Wu Zhijian

248 article

253 million total reading

View the article of TA

Most of the quantitative funds are deceptive

2017-09-06 10:45 Fund

Guidance

How to identify good and poor quantitative trading strategies?

How does luck for the fund manager's return on investment?

How to prevent their money to a "monkey" management?

Why do most of the quantitative fund managers are deceptive?

With the computer programming in the financial investment has been more and more widely used, quantitative trading is also getting more and more attention. According to the Wall Street Journal reported that in the past 20 years, the number of quantitative funds and the size of the management of assets has increased significantly. Stock index futures trading, more than 7 to become a quantitative transaction. International foreign exchange futures trading, quantitative trading volume accounted for more than 8 percent.

So what exactly is the quantitative deal? How is it different from the traditional fund investment strategy? Rely on computer programs to invest, and people compared to what advantages and disadvantages? How to determine a quantitative trading strategy is good or bad? With these questions, I had a very interesting conversation with Professor Campbell Harvey of Duke University in the United States.

As the scope of our conversation covers a wide range, so I will be our conversation is divided into two articles were published. Today, this article is the first part of our conversation, mainly about **how to identify quantitative investment strategy is good or bad** .

First of all, to introduce you to Professor Campbell Harvey. Professor Harvey is a professor of finance at Duke University in the United States. He is the chairman of the American Financial Association in 2016. Professor Harvey has published more than 120 top academic papers in corporate governance, behavioral finance, econometrics,

share to

空间越级SUV

Close the ad

大家都在搜：东北经济断崖下滑

Sohu credit card channel

bank Industrial and Commercial Ba of China Everbright Bank China Merchants Bank Ping An Bank Minsheng B CITIC Bank

Card organization CUP VISA MasterCard American Express JCB

Types of Shopping card business tru main card standard card

Quickly find cards Yan value burst tabl This credit card, the

Hot Atlas


And Xue Zhiqian compoun d Gao Lei Xin skin white a


90 after the fun su perience division:


66-year-old Liu Luanxiong for kidney after the father!


Tender mold was d disfigured face

fund managers and won the Best of the Journal of Portfolio Management for two consecutive years. He has also won the Graham / Dodd Awards from the American Association of Financial Analysts (CFA) eight times.

We talked from the paper "Evaluating Trading Strategies" written by Professor Harvey.

I asked Professor Harvey, in some other areas, such as physics, to confirm that a new discovery needed to achieve a "5x standard deviation". But why is this standard not implemented in financial research? The industry seems to be content with the "2x standard deviation" standard.

For these statistical concepts are not familiar with friends, let me here for you to do a little science.

In statistics, if we want to confirm any rule or discovery, to ensure that the discovery is statistically significant, then we need to calculate the found T value and P value.

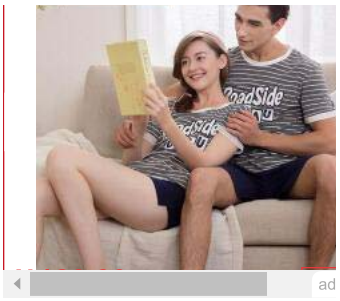
If the T value is about 2 (1.96), then its corresponding P value (assuming that the degree of freedom is large enough) is about 0.05. That is, the probability of the statistical results is 95%. This also means that, in this case the statistical results obtained, 5% probability is false. This standard is called "2x standard deviation" requirement.

In some high precision calculations and experiments, the error rate of "2x standard deviation" is too high, so the experimenter needs to raise the threshold of the confirmation result to 3 times or even 5 times the standard deviation.

From the above table we can see that the larger the T value, the smaller the P value, the smaller the probability of the resulting error. If a discovered T value reaches 5, that is, "5 times the standard deviation", then the result is 99.999% effective probability. Therefore, the **higher the standard deviation ratio, the higher the T value, the more reliable the experimental results** .

In the article by Professor Harvey, he referred to the example of the Higgs boson (also known as the "God particle").

