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Does Buffett's Value Investing Strategy Really Work Well, Especially During the 2020 Epidemic? Evidence from the American Stock Market

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Abstract: Warren Buffett's value investing strategy is famous around the world which is regarded as the key reason for his success. But due to the huge losses incurred by Buffett and Berkshire Hathaway during the 2020 epidemic, some people start to doubt the validity of the value investing strategy. Therefore, the research questions in this paper focus on the quantification, validity, and robustness of Buffett's value investing strategy in the American stock market. Consequently, three results are drawn from this research: following the idea of Buffett's value investing strategy, the B-score constructed by 6 sub-indexes can be used to quantify the stock's value; the B-score had a decent ability to predict stock's future returns from 2015 to 2019, which infers the validity of value investing strategy when the economy is booming; the B-score lost the ability to predict stock's future returns in 2020, but this result is not adequate to deny the robustness of Buffett's value investing strategy when facing the extreme situations like the 2020 epidemic for many reasons, which are discussed at the end of this paper.

Keywords: Value Investing Strategy; Buffett; American Stock Market

1. Introduction

Warren Buffett is one of the most successful investing masters in the world. From 1976 to 2011 when he played the role of the leader of Berkshire Hathaway, he realised a nearly 0.8 annualized Sharpe ratio which is almost once bigger than that of the whole market. Therefore, in recent years more and more researchers started to study Buffett's investing strategy, wanting to find out the mystery behind it. However, as ILIE (2020) disclosed, because of the impact of COVID-19 and the operation of Buffett and Berkshire Hathaway [1], they also incurred tens of per cent of loss on his investment portfolio within only 3 months, which exceeded 5 billion. And this serious loss causes doubt from the public about Buffett's investment strategy.

2. Literature review

2.1 How to model Buffett's value investing strategy

Since Benjamin Graham and David Dodd first taught the investment philosophy in 1928, many value investing strategies have been created. Among them, Buffett's value investing strategy is one of the most popular. And so far, many previous studies have shown that the value investing strategy taken by Warren Buffett is a good ideology when constructing the investment portfolio. However, Piotroski (2000) noticed that value investing strategy was not easy to use. He found that over reasonable periods, most of the stocks included in the value portfolios that were created by using simple multiples containing stocks' price-to-earnings, price-to-sale, price-to-cash flow, and price-to-book ratio even actually underperformed the market. Therefore, the most important part of value investing is how to model the value strategy. And so far, many

researchers have put forward their ideas. Bird and Gerlach (2003) used numerous indexes including return on asset, accrual to total assets change in leverage [2], and so on to model the value investing in Australia and America. However, their indexes were all about the companies' quality and ignored the risk of the stocks. Based on the analyses to the balance sheets and 13-f filings of Berkshire Hathaway, Frazzini (2013) found that the success of Buffett's investment was highly relevant to a steady value investing strategy, i.e., Buffett liked investing in the stocks which were cheap, safe and quality. However, Frazzini (2013) did not tell which indexes could be used to measure these "safety, cheapness and quality" for each stock. Yao and Wu (2014) also did relevant analyses, and they found that if we took both fundamental and valuation indexes like total asset turnover ratio [3], increase rate of sale revenue, and so on into consideration, we could get a significantly higher excess return, especially in the long run. Nevertheless, they only focused on the companies' fundamental indexes but neglected the market indexes like CAPM beta. After that, Hu and Gu (2018) did further research on the Chinese market using Frazzini (2013)'s idea. They succeeded in constructing a synthetical index called B-score to reflect the safety, cheapness, and quality of a stock by using both fundamental and market data. And they proved that this B-score had significant power to predict the stock's excess return. What is more, they showed that their synthetical index kept working well even during 2015-2016, a terrible stock market crash in China. But even though they did the complete analyses by taking into both fundamental and market factors to evaluate all 3 aspects, i.e., quality, cheapness and safety of the stocks, their studies were based on the Chinese stock market. Because of the large difference between the Chinese and American financial market, the perfect indexes for the Chinese market may be not reliable for the American market any longer, which means that the indexes specializing for the American market need to be found.

2.2 How to measure "quality, cheapness, and safety" of stocks

For the question of which indexes can be used to measure the "quality, cheapness and safety" of stocks in the American stock market, many researchers have already put forward their ideas. Fama and French (1992) proved that the companies which had high book-to-market ratios (BM) on average had higher expected return. and Lakonishok (1994) showed that it may because investors are inclined to overestimate the value of companies which has low book-to-market ratios. Chan (2001) did the research and proved that the investor tended to underestimate the value of companies with high research and development expenses (R&D) because this item will decrease the profit in the current accounting period [4]. However, it would be possible to increase the companies' innovation and competitive ability and then increase the firm's value in the long term, which will bring unexpected higher returns. Therefore, the R&D expense is good measurements of stock's "cheapness". And this index was also adopted by Hu and Gu (2018), they showed these two indexes could work well based on data from the Chinese stock market. Soliman (2008) believes that the return on operating asset (RNOA) can reflect the company's profitability well and proved the strong positive association between stock returns and companies' RNOA. Besides, Kong (2010) contends that the ratio of annual capital disbursement to the total asset (CAPINT) and the ratio of the change of intangible asset to the total asset (RDINT) are good measurements of companies' growth ability [5]. And both growth ability and profitability are key features of the quality companies in Buffett's opinion. Therefore, these three ratios could be used to measure stocks' quality. Bali (2011) showed that the average of the biggest five returns of stocks in a month (MAX5) can be used to measure the stocks' idiosyncratic volatility well [6]. And because the investors prefer positive skewness of stocks' return, the stocks with extremely high MAX5 in this month usually have lower returns in next month. So, the MAX5 could be used to measure the safety of stocks.

