The Growth of Hedge Funds in the Era of Passive Investing

Adam Bedow

Spears School of Business, Oklahoma State University

Dr. Eric Sisneros

Abstract

In 2007, Warren Buffet made a bet with Protege Partners that the SP 500 Index would outperform any chosen 5 Hedge funds over the next decade. After 10 years, $1 million invested in the hedge funds would have gained $220,000 vs $854,000 for the S&P 500 (Floyd, 2021). It is safe to say that Buffet won the bet, and many took this as clear proof that passive investing is superior to active investing. The prevailing sentiment among academics and many market participants is that Hedge Funds are an inefficient investment vehicle that are unable to justify their fees with their recent performance. While this famous bet and other performance data over the last decade would seem to solidify the case against hedge funds, hedge fund assets under management have grown from $1.5 trillion in 2008 to nearly $5 trillion now. Investors are pouring more money than ever into this alternate asset class, despite the common belief that it is an inefficient investment. While it is true that hedge funds have not performed nearly as well in the last 15 years as in decades prior, there are still several valid reasons for continued investment in hedge funds. Among these reasons are returns being understated by reporting methods, diversification benefits, especially in certain strategies, a possibility of a macro-shift in the performance of different asset classes, and allocation requirements for institutional investors. The research shows that almost any kind of institutional investor can benefit from at least one of the many hedge fund strategies out there. Some funds still outperform the market, certain strategies provide strong correlation benefits, and some provide access to niche investments. Whether an investor is looking for alpha generation, reduced risk, or to diversify their portfolio, there is a hedge fund out there that can fit their needs.

Section 1 - Overview of the Industry

History of Hedge Funds

The first "Hedged Fund" was started in 1949 by a man named Alfred Winslow Jones, and it pioneered most of the common features we see in hedge funds today. He started the fund with just $100,000, and was from a non-finance background that included a degree in Sociology and working as a clandestine activist in Germany. His fund was unique because he was the first to hedge his investments by taking short positions along with long ones. He and his team performed fundamental analysis on stocks to find those that were expected to outperform and those that were expected to underperform, and they would then take the corresponding positions in each. This hedging strategy greatly reduced market risk without greatly hindering returns, and when leverage was applied, returns could be far above market averages while still maintaining lower risk. This strategy is the main reason hedge funds grew at such a rate over the coming decades. Holding stock selection skill equal, a leveraged hedging strategy provides both higher returns and lower risk than a traditional long-only strategy. Here is an example provided in the book *More Money Than God* (Mallaby, 2010):

Conventional Investor	**A.W. Jones**
Given $100,000	Given $100,000
$80,000 long in stocks, $20,000 in bonds	Borrows additional $100,000
Net Exposure: $80,000	$130,000 long, $70,000 short in stocks
	Net Exposure: $60,000

Assume the market rises 20%, and both managers are able to outperform by 10% through stock selection skill

Conventional Investor	A.W. Jones (Hedged)
30% gain on $80,000 of stocks	30% gain on $130,000 of stocks
	10% loss on $70,000 of shorts
Gain: **$24,000**	Net Gain: $39,000-$7,000 = **$32,000**

Despite a lower amount of net market exposure (and likely more diversification), A.W. Jones outperformed the conventional investor with the same skill level.

Now let's assume the market falls 20%, with the same level of 10% outperformance.

Conventional Investor	A.W. Jones
10% loss on $80,000 of stocks	10% loss on $130,000 of stocks
	30% gain on $70,000 worth of shorts
Loss: **($8,000)**	Net Gain: $21,000 - $13,000 = **$8,000**

The hedged investor was able to outperform in both a bull and a bear market because of leveraged hedging. This example is the promise of outperformance and lower correlation that hedge funds provide, and for many years, they were able to deliver on that promise.

As the Jones' fund grew, A.W. introduced the multi-manager model we commonly see today, assigning different sectors to different managers and establishing a performance-based compensation system. This was incredibly innovative at the time, and motivated the managers to outwork their competition. Eventually, these portfolio managers started to break off and start

their own funds with a similar system, and the hedged model began to grow exponentially as news spread about the incredible returns. A problem with the incentive-based model and increasing competition was that managers began to chase returns and abandon the hedging that made the model work so well, and this aggressiveness combined with leverage created big losses as the market reversed at the start of the 70's. Due to significant losses and age, A.W. Jones retired in 1970 after two decades of outperformance, and hundreds of funds closed.

