TALLINN UNIVERSITY OF TECHNOLOGY
School of Business and Governance
Department of Economics and Finance

Mikko Jussila

HEDGE FUND INDUSTRY & INVESTMENT FUND PERFORMANCE IN DIFFERENT MARKET CONDITIONS

Bachelor's Thesis

Supervisor: Tatjana Põlajeva

Tallinn 2017

I declare I have written the bachelor's thesis independently.

All works and major viewpoints of the other authors, data from other sources of literature and elsewhere used for writing this paper have been referenced.

Mikko Jussila ……………………………

(signature, date)

Student's code: 145785

Student's e-mail address: Jussila.mikko@hotmail.fi

Supervisor: Tatjana Põlajeva

The thesis conforms to the requirements set for the master's/bachelor's theses

……………………………………………

(signature, date)

Chairman of defence committee:

Permitted to defence

…………………………………

(Title, name, signature, date)

TABLE OF CONTENTS

ABSTRACT 4

INTRODUCTION 5

1. CHARACTERISTICS OF FUNDS AND HISTORY OF HEDGE FUND INDUSTRY 8

1.1 Mutual funds 8

1.2 Exchange trade funds 9

1.3 Index funds 10

1.4 Characteristics of hedge fund 11

1.5 History of hedge fund industry 12

2. HEDGE FUND STRATEGIES 14

2.1. Long/short equity strategies 16

2.2. Dedicated short 17

2.3. Equity market neutral 18

2.4. Emerging markets 18

2.5. Global macro 20

2.6. Convertible arbitrage 21

2.7. Managed futures 22

2.9. Event-driven 24

2.10. Multi-strategy 24

3. MARKET CONDITIONS 26

3.1 Historical performance of Standard & Poor’s 500 26
3.2 Bull markets 27
3.3 Bear market 29
3.4 Performance in bull and bear markets 30
3.5 Standard & Poor’s 500 31
3.6 Hedge funds 33
3.7 Mutual funds and index exchange trade funds 33
3.8 Balance of risk and return 34
CONCLUSIONS 36
REFERENCES 39
APPENDIX 41
Appendix 1. Transcript of an Interview of Aaron Kaartinen 41

ABSTRACT

Financial industry has grown for decades, and one specific but important part of the industry has been operating in silence, the hedge funds. Why has the hedge funds been able to operate secretly from the audience and privately from publicity? Main reason is that hedge funds are not operating under same protocols as mutual funds, they are not regulated as much and therefore they do not have to publish their reports. Hedge funds use different strategies than mutual funds to avoid market exposure, but what are these strategies and why are they used? Hedge funds are mostly private partnerships which are more flexible by nature, where managers gain profits by the performance as well as investing own money to the fund.

The purpose of the bachelor's thesis is to illustrate the differences between the risk and the performance of investment funds, in order to assist to understand and identify a suitable investment fund strategy. Upon examination of these funds, it becomes clear that the strategy most suitable for investor depends of their willingness to take risk in order to achieve results. The variety of funds gives an opportunity for investors to select the best alternative for their purposes. This bachelor's thesis compared different strategies with amongst other hedging strategies as well as with traditional investment methods. The bachelor's thesis is combined of statistics gathered from Credit Suisse/Tremont Hedge Fund Index which has gathered information regarding hedge funds from 1994, literature research and an interview regarding the main characteristics, strategy and performance of different types of hedge funds and most invested funds in bull and bear market conditions.

Keywords: hedge fund, exchange trade fund, ETF, mutual fund, performance, bull market, bear market, risk, return,

INTRODUCTION

The definition of the term “hedge fund” is used to describe a wide class of skill-based asset management companies that do not qualify as mutual funds and are, therefore, not regulated as such. Problem is that due to their unregulated nature, hedge funds have been able to operate in silence for decades. Hedge funds differ from mutual funds not only by their behavior, but it is harder for private investor to invest in them. This increases the secrecy towards the hedge fund industry. The question is, should hedge funds be operating visible and easily trackable?

Over the past 50 years, this alternative investment industry has grown from a couple of managers in the USA in to a global billion-dollar business at the forefront of investment innovation. Despite the success there is always people who not quite understand the value and the nature of alternative investments and how they have contributed flexibility to financial system, providing source of liquidity for the financial markets. As the hedge fund industry has grown to become an essential part of the financial world, still there are not quite common understanding about their nature and behavior. The problem is that there is not enough knowledge about the hedge funds available, no easily and not made for publicity.

The objective for the bachelor’s thesis is to cover the history of hedge funds, reveal the basics of how the hedge funds operate and what give an overview of different strategies that the hedge fund managers use to gain profits from year to another and to cover the variety of investment funds and their strategies, compare the performance of those funds in different market conditions and to give an overview of the effects on performance regarding exposure and hedging against market risk.

In this bachelor's thesis the birth, history and rise of the hedge funds are covered. Aim for the bachelor's thesis was to briefly explain the concept of hedge funds, and how they differ from traditional funds, since they have been hiding from the publicity for long and on the same time grown to an essential part of the financial world. This bachelor's thesis will provide an explanation for the individuals who would like to gain and understanding about the hedge fund industry.

In the recent years there has been a debate about the fees of actively managed hedge funds and mutual funds, as the performance of those funds might not have outperformed the index funds. Perhaps the greatest investor of all time, Warren Buffet, manager of Berkshire Hathaway, wrote in newest letter for the shareholders; "There are, of course, some skilled individuals who are highly likely to outperform the S. & P. over long stretches. In my lifetime, though, I've identified — early on — only 10 or so professionals that I expected would accomplish this feat" Although it can be seen as a populist statement, it might have some seed of truth in it. Investors have started to favor index funds, and according to Morningstar, investors withdrew $340 billion from actively managed funds and directed nearly $505 billion into index funds. (Choe, 2017) Passive index funds and ETFs that are currently favored by investors have moderate expenditures and fees compared to actively managed mutual funds and hedge funds. The performance and the numbers under the last line vary within the funds, what is more important, is that how the returns are made. How the strategy and performance of these different type of funds vary from each other and what problems they have during different market circumstances?

Questions of the research are; what does affect the returns of these funds and how the investors could select the best alternative for their purposes? How does the risk and the return correlate and what are the effects of the market conditions to the performance of the different types of investment funds?

Methods that author used to prepare the bachelor's thesis were literature and numerical research and an interview to cover the objective and has come with following structure. First chapter presents the characteristics of different types of funds, what are the essential differences and strategies behind them. The first chapter will look back in to the history of hedge funds, and the hedge fund industry. The second chapter is an overview of different and mostly used

investment strategies amongst hedge funds and their characteristics are described. Third chapter explains what are different market conditions and illustrate the outcomes of the most recent bull and bear seasons in the stock markets and reveals the performance of various fund types and compares Credit Suisse Hedge Fund Index with the benchmark index of Standard & Poor's 500. At the final chapter, risk and the return of funds are opened, what leads to these types of performance differentials and what to think about the returns of the funds when the risk is taken into consideration. Author would like to thank Aaron Kaartinen for an interview and Tatjana Põlajeva for assistance during this writing process.

1. CHARACTERISTICS OF FUNDS AND HISTORY OF HEDGE FUND INDUSTRY

There are massive variety of funds in the market that can be invested in. Index funds, mutual funds, exchange trade funds and hedge funds differ a lot by their means and structure. These different type of funds also generate very wide set of strategies, even when the assets might be the same. Fees and expenditures play a big role, what it comes to performance of these different type of funds. Money, risk level, accessibility and strategy determine which type of fund investors decides to allocate their wealth. The most popular and invested fund types that invest to securities instead of interests, are presented in the following chapters.

1.1 Mutual funds

Mutual funds are open-end investment companies that pools money from investors and invest that money in stocks, bonds, money-market instruments and other securities. The assets that the fund owns, composes a portfolio, which is managed by an investment adviser. Each share represents investor's proportionate ownership of the portfolio and the income that the portfolio generates. Mutual funds in the U.S are required to price their shares each business day, and they typically do so after the major exchange closes. The price is called NAV, which states to net asset value. It is calculated by the per-share value of the mutual funds' assets, minus its liabilities. The shares that mutual funds sell or redeem, must be handled with the NAV that is calculated after the investor purchases or sells the share. (U.S. Securities and Exchange Commission)

1.2 Exchange trade funds

The global Exchange Trade Fund (ETF) industry has reached $1.92 trillion in assets under management by the end of 2012, experiencing an average growth rate of 31% per year for the past ten years. (Vanguard) ETFs as the name, Exchange Traded Fund, states, are funds under the exchange market, such as bourse. They are traded throughout the day on the stock exchanges at a market prices, which may or may not be the same as NAV. This mean one could buy a share of ETFs such as shares of company stocks are bought from the market. ETFs are investment companies that offer investors a way to pool their money in a fund that makes investments in stocks, bonds, other assets or some combination of these investments and, in return, to receive an interest in that investment pool. (U.S. Securities and Exchange Commission) Beneficiary for investors is that they can with one purchase, reduce the risk as the allocation of certain ETF is divided to many assets.

