The Performance and Investment Strategies of Hedge Funds

Haidar Mohammed Alqadhib

Abdullah Ali Albinalsheikh

Abstract

The main purpose of this paper is to explore the investment strategies of hedge funds and figure out why these strategies are powerful. Also, the study will compare the risk and return performances of hedge funds to the traditional investments. The paper used qualitative and quantitative methods to determine the results. The qualitative part discusses the performance, characteristics, and regulations of hedge funds. In addition, the quantitative method sought the alpha of hedge funds by running multiple linear regression of the excess returns of the hedge funds as dependent variable, and excess returns of the market, high minus low, small minus big, and momentum as the independent variables. The study found insignificant alphas for the main hedge funds' strategies attributed to the diminishing abnormal returns of hedge funds. Moreover, the results of the historical data show that hedge funds exceed the traditional strategies in terms of both returns and risks.

Keywords: Hedge Fund, Investment Strategy, Performance, Alpha

Introduction

Although pension funds, mutual funds, and sovereign wealth funds are still the biggest investment organizations and they still invest mostly in stocks and bonds, hedge funds have recently become the most growing investment vehicles because of their comparative low risks and high returns. The first hedge fund was launched in 1949 by Alfred Winslow Jones. However, the popularity of hedge funds started 1990 when hedge funds began enjoying their high returns. The growth of the number of hedge funds since 1990 has been approximately 85% per year, which started with around 500 funds in 1990, peaking more than 10,000 in 2007, and settled at 9500 in 2011. On the other hand, the growth of the assets under management since 1990 approximately is 185% per year, which started with around $50 billion in 1990, reaching more than $2 trillion in 2011(Mirabile, 2013, p. 17). Also, it is expected that these growth rates will continue in the future, which makes hedge funds the potential leading funds in the future. As a result of excellent performances, hedge funds charge massive fees up to 20 percent performance fee plus 2 percent management fee, which theoretically would erode the excess returns of hedge funds. On the other hand, mutual funds only charge up to 1.5 percent management fee. This paper will try to find whether hedge funds have the best performance after deducting the enormous fees they charge or if mutual funds provide better net profits. Moreover, the paper supposes that even after hedge funds deduct huge amount of returns as fees, hedge funds still would provide higher returns than mutual funds. Through this paper we also will explore the main strategies of hedge funds, the regulations, and the characteristics of hedge funds.

Literature Review

This part presents the related literature and studies. Considerable articles have been written about the strategies of hedge funds and their risk, returns, and characteristics. Each researcher or a group of researchers have their own method in how to study, analyze, and explain this topic. The first paper is "On the Dynamics of Hedge Fund Strategies" that was conducted by Li Cai and

Bing Liang in 2012. This paper attempts to measure the performance of dynamic investment strategies through decomposing each strategy's alpha and beta. They used rolling window ordinary least-squares regression, also they mainly used dynamic linear regression model in which alpha and beta are state variables and controlled by a state process. They found out that dynamic linear regression model is the most appropriate model to measure the performance of hedge funds. Also, they discovered that the improvement of alpha is partly due to active trading and partly attributed to the predictability of the dynamic linear regression model. By using timing coefficient, the researchers found a positive and significant relationship between beta and managers' market-timing ability.

The second paper is "Hedge Fund Performance in Bull and Bear Market: Alpha Creation and Risk Exposure" that was conducted by Hordvik Sandvik and others in 2011. The research paper focuses on the performance of hedge funds during sub periods with opposite market conditions. They divided the study to bull periods (from January 1994 to August 2000 and from October 2002 to October 2007) and bear periods (from September 2000 to September 2002 and from November 2007 to February 2009). They found out that most hedge funds failed to produce significant alphas except Global Macro strategy. The reason for that is the diminishing abnormal return of hedge funds.

Another research is "Hedge Funds versus Hedged Mutual Funds: An Examination of Equity Long/Short Funds" that was written by David F. McCarthy in 2013. This paper attempts to compare the performance of hedge funds to liquid alternative mutual funds or "hedged mutual funds" (242 mutual funds that were allowed recently to use leverage, derivatives, and short selling). The study figured out that the heaver regulations on equity long/short mutual funds are not necessarily present impediments to their performance comparing them to their counterparts of hedge funds. Also, through quantitative analyses, he found equity exposure and factor sensitivity over various periods were conducted and found that there are no substantial differences between an index of equity long/short mutual funds and index of leading equity long/short hedge funds. Moreover, he analyzed return/risk for the index of equity long short mutual funds and leading hedge fund indices from January 1, 2008 to June 30, 2013 and there were no essential performance differences for the full time periods. However, for the earlier years, hedge funds outperformed mutual funds.