The 1970's was a difficult decade for the markets, and the number of hedge funds dwindled significantly. There were, however, still some success stories, the largest of which being Michael Steinhardt's fund. Steinhardt, Fine, Berkowitz & Company consistently beat the market in the beginning of the 1970's through taking contrarian positions and correctly timing the market several years in a row. This was the first truly contrarian hedge fund and demonstrated another benefit of the nimble business model. While contrarianism was a key part of Steinhardt's success, his true impact was a result of his fund's block trading activity, where they would take on massive orders from institutional sellers for a discount and then resell them at market price. Steinhardt's reputation as a willing buyer allowed him to do this at a massive scale and reap fast, low-risk profits. This is the first example of a key market function that hedge funds can serve: providing liquidity to less-nimble market players. While the extreme profits from block trading would eventually erode as more hedge funds joined in, Steinhardt's fund was still able to return an average of 24.5% annually from 1967 to 1995 when he retired, according to Forbes. Outperformance as substantial as this over such a long time period strongly challenges the efficient market assumptions and push to passive investing we see today.

The hedge fund industry began to take off in the 1980's with trading firms like Commodities Corporation and Tudor Investment Corporation dominating the market. These

firms detected trends in the market and followed them, getting out before they reversed. Commodities Corporation did so primarily using computer algorithms that followed trends, making them one of the first algorithmic trading firms. Tudor Investment Corporation's trading style depended on the brilliant market intuition of Paul Tudor Jones, who was able to get a feel for the market based on price charts, the trading activity of other firms, and an apparent sixth sense. He was also able to influence market prices himself once his firm was large enough, doing so with bold, large orders and even his method of delivering the orders to brokers. He became famous in 1987, when he successfully predicted Black Monday and posted an absurd return of over 100% for the year. Another hedge fund giant of the 1980's, and a man considered by many to be the best hedge fund manager of all time, was Julian Robertson. Through a traditional long/short fund relying on stock selection, Tiger Management returned a ridiculous 31.7% per year from 1980 to 1998, compared to just 12.7% for the S&P 500. Outperformance of this magnitude over nearly two decades is a strong argument in favor of hedge funds, but the performance of his "tiger cubs" presents an even stronger one. While their outperformance wasn't as extreme, the consistent outperformance of his apprentices proved that Robertson possessed superior investing skill. An index of Tiger Cub funds from 2000-2008 not only outperformed the S&P 500, but far outperformed other hedge funds as well with a nearly 12% annual return (Mallaby, 2010).

I share the history of the industry and its most famous players because it is likely a significant part of the reason investors continue to put money into hedge funds. There are clear examples of outperformance through skill in the past, leading investors to search for similarly skilled managers today.

Section 2: Market Functions

Providing Liquidity

A common criticism of hedge funds is that they serve no purpose in the market other than causing bubbles and destabilizing currencies. In reality, the nimble, unregulated structure of the business model allows hedge funds to serve roles that other asset managers and investors cannot. One of the most significant functions they serve is providing liquidity to large institutions. As we saw with Michael Steinhardt in the 70's, sometimes institutions need to offload such a large quantity of securities that attempting to sell them in the open market would crater the price. Larger hedge funds are able to step in and buy large blocks of securities at a discount, then gradually sell them off to other investors without impacting the price too significantly. In addition to block trading, contrarian managers will buy assets in markets where liquidity has dried up at steep discounts, which helps stabilize the price by providing liquidity. This would be too risky for most asset managers, but hedge funds are more willing to take the risk in hopes of getting a fair price later. This type of activity can improve market efficiency and reduce volatility, two benefits people rarely associate with hedge funds. An extreme example of this is Citadel's saving of two large hedge funds in the 2000's, just before the Financial Crisis kicked off. Citadel bought billions in assets from Amaranth's trading book in 2006 when other institutions wouldn't take the risk, and he did so again in 2007 with Sowood Capital Management (Mallaby, 2010). These were very large investors, and their collapse would have made the Financial Crisis even worse than it was.