空间越级SUV
Close the ad



24 hours hot text

1 Beijing live Construction Committee: real estate intermediary to the cons loans, business loans to carry out self-examination

2 incredible! Huawei only Samsung, beyond Apple the world's second large mobile phone brand

3 South capital hoarding s of the new standard, mo stocks only rose that ros


iPhone 8 was burst prod failure, Apple shares sca a cold sweat


Fight more and between days of cat, across the n of NetEase strict selectio

Sohu recommended

In the new latitude and longitud
"In the new latitude and longitude" is China News Agency to bring its Chi Network founded by the financial new media, "a before ...

Financial magazine
"Finance" adhering to the "independ exclusive, unique" concept, is autho impartial, professional depth ...

Lookout
Depth line, restore the truth. E-mail news: tingtingzhang211453@sohu-i

GET information Jun

possibility of existence. However, in the experiment to really confirm the existence of the particles, it has to wait until 2013.

In 2010, the Italian physicist, Tomaso Dorigo, claimed that the United States Fermilab's teraevda electron accelerator (Tevatron) may have discovered the Higgs boson. But the discovery was limited to 3 times the standard deviation, so there is no recognition in the scientific community.

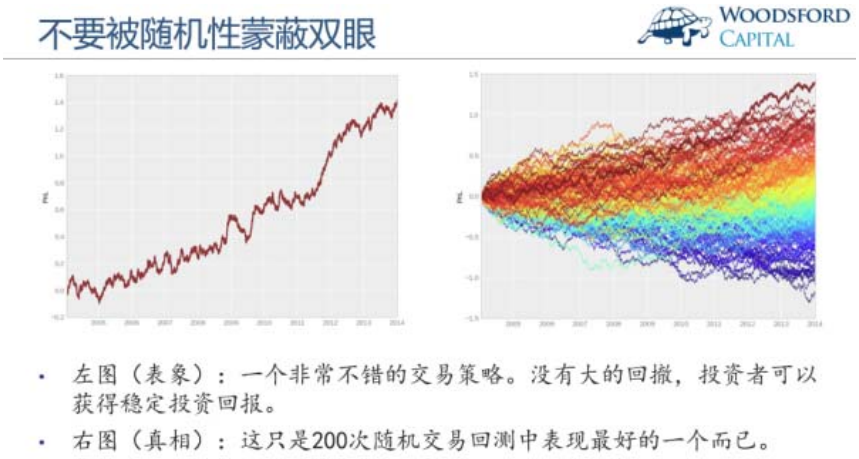
Until 2013, the European Nuclear Research Organization confirmed that the discovery of Higgs boson, the reliability of its discovery reached a standard deviation of 5 times. So these physicists dare to announce to the world generous, we finally confirmed the "God particle" exists.

Why 2 times the standard deviation and 5 times the standard deviation is very different? The reason is that scientists in order to seek a kind of discovery, they may try thousands of experiments. In the case of the Higgs boson, theoretically the particle will only occur once every 10 billion collisions. So in order to confirm the existence of the Higgs boson, the physicists designed the particle collider to repeat the impact of thousands of times the number of levels.

In any experiment, there are lucky ingredients, and therefore may lead to false discovery. The more the number of repetitions, the higher the chance of accidental encounter. This is why physicists need to improve the test standard to 5 times the standard deviation, to ensure that the experimental results can be statistically able to pass the reason.

"5 times the standard deviation" rules, behind a very strong logic. But this rule has not been adopted by the financial research industry. **At present, most of the financial quantitative research, are still "2 times the standard deviation" as the standard to accept the results of the experiment** . Which led to a lot of financial research conclusions do not necessarily stand the scrutiny.

In a paper by Professor Harvey, he mentioned a very interesting example.



not make no feeding.

Music as financial news
New mainstream media financial inf platform.

contact us

空间越级SUV
Close the ad

believe that the vast majority of investors will be very fond of this trading strategy. The investment strategy has a very stable investment performance, almost no significant retracement. Even in the 2008 financial crisis during the impressive performance. Many investors may immediately board: I decided to vote 1 million!

