

Development of Futures Program Trading Strategy Based on Warren Buffett's Investment Performance

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ABSTRACT

It is the dream of investors to develop a stable and profitable futures program trading strategy. Based on the investment performance of Warren Buffett, that is, the annual compound rate of return is slightly higher than 20%, and combined with the simple principle of trading system and the principle of moderate optimization of trading system, three kinds of futures procedural trading strategies are developed. Ten years of historical market backtesting shows that the annualized compound interest rate is more than 20%, which is comparable to the performance of Warren Buffet, the God of stock. It provides a reference for financial investment to overcome the pitfall of the Holy Grail of transactions and achieve stable profits.

Keywords: *Warren Buffet, Investment performance, futures, programmed trading strategy*

1. INTRODUCTION

Stable profit is the dream of investors. Futures procedural strategy development is to find a long-term and stable method. However, the ideal is plump, but the reality is bony. In the financial market of more than 400 years, almost all the people who participated in the transaction had a history of making profits, but the length of time was obviously different. The vast majority of investors made profits in a very short time! According to statistics, the survival rate of trading futures in three years is less than 3%, which is dozens of times harder than fighting cancer. Of course, there are also a variety of meteor stars in the transaction, as well as a small number of investment longevity, and a number of excellent trading ideas condensed into the trading system.

In the investment world, there are more meteoric stars than longevity stars. Throughout the history of human trading, how many trading stars, short-term wealth, proud performance, but the vast majority of the good time is not long, meteoric style. The investment situation of institutional investors is also not optimistic, such as the loss of all equity funds in 2018 [2]. The famous chuangeli Livermore in the investment field has experienced ups and downs in his investment practice. He has reached the top for several times and fallen into the abyss several times. His meteoric life is the representative of many investment stars [3].

Comforting is that human investment has also appeared longevity, the most typical of which is Warren Buffet. The annual average income of each period: during the 13 years of the partnership stage (1956-1969), the accumulated profit was 28.94 times, and the annual compound rate of return was 29.4%. During the 42 years from 1956 to 1998, the compound annual rate of return was 26.2%. Since 1999, its investment performance has declined significantly. During the 18 years from 1999 to 2016, its

accumulated profit was 4.56 times, and the annual compound rate of return was 8.79%. Only in 1976 did the yield exceed 50%. Only in 2001 and 2008, the yield was negative, and the remaining years were positive. During the 60 years from 1956 to 2016, the compound annual yield was 21.38%.

In fact, if there is a holy grail of trading, from the Holy Grail point of view of Warren Buffett's investment performance: the average annual return of Warren Buffett is only two more limit boards of the stock! However, it is this achievement that has created the longest life record of human big capital investment. For a consecutive year, the compound annual rate of return is 21.38%, no one is better than that! This is the record of human investment limit so far [4]. As a result, Mr. Buffett has become the person with the largest financial investment income, ranking at the top of the global rich list several times.

In addition to the meteor star and longevity star of investment Warren Buffett, there are also a group of bright stars who have been developing sophisticated trading systems to show their talents in the foreign exchange market. The foreign exchange market is the largest trading market in the world, with trading volume far exceeding the sum of futures and securities markets. Every year, there are ten trading systems on the Internet every year, ranking according to the annual profit rate. For example, the top 10 annual system returns of 2010 are shown in the table. However, these systems can not be effective for a long time. The ranking changes every year, which shows that these trading systems are unstable and cannot be effective for many years.

From 1956 to 2016, the miracle of 21.38% compound annual return rate has brought us good news for the development of our futures procedural strategy. We can use this rate of return as the starting point of strategy development, and we can easily find such strategy, so as to achieve the effect of stable profit in the growth period.

There is no holy grail of trading. We should seek the method and strategy to stabilize the profit instead of wasting energy to find the Holy Grail which does not exist. This will be a qualitative breakthrough for investors' investment philosophy, investment level and investment income. Therefore, this paper discusses the development principles of the futures procedural strategy based on Warren Buffett's investment performance and the case of the futures procedural strategy. The experimental results prove that the development idea of the futures procedural strategy based on Warren Buffett's investment performance is feasible, and the profit-making effect of the futures programmed trading strategy can be comparable to that of Warren Buffett's investment performance.

2. THE DEVELOPMENT PRINCIPAL OF FUTURES PROCEDURAL STRATEGY BASED ON WARREN BUFFETT'S INVESTMENT PERFORMANCE

2.1. Principle of 20% Compound Annual Rate of Return

Facts have proved that Mr. Buffett's investment performance has created the longest record of human big capital investment, with a successive A-SON and an annual compound rate of return of 21.38%! This is the limit of human investment so far. As a result, Mr. Buffett has become the person with the largest financial investment income, ranking at the top of the global rich list several times. To be higher than the performance of Warren Buffett, it is very difficult. Whether it is to increase the complexity of the system or the position, it is difficult to achieve. On the contrary, if we want to speed up, we will not achieve it.