Increasing Market Efficiency

The purpose of capital markets is to allocate capital to its most productive uses. Market efficiency refers to how well markets are able to do this. Hedge funds, with their vast resources,

experience, and monetary incentive, relentlessly look for market inefficiencies to exploit, and in turn, eliminate. By taking advantage of inefficiently priced securities, hedge funds improve market efficiency and the ability of an economy to allocate capital. Ironically, this is also part of the reason we have seen a decline in hedge fund performance, which we will examine further in the next section.

Economic and Political Influence

In the 1990's, hedge funds became so large that they gained the ability to influence entire economies. Soros' and Druckenmiller's destruction of the British Pound in 1992 was the first example of this on a global scale, and several similar incidents would occur in the following years. After Soros Fund Management again played a role in dismantling an economy with its $2 billion short position in the Thai Baht, the massive influence hedge funds could have became a very controversial topic among market players, regulators, and political leaders. On one hand, Soros and his team (among other hedge funds) certainly played a role in creating economic chaos in these countries. However, it could be argued that they were just the final push in a situation created by the country's policies; or a harsh signal that the country was in an unsustainable position and needed to change something. The foundation for both the British pound crisis in 1992 and the 1997 collapse of the Thai Baht was laid by an unhealthy commitment to an exchange-rate peg that prevented the country from doing what it needed to do for its own economy. The Hedge Funds saw the unsustainability of these pegs and shorted the country's currency accordingly. The massive short positions taken on by the hedge funds could have been taken as a warning by politicians that they needed to let their currency devalue to improve trade in their country and save their economy. Had they done so, while the foreign investors would still have made substantial profits, their economies would not have been so badly damaged.

Instead, the leaders decided to fight the Hedge Funds by raising rates and attempting to maintain the peg in vain, thereby crushing their own economies. The incredible size of the funds shorting the currency proved to be too much each time, and Britain and Thailand both had their currencies devalued while their economy tanked. While the hedge funds involved in these trades weren't acting virtuously per se, these situations do exemplify one of the market functions of hedge funds. They saw a poor, unsustainable economic policy in the exchange-rate pegs, and took positions to remove this inefficiency. These policies would likely have given way regardless of hedge fund involvement; the hedge funds simply sped up the process and the government's counter attacks made that process more painful. These examples show that hedge funds can not only eliminate pricing inefficiencies, but political ones as well.

Section 3: Performance and Correlation

The Buffet Bet

The performance of hedge funds over the last decade and a half is the source of most of the controversy in the industry. As an asset class, hedge funds have significantly lagged the S&P 500 since 2008 (barclayhedge.com), yet they still charge high fees for their services. Warren Buffet's famous bet against hedge funds seemed to definitively prove that they were inferior to passive investing, yet billions of dollars continue to flow into hedge funds. This seems to suggest that investors are simply being irrational by continuing to invest, but this bet may not be the best way to judge hedge funds. The first problem with it is that the 5 funds selected by Protege Partners were funds-of-funds, or funds that invested in hedge funds (Floyd, 2021). This presents a problem due to an additional layer of fees eating away at returns, as well as a generally more conservative style that doesn't reflect the nature of hedge funds well. Additionally, Protege did

not reveal the names of the funds, meaning there could be many issues with using these funds as a representation of the entire industry, including possible selection bias from Protege. The comparison to the S&P 500 presents a problem as well, since hedge funds invest in many asset classes other than large cap equities, including bonds, which performed very poorly over this time period.