Exchange traded funds can be divided into active and passive funds, where the basic difference between active and passive is that the passive index is structured to track a specific public marked index, while the active ETFs are trying to beat the market indices. . (Rompotis, 2010) Other differences are related to the characters and requirements for the ETF. There is a minimum size of an investment, which are not required for the passive ETFs but are required for the active ones. Rompotis (2010) considers active ETFs as benchmark index, as they are often designed to track a popular investment manager’s top picks, mirror and copy existing mutual fund or pursue a particular investment objective and aim to offer returns that are above the average level. Unlike mutual funds, however, ETFs do not sell individual shares directly to, or redeem their individual shares directly from, retail investors. Instead, ETF shares are traded throughout the day on national stock exchanges and at market prices that may or may not be the same as the NAV of the shares.

Active ETF are like mutual funds, where managers are following the funds guidelines, pick and sell securities directly and by the strategy, trying to beneficially schedule these transactions. ETFs can be traded in the stock exchange, and the secondary market liquidity of the ETFs structure provides potential tax benefits and lower internal trading costs to active investors, whom can practice intra-day trading on the ETF. Active managed ETFs are highly

transparent, and they provide prior-day disclosures of holdings, as most of the mutual funds only provide information quarterly or monthly. (State Street Global Advisors)

Passive ETFs are often referred as index ETFs. Most of the ETFs are these type of funds, and the passive ETFs are the biggest funds based on market capitalization with respect to their identical investment strategy. (Schizas, 2014) They strive to follow a certain index that is selected in advance, by holding in its portfolio either the contents of the index or a representative sample of the securities in the index. The idea of passivity in the ETFs is to achieve the average outcome of markets with an average risk.

ETFs can be also divided into two categories, Physical ETFs and Synthetic ETFs. Whereas physical ETFs attempt to mirror the results of a benchmark index by physically holding certain assets underlying the index, synthetic ETFs invest by the swap counterparty to securities that may be unrelated to the referred index. They hold o substitute basket, and a swap agreement with one or more counterparties who agree to pay the return of the benchmark to the fund. (Vanguard) Synthetic ETFs returns are guaranteed by the counterparty, which holds a risk called counterparty risk. In case of the counterparty has problems with solvency

1.3 Index funds

Like mutual funds, the index funds are actively managed funds that are designated to follow a certain index, selected in advance. The fund forms a portfolio of underlying assets that track index and actively changes the weight of those assets in order to copy the movements of the followed index. These active managed index funds are not traded on the exchange market like ETFs. Due to passive management and administrating, index funds are inexpensive compared to active managed mutual funds (Kaartinen). Characteristics are similar though, also index funds are marked with the NAV, at the end of the day.

1.4 Characteristics of hedge fund

Despite media and regulatory attention, the term “hedge fund” has still no precise legal definition (Lhabitant, 2007) Unlike mutual funds that have regulations that are designed to protect investors, hedge funds are widely unregulated because they are typically limited partnerships with fewer investors. Due to their unregulated nature, hedge funds hold various types of different securities and they may take positions in diverse range of assets varying from illiquid private assets to highly liquid stocks and bonds. Hedge funds tend to aim for maximizing their return regardless markets are falling or rising by using various strategies from leverage to short-selling. Hedge funds are less restricted and consequently, their responsibilities are less strictly monitored. Depending on the number of assets in hedge funds advised by manager, managers may not be required to register or to file public reports with the SEC. Investors do not receive all the legal protections that commonly apply to most of the mutual funds (U.S. Securities and Exchange Commission).

Compared to the mutual funds that are focused on bonds, currencies and stock, hedge funds prefer smaller, obscure value securities. Due to simplicity and restrictions imposed to mutual funds, anyone can invest in them, when hedge funds are for individuals and institutions that have the knowledge to understand the essence of the funds.

An old joke asks “What is a hedge fund?” and answers “Anything that charges 2 and 20” Where the “2 and 20” typically refer to the fees of hedge fund, where they charge an annual management fee of 2% and profit sharing fee of 20% (Anson, 2007) The management fees of hedge funds are designed to cover the operating costs. Performance fee provides the manager’s profits, but in case of poor performance the fund is usually structured so that the manager does not receive high compensation. Investors expect the managers to take risks and to outstrip the high costs. The high incentive structure, may lead to extravagant risk taking. Performance fees motivate managers to generate profits, but they have also been criticized. Hedge funds often share only the profits and not losses, which can result to excessive risk taking from the managers. Therefore, hedge fund managers typically invest their own money in the fund that they manage, which often reduces the unnecessary risk taking from the manager.

Hedge funds are not a homogeneous group and they are following very different investment strategies. What is common factor is that they are protecting their assets against risks, called hedging. Hedge funds try to achieve absolute returns regarding the market conditions. The hedging itself can be seen in the most practical way is seen as a bet on a certain asset in both ways, still trying to profit from the move. Hedge funds are not easily reachable for regular investors as they prefer institutions and companies that understand the nature of these funds. Fees in hedge funds are rather high, for example last year the average management fee was 1.48% and the average performance charge 17.4%. (Foxman, 2017) Hedge funds are not as regulated, and they do not need to provide such information for investors as mutual funds.

1.5 History of hedge fund industry

Analyzing history is not very useful for forecasting the future, but it is crucial to understanding where we are today. By way of analogy, consider a graph showing the path of a ball in flight. The path will trace an arc that goes up and comes down. A single point on that graph – i.e. the ball at one moment in time – cannot provide a sense of the whole picture. There is little perception of where the ball is going until one sees the path it has followed so far, i.e. the flight history. In a sense, hedge funds are similar. We must know their history in order to understand where they are now and where they are headed (Lhabitant, 2007)

Alfred Winslow Jones created the first hedge fund in 1949 after he started reviewing the practices of the asset management and wrote an article about technical methods of market analysis, trends in investing and market forecasting. He was convinced the he was capable of implementing a better investment model than anything that was available. He believed that he had superior stock selection ability but no market-timing skills. Therefore, his strategy combined long positions in undervalued stocks and short positions in overvalued stocks. This made possible to make net profit in all markets, and he began to add leverage by proceeding his short sales to finance the purchase of additional long positions. In 1966, Carol J. Loomis wrote an article that indicated that Jones's hedge fund A.W.Jones & Co. had managed to beat market indices for several years and outperformed the best mutual fund by 44% (Lhabitant, 2007).

With this simple investment approach, he had invented the platform for the complex investment structures to come.

Many new hedge funds were established in the 1960s. Hedge fund managers started selling securities short in order to imitate Jones' investment style, despite their lack of experience in that activity. In the 1960s bull market, short selling was unprofitable and time consuming and the managers started wagering more on long investments and less on short positions. When market started to slide in 1969, hedge funds suffered heavy losses, but the major bloodletting ensued during the 1973-1974 recession. Even Morgan Guaranty, the largest US pension-fund manager, lost an estimated two-thirds of its clients' money. Numerous hedge funds went out of business (Lhabitant, 2007, 12).

As the markets moved sideways from 1975 to 1982, there were only 68 hedge funds performing in the 1984. They operated in secrecy and only reported to their limited partners. Some of them performed exceptionally, returning over 30% per annum through rising and falling markets. When *Institutional Investor* released an article in 1986 which described the performance of Julian Robertson's Tiger Fund, consensus changed, and hedge fund revived their popularity (Lhabitant, 2007).

However on the edge of the millennium, the fall of another massive hedge fund Long-Term Capital Management (LTCM) nearly collapsed the global financial system and year later it was followed by the meltdown of the Tiger Fund in 2000. One month later Quantum Fund led by George Soros, needed reorganization (Ineichen and Warburg, 2001). These dramatical events were considered as a cleansing process for the industry and only couple hedge funds emerged from this surging environment with an immaculate profile, but those emerged strengthened. (Lhabitant 2007)

Hedge funds often make headlines because of phenomenal gains or losses, and these events have brought attention to the industry (Stulz, 2007). For the last decade, new financial instruments and technological innovations have revolutionized investing. Hedge fund industry has growth rapidly, and it is estimated that there are now close to 10 000 hedge funds worldwide, which manage total wealth of more than trillion dollars (Lhabitant, 2007).