But the truth of the truth emerges from the right side of the picture. It turned out that the researchers had just done 200 random responses, and then picked out one of the best performing strategies. For investors, he only saw the best strategy to return, and did not see the other 199 performance worse. Since all 200 trading strategies are generated randomly, their future return on investment is completely impossible to repeat. Investors have the same return on investment and the probability of the left is almost zero.

This simple example tells us that **even if there is no skill, as long as the sample size is large enough, can also produce enough "fake" investment performance.**

Some friends may not understand the above-mentioned statistical knowledge points. So let me here and then share with you a more simple and easy to understand examples.

空间越级SUV
Close the ad

Suppose there are 1000 monkeys to participate in throwing coins. If thrown into the "front", monkeys can stay to join the next round. If thrown into the "negative", the monkey was eliminated. In general, half of the monkeys are eliminated in each round. We can see that in the throw coin contest for 7 consecutive rounds, about 7 monkeys left.

If we go to test the seven coins to throw the coin records, each monkey is thrown into the front of the coin twice. Any one person, continuous throwing 7 times the probability of positive is very small. So he will tell you that this has nothing to do with luck, but I have a set of coins to throw the "secrets." Smart reader, would you believe that a monkey has a "special skill" to throw a coin?

When I mentioned this example to Professor Harvey, he fully agreed with my opinion. Professor Harvey said that if there are 10,000 fund managers, then in 10 years, about 10 fund managers for 10 consecutive years outperform the market to overcome the market. This is entirely random and lucky decisions, and fund managers have no relationship with the skills. The 10 fund managers are all looking like stock gods.

This is what Professor Harvey wants to express in the paper: the financial industry is currently using statistical standards, than other strong scientific industries behind too much. We need to improve the financial industry to confirm the reliability of investment

"3 times the standard deviation." By raising the standard, it is possible to exclude the return on investment by the luck and the fund manager, and to reduce the probability that the investor will buy a "monkey" fund.

So as an ordinary investor, how to improve their ability to identify and reduce their own to buy "monkey fund" probability?

Professor Harvey mentioned that in the industry, when many organizations to analyze any of the quantitative strategy, there is an unwritten rule, called " **Sharp half by halo** ", that is, the other side of the Sharp rate by half. In other words, if a quantization strategy shows that you can get an annual return on investment of 10% in the backhaul. Then as an investor, you should expect the strategy to bring an annual 5% return on investment in the next actual transaction.

This is mainly because the quantitative return of the fund managers to investors to see the return on investment, they are after hundreds of times back to pick the best out of the strategy. In order to prevent themselves from encountering a particularly lucky "monkey", investors need to make a "shrink" adjustment.

In this simple and crude way to adjust the Sharp ratio, many people may feel less scientific. Fund managers will say that this is unfair to me. Some investors will also say that this will not lead us to miss the original very good trading strategy. So in Professor Harvey's paper, he mentioned a more scientific way to adjust the Sharpe Ratio (Haar).

空间越级 SUV
Close the ad

For those non-financial background born friends, let me here take a little time to give you about the popular science concept.

As shown above, the Sharpe Ratio is the excess return (the return on investment minus the risk-free rate), and then divided by the volatility (standard deviation) of the portfolio. The ratio is mainly measured by "risk adjusted income".

In order to save trouble, you basically just remember: **Sharp ratio is higher, indicating that the investment strategy the better** . (Note: This is for the non-financial industry readers, relatively simple and rude way to explain the truth, so you need to carefully analyze the Sharp ratio is how to get out of this is beyond the scope of this article, and therefore not repeat them.

The vast majority of more professional financial institutions and funds, investors will be disclosed to the investment strategy (or fund) Sharp ratio. Professor Harvey proposed in his paper that we should be skeptical about the sharp ratio of financial institutions to show us and make reasonable adjustments.

Specific adjustment details involve some statistical knowledge. I am here to give you a little bit to share, interested friends can go to read Professor Harvey's original. In Professor Harvey's paper, he even provided the computer program source code, interested friends can download and then use.

Assuming a fund's Sharp ratio of 0.92, the fund comes from a database containing 200 similar funds. Then we calculate the P value (0.4%) based on its Sharp ratio. And then adjust the P value according to the number of samples. In the adjusted P value, we then calculate the adjusted Sharp ratio of 0.08, compared with the original Sharp ratio dropped by 91%.