Evaluating Performance

Despite the shortcomings in comparing the industry with the S&P 500, it is still true that many investors in hedge funds expect outperformance vs. passive investing, and the average annual performance of the industry from 2008 to 2022 was just 4.32% according to the Barclay Hedge Index. It is important to note that this is just one time period, and while it is 14 years, it is not representative of the asset class's entire historical performance. From 2000 to 2009, for example, hedge funds outperformed the S&P 500 by an impressive 7.05% annually, according to the performance of the Barclay Hedge Index. From 1997 to 2007, an equal-weighted hedge fund index provided a cumulative return of 225% vs 125% for an equal-weighted stock and bond portfolio, consisting of the S&P 500 and the Vanguard Total Bond Index (Bollen, et. al, 2021). This data suggests hedge funds were outperforming the overall market in at least the decade leading up to the financial crisis, and coincidentally, Buffet's bet. The question is, why did performance drop off so significantly? Researchers have identified several possible reasons:

Increased Fed Involvement Post-Crisis

Increased Fed intervention since 2008 has driven down volatility and increased correlation across markets, significantly reducing opportunities for Hedge Funds to generate alpha. Investors often enter and exit risk-on/off assets at the same time based on Fed decisions.

Correlation among common stocks doubled from the 1997-2007 period to the 2008-2016 period, from 0.15 to 0.30. Correlation also increased among risk assets as a whole, although to a lesser degree (Bollen, et.al, 2021).

Impact of Size on Performance

Many studies have found that smaller hedge funds outperform larger ones. The investment management firm Aurum conducted a study on 8,000 hedge funds from 2010 to 2018, breaking down risk and return by size. They found that the smaller size equates to a statistically significant increase in performance. The smallest group (<$50 million) returned 7.7%, while the largest (>$5 billion) returned 5.1%. This came at the cost of additional volatility, although the Sharpe ratios of the smaller funds were still superior. Larger funds move prices more when making trades due to their sheer size. This makes moving in and out of large positions difficult, creating some additional liquidity risk for large funds. The impact of size on returns has affected the industry as a whole due to the largest hedge funds having more assets than ever and representing a large portion of the industry. The top 15 hedge funds manage over 15% of global hedge fund AUM, or nearly $750 billion. The lagging performance of the largest players has a significant impact on index returns, making the entire industry appear to be underperforming by a more significant margin than the average fund.

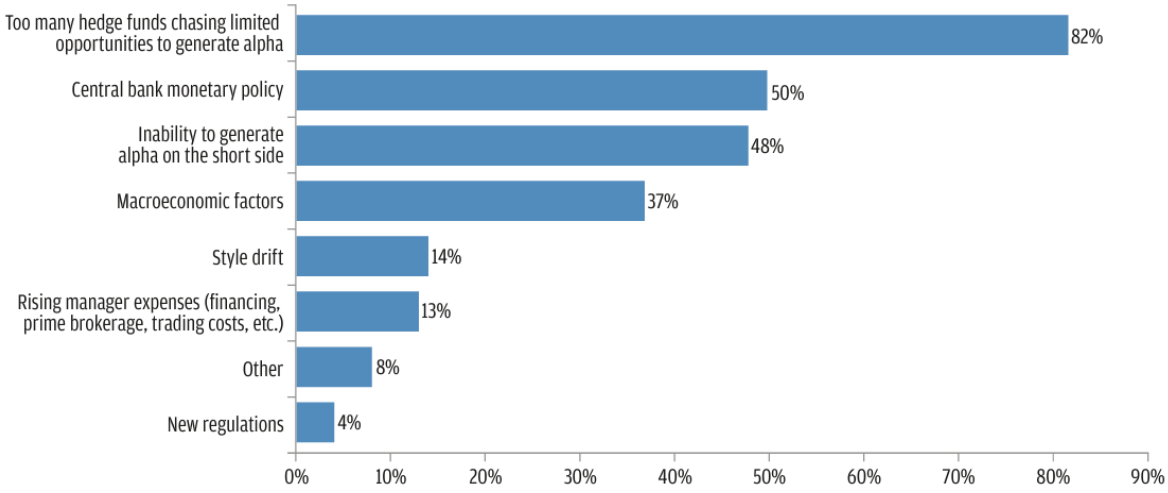
Crowding

Crowding is a phenomenon where too many investors, or too many dollars, are trying to take advantage of the same strategy or inefficiency. As more investors learn of an inefficiency in the market, they attempt to trade on it, which in turn eliminates that inefficiency. This has been

occurring to a much higher degree in recent years due to the growing size of the industry and significantly improved access to information compared to decades past.

