Research on the Application of Hedge Fund

Yidi Zhang*

School of Business, Macquarie University, Sydney, 2109, Australia

*Corresponding author: yidi.zhang2@students.mq.edu.au

Abstract. Hedge funds or hedging funds are financial institutions that use hedging trading tactics. It refers to financial money intended to generate profits after merging financial derivatives like financial futures and financial options with financial institutions. It falls under the category of an investment vehicle and is known as a "risk-hedged fund." In this article, the author is concerned about the background, related research, objective, method and data, results, discussion and conclusion. Different investment strategies and theories, such as stock selection and valuation and momentum strategies for stocks and commodities, are discussed in the article. The author uses Stocktrak platform to do some virtual investments and experiments and especially emphasizes the three best trades and the worst trade in the whole investments. Based on those experiences, the author concludes and discusses the application of the hedge fund and mentions the significant role that the overall market and economy play in investments.

Keywords: Hedge fund; Beta; PE ratio.

1. Introduction

Funds that employ hedging trading strategies are referred to as hedge funds or hedging funds. Financial institutions are combined with financial derivatives like financial futures and financial options and it refers to financial money intending to produce profits. It is a type of investment vehicle, and the term "risk-hedged fund" describes it. These ideas go beyond the standard procedures of mitigating risks and ensuring profits. The legal bar for starting and establishing hedge funds is also significantly lower than it is for mutual funds, which raises the risk even more.

According to the hypothesis, long/short equity hedge funds are compensated by directional and spread bets on the stock market. Empirical evidence suggests that there are continual exposures to both the market as a whole and the distinction between small and large company stocks. Over 80% of return variance may be accounted for by these factors when combined. Additionally, there are elements like price momentum and market activity. The model is the first to specifically take into account how financing (stock loan) affects alpha, combining two crucial areas of hedge fund research [1]. Eight distinct investing methods were adopted by these funds. The quantity of these returns differed greatly depending on the investing strategy. These results, together with the fact that managers at hedge funds with greater incentive fees receive higher excess returns, endorse the idea that fund manager expertise may be a contributing cause to an association between manager incentive fees and excess returns [2]. This addition is particularly appropriate for all funds and more than half of the categories of hedge funds. There is little indication of performance persistence, with the exception of the extreme performers, according to the performance of hedge funds over a variety of specific strategies [3].

The authors generate unreported returns for a commercial hedge fund database and look at the possibility of bias in publicly available data. It was shown that funds perform considerably better than those that do not when performance records are submitted to commercial databases. According to findings, the freely reported performance in commercial databases exhibits selection bias, which might lead to an overestimation of the degree of expertise across the board for hedge fund managers [4]. The Capital Asset Pricing Model (CAPM) alpha performs better in explaining flows than alphas from other complicated models. This demonstrates how to mix profits from exposures to conventional (risks outside of the market), exotic, and sophisticated model alpha. The authors discover no evidence of standard or exotic risks' performance holding up over time, which serves as a caution against the behavior of investors hunting new risk exposure [5]. Incentives or performance fees for money managers sometimes contain high-water mark clauses that condition payment on achieving the maximum attainable share value. The authors of this essay show how important fees are to managers and how much of an impact they have on investors. The high-water mark issue has a closed-form solution provided by the authors. (An earlier version of this item's abstract served as the basis for this one) [6].

Performance cannot be completely explained by the incentive fee percentage rate alone. Furthermore, the authors demonstrate that greater managerial control, as demonstrated by lengthier lockup, notice, and redemption periods, outperforms their peers. When accounting for numerous data-related biases and using alternative performance indicators, these conclusions remain valid [7]. Returns are divided into three parts. Hedge funds are incapable of forecasting market trends or making wiser stock selections. Surprisingly, they only find shaky evidence of competence differences among hedge companies. Overall, the study seriously questions the apparent superior competence of hedge fund managers [8]. The chapter explores the cross-section and time series of leverage used by hedge funds. Economic variables are often more predictive of hedge fund liquidity fluctuations as opposed to fund-specific features. Particularly, rising market prices and finance costs signal a rise in hedge fund leverage. Leverage will likely increase over time as portfolio abnormal returns declines [9]. The essay provides an introduction to Sharpe's return-based style analysis in practice. The authors emphasize how important it is to select the right style standards and how doing so might lead to inaccurate conclusions. When using style analysis for sector-oriented funds, segment or industry index should be added to the collection of standards [10].

