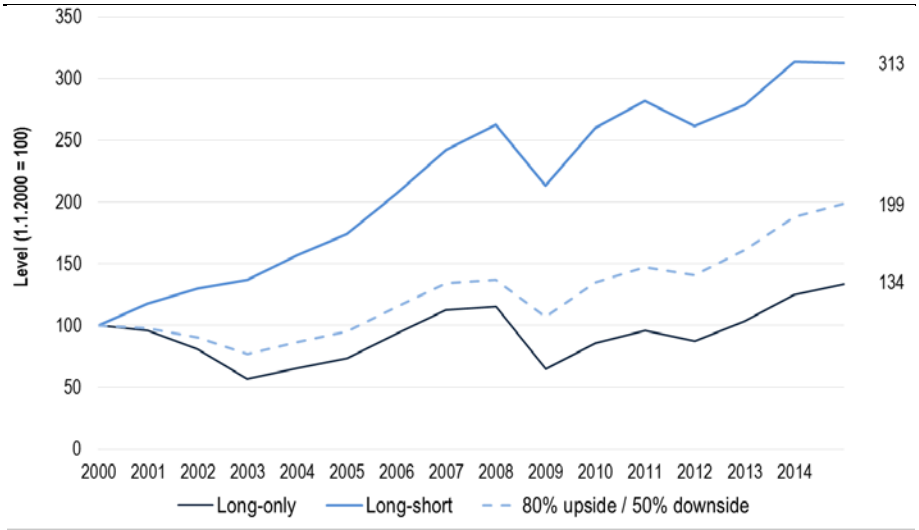
Many investors are currently giving their hedge fund managers a hard time for not keeping up with the stock market. Table 1 shows that hedge funds often underperform the stock market when the latter experiences double-digit returns. Some hedge funds marketers fight this argument by contending that long-short hedge funds try to deliver 80% of the upside but only capture 50% of the downside. This asymmetric return profile would guarantee long-term outperformance with less downside volatility but would also result in underperforming the stock market in up years.

"It's not whether you are right or wrong that's important, but how much money you make when you're right and how much you lose when you're wrong."
—George Soros

Imagine that European hedge funds had indeed delivered 80% of the upside and only 50% of the downside over the 15-year period examined in Table 1. This would have resulted in hedge funds underperforming the stock market in ten out of the 15 years. However, the portfolio would have gone from 100 in 2000 to 199 by the end of 2014. This means—and this is a bit of an awkward thought—hedge fund marketers are too modest. In the real world, the portfolio went from 100 to 313, thus compounding at 7.9%, which compares to 2.0% for the long-only equity portfolio. Figure 3 shows the long-only, long-short, and the hypothetical "80%-upside/50%-downside" portfolio in graphical format.

"Compound interest is the eighth natural wonder of the world and the most powerful thing I have ever encountered. He who understands it, earns it… he who doesn't… pays it."
—Albert Einstein (1879-1955), Physicist

Figure 3: The Tale of Three Portfolios



Source: IR&M. **Past performance is no guarantee of future results.**

Concluding remarks

One of the marketing one-liners in hedge funds is that "hedge funds produce equity-like returns on the upside and bond-like returns on the downside," While this one-liner is tongue-in-cheek, it is not entirely untrue. The investment philosophy of hedge funds differs from that of traditional asset managers whose portfolio closely resembles a market or liability benchmark. Hedge funds care about not only the long-term compounded returns on their investments, but also how their wealth changes during the investment period. In other words, an absolute return manager tries to

"Financial sector crises are not [as] predictable. The risks build up until, wham, it hits you."
—Reserve Bank of India Governor Raghuram Rajan (1963-)

increase wealth by balancing opportunities with risk and running portfolios that are diversified and/or hedged against strong market fluctuations on the downside. To the absolute return manager, these objectives are considered conservative.

One hedge fund manager in the 1980s came to fame for a particular idea where he bought an option with 2% of the fund's capital. That 2% position returned 30% of the fund's whole principal. The attraction of this way of investing is only partly explained by the 30% return, which—after all—could be a function of luck. The 30% return as a single headline figure does not tell us anything about the risk that was involved to achieve the return. The main attraction in this particular case was that the manager and his investors only would have lost 2% if the investment idea had not worked out. In other words, at the time of investment, the manager knew that if the world moved in a way he expected his profits could be unlimited; if he was wrong, he would only lose 2%. This example illustrates the idea of an asymmetric return profile: high, equity-like returns on the upside, with controlled and/or limited loss potential on the downside. The discipline that can achieve such an asymmetry in asset management is active risk management. Investors who are long and unhedged need to remember that equity and bond markets can compound capital positively as well as negatively for many years in a row.

"I'd say that my investment philosophy is that I don't take a lot of risk, I look for opportunities with tremendously skewed reward-risk opportunities."
—Paul Tudor Jones (1954-), Hedge fund manager

The **S&P 500® Index** is a free-float market capitalization-weighted index of 500 of the largest U.S. companies. The index is calculated on a total return basis with dividends reinvested. The index is unmanaged, its returns do not reflect any fees, expenses, or sales charges, and is not available for direct investment.

The **HFRI Fund Weighted Composite** Index is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in U.S. dollar and have a minimum of $50 million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

Ineichen Research and Management AG ("IR&M") is a research firm focusing on investment themes related to absolute returns and risk management.

The firm was founded in October, 2009 by Alexander Ineichen. Mr. Ineichen started his financial career in derivatives brokerage and origination of risk management products at Swiss Bank Corporation in 1988. From 1991 to 2005, he had various research functions within UBS Investment Bank in Zurich and London relating to equity derivatives, indices, capital flows, and alternative investments, since 2002 in the role of a Managing Director. From 2005 to 2008 he was a Senior Investment Officer with Alternative Investment Solutions, a fund of hedge funds within UBS Global Asset Management. In 2009 he was Head of Industry Research for the hedge fund platform at UBS Global Asset Management.

Mr. Ineichen is the author of two publications *"In Search of Alpha – Investing in Hedge Funds"* (October 2000) and *"The Search for Alpha Continues – Do Fund of Hedge Funds Add Value?"* (September 2001). These two documents were the most often printed research publications in the documented history of UBS. He is also author of *"Absolute Returns – The Risk and Opportunities of Hedge Fund Investing"* (Wiley Finance, October 2002) and *"Asymmetric Returns – The Future of Active Asset Management"* (Wiley Finance, November 2006). He has also written several research pieces pertaining to equity derivatives and hedge funds and contributed to several chapters to financial books. He authored *"AIMA's Roadmap to Hedge Funds"* (November 2008) which was, at that time, the most often downloaded document from their website.

Mr. Ineichen holds a Bachelor of Science in Business Administration with Major in General Management from the Universities of Applied Sciences in Business Administration in Zurich (HWZ), Switzerland. He holds the Chartered Financial Analyst (CFA) and Chartered Alternative Investment Analyst (CAIA) designations and is a certified Financial Risk Manager (FRM). He is on the Board of Directors of the CAIA Association and is a member of the AIMA Research Committee.

Alexander Ineichen CFA, CAIA, FRM
+41 41 511 2497
ai@ineichen-rm.com
www.ineichen-rm.com