This easy-to-use method can help us remove some of the funds in the promotional materials shown in the Sharp ratio of "moisture", so that investors get more real and objective information.

I propose to Professor Harvey that a major difference between quantitative research in the United States and China is that the amount of financial history data in the United States is much richer. US stock market data can be traced back to the 1920s. While China's A shares, just the beginning of the 1990s. China's first public offering fund, has to wait until 2001 began to sell. Does this mean that the vast majority of quantitative strategies based on the Chinese market are difficult to pass strict statistical requirements?

空间越级 SUV
Close the ad

Professor Harvey's view is: Generally speaking, the more data, the higher the reliability of the quantitative strategy. After all, if a quantization strategy is based on a small sample size, then the result may have a strong chance, so it is difficult to copy in the future.

For emerging markets like China, there are two ways to improve the quality of quantitative strategies. The first is to increase the sample size. Because the history of the data is limited, can not be changed, so the researchers can only make a fuss about the frequency of data. Such as the frequency of research data will be adjusted to the daily stock price changes, hourly price changes or even every minute price changes. The more dense the frequency, the greater the amount of data.

Second, if some strategies are validated in developed countries, then we can consider moving such a strategy to an emerging market like China. As in other countries the market has been verified feasible, so similar to the strategy in China is also feasible to be much higher.

This reminds me of an interview I had with Mr. Jason Hsu before discussing the feasibility of the smart beta strategy in the Chinese market. Interested friends can search for "Wu Zhi Jian" + keyword "smart beta" to find the article.

I suggested to Harvey that although Buffett passed the "monkey" example to remind investors not to be misled by the performance of the fund manager's surface, but he also pointed out that there are many good fund managers are from the same village, the so-called " Value investment "village. In a public speech, Buffett cited many examples of such fund managers, including Walter Schloss, Tom Knapp, and himself. These managers may

are very good fund managers.

Does this example show that investors in the choice of fund managers, also need to consider the manager's investment style and philosophy to make judgments?

Professor Harvey agrees. Choosing a good fund manager to distinguish the return of the fund manager is from luck or skill, is a very complex system engineering. Many large institutions, such as pension funds, national sovereign funds and so do well, showing its high difficulty. Professor Harvey has written several articles in this field and has been named the best paper of the year and has contributed to this research. But in fact, can really understand and understand his article, limited to a small number of the industry. Which in itself highlights the need to select a good fund manager, it is difficult to the facts of the blue sky. Ridiculous is that **many individual investors "ignorant fearless", but that the base is easy** , it is some people dumbfounding.

The current China, about 3,000 public offering funds, more than 3,000 private equity funds. In the United States, there are about 9,000 public funds. In such a large number of fund base, in order to find a few funds for 5 consecutive years, or longer to get a good return on investment, is not a difficult task. Even these fund managers may not need any skills, luck alone, but also for many years to get a good return. And for investors, he thought he bought a very good fund, in fact, just to the money to a lucky monkey only.

空间越级 SUV
Close the ad

I ask Professor Harvey, in this case, we ordinary investors should do? **In particular, many of our investors have no professional knowledge, two no data information. In this case to select the active fund, would it be the equivalent of a mistake to hit the day to eat?** Are we supposed to give up fantasy and are satisfied with buying those low-cost index funds?

Professor Harvey expressed his full approval. In his view, China's 3,000 public offering fund, at least half of the professional skills standards, is not worth the investment. The situation in the United States is even more. In another paper written by Professor Harvey, they found that in the United States, up to only 10% of the raised fund managers have real investment skills.

For ordinary individual investors, most of them have their own work, and not from the financial profession. These investors have no time, no professional skills, and no data information to help them pick the fund. So for them, the better option is to buy low-cost index funds.

In the article "Evaluating trading strategies" written by Professor Harvey, he concluded:

Most of the empirical research in finance, whether published in academic journals or put into production as an active trading strategy by an investment manager, is wanted false. Half the financial products that companies are selling to clients are false.