The last research is "Importance of Tactical Strategy Allocation on Fund-of-Hedge Funds Allocation" that was conducted by Gaurav Anand and others in 2011. This paper attempts to measure the impacts of both selecting managers and selecting the strategy of hedge funds on the performance of those hedge funds. The study analyzed the historical data of returns and risk for various hedge funds through three periods of time: pre-credit-crisis, during credit crisis, and post- credit-crisis. The study found out that the performances of hedge fund strategies vary significantly over several time regimes. That clearly shows the importance of active fund management.

Methodology

The paper tries to explore the investment strategies of hedge funds and find out what makes the strategies of hedge funds unique from the ordinary portfolio of stocks. Also, this paper seeks to find the excess returns of strategies of hedge funds comparing to the stock markets. The first part of the paper is a qualitative approach and will deal with the performance of hedge funds, the main strategies of hedge funds, the characteristics of hedge funds, the regulations of hedge funds,

and allocating a whole portfolio in hedge funds. So the needed information for this part will be gathered from previous studies, the governmental documents, books, newspapers, and magazines and then we will apply the information on our study. The quantitative part will measure the excess returns of strategies of hedge funds comparing to the stock markets. In this process, we will run multi-regression four times where French and Fama three factors model are the Xs for every time we run regression: market excess returns represent X1, small – big represent X2, high-low represent X3, and momentum represent X4. On the other side of the equation, the excess returns of each hedge fund's strategies are Ys. Glob Macro hedge funds – Rf (Y1), Fixed income hedge funds – Rf (Y2), Convertible Bond hedge funds – Rf (Y3), and Long/short hedge funds – Rf (Y4). All the four hedge funds strategies are represented by Credit Suisse hedge funds Indices. We will use 243 observations. They are monthly returns from January, 1994 to March 2014.

- Y1GM = returns of Global Macro – risk-free return
- $Y1GM\ i,t= \alpha + \beta1\ X1+ \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \varepsilon$
- Y2FI = returns of Fixed Income – risk-free return
- $Y2FI\ i,t= \alpha + \beta1\ X1+ \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \varepsilon$
- Y3CB = returns of Convertible Bond – risk-free return
- $Y3CB\ i,t= \alpha + \beta1\ X1+ \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \varepsilon$
- Y4L/S = returns of Long/Short – risk-free return
- $Y4L/S\ i,t= \alpha + \beta1\ X1+ \beta2\ X2 + \beta3\ X3 + \beta4\ X4 + \varepsilon$

Findings

The performance of hedge funds

Through comprehensive and long studies, Dr. Kevin R. Mirabile has proved in his book "Hedge Fund Investing" that comparing to other investment channels, hedge funds had the highest returns with lowest risks. Regarding the returns of hedge funds, Dr. Mirabile applied 10% reduce in the returns of hedge funds for the same level of risks, and still the hedge funds returns beat the returns of traditional investments. Also, other researchers found the same conclusions including "On the Dynamics of Hedge fund Strategies" accomplished by Li Cai and Bing Liang and "Importance of Tactical Strategy Allocation on Fund-of-Hedge-Funds Allocations" conducted by Gaurav Anand and others.

There are tens of hedge funds' strategies. In this part will discuss the four most important strategies global Macro investing, Long/short equity strategy, fixed income relative value or credit arbitrage strategies, and convertible arbitrage strategies.

Global Macro strategy is one of the first strategies were applied by hedge funds' managers. Also, all the previous research papers found out that Global Macro strategy had the best performance among the other strategies of hedge funds. The managers of Global Macro hedge funds analyze the globe economies in terms of expansion and shrinkage. They monitor economic indicators for different countries such as the direction of inflation rate, direction of employment rate, direction of productivity, and the improvement of using technology. Then based on immense historical data they figure the relationships between these indicators and many assets such as currencies, commodities, stocks, bonds, and gold. After having a view about the future of these economic indicators for a specific county they go long or short in these assets based on their relationships to the economic indicators (Mirabile, 2013, p. 91).