2. HEDGE FUND STRATEGIES

Hedge funds are not a homogeneous group today as it used to be. As hedge funds have growth and evolved, they have started to diverge from the original A.W. Jones' model and are now following very different investment strategies. Credit Suisse/Tremont Hedge Fund Index has distinguished 10 different strategies:

- *Long/short equity* funds invest in equities, they combine long investments with short sales to reduce market exposure.
- *Dedicated short* funds use only short positions.
- *Equity market neutral* funds look for pricing inefficiencies between related equity securities and simultaneously neutralize their exposure to the market risk.
- *Emerging market funds* invest in emerging countries, to all type of securities available
- *Global macro* funds focus on investments in global macro environment, seeking for opportunistic possibilities on currency, equity, bond and commodity markets.
- *Convertible bond arbitrage* funds search for pricing discrepancies between convertible bonds and their underlying equity.
- *Managed futures* trade primarily listed commodity and financial futures contracts on behalf of their clients by algorithmic basis
- *Fixed income arbitrage* funds use different strategies that seek to exploit pricing anomalies across global fixed income markets.
- *Event-driven* funds invest in various asset classes and seek to profit from potential mispricing of securities related to a specific corporate or market event.
- *Multi-strategy* funds invest in various asset classes and seek to profit from potential mispricing of securities related to a specific corporate or market event.

The markets have changed over the years, and so has the breakdown of different strategies used by hedge funds. In the mid-1990s, most of the money in hedge funds was allocated under the global macro strategy. This strategy controlled almost two-thirds of the hedge fund assets, but as two colossal hedge funds lead by George Soros and Julian Robertson retreated, the assets have allocated more evenly. Long bear market in the early 2000s shaped the market and thus global macro experienced significant decline in the market share to the long/short equity funds, which is now the dominant force in the industry (Lhabitant, 2007) as illustrated in the figure below.

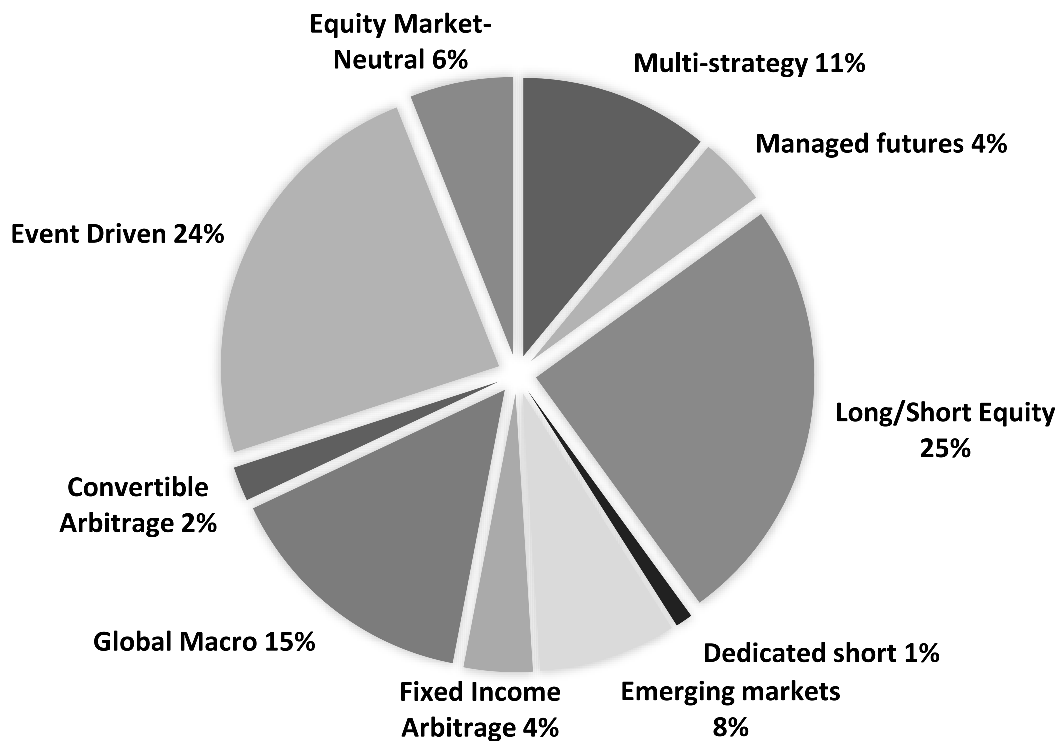

Figure 1. Breakdown of hedge fund assets by investment strategy

Source: Credit Suisse/Tremont Hedge Fund index, 2008

Credit Suisse and Tremont have followed hedge funds closely from the early 1994. This figure illustrates how the hedge fund assets have divided between the most used strategies. Long/short positions has grown to the strategy which holds the biggest amount of hedge fund money due its simplicity. Event-driven hedge funds follow many different strategies and the

whole strategy could be divided under three sub-strategies. The managers are keen to follow changes in the industry and feel that following event-driven strategies, it may reveal best possibilities to gain revenue. These matters have gathered the second most assets under the strategy. As the hedge fund market is so divided and heterogeneous, there are many strategies that hold huge amounts of assets, but still the market share of total assets on the industry remain relatively low. Even though hedge funds are not related to the market movements closely on long term, may changes in the asset positions vary. For instance, in the recent bull market, the dedicated short bias has not been as effective as other strategies, and declining worth of assets obviously reduces the amount of assets held by stated strategy.

2.1. Long/short equity strategies

Currently the most popular strategy long/short strategy where on the most basic level hedge fund managers try to find overvalued and undervalued stocks in the market and they take long positions in the undervalued stocks that they expect to increase value, and short positions in stocks that they expect to lose value. The short positions produce protection the market risk of long positions, or it may be a bet of an asset that should decrease. It also collects interest on the short amount. Hedge fund managers following long/short strategies mostly apply similar fundamental analysis as traditional funds, but hedge funds should be able to generate profits also in declining markets.

Long/short strategy has also its disadvantages. As hedge fund following this strategy rely much on trading long and short positions, the trading costs are significant and the only way to reduce the exposure for the costs is to invest equally in long/short positions, which takes out the effective leverage. This strategy has high turnover compared to traditional funds and to avoid margin violations or liquidity drawdowns, it is necessary to do additional trading. When markets are bullish, short positions act as a hedge and reduce the market exposure. While the long positions tend to increase their value in the portfolio and the short positions to lose theirs,

hedge fund managers need to counter this by reducing their position in successful long positions and find new short positions.

During the history, the performance of long/short equity hedge funds has been a success. They have outperformed traditional funds with less volatility, CS/Tremont has measured that long/short has an average 11,9% return p.a. while S&P 500 delivered an average return of 8,6 p.a. in a timeline from January 1994 to December 2005 (CS/Tremont Hedge Fund Index).

2.2. Dedicated short

Dedicated short strategy could be described as a traditional long-only fund which turned upside down. Managers following this strategy look exclusively for overvalued companies, then borrow shares and sell them short. They wait for price to decrease lower than their short selling price, then return the stocks to the lender and gain the difference. Short selling was once a flourishing method, but the bull market in the 1990s forced most of the short selling hedge funds out of business. Now it is one of the less used strategies among the hedge funds.

The environment for short selling is propitious as generality of the traditional asset management industry seem to be looking for holding long-term investments than short selling, this gives advantage for the analysts and managers only looking for short selling opportunities. The fact that Wall Street almost never provide recommendation on selling, supports this proposition.

Historically, the performance of short selling hedge funds has been way worse than the S&P 500 index, providing only 2,0% p.a. in a timeline from 1994 to 2005 (CS/Tremont Hedge Fund Index). The best performances are concentrated on periods long bear markets or market crashes. During the financial crisis in 2007, Connolly and Hutchinson (2010) documented significant results for dedicated short funds.

2.3. Equity market neutral

Equity market neutral (EMN) managers try to avoid any exposure to the systematic risk of the market. They pick stocks separately for their long and short sides of the portfolio and does not mind the impact on the relation between their long and short positions. They look for to balance at market neutral between long and short positions all times so that the returns of the portfolio rely purely on the stock picking of the manager. In order to maintain equity market neutral position, managers look for taking long and short positions while aiming for zero beta (Lhabitant, 2007)

In the recent history, many equity market neutral funds conceded massive losses on the fall of Lehman in 2007, but the ones that survived, recovered 50% of the losses rapidly couple days later (Credit Suisse Asset Management LLC Sep. 2009). Mostly EMN funds have succeeded in history, on the timeline from the beginning of the 1994 to the end of 2005 equity market neutral funds delivered an average return of 9,92% p.a. with low volatility of 2,96% (CS/Tremont Equity Market Neutral Index)

2.4. Emerging markets

Hedge funds that follow this strategy, specialize to the emerging markets. They invest to the securities of emerging markets, where typically is lower per-capita incomes and possible growth points as the countries often are in a process of moving towards open markets. Dictatorships are replaced by democratically elected governments, currencies have transformed into freely floating and new monetary policies have opened the financial markets, but these markets lack of transparency and liquidity, have very high volatility and therefore high betas. Risk seems understandable, as emerging markets total over $2 trillion and represent over 80%

of world’s population, 75% of natural resources and gross 25% of world’s GDP (Lhabitant, 2007)

Emerging Market Growth Fund started in mid 1980s with a seed capital of $50 million but now holds over $67 billion of funds covered in 32 countries (Lhabitant, 2007). The interest for emerging markets has surged, but it is only for investors who accept this high level of volatility. In emerging markets, indexing is not recommendable as it accentuates diversification instead of picking the winning securities. In addition, the biggest companies are usually concentrated on few sectors, and they drive the index to an unbalance in terms of diversification. Indexing can be unattractable due to the lack of liquidity and high transaction costs, and it will not necessarily reduce the overall risk of portfolio in emerging markets- (Lhabitant, 2007).