These reasons are not only among the most commonly listed in academic literature, they are also the most commonly cited among investors. In their 2019 Institutional Investor Survey, J.P. Morgan found that the top three most-blamed causes of hedge fund underperformance were 1) Crowding, 2) Central Bank Policy, and 3) Inability to generate alpha on the short side. I believe the reason size was left out as a factor is that many of these investors are investing in smaller, individual funds, whereas the size factor only negatively affects large funds and the overall returns of the indices.

FIGURE 9: Main reason for hedge funds underperforming broader market



Note: Figures based on selections from 223 respondents. Respondents were permitted to make multiple selections.

Yet, in the face of the industry's underperformance, most institutional investors continue to increase allocations. In the same 2019 survey, 78% of respondents expected to increase their allocation to hedge funds in the coming year. They are however, shifting the strategies they invest in, preferring Macro, Volatility, and Arbitrage strategies to traditional equity strategies,

where there appear to be few opportunities. Through 2022, these have been among the best performing strategies, and inflows to them continue to increase relative to other strategies.

A 2022 study showed that investors increase inflows to hedge funds who have experienced consecutive quarters of outperformance. This tendency suggests that at least some investors have hedge fund allocations for the purpose of finding the next big outperformer to boost returns. The data, however, shows that consecutive quarters of outperformance is not a reliable indicator of future outperformance (Baquero, Verbeek, 2022).

According to data from Aurum, Quant and Macro strategies had the best average returns in 2022, each outperforming the market. The outperformance of certain strategies and subsequent inflows to them indicate that as long as certain strategies outperform each year or during times of extreme volatility, investors will continue to look to hedge funds as a place to find higher returns.

Will the factors inhibiting performance continue?

Unfortunately for the hedge fund industry, there is no clear reason that these factors will decrease in the foreseeable future. Fed involvement is likely to remain at such a significant level due to the market's reliance on low rates and reaction to increases. However, a regime change in the Fed could bring in a new approach to managing the U.S. economy. While I believe the current method of monetary policy will remain, it is possible that a new chairman could lower Fed involvement and allow the economy to boom and bust naturally, which would likely increase the amount of opportunities for hedge funds. Crowding is a by-product of increasing hedge fund assets and information transparency, so this factor is likely to stay. We have seen that assets continue to grow even during periods of underperformance; it would likely take a significant recession and continued underperformance to reduce the size of the industry.

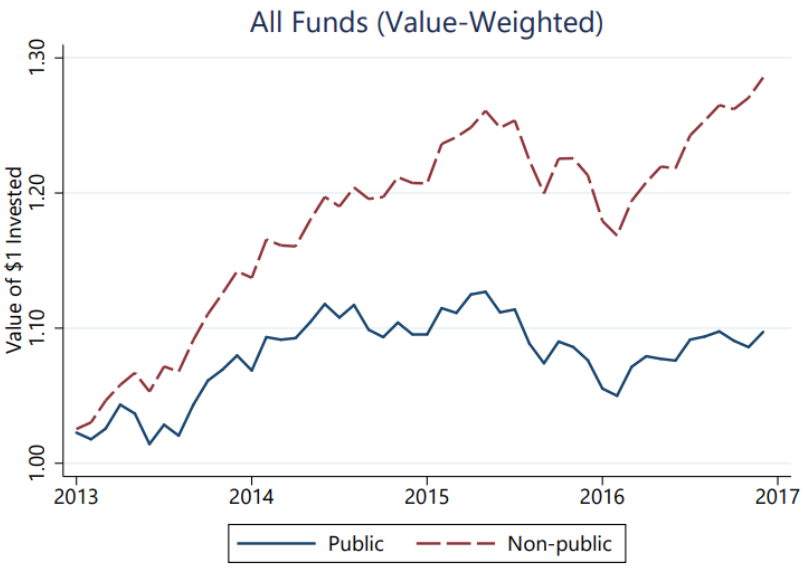
How Accurate is Performance Data?