2.2. Simple Principle of Trading System

The simpler the trading system is and the less freedom is occupied, the more adaptable the system will be to market changes. On the contrary, the more complex the system is, the more the degree of freedom is occupied, the more constrained the system will be, and the overall deviation will increase. Some people think that the more factors to consider, the more complex the system, the higher the winning rate. In fact, this is not the case. The chaos and uncertainty of the market are just trial and error. If the system is not simple enough, the conditions will be ambiguous, it is difficult to form a pattern, which is not conducive to programming, even if the manual transaction, it is difficult to implement. At the same time, if the trading system is too complex, the fault tolerance is very poor. In fact, the typical positive income trading system is almost all very simple, expressed in Chinese and wheat language, only a few to dozens of lines of code. The core of trading

system is risk control and trend following. The simpler the strategy is, the more profound the understanding of trading is.

2.3. The Principle of Moderate Optimization of Trading System

Trying to get rich and over Optimizing trading system, is a classic optimization trap in the development of procedural strategy. Over optimization, can be called a perfect backtesting capital curve, but only for the past market data. The adaptability to the future market is often poor, that is, the so-called poor robustness. Such a system is meaningless. The principle of optimization must not change the trading system's deep understanding of trading, and only make few adjustments in some details. For example, the follow-up moving average trend following system, the principle of moving average trend tracking: when the closing price is greater than a certain moving average, when the closing price is less than a certain average, short. This system has a profound understanding of trading and its expression is extremely concise. In the trend market, the effect is very good, but in the concussion market, the closing price repeatedly crosses the moving average, repeatedly open positions and close positions, many small gains and small losses. Two methods can be used to filter the repeated opening and closing positions of the shock Market: the number of K lines crossing the moving average is increased from 1 to 4, and a larger moving average is added. The closing price is not short on the upper side of the big average, but not long on the lower side. In this way, a number of trading opportunities are reduced and the winning rate is improved. These two changes not only respect the core idea of the system, but also improve the details, which are more appropriate optimization. The practical results prove its effectiveness.

3. FUTURES PROCEDURAL STRATEGY CASE

In the long-term practice of financial transactions, human beings have developed some classic trading systems with positive returns, such as moving average trend tracking system, adaptive moving average system, adaptive Tang Ji'an channel, ATR breakthrough trend system, dual There are three strategies, namely, MACD combined with weighted moving average strategy, ATR plus position and floating win model, kinkentner trading system, parabolic time price trading system, thermostat system and gumpi average system. Of course, in specific use, there are not many people who can produce stable income, even if the position is slightly heavy, it may burst. This is mainly due to the misunderstanding of the strategy and the high expectation.

Through different position tests, it is found that the best position is in the case of no leverage, and there is almost no burst. A high position is very easy to make a sudden

profit or burst in the extreme market, such as 70% of the position. The test shows that almost all strategies are easy to burst.

3.1 Strategy Model Selection

In the above-mentioned trading system, we select several good strategy models: moving average trend tracking model, MACD combined with weighted moving average strategy model and kinkentner trading system model, and test them after moderate optimization.

3.1.1 Moving average trend tracking model

The moving average is a simple moving average or an arithmetic average

N day $Ma = \text{sum of closing price on } N \text{ Day} / N$.

The trend tracking model of moving average is programmed and optimized as follows:

```
MA10:MA(C,100); MA30:MA(C,170);
MA30&&EVERY(C>=MA10,4),BK;
C<MA30&&EVERY(C<MA10,4),SK;
EVERY(C>=MA10,4),BP;
EVERY(C<MA10,4),SP;
AUTOFILTER.
```

3.1.2 MACD combined with weighted moving average strategy model

MACD (moving average convergence and divergence) is a technical index proposed by Gerald Appel in 1979. It uses the aggregation and separation between the short-term (commonly used 12 day) moving average and the long-term (commonly used 26 day) moving average of the closing price to study and judge the timing of buying and selling [6].