Emerging market hedge fund managers mostly use therefore stock picking strategy and due to the high volatility in the market, it may result in short-term mispricing. Buying at discount and selling at a premium may be the only option as some of the countries on the market has forbidden short selling. Hedge funds operating on emerging markets often need to gather information on the ground, and they meet with management and analysts, travel to the countries, use researches done by third-parties but also need to do analysis based on data received and gathered.

In the light of history, emerging market hedge funds have gathered average returns with a high volatility. From January 1994 to December 2005, S&P 500 has produced slightly better annual returns with an average 8,6% compared to the emerging markets 8,4 p.a. MSCI Emerging Market Index only delivered 2,3% returns p.a., which supports the claim of avoiding the indices in the emerging market.

2.5. Global macro

The roots of global macro investing are in the early 1980s. George Soros and his Quantum Fund and Julian Robertson's Tiger Fund had grown so big that they needed to move to more liquid markets where larger bets could be placed. Some managers came from the managed futures industry, and were familiar with the global and macroeconomic nature of global macro. This strategy has been most successful and also the largest category of hedge funds. Nowadays it represents only small percentage of the hedge funds, but they still manage sizeable proportion of assets in the hedging industry.

Global macro is difficult to characterize as the managers approach markets and trade them heterogeneously. Generally, global macro funds invest globally and dynamically allocating capital and attention to the asset class, sector or region where the best opportunities lay. Most of the global macro funds take leveraged bets across the market, expecting profits from anticipated trends, cycles of futures or structural changes in specific countries or regions. They focus on finding macroeconomic imbalances and trends and usually invest only after the markets have swung from the equilibrium and exit when the swing has been corrected, gaining profits (Lhabitant 2007).

Historically, the global macro funds have been relatively good. The funds have created high returns and outperformed traditional classes with less volatility. From January 1994 to December 2005 period, global macro hedge funds produced an average return of 13,54% p.a. with a volatility of 11,66% p.a. (CS/Tremont Hedge Fund Index). Best years for global macro funds were in the late 1990s, from 1995 to 1997 before the high-tech revolution and after the high-tech bubble, from 2001 to 2003 (Lhabitant, 2007).

2.6. Convertible arbitrage

Convertible arbitrage is a long-short strategy, where the hedge fund take long position on a specific company's convertible securities and short position on the common stock of same company (Lhabitant, 2007). It generates profits from fixed income security and from short sale of the stock. Convertible securities are often issued below their fair value. Managers seek for mispricing of the securities to gain arbitrage from double positioning on the company's stock. This creates relatively market-neutral profile to the fund as there is only minor correlation to the equity (Calamos, 2011).

In the early 1990s convertible arbitrage was a niche strategy, but simple to proceed with; look for underpriced convertible bonds, buy them and delta hedge them, then wait for the mispricing to disappear. After the strategy become more popular, it brought competition to the industry, which reduced the effectiveness of the strategy. Most managers had to take increasing risks to stay which evolved new modifications of the strategy. The market has become more important and it the strategy represents over 70% of the secondary market trading of convertible securities. Even that hedge funds following this strategy form only minor part of the hedging industry, hedge funds based on U.S. own around 50% of all convertible bond issues in the U.S.

Convertible arbitrage hedge funds have produced same average annual returns of 8,6% as S&P 500 index, but with lower volatility in a time range from 1994 to 2005. This strategy has outperformed bond market indices such as Citigroup's World Government Bond Index, which has created an average return of 5,9% p.a. with lower volatility (CS/Tremont Hedge Fund Index). The strategy has not performed well when interest rates have been rising, such as in the year 1994 (Lhabitant, 2007).

2.7. Managed futures

Futures contracts origins from far history, supposedly from Ancient Greek. Although futures trading exchange originated in the middle of nineteenth century in the U.S. The futures exchange consists usually two type of investors; hedgers and speculators. Hedgers use futures for protecting future price variations in the underlying cash commodities, and speculators seek for winning money by forecasting future (Lhabitant, 2007)

The acceptance of managed futures started in the late 1970s, and became popular in the 1980s. At that time, individuals and institutions wanted to participate in the new futures market, but they lacked knowledge. Therefore, they looked for experienced portfolio managers to invest for them. Now the funds are managed by Commodity Trading Advisors (CTAs), which are a professional community of managers of commodity investments that started to offer investment advice to public. Typical approach for the market is systematic trading, where the managers make decisions that are based on computer models. Managed futures managers base their decisions on either technical analysis or fundamental analysis. Technical analysis is predicting future movements and market trends by looking to history. Technicians believe that the history repeats itself and they make predictions based on published data. They look for clear patterns, correlations and trends. Technicians form their buying and selling behavior on from that information, and don't put much weight on underlying economics (Lhabitant, 2007).

Historical performance tends to be disappointing. Managed futures have produced low returns and unperformed traditional asset classes with more volatility. Over the January 1994 to December period, managed futures have only created and average return of 6,4% p.a. with a volatility of 12,8% when Standard & Poor's top 500 index has created an average return of 8,6% p.a. with a volatility of 16% (CS/Tremont Hedge Fund Index). Managed futures tend to produce relatively good returns during difficult markets, but during good times, they perform modestly.

2.8. Fixed income arbitrage

Fixed income markets are fruitful environment for hedge funds. There are elements that enables hedge funds extensive set of strategies to make of valuation differences and pricing anomalies between various fixed income securities (Lhabitant, 2007). There are few main strategies followed in the market. Market neutral strategies systematically hedge their exposure to interest rate variations, but are otherwise like relative value strategies that seek to construct their portfolio in such that it takes advantage of relative pricing anomalies between two or more fixed income securities while keeping their risk profile spread. Directional trading strategies focus on absolute pricing anomalies or take directional bets in the fixed income area. Bets are addressed primarily on spreads but also on interest rates.

On the basic level, fixed income securities are debt instruments, issued by public entities or private companies. U.S. Treasuries and corporate bonds are these types of instruments, but in the market, there are more complex and sophisticated fixed-income instruments, such as credit default swaps. Hedge funds following fixed income strategies realized the arbitrages in credit default swaps and heavily traded these securities, resulting to spread the risk across the investors during the financial crisis (Brunnermeier, 2009).

Typically this strategy provides small and steady returns if fund is well managed, but there is potential for huge losses. The crisis of LTCM in 1998 was due to the usage of swap spread positions which caused losses of $1,6 billion (Lowenstein, 2000). The historical performance of fixed income arbitrage hedge funds has been relatively low compared to other strategies. From January 1994 to December 2005, fixed arbitrage hedge funds delivered an average return of 6,28% p.a. with low volatility of 3,88%. This strategy was outperformed by S&P 500 index, but it was clearly better on average than bond indices, which delivered an average return of 5,87% p.a. on a higher volatility of 6,74% (CS/Tremont Hedge Fund Index).

2.9. Event-driven

Event-driven strategy exploits mispricing that occur due to a corporate events such as merger & acquisition, spinoff or a bankruptcy. Event-driven hedge fund manager analyses potential acquisitions and determine how likely they are going through. With the information from the analysis, the manager will make the decisions of purchases and profits relying market discrepancies. Event driven hedge funds also invest on distressed securities, that are often corporate bonds, and debt of some companies that are in distress, such as bankruptcy.

Event-driven investing can be profitable, but it includes fair amount of risk. Often the corporate event may face some issues, and does not occur as planned, which reduces usually the stock price, resulting the investor to face unwanted outcome. Hedge fund managers that follow event-driven investing strategies should have the knowledge and skills to analyze corporate events precisely to avoid these occurrences.

In the history, event-driven hedge funds have succeeded steadily, achieving an average annual return of 8,14% with an average volatility compared to other strategies (CS/Tremont Hedge Fund Index).

2.10. Multi-strategy

Multi-strategy funds engage more than one of aforementioned strategies. Common objective for a hedge fund following multi-strategy is to gain positive returns regardless of the interest rates, currency markets or movement in equity market. Most of the multi-strategy funds combine convertible bond arbitrage, equity long/short and event-driven merger arbitrage strategies. Managers that are combining these strategies need to have wide and deep knowledge in multiple investment strategies to perform in the market.