For this paper and nearly all studies on hedge fund performance, data from publicly-reporting hedge funds is used. This is due to the difficulty of gaining any insights into the performance of non-reporting funds, as well as the assumption that publicly-reporting funds are an accurate sample of the industry, if not an optimistic sample. A 2016 study published by the Federal Reserve Office of Financial Research challenges this assumption of publicly-reporting funds and finds that these databases are actually underestimating the performance of hedge funds. The paper examined private funds from SEC form PF, the first collection of data on private funds. The researchers estimated that the industry in 2016 had net assets of around $5 trillion, substantially more than the $3-$3.5 trillion consensus. The study only used a 4-year period due to data restrictions, but the results were consistent. Non-reporting funds substantially outperformed reporting funds as a whole and across nearly every fund strategy, while maintaining a slightly lower standard deviation. Total returns were 19% higher for the period for non-reporting funds, and the researchers determined this was almost entirely due to alpha and not increased systemic risk. Non-reporting hedge funds had a median annual alpha that was 5.36% higher than reporting funds over the period (Barth, et. al, 2020). While the sample period is short, it is during a period where hedge funds massively underperformed and gives us a significant piece of the puzzle. The commonly used data does not paint the full picture of hedge fund performance and likely significantly understates their performance. This provides the

conclusion that one reason hedge funds have continued to grow is that they have performed much better than what was commonly believed.