2.3 Present debates on Buffett's value investing strategy

There are 2 key debates around Buffett's investing strategy, i.e., the value investing strategy. The first debate is about the choice of the indexes used to measure the value of the stocks. The availability of indexes depends on many factors, like government policies, rules of the financial market, local investor's preferences, and so on. So, the functions of the indexes would change over time and countries or regions. And that is why Piotroski (2000) found that the value portfolio which is created by using simple multiples including price-to-earnings ratio and other indexes would not bring higher returns, while Lu (2006) found that in the Chinese market price-to-earnings ratio and price-to-sale ratio could be used to predict the stocks'

future return well [7].

And the second debate is whether value investing could still work well during extreme situations. Hu and Gu (2018) proved that their value portfolio had still worked well during 2015-2016, the time of the Chinese stock crisis [7]. However, during last year, Buffett lost a lot due to the COVID-19 epidemic, and he is exactly the expert in using value investing strategies. Is it because Buffett conducted wrong operations or Buffett's value investing strategy itself has no different from other strategies when facing some types of extreme situations in America?

3. Discussion

3.1 Validity of Value Investing Strategy

This part answers mainly the question 1 and 2. In table 2, using the data before 2020, there are distinct increasing trends of the average monthly returns of stocks from group 1 (i.e., the worst group) to group 5 (i.e., the best group), and the gap between the monthly return of group 5 and that of group 1 is significantly large. Besides, in table 4, the regression results of the B-score are significantly positive. All these analysing results are like those regarded as signals of validity of value investing strategy by Hu and Gu (2018) in the Chinese stock market [8]. Therefore, the conclusion that the B-score constructed by MAX5, CAPINT, RDINT, BM, R&D, and RNOA in this research truly had the good ability to predict the stock's future return from 2015 to 2019 can be drawn, which proves the validity of value investing strategy. However, compared to the average monthly return of the S&P500 index, the figure of group 5 was not larger significantly before 2020. Additionally, as Manager Wang, one of the interviewees, said that if commission fees caused by monthly adjusting investing portfolios were considered, the monthly return of group 5 could be even lower. This means that this strategy was not able to beat the market during the investment horizon from 2015 to 2019 [9]. The other interviewee, a professional investor, disclosed the possible reason that the indexes used in this research were outdated. As a result, the excess returns created by using these indexes were already exploited by professional individuals or institutions around the world.

3.2 Robustness of Value Investing Strategy

This part mainly answers the research question 3. In the right part of table 2, using the data in 2020, there is no increasing trend from group 1 to group 5 for all sub-indexes and the B-score, and the gap between the value of group 5 and that of group 1 are not positive significantly, too. Additionally, in table 4, the regression results of the B-score are not positive significantly [10]. These means that the B-score failed to predict the stocks' returns in 2020. However, these results can only prove that the B-score constructed by the 6 indexes in this research lack robustness and cannot say that other potential indexes also lack robustness when facing the 2020 epidemic. As manager Wang said, the effects of the 2020 epidemic were quite relevant to industries. For example, the companies of online retailing like Amazon suffered less or even benefitted from the epidemic while the airline that had performed perfectly before the epidemic suffered a lot during the epidemic and experienced a jaw-dropping decrease in stocks' price. However, all 6 indexes used in this research are not able to distinguish the industries of stocks and evaluate which industry is better when faced with the epidemic. As a result, it is probable to see that the B-score become invalid in 2020.

Conclusion

In this research, 6 indexes were used to construct a synthetic index called B-score. And by further analyses, the results prove that the B-score had a decent ability to predict the stock's future return from 2015 to 2019 when the economy was booming in America. This result presents the validity of the value investing strategy in long-term investments. Even though the B-score became invalid in 2020, it does not imply the failure of the value investing. The reason is that the selection of indexes in this research is imperfect and limited when considering the epidemic. If more indexes related to this epidemic were chosen, the results like those found by Hu and Gu (2018) could be drawn. Besides, the target of value investing is to get stable returns from long-term investments, but the black swans like the 2020 epidemic are rare and short-term. Therefore, it is

inadvisable to ignore the benefit created by the value investing strategy from 2015 to 2019 and deny it due to the investment loss in the 2020 epidemic.

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