As often hedge funds are measured within short-term periods, multi-strategy hedge funds are rarely best performing funds. Managers aim to produce long-term result with their diversification of strategies, and history points that multi-strategy hedge funds have performed rather steadily, gathering an average return of 7,69% p.a. from January 1994 with low risk rate. Multi-strategy’s Sharpe’s ratio, which measures the amount of excess return per unit of volatility, is the highest from the above-mentioned strategies (CS/Tremont Hedge Fund Index).

3. MARKET CONDITIONS

Bull and bear markets are key elements in analyzing and predicting financial markets. Looking back decades in the stock markets, it can be seen that the market has grown steadily, so as have the population and GDPs in the world. By picking up a shorter period to our research, we can avoid the post-war industrial revolution and the development of technology, and receive a reasonable statistics about the most recent bull and bear markets and the events behind them. Predicting future is tricky, even impossible, and that's why the historical events and performance in the financial markets are so valued, as it is important to look and find for similar circumstances and analyze the possibilities in order to understand the future.

3.1 Historical performance of Standard & Poor's 500

From the January 1994 to the end of February 2017 the Standard & Poor's 500, which indicates the market capitalization of 500 largest companies listed in the stock markets in the United States, has grown nearly 300%, even that, during that period of time, there has been major setbacks in the markets, as we can see from the Figure 1.

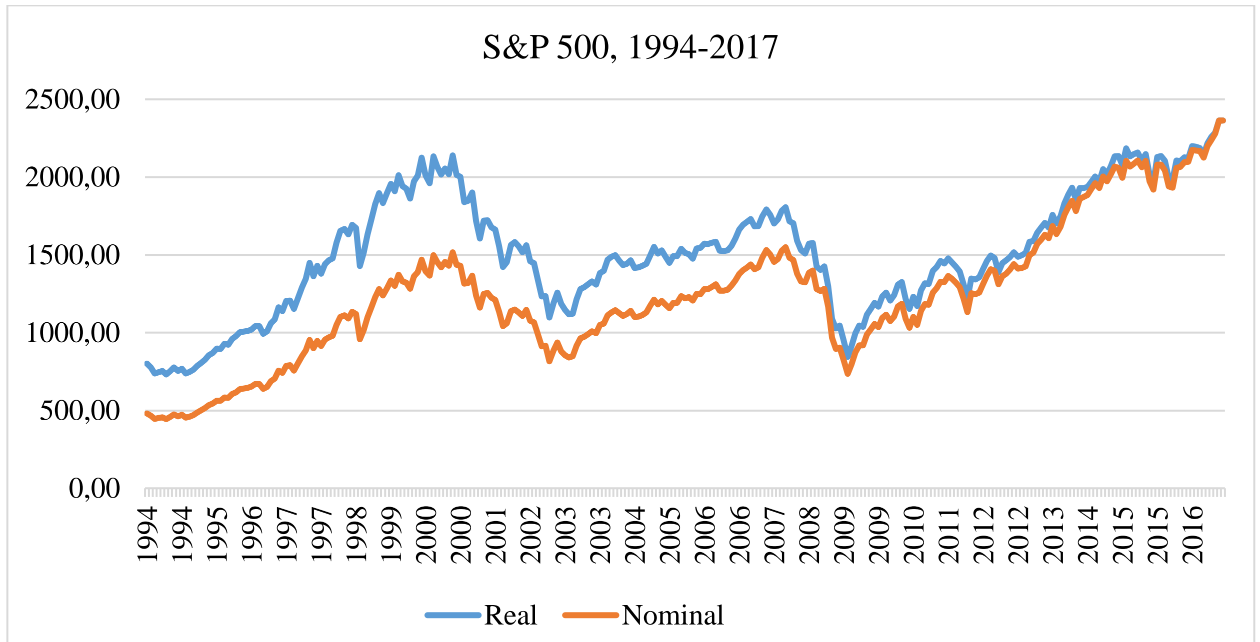

Figure 2. S&P500 monthly value from the January 1994 to February 2017.

Source: (Macrotrends, 2017)

Figure 2 is shaped on the basis of S&P 500's monthly value, and it illustrates the real and the nominal value of the index. Real value indicates the value adjusted for inflation, which enables comparison, like the prices had not changed. Nominal value has not been adjusted for the inflation and it indicates the changes in nominal value, which reflects more to the effect of inflation. From the figure it is rather easy to identify chapters when the market has been bullish and moderately easy to identify the bear markets.

3.2 Bull markets

Bull markets are commonly understood as extended periods of gradually rising prices (Kole & van Dijk, 2010). From the figure 2, we can identify three bull markets. From roughly 1995 to the turn of the century there was one of the most rapidly rising market conditions in

history, which later on was named as a tech bubble, after it bursted at the last quarter of 2000. The bull market before the burst had lasted for decades. Since the tech bubble, stock markets started to recover which formed a long bull market that ended to the biggest financial crisis in 2007-2008 since the Great Depression in the 1930s (Eigner & Umlauf, 2015).

After the financial crisis, the stock market has been exalted and the S&P 500 has nearly tripled in just an eight years as we can see from the Figure 3.

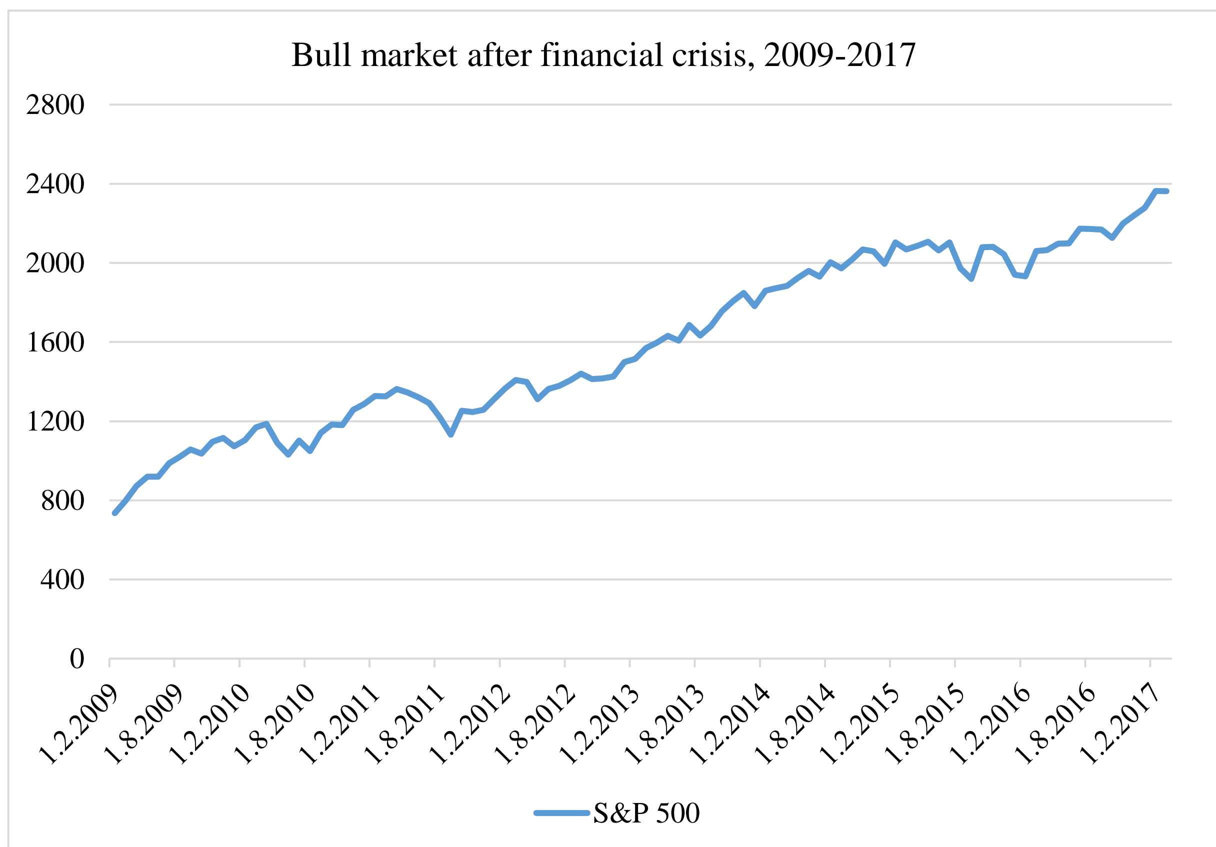

Figure 3. S&P 500 monthly real value from February 2009 to the end of February in 2017.

Source: (Macrotrends, 2017)

From the Figure 3 we can see that market conditions from the 2009 have been extremely bullish and the index has nearly tripled its value, returning massive profits for investors who have stayed patient with sells. From the minor setbacks that have happened, stock markets have

recovered very soon. Latest examples could be the Brexit and the election of Trump, where markets recovered from these events just in hours.