The Long/short equity strategy is divaricated to six strategies which we will explain each briefly. First, is long biased strategy which mostly bets on stocks and sometime with leverage. Second, is variable biased strategy that generates alpha from longing winners and shorting unsuccessful stocks. Third, is equity market neutral strategy, this strategy is applied by having long position and short positions certain stocks and keeping the beta of the portfolio at zero. Fourth, risk arbitrage strategy benefits from shorting acquirer and buying potential acquired to generate risk-free profits. Fifth, is equity event-driven strategy which bets on big events such as spin-offs, adopting new technology, patent, litigation results, and new regulations. Finally, short biased strategy bets on stocks going down (Mirabile, 2013, p. 115). The managers of Long/short equity strategy start their job with top-down analysis. First managers assess the economic indicators and monetary policies then they look to the trends and returns for certain markets and industries. Second, they estimate the growth and profitability for some industries and fundamental analysis for specific companies. Third, they use technical analysis and determine buying and selling prices, stop-loss, and their target revenues. Finally, they allocate capital to the target risk and reallocating portfolio due to market conditions.

Fixed income relative value or credit arbitrage is referred to strategies where the managers are seeking to benefit from the mispriced fixed-income securities and their derivatives including U.S and international governmental bonds, corporate bonds, agencies bonds, mortgage-backed securities, and convertible bonds. The profits basically come from the difference between selling the overpriced securities and buying the underpriced securities. Those opportunities disappear within minutes, so managers have to have computers' assistance to seize those opportunities very fast. The executives of fixed-income strategies follow top-down analysis (Mirabile, 2013, p. 165). In order to do this, managers evaluate the inflation rate, interest rate, growth rate, and other macro indicators to find potential opportunities. For instance, when a manager of a fixed-income fund expects the interest rate will increase, he or she would have a short position in the fixed-income security market

Convertible arbitrage strategy is similar to fixed-income arbitrage strategy but this one is applied to many securities including fixed-income arbitrage strategy. This strategy benefits from trading mispriced securities including convertible bonds, derivatives, and stocks. Managers put convertible arbitrage strategy in work by longing the convertible securities and shorting the securities itself. The directors of convertible arbitrage strategy make comprehensive analysis for the macroeconomic including GDP, interest rate, inflation, and the monetary policies to find potential arbitrage opportunities (Mirabile, 2013, p. 193).

The characteristics of hedge funds

Investment Discretion: the managers of hedge funds have more independence in what they include in their portfolios such as venture capital, gold, real estate, commodities, stocks, bonds, and mortgage-backed securities. So managers have wide range of choices of investments. However, mutual funds are restricted to invest only in assets based on their terms.

Wide range of financial instruments: the managers of hedge funds have more financial instruments to use such as long equity, short equity, trading futures and options, use arbitrage between combinations of assets, and borrow from banks to magnify their returns. In contrast, mutual funds are required by regulations to have only long positions.

Limited transparency: the managers of hedge funds do not declare their investments, lest that their investments strategies being duplicated and then being not feasible. Whereas, mutual funds are required by SEC to disclose their financial statements and investments.

Low liquidity: the managers of hedge funds usually invest big amounts in illiquid assets such as real estate and venture capital, so sometimes it is hard for them to liquidate these assets in short time periods. And as a rule of thumb, the returns of illiquid investments are usually higher.

Participation of the managers and the employees: the managers of hedge funds and the employees always put a portion of their money in the funds to show earnest to possible investors.

Hard to evaluate, since part of the investments in hedge funds are illiquid (venture capital, real estate, obligations), it is hard to the managers to value their assets (Mirabile, 2013, p. 6).

The regulations of hedge funds

For long time, hedge funds were regulation-free organizations, until Dodd-Frank Act was legislated in 2010 and put some restrictions on hedge funds. In this part, the paper will only concentrate on the most important regulations that affect the growth, function, and the performance of hedge funds in a dynamic market comparing to mutual funds.

First, the act prohibited many services provided by banks to hedge funds "No banking entity that serves, directly or indirectly, as the investment manager, investment adviser, or sponsor to a hedge fund or private equity fund, or that organizes and offers a hedge fund or private equity fun" (Dodd-Frank Act 2010, p.253) and there are special exceptions.

Second, hedge funds with capital of $100 million or more are required to register with the Securities and Exchange Commission (Managed Fund Association, 2014).

Third, hedge funds are not allowed to make public offerings by the Investment Company Act of 1940. Also, they are subject to the anti-fraud provisions in the Securities Act of 1933 and 1934(Managed Fund Association, 2014).