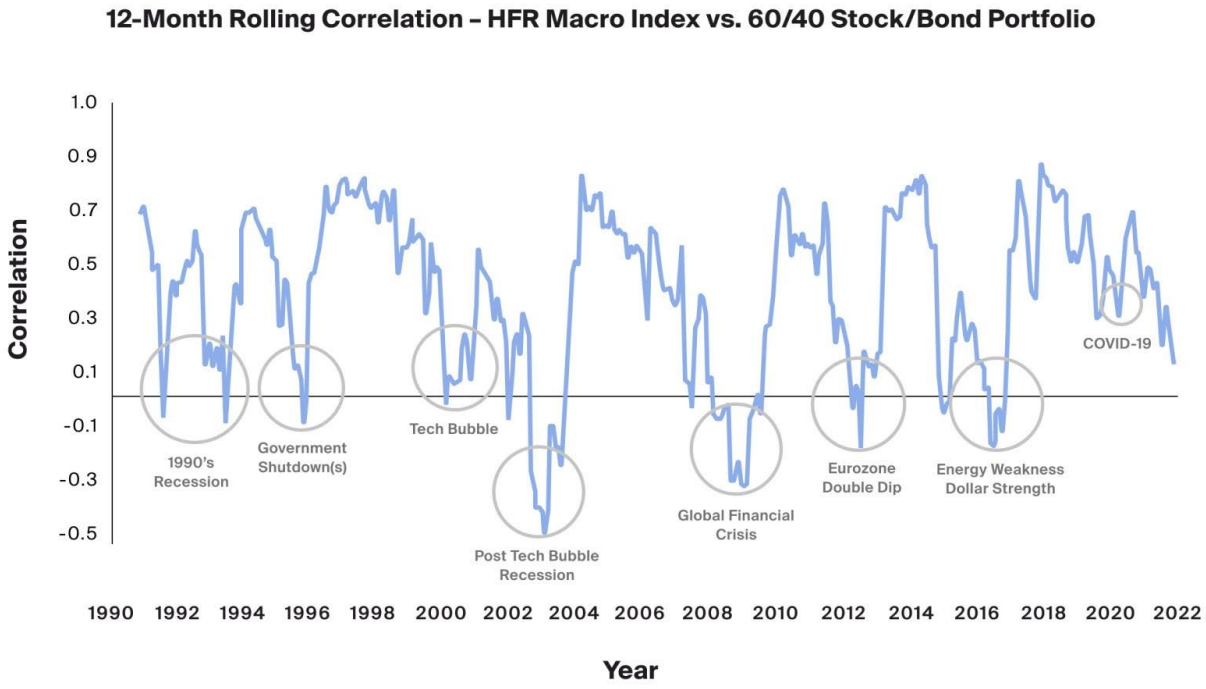
Correlation

One of the most attractive aspects of hedge funds throughout their history is the diversification they can provide an investor through hedging. Hedging is supposed to reduce correlation with the market, and provide investors with returns regardless of market fluctuations. This benefit has also seemingly declined in recent years, with all major hedge fund strategies having a positive correlation with the SP500 since 2011 and the Long/Short Equity strategy having a high correlation of 0.85. An overall hedge fund index had a positive correlation of 0.78 (guggenheiminvestments.com). It is important to note that this data only represents reporting hedge funds, and non-reporting hedge funds may have different correlations as we saw in the last section with returns. A 2002 study examined the properties of hedge funds returns from 1994 to 2001, and found significantly lower correlations with the market. No strategy has a correlation above 0.5, and the average across strategies was .26 (Kat, Lu, 2002). This is a stark difference to the correlations we see today, and suggests the diversification benefits of hedge fund investments have declined significantly post-2008. It is important to note, however, that this effect is not limited to hedge funds. All assets have become



more correlated with one another post-crisis, making the increase in market correlation seen with hedge funds less significant.

While the overall industry (reporting) has a moderately high correlation with markets, certain strategies have significantly lower correlations and still provide diversification benefits. According to the HFR Macro Index, Macro Hedge Funds have a negative correlation with the overall market (60/40 Portfolio) during market downturns, and a positive correlation with the market during expansions. This trend has extended into 2022, where Macro funds in general have seen strong returns when the rest of the market declined. A 2021 study found that market neutral hedge funds exhibit similar characteristics. Each still has a positive correlation overall, but only a small one due to the positive correlation in bull markets being offset by the negative correlation during bear markets (Galvez, Crego, 2021).



Source: Bloomberg, HFR. As of 2/2022.

*60/40 portfolio is 60% S&P 500 Index and 40% Bloomberg US Agg Total Return Value Unhedged USD, HFRIMI is HFRI Macro (Total) Index.

Higher overall correlation with the market is likely to continue due to the same reasons poor overall performance may continue. Fed involvement and crowding have increased the correlations for all risk assets, and these factors are likely to persist. However, certain strategies still provide diversification benefits. Thanks to their performance during recessionary periods, macro funds and market neutral funds remain viable options for investors who are looking to diversify their portfolios with hedge fund investments.