3.3 Bear market

Bear markets are characterized by falling prices and higher volatility than during bull or neutral markets (Kole & van Dijk, 2010). In the history the bear markets have not lasted for as long periods as have the bull markets, but they have been extremely intense, as most the panic has captured the markets. When the tech bubble bursted, the bear market from the highest peak lasted approximately a two years, and the S&P 500 lost almost half of its value. During the financial crisis, the bear market lasted from the end of 2007 to the early 2009, and within just over a year, the S&P500 lost over half of its value as we can see from the Figure 3.

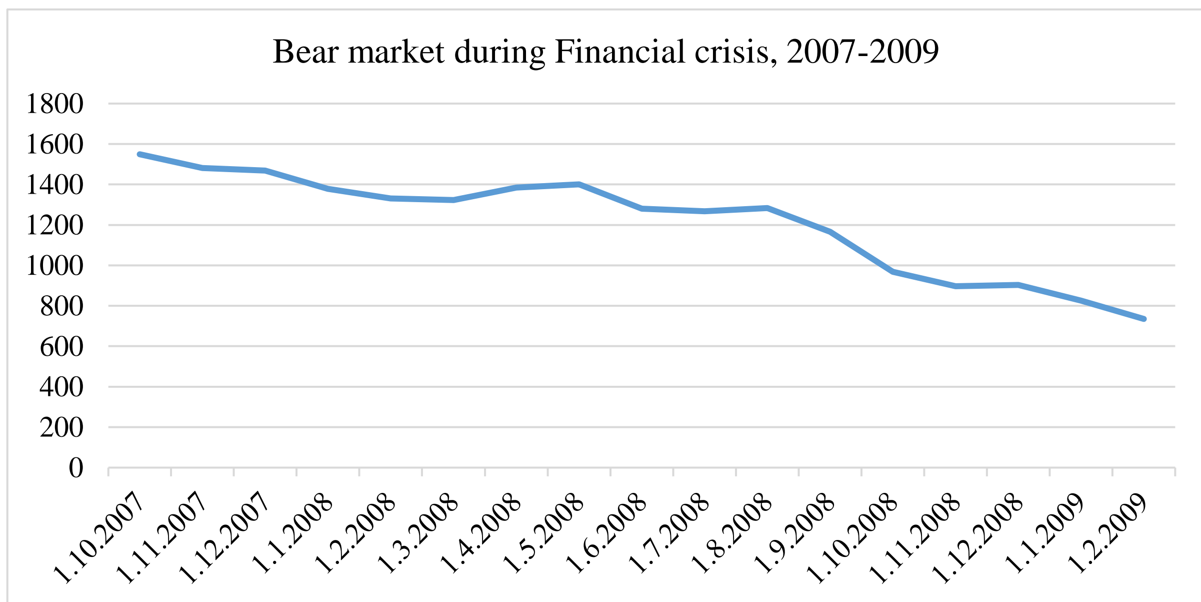

Figure 4. S&P monthly real value from November 2007 to February 2009.

Source: (Macrotrends, 2017)

The Figure 4 illustrates the real value of the S&P 500 index during the financial crisis. It is brought to attention to show a different perspective of the decrease compared to the Figure 2. The time period is clearly shorter, and the decrease does not appear as radical as in the Figure 2. Market conditions are impossible to predict, and during the bear market seen in Figure 4, there are visible neutral and even months, when the index was increasing slightly.

Since the financial crisis, the bear markets have lasted only for couple of months. In the 2011, S&P 500 lost nearly 20% of its value in just five months and in the 2015 there was also a steady bear market of 7 months, when S&P 500 lost approximately 10% of its value (Macrotrends, 2017).

3.4 Performance in bull and bear markets

Performance during a bull market varies depending the tracked fund or index. Basically the index is performing well and the index ETFs that are miming the index are also performing well. What it comes to hedge funds and mutual funds, majority of the funds cannot keep up with the indices. From the following Figure 4 can be seen the performance comparison with the Credit Suisse Hedge Fund Index versus Standard Poor's 500 index during the last 12 years. The time-lapse contains the end of the bull market, from the recovery of tech bubble and the bear market of financial crisis, and the bull market followed by the crisis.

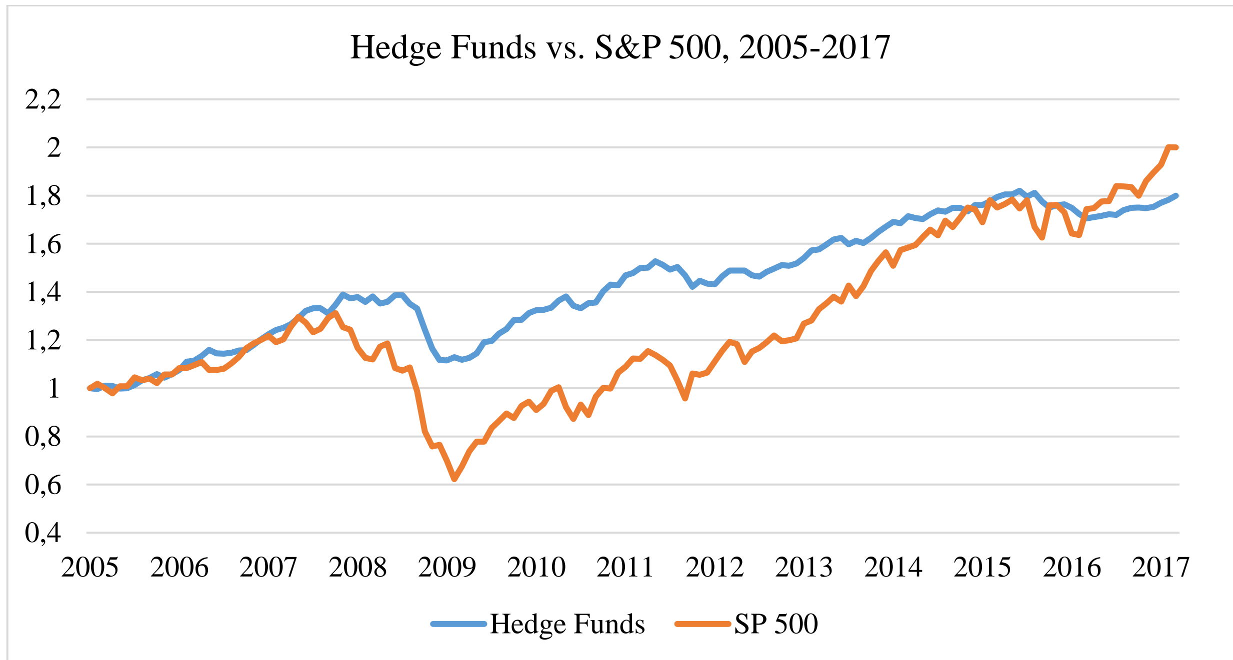

Figure 5. CS Hedge Fund Index vs. S&P 500 index, 2005-2017

Source: Macrotrends (2017) & Credit Suisse (2017)

From the graph on Figure 5 it is easy to identify the market movements and the performance of hedge funds and S&P 500, which appears to be rather similar. Later on in this chapter, the essential differences of Hedge fund and index returns are explained.

3.5 Standard & Poor's 500

Standard & Poor's 500 is considered one of the most referred benchmark indices with the Dow Jones Industrial Average, when it comes to the large companies in the United States. When in the economy is going well, it reflects to the index. Contrariwise, during a market meltdown, it reflects to the index generating bear market. The S&P 500 could be stated as one the benchmark indices to compare the performance with. In the Figure 5, the performance of

hedge funds against the S&P 500 is similar, but what is more in the Figure 6 below, the dividends are invested back of the companies listed in the S&P 500 index.