Fourth, hedge funds are required to have a limit on the number and type of investors that each fund may have. They only can raise capital from sophisticated investors with at least net worth of $1,000,000 or a minimum income of $200,000 per year in the last two years (MFA, 2014).

Allocating all portfolio in hedge funds

Someone might ask a legitimate question that since the hedge funds have higher returns and lower risk, why not all investors would allocate their assets to hedge funds?

First reason is that hedge funds are mostly restricted to sophisticated investors and not available to all investors, so not all investors are able to invest in hedge funds. Also, many investors would not invest in hedge funds because of limited transparency. They do not have a full picture where their money invested in (Mirabile, 2013, p. 57). Moreover, investors with high preference for liquidity would not allocate big chunk of their money in hedge funds because they cannot withdraw money fast when they need their money (Mirabile, 2013, p. 57). Finally, risk diversification, although low regulations on hedge funds are an advantage that the mangers have more investment options, simultaneously it is disadvantage for the investors because investors will be concerned about the managers' dishonesty regarding higher returns. Many frauds happened in the past and the most well-known is Bernard Madoff Ponzi scheme that discovered during the financial crisis in 2008. And on June 29, 2009, United States district Judge Denny

Chin sentenced Bernard L. Madoff a term of imprisonment of 150 years for all the eleven felony charges that he pleaded guilty including securities fraud, investment adviser fraud, mail fraud, wire fraud, three counts of money laundering, false statements, perjury, false filings with the United States Securities and Exchange Commission, and theft from an employee benefit plan. Regarding this case, the total losses from the Madoff's scheme were roughly $20 billion as of December 2008 (US Department of Justice, 2014).

The performance of strategies of hedge funds (alphas)

This research paper tries to capture the alphas of hedge funds' strategies by using French and Fama three factors model on 243 observations. The paper used Credit Suisse Global Macro Index to represent the returns of the Global Macro strategy, Credit Suisse Fixed-Income Index to represent the returns of the fixed-income strategy, Credit Suisse long/short equity Index to represent the returns of the long/short equity strategy, and Credit Suisse Convertible arbitrage Index to represent the returns of the Convertible arbitrage strategy.

The paper found insignificant positive alpha of 0.265 for the Global Macro strategy's returns as dependent variable and the market excess returns with French and Fama three factors as independent variables. The insignificant relationship ($t = 0.573 < 1.96$) between the variables is because the low abnormal returns in Glob Macro hedge funds industry.

The paper found insignificant negative alpha of -0.223 for the Fixed-income strategy's returns as dependent variable and the market excess returns with French and Fama three factors as independent variables. The insignificant relationship ($t = -1.96 < -0.510 < 1.96$) between the variables is because the low abnormal returns in Fixed- income hedge funds industry.

The paper found insignificant negative alpha of -0.069 for the Convertible arbitrage strategy's returns as dependent variable and the market excess returns with French and Fama three factors as independent variables. The insignificant relationship ($t = -1.96 < -0.15504 < 1.96$) between the variables is because of the low abnormal returns in Convertible arbitrage hedge funds industry.

The paper found insignificant positive alpha of 0.169 for the Long/short equity strategy's returns as dependent variable and the market excess returns with French and Fama three factors as independent variables. The insignificant relationship ($t = -1.96 < 0.365 < 1.96$) between the variables is because of the low abnormal returns in Long/short equity hedge funds industry.

Conclusion

The main goal of this paper was to examine the investment strategies of hedge funds and what is unique about those strategies. The paper searched the performance of hedge funds, and we found that through the history that hedge funds beat the traditional strategies in terms of returns and risks. We discussed the main strategies of hedge funds Glob Macro strategy, Fixed- income strategy, Convertible arbitrage strategy, and Long/short equity strategy. Also, the paper discussed the characteristics of hedge funds such as investment choices and financial instruments, limited transparency, low liquidity, Participation of the managers and the employees, and hard of valuation. The paper discovered the reasons behind not allocating the whole portfolio in hedge funds. They are restricted to sophisticated investors, limited transparency, and illiquidity. Finally we compared the returns of hedge funds represented by Credit Suisse indices to traditional investment represented by the excess returns of the market. The same results of Hordvik Sandvik, et al (2011) were found. We found insignificant alphas for the four hedge funds' strategies because of the lessening abnormal returns of hedge funds. The

performance measurement of hedge funds' strategies cannot be compared to the traditional investments strategies. The performance of hedge funds' strategies should be tested by compare them to an index composed of all alternative investments which should be created.

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