This paper mainly focuses on the hedge fund, especially the application of hedge funds. The article aims to discuss many investment methods and ideas, including stock selection, valuation, and momentum tactics for stocks and commodities. The author makes several hypothetical investments and tests using the Stocktrak platform, focusing in particular on the three best deals and the worst trade overall. The author draws a conclusion from these experiences, examines the use of hedge funds, and notes the important role that the economy and market as a whole play in investing.

2. Method and Data

A market-neutral trade is to find two stocks that have a similar beta. The higher the beta, the more the returns. PB (Price/Book value) and PE are financial indicators. For PB and PE, the smaller, the better, because the less stock you have, the higher the value of the physical items you have, but that depends on different industries so it is better to discuss different PB/PE based on different industries. We seldom invest only one thing, in other words, we diversify our assets to reduce the risk while gaining a higher return. Different industries have different criteria, for example, banks usually have a higher PB/PE ratio than manufacturing companies so we need to compare two stocks in the same industry. PEG, which equals PE/G (G is annual profit growth rate *100). Though PE/PB ratio is different in different industries, G is different in different industries, too. When talking about PEG, it is not likely to divide stocks into different industries. PEG is just a reference index. PEG, which equals PE/G (G is annual profit growth rate *100), was invented by Jim Slater and the initial design of PEG was used for analyzing growth stock instead of mature stock, so PEG investors will put more attention to investing in a growth stock. It is not suitable to use PEG to measure mature stock. Companies with low p/E ratios and high growth rates typically have very low PEG. PEG rule holds that the smaller the PEG value, the better the stock. For PEG less than 1, the stock is likely to be undervalued, so when the PEG is less than 1, PEG investors can invest in the stock.

3. Results

3.1 The worst trade (Westpac banking & Steadfast Group Insurance)

The worst trade is a value trade. With its headquarters in Sydney, Australia, Westpac Banking is an Australian bank and supplier of financial services. It is the country's earliest and oldest financial organization and one of the "big four" banks in Australia. The largest underwriting agency group and insurance broking network in Australia are both parts of the steady company. They have the same beta. But Westpac banking has a 14.18 PE ratio while Steadfast group has a 25.37 PE ratio. A lower PE ratio has a lower risk to investment so researchers long the Westpac banking and short the steadfast group. However, the study has a terrible rate of return, which is negative 77%. Last week, the researcher got a positive return on the short position but this week the researcher lost money on both sides.

Table 1. The results of financial ratio and investment choice

	Westpac Banking	Steadfast Group
PE ratio	14.18	25.37
position	long position	short position

3.2 Trade

The best trade 1 (Microsoft & Allstate). The first one is buying a bond and shorting a stock. The bond the researcher long is Microsoft with a $1000 face value, 5.2% interest rate, and the maturity is in the year 2039. The reason why the researcher long it and short Allstate insurance corporation is Microsoft has a triple-A credit rating and Allstate has a triple B credit rating. The reason why the researcher shorts a stock instead of shorting a bond is bond market is less risky but more skewness. The stock market has higher volatility. Two weeks before, the researcher bought Microsoft but lost money. Recently, the American overall market is performing better so the researcher earns money on the long position instead of losing money.

Table 2. The results of position and credit rating

	Microsoft (stock)	Allstate (bond)
position	long position	short position
credit rating	AAA	BBB

The best trade 2 (ANZ & Commonwealth). One of Australia's top four banks, Australia and New Zealand Banking Group Limited, was established in 1835 and has its headquarters in Melbourne. The bank primarily offers conventional customer banking services and financial solutions to its clients. Commonwealth bank of Australia is an international financial services company, founded in 1911, with its headquarters in Sydney. ANZ has a 0.91 beta, Commonwealth has a 0.74 beta. The beta they have are similar and they are in the same industry so it is possible to take the PE ratio into consideration. The PE ratio of ANZ is 9.78, and the PE ratio of the commonwealth is 14.73. For PB and PE, the smaller, the better, because the less stock one person has, the higher the value of the physical items is, but that depends on different industries, it is better to discuss different PE ratios based on different industries. The PE ratio of ANZ is smaller so the researcher long ANZ and short commonwealth. The rate of return of this trade is quite high. The volatility of ANZ is 0.015026, which is smaller than the commonwealth’s volatility.