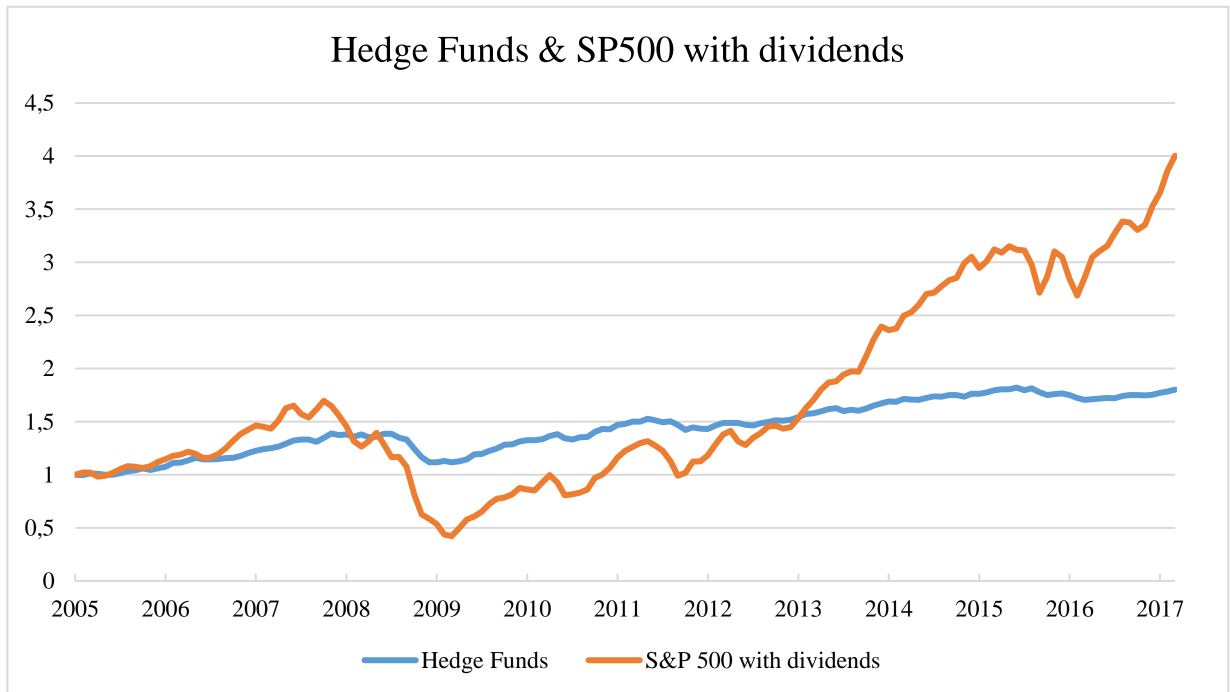

Figure 6. CS Hedge Fund Index vs. S&P 500 index with dividends, 2005-2017

Source: Macrotrends (2017) & Credit Suisse (2017) & Multipl (2017)

The dividend yield from the companies listed in the S&P 500 generates interest on interest when invested back to the index, and during the bull market it outperforms the CS Hedge Fund Index as illustrated in the Figure 6. Even though the general performance of hedge funds and S&P 500 are similar, the dividend yield of S&P 500 develops a performance gap between these types of indices.

3.6 Hedge funds

Hedge funds are following strategies that should allow them to gain profits regarding what are the market conditions. This forces the funds to hedge their assets against the rising market, which causes the performance to lag when compared to indices such as S&P 500. Hedge funds are performing well in the stable market conditions, but because of the recent bull market, the average hedge fund hasn't beat the S&P 500 Total Return Index since the bull market started at 2008. (Foxman, 2017).

During a bear market, hedge funds that are protecting themselves against the total market risk, should not experience the curtsey of the markets. From the Figure 4 we can see that during the financial crisis in the 2008, the benchmark index of S&P 500 halved, as the CS Hedge Fund Index only complied for approximately 20%, and quickly recovered from the crisis to the level before it.

3.7 Mutual funds and index exchange trade funds

The performance of mutual funds and ETFs are related to the benchmark index returns such as S&P 500. Mutual funds have in addition tended to underperform the market, gross and after management expenses have been deducted (Malkiel, 1995). The management expenses in mutual funds are biting a massive slice from the profit margin, which does not happen on the index ETFs. The exchange traded index funds tend to imitate the index with a low management expenses and traditionally only loses that margin to the benchmark indices.

It is almost safe to say that generally ETFs and mutual funds are always losing to the benchmark indices, both by the their management expenses. In ETFs the expenses are pressed to minimum and those can be considered the best alternative, when trying to achieve the results of a certain index (Kaartinen).

3.8 Balance of risk and return

When it comes to the risk and return, everything depends of the investor's preferences such strategy, wealth and most importantly willingness to take risk in order to gain returns. Investing to index ETFs exposes investor mainly to the market risk, which is the value that investments changes due to moves in the market risk factors. Typical market risk factors are interest rates, stock prices or foreign exchange rates, called FX (Embrechts, Furrer & Kaufmann, 2006). Investing to index ETFs also has a diversifiable risk, but as the ETFs are well constructed to imitate certain index, and holds variety of stocks, the allocation of stock in the ETF is wide, and the diversifiable risk is reduced to minimum.

At hedge fund industry the market risk is often neutralized. Market-neutral hedge funds look for pricing inefficiencies between related equity securities and simultaneously neutralize their exposure to the market risk. The risk that those funds expose is the diversifiable risk, which is also known as unsystematic risk. Following the strategy and hedging against the risk does limit the performance during the bull market as the fund cannot bet all its assets for increasing markets.

The Figure 7 below compares the recovery of hedge funds and benchmark index S&P 500 after the financial crisis. The values illustrated on the Figure 6 are real values of the indices. The time period is chosen from the highest ending value of a month before the financial crisis until the month when the S&P 500 reached the level what it was before the crisis, and simultaneously reached the Credit Suisse Hedge Fund Index. The graph shows the how does the bull and bear markets affect the performance of these indices, and what is the influence of market risk.

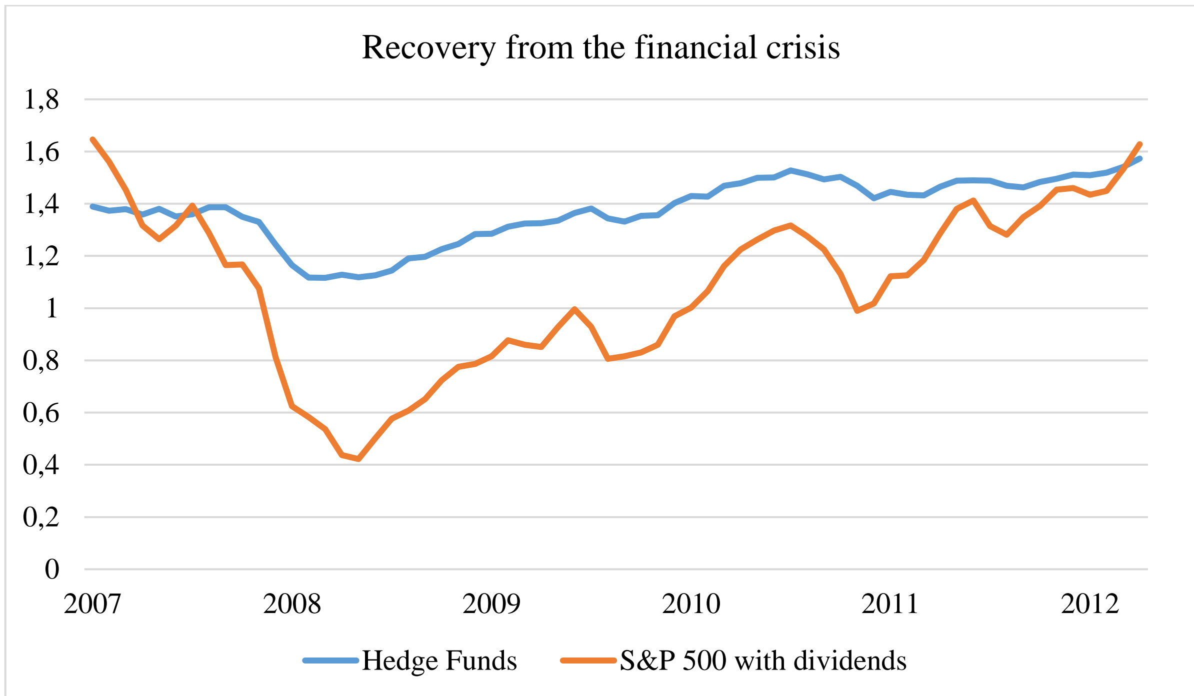

Figure 7. Recovery from the financial crisis, CS Hedge Fund Index vs. S&P 500 with dividends re-invested.

Source: Macrotrends (2017) & Credit Suisse (2017) & Multipl (2017)

From the highest peak before the financial crisis, hedge funds did lose value approximately 20% in just under a year. The benchmark index S&P 500 lost nearly half of the value meantime. The recovery from the crisis took hedge funds took another year, but the S&P 500's recovery to the same level as it was before the crisis took over four years. It is an example of the effect of a market risk. Hedge funds that, most of them are hedging against market risk kept up with their performance during the crisis and recovered rather quickly. The benchmark indices that are totally exposed to the risk, experienced a meltdown and it took many years until the same level was reached.

CONCLUSIONS

Since the original concept created by Alfred W. Jones, hedge funds have come a long and uncertain path. From the silence and secrecy of hedge funds to the huge headlines of Soros and Robertson, when big audience thought that the time of the hedge funds is over. The history has been interesting and colorful. Over a decade later, hedge funds are still around, more numerous than ever and the industry is still growing. The pioneers have left their seats, but there are thousands of new managers that have replaced them. The chargeable performance fees attract managers mainly from investment banks and asset management firms, but only few of them succeed, many of only survive and several do not make it. The industry is brutal, as markets are zero-sum-game.