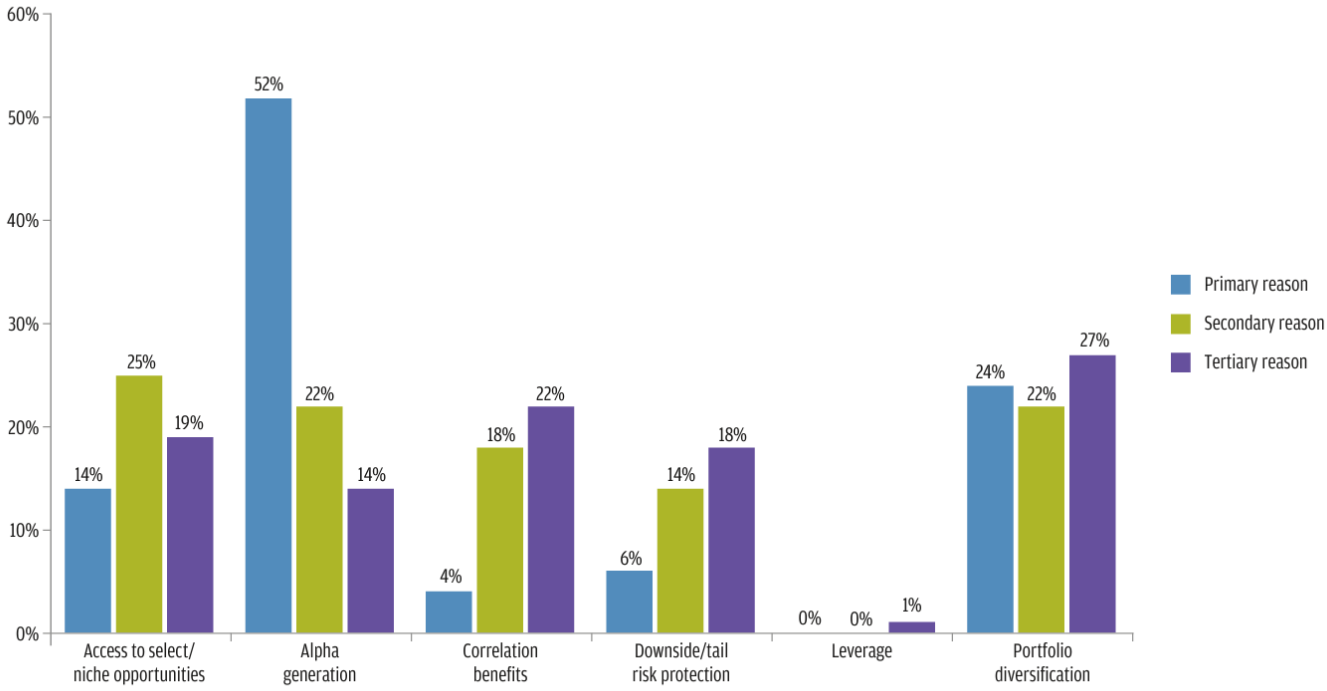
Investor Survey

This figure from the 2019 J.P. Morgan Institutional Investor Survey gives a breakdown of investor's top reasons for investing in hedge funds. The most commonly listed reason, alpha generation, seems to be illogical based on the prevailing sentiment around hedge fund alpha. We have seen, however, that hedge funds have performed better than is commonly believed over this period, and "alpha" comes from outperformance based on certain risk factors, not outperformance of just the S&P 500. Additionally, hedge fund investor's tendency to increase inflows to hedge funds during periods of outperformance suggest that they are still seeking outperformers, even if their current investments are not outperforming. The next most common reason, and the most evenly distributed, is portfolio diversification. This is partially due to institutional requirements for diversification, such as needing a certain amount to alternatives. This reason along with correlation benefits and downside protection are very closely related, and in my view could have all been put into one bucket. A common reason for investing that we haven't examined yet is access to niche opportunities. Again, this could be included in the diversification bucket as hedge funds can provide exposure to positions that traditional institutions would not invest in themselves. These niche opportunities could potentially decrease

portfolio correlation or reduce downside risk by having different risk factors than traditional markets.

Capital preservation is a key objective of most institutional investors, such as insurance

FIGURE 5: Breakdown of top three reasons for investing in a hedge fund



Note: Figures based on selections from 227 respondents. Respondents were permitted to make multiple selections.

companies, pension funds, and endowments. Hedge funds, when viewed as a high-risk, high-reward investment vehicle, seem to run counter to this objective in favor of capital appreciation. Based on the reasons given by investors in this survey, however, it would seem that capital preservation is as significant a reason for investing in hedge funds as capital appreciation. The 2nd, 3rd, 4th, and 5th most common reasons for hedge fund allocations relate to reducing portfolio risk through diversification into alternative investments.

In conclusion, there are still clear correlation and diversification benefits to investing in certain types of hedge funds. Macro and market neutral funds have negative correlations with the market during downturns and give investor's portfolios valuable diversification benefits. Overall

correlation has increased dramatically since 2008 and the factors driving this trend will likely remain for the near future, keeping correlations higher than historical averages for most fund styles. Still, investors continue to give diversification benefits, downside protection, and correlation benefits as top reasons for investing in hedge funds.

Future of Hedge Funds

We have seen alpha generation and correlation benefits decline for hedge funds over the last decade and a half, yet the industry is larger than ever. This is because while these factors have declined, hedge funds are still able to provide investors with alpha and certain styles can provide correlation benefits. As long as some hedge funds continue to provide these benefits, the industry will continue to grow, albeit at a slow pace. I do not expect the lower overall performance to improve significantly in the short term, but investors have shown their willingness to invest at current performance levels. Eventually, however, I expect there to be a shift in the markets that improves the attractiveness of hedge funds, as there can be with all asset classes. The current state of the market is not conducive to hedge fund success, but this does not mean that something won't change and create more opportunities for hedge funds.

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