Table 3. The results of position and financial ratios

	ANZ	Commonwealth
position	long position	short position
beta	0.91	0.74
PE ratio	9.78	14.73
volatility	0.015026	0.018338

The best trade 3 (Coles & BHP). Coles is one of the biggest supermarkets in Australia. It has a beta of 0.82 and a PE ratio of 8.44. BHP is a global corporation with its headquarters in Melbourne that focuses mostly on energy and minerals. It has a beta of 0.12 and a PE ratio of 24.11. BHP has a volatility of 0.0197 while Coles has average volatility of 0.0158. The last several months have seen Coles perform well, and this is proof of that success and it shows a sign to keep performing well in the next few weeks. As a result, the researcher long Coles. BHP is not a momentum stock. A momentum stock is a stock that keeps acting very well or acting badly in recent months.

Table 4. The results of financial ratios

	Coles (momentum stock)	BHP
beta	0.82	0.12
PE ratio	8.44	24.11
volatility	0.0158	0.0197

4. Discussion

For the three best trades, the first improvement is for some certain trades, it is possible to try to make two short positions in order to make comparisons. The second improvement is looking into more information before making decisions, instead of only thinking about PE ratio, beta, etc. The last improvement is that trying to trade more quantities will be better. For the worst trade, it is necessary to consider the overall market. Also, before using the strategy to make decisions, it is better to be familiar with the strategy. It is also necessary to put inflation into consideration. The higher the inflation, the higher the interest rates. Inflation decreases the value of bonds. The stock market's response to inflation is determined by the intensity of the inflation. Stock prices will rise with mild inflation, moderate inflation will cause the stock market to decline, and malignant inflation will cause the stock market to crash.

5. Conclusion

It’s better not to short a high PE ratio. Also, the PE ratio is better to be considered in the same industry so do not look too much at the PE ratio for the trade that is not in the same industry. Next, the insurance company has more s table volatility than the bank. Last, it is better to consider the whole market. In the last few weeks, Australia’s economy didn’t perform well. Based on that circumstance, there is no wonder that Westpac banking didn’t perform well too.

References

[1] Fung, W., Hsieh, D. A.: The risk in hedge fund strategies: theory and evidence from long/short equity hedge funds. Journal of Empirical Finance, 18 (4), 547 - 569. (2011).

[2] Edwards, F. R., Caglayan, M. O.: Hedge fund performance and manager skill. Journal of Futures Markets, 21 (11), 1003 – 1028. (2001).

[3] CG Hübner.: Analysis of hedge fund performance. Journal of Empirical Finance. (2004).

[4] Aiken, A. L., Clifford, C. P., Ellis, J.: Out of the dark: hedge fund reporting biases and commercial databases. Review of Financial Studies. (2012).

[5] Agarwal, V., Green, T.., Ren, H.: Alpha or beta in the eye of the beholder: what drives hedge fund flows?. Journal of Financial Economics, 127 (3), 417 - 434. (2018).

[6] Goetzmann, W. N., Ingersoll, J. E., Ross, S. A.: High-water marks and hedge fund management contracts. Yale School of Management Working Papers. (2001).

[7] Agaewal, V., Daniel, N. D., Naik, N. Y.: Role of managerial incentives and discretion in hedge fund performance. Journal of finance. (2009).

[8] Griffin, J. M., Xu, J.: How smart are the smart guys? a unique view from hedge fund stock holdings. Review of Financial Studies, 22 (7), 2531 - 2570. (2009).

[9] Ang, A., Gorovyy, S., Inwegen, G. B. V.: Hedge fund leverage. NBER Working Papers. (2011).

[10] Dor, A. B., Jagannathan, R.: Understanding mutual fund and hedge fund styles using return-based style analysis. Nber Working Papers, 1 (1), 63 - 108. (2002).