The optimized model of MACD combined with weighted moving average strategy is as follows:

```
H1:=EMA2(HIGH,5);H2:=EMA2(HIGH,10);
H3:=EMA2(HIGH,20);H4:=EMA2(HIGH,30);
DIFF:=EMA(HIGH,12) - EMA(HIGH,26);
DEA:=EMA(DIFF,9);MACD1:=2*(DIFF-DEA);
L1:=EMA2(LOW,5);L2:=EMA2(LOW,10);
L3:=EMA2(LOW,20);L4:=EMA2(LOW,30);
DIFF1:=EMA(LOW,12) - EMA(LOW,26);
DEA1:=EMA(DIFF1,9);MACD2:=2*(DIFF1-DEA1);
MA1:EMA(C,120);MAU:EMA(C,120)+O/100;
MAD:EMA(C,120)-O/100;
H1>H2&&H2>H3&&H>H4&&MACD1>0&&C>MAU,
BK;
L1<L2&&L2<L3&&L<L4&&MACD2<0&&C<MAD,S
K;
H2<H3,SP;L2>L3,BP;AUTOFILTER.
```

3.1.3 Kinkentner trading system model

Kinkentner system is based on the moving average line of the average value of the highest price, the lowest price and the closing price, and produces a channel formed by the moving average clues of the highest price and the lowest price at every moment. Break through the upper track to be long; the lower track to short. It belongs to medium and long-term channel breakthrough trading system. The model of kinkentner trading system is optimized as follows:

```
TR:= MAX(MAX((HIGH-LOW),ABS(REF(CLOSE,1)-
HIGH)),ABS(REF(CLOSE,1)-LOW));
MOVAVG:=MA((H+L+C)/3,40);
TRUERANGE:=REF(MA(TR,40),1);
UPBAND:=MOVAVG+TRUERANGE;
DNBAND:=MOVAVG-TRUERANGE;
REF(MOVAVG>REF(MOVAVG,1),1)&&C>=UPBAND,
BK;
REF(MOVAVG<REF(MOVAVG,1),1)&&C<=DNBAND
,SK;C<MOVAVG,SP;C>MOVAVG,BP;AUTOFILTER;
```

3.2 Test Variety and Parameter Setting

3.2.1 Test varieties

Screw futures. It was listed on March 27, 2009. After more than ten years of operation, this variety has been actively traded, and its trading volume ranks first among many commodity futures. It has absorbed a large amount of hedging and speculative funds, and is an excellent variety of futures investment.

3.2.2 Test cycle

1H, which is a long-term and short-term trading cycle, suitable for programmed operation.

3.2.3 The program test platform

Wenhua finance and economics wh8, version ver8.3.625, is selected for simulation calculation.

3.2.4 Test data sample

The starting date is July 18, 2009, and the ending time is July 18, 2019. The whole ten-year data, with a total of 14944 hour level K lines, is enough to illustrate the problem.

3.2.5 Backlogging parameter setting

1 sliding point; 1% handling fee; 10000 yuan of initial capital; 10% margin.

3.3 Test Results

Table 1 shows the test results of futures program of classical trading system. The average capital utilization rate

is 7.16% to 7.99%, which is a relatively safe position. The test results show that the annualized compound interest rate of the three models is more than 20%, which is comparable to that of Warren Buffett, and also confirms the excellence of Buffett. The winning rate of the test is 35.34% to 45.86%, less than 50%, and the profit loss ratio is between 1.86 and 3.13. The combination of winning rate and profit loss ratio ensures the overall profit.

Table 1 Test results of classic trading system

Model	MA	MACD	Kinkentner
Annualized compound interest rate	23.95	20.71	20.36
Maximum equity withdrawal ratio	31.25	17.78	25.06
Winning rate	41.72	45.86	35.34
Average profit loss ratio	3.13	1.86	2.68
Average capital utilization rate	7.16	7.99	7.18
Maximum capital utilization rate	40.33	41.54	40.33

By properly combining multiple strategies, filtering out some more unstable trading opportunities, and improving the winning rate to a certain extent, combining trading indicators and forms through fuzzy comprehensive evaluation method to capture the starting point of the best investment region, and even achieve the proportion of "correct trend judgment" of more than 95% [7]. But still won't reach 100%.

4. CONCLUSION

After the moderate optimization of the three classical trading system models, such as the moving average trend tracking model, MACD combined with the weighted moving average strategy model and the kinkentner trading system model, the historical data of screw futures are backtested, and the annualized compound interest rate of 10 years is slightly more than 20%, which is comparable to that of Warren Buffett in ten years, which also confirms the excellence of Buffett.

The quasi Holy Grail exists. Moving average trend tracking model, MACD combined with weighted moving average strategy model and kinkentner trading system model, the winning rate is less than 50%, which is far from the Holy Grail of trading, but they can achieve the miracle of 10-year annualized compound interest of more than 20%, which shows the existence of the quasi holy Grail of technical analysis.

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