As hedge funds are generally protected from market reactions, are people and investors from different fields considering investing in them. Most of the thoughts are alike since hedge funds generate profits from bull and bear market. Some think thought that the hedge fund managers are just high-rollers that should stay at casinos. Economist and central bankers grate hedge funds for their stabilizing role as liquidity providers and their acting as a balance against the general flow. The strategies that hedge funds use may vary a lot, but generally they provide profits in most of the market circumstances, and bring even higher returns to the table than traditional mutual funds. This makes the world of hedge funds so interesting and worth of studying and investing.

The results of comparing the performance of different funds during a bull and bear market depends on the time-lapse. As stock market is an unstable environment where market can practically meltdown in minutes, adjusting the risk to a comfortable level is the solution to a peaceful mindset.

Performance itself regarding the funds differ a lot depending of the amount of risk, exposure and the management fees. Mutual funds and index funds often tend to have higher management expenses than index ETFs, but hedge funds overrule other fund types in high expenses. The essential differences between the fund types is the strategy or the management, whether the fund is actively managed or passive. Actively managed funds tend to have higher fees but the managers are acting in case of sudden events in the markets. Active managers also regularly update the portfolio to match the strategy, allocation and size of investment in certain assets in the given guidelines to achieve the best possible returns. Passive funds have low expenditures, but they are following strictly indices in their guidelines, traditionally giving returns similar than in the markets.

Market exposure varies with the fund type, as actively mutual funds, ETFs and index funds strive to invest their assets long in the market, simultaneously exposing their assets for market risk, when some hedge funds aim at only exposing their assets to the diversifiable risk. Returns from the funds depends a lot of the manager and the strategy but as well of the market conditions. As the research illustrates, benchmark indices and the ETFs following the indices are generating the highest returns when the market is bullish and the producing market condition has lasted long enough. When the markets are unstable and facing major setbacks, the effects also reflect to the indices and it takes long for them to recover to the state that they were before the events. If the market faces several setbacks in a short period of time the index ETFs, mutual funds and index funds are experiencing hard times.

Most of the hedge funds cannot respond to the performance of benchmark indices or even mutual funds during a long bull market due their protection against the risks. Hedge funds are focusing to follow their preset strategies which allows them to seek for returns from other sources than market conditions. Various strategies that hedge funds are following are complicated, but they have evidence of managing the strategies with reasonable returns whatever the market conditions are. During an unstable market conditions it is clear that the majority of hedge funds are the outperforming category of the investment funds as the allocation and the protection against the market risk lowering the total risk of hedge funds into the diversifiable risk.

Investors seeking for their type of funds should think what kind of risk tolerance and market exposures they are able face, how rapidly growing returns they are expecting from the funds and what kind of fees are they willing to pay for the returns. Investing to a hedge fund is hard for regular people, but institutions and known investors with a capability and understanding are accepted as an investors. Passive ETFs and actively managed investment funds are easily reachable and often recommended by investment advisors. But in the end it all comes to the preferences of individual investors.

REFERENCES

Brunnermeier, Markus K. (2008). Deciphering the liquidity and credit crunch 2007-08. National Bureau of Economic Research

Calamos, N.P. (2011). Convertible arbitrage: insights and techniques for successful hedging.

Choe, Stan. After years of faltering, stock pickers see signs of hope http://news.morningstar.com/all/associated-press/024c18b29a8b48ac951c97c0c8f5a70d/after-years-of-faltering-stock-pickers-see-signs-of-hope.aspx (25.03.2017)

Connolly, C. and Hutchinson, M.C. (2010). Dedicated Short Bias Hedge Funds–Just a one trick pony?

Credit Suisse Asset Management LLC. https://lab.credit-suisse.com/#/en/index-nav (08.04.2017)

Credit Suisse/Tremont Hedge Fund Index, September 2008 http://www.hedgeindex.com/hedgeindex/documents/Broad_Index_Factsheet.pdf (14.12.2016)

Eigner, P. and Umlauf, T.S. (2015) The Great Depression(s) of 1929-1933 and 2007-2009? Parallels, Differences and Policy Lessons. Hungarian Academy of Science MTA-ELTE Crisis History Working Paper No.2

Embrechts, S. and Paul and Furrer, H. and Kaufmann, R. (2006) Different Kinds of Risk. https://people.math.ethz.ch/~embrecht/ftp/PE_HJF_RK_2006.pdf (14.04.2017)

Foxman, Simone. More Hedge Funds Shut Last Year Than Any Time Since the 2008 Crisis https://www.bloomberg.com/news/articles/2017-03-17/more-hedge-funds-shut-last-year-than-any-time-since-2008-crisis (25.03.2017)

Ineichen, A. and Warburg, U. B. S. (2001) The myth of hedge funds. - Journal of Global Financial Markets 2.4 p. 34-46.

Kaartinen, A. Analyst for FIM. Author of: ETF: Avain monipuoliseen sijoittamiseen 2012. E-mail. (12.4.2017)

Kole, E. and Van Dijk, D.J.C. (2010) How to Identify and Predict Bull and Bear Markets?

Lhabitant, F.S. and Anson, M. (2007) Handbook of hedge funds

Lowenstein, R. (2000). When genius failed: The rise and fall of Long-Term Capital Management. Random House LLC.

Macrotrends. http://www.macrotrends.net/2324/sp-500-historical-chart-data (01.04.2017)

Malkiel, B.G. (1995) Returns from Investing in Equity Mutual Funds 1971 to 1991, the Journal of Finance

Multpl S&P 500 Dividend Yield by Year http://www.multpl.com/s-p-500-dividend-yield/table (14.04.2017)

Rompotis, G.G. (2010) Active Versus Passive ETFs: An Investigation of Bid-Ask Spread. IUP Journal of Applied Finance. p.5-25.

Schizas, P. (2014) Active ETFs and Their Performance vis-à-vis Passive ETFs, Mutual Funds, and Hedge Funds. Journal of Wealth Management. p.84-98.

Sorkin, A.R. Buffett Asks Big Money: Why Pay High Fees? https://www.nytimes.com/2017/02/27/business/dealbook/buffett-asks-big-money-why-pay-high-fees.html?_r=0 (25.03.2017)

State Street Global Advisors https://www.spdrs.com/library-content/public/Actively_Managed_ETFs_versus_Actively_Managed_Mutual_Funds.pdf (01.04.2017)

Stulz, R.M. (2007) Hedge Funds: Past, Present, and Future. Journal of Economic Perspectives—Volume 21, Number 2 p. 175–194

U.S Securities and Exchange Commission https://www.sec.gov/answers/hedge.htm 14.12.2016

U.S Securities and Exchange Commission https://www.sec.gov/investor/pubs/sec-guide-to-mutual-funds.pdf (25.03.2017)

Vanguard research. Understanding synthetic ETFs. https://pressroom.vanguard.com/content/nonindexed/6.14.2013_Understanding_Synthetic_ETFs.pdf (01.04.2017)

APPENDIX

Appendix 1. Transcript of an Interview of Aaron Kaartinen

Author: How does the index exchange trade funds perform in a bull and bear markets?

Aaron: In general, ETF products are referred to passive products that are following the index, reaching for the “market” –profit. These kind of products perform generally averagely, providing the market profit. In these cases, the over- and underperformance basically cannot be generated. By active investing, it is possible to make over- or underperformance (compared to index), but in total the sum equals also to the market profits. Shortly; passive index ETF does always perform like indices, in bull and bear markets.

Author: What are benefits from investing to exchange trade funds, compared to investing to a fund or picking up single stocks?

Aaron: Benefits of passive market indices –following strategies are low costs and the features of long term market profits and risks, as it is possible to know what you get. Over performance is not possible to achieve like this. With ETFs, it is possible to perform active strategies, when the benefits of certain strategies (for example sector rotations) are efficient implementation, liquidity and low costs.

Author: When compared hedge funds that are protecting themselves from market risk, and ETFs that are in full position for long stocks, is it reasonable to invest to a hedge fund with a lower return expectations?

Aaron: Question is hard to answer without knowing the preferences of investor's risk and return ratios and the objected hedge funds. There are plenty of hedge fund strategies so it might not be realistic to compare these in such general way. It is very possible that the investor's preferences (risk tolerance, time span and correlations) lead to an optimal allocation that includes index ETF products and hedge funds, or just one of the two, or neither ones.

Author: If we look for market neutral hedge fund, that has positions in long and short approximately same amount and this way neutralizes the market risk "totally", and the profits are gained from mispriced stocks and volatility is higher, but the return expectations are still lower than a lots of market risk included ETFs in bull market, can you see reasonable to add a slice of that hedge fund to your portfolio if investing to a hedge fund would be easy?

Aaron: High returns and low risk is a very good thing. Question really is that, is the fund really generating positive alfa in the future. Certain strategy can also generate only negative alfa without any market beta returns.