Translation: The **vast majority of published in financial journals, or to sell the active quantitative trading strategy to investors, may be a lie. Fund companies are selling investment products, half are "fake"** .

Hope that investors can learn from Professor Harvey some useful knowledge to improve their vigilance, do not easily fall into the fund companies and financial institutions sales trap, make the most conducive to their own rational investment decisions.

Note: The second part of my speech with Professor Harvey, mainly related to artificial intelligence, machine learning (Machine Learning) and so on in the application of quantitative transactions. I will make a summary in another article. To

To listen to Wu Zhi-jian's telephone recording, please search for "Wu Zhi-jian's Evidence" in the Himalayan FM / Dayton FM / itune Podcast.

Wu Zhijian is the "little turtle investment wisdom: how to invest in the weak and strong" author. In Jingdong, Taobao or Dangdang search title or author name, you can buy the book.

空间越级SUV

Close the ad

Data Sources:

EvaluatingTrading Strategies (https://ssrn.com/abstract=2474755)

Backtesting (https://ssrn.com/abstract=2345489)

TheCross-Section of Expected Returns (https://ssrn.com/abstract=2249314)

LuckyFactors (https://ssrn.com/abstract=2528780)

Detecting RepeatablePerformance (https://ssrn.com/abstract=2691658)

DecreasingReturns to Scale, Fund Flows, andPerformance (https://ssrn.com/abstract=2990737)

The Scientific Outlook in Financial Economics (https://ssrn.com/abstract=2893930)

Return to Sohu, see more

Statement: This article was written by the author of the Sohu, in addition to Sohu official account, the views of the author alone, does not mean Sohu position.

Read (110) not interested Complaints

This article related recommendations

rsi quantification strategy fund Quantify the core fund net value Huatai Bairui Quantification Quantify hedge fund rankings

How the standard deviation fund | Fund Sharp Ratio Inquiry | Huaxia return mixed a fund
Project Fund Project Format | Fund manager ranking 2016

advertising

I have two words

O people involved, O comments

来说两句吧……

Sign in and publish

Sohu "I am a few words" user convention

Have no comment, come and grab the sofa!

recommend
ICO
real estate
Reverse purchase
RMB
SFC
Micro letter
Bitcoin
Balance
SASAC
Music as
Private placement
pension

空间越级SUV
Close the ad

Recommended reading

CFTC positions read: the euro and crude oil to see more willing to both heat up (September 5 week)

FX678 · Today 16:31

Nasdaq closed the US oil fell across the board fell across the board

Wall Street knowledge · Today 16:04

The United States will pass the bill of Trump government to escape the crisis

中国新闻网 · 今天 16:24

【重磅】在“紧货币、宽信用”的格局下，如何利用组合策略进行资产配置

人民币交易与研究 · 今天 12:03

华为云与达索系统合作推进3DEXPERIENCE平台上云服务行业客户

广告 · 今天 16:53

渝水锂电产业崛起绽新枝

新华社 · 今天 16:15

狼来了！外资私募跑步入场抢夺中国高净值客户

国际金融报 · 今天 11:00 · 1

喜大普奔 | 除了远期外汇市场正常化，央行此举还有何深意？

人民币交易与研究 · 今天 12:03

富国银行：欧元兑美元或持续走高，因货币政策料趋紧

乐享龙支付，指尖慧生活

广告 · 今天 16:53

浙商财险踩雷侨兴债影响持续发酵：偿付能力亮红灯，非车险新业务被叫停

国际金融报 · 今天 11:00

控制权变更：资本运作腾笼换鸟 | 国泰君安中小盘孙金钜团队策股系列之十

金钜策股 · 今天 10:52

一份超经典的银行分析框架！（曾用于银监会内部培训）

轻金融 · 今天 10:45

空间越级 SUV

Close the ad

雄安新区党工委书记陈刚：绝不搞土地财政和形象工程

中新经纬 · 今天 10:26

新雷凌185T 10.98万起售 增配不增价 多重优惠任你选

广告 · 今天 16:53

霍华德·马克斯最新备忘录：历史还在不断重演？（官方中文版）

云锋金融 · 今天 12:38

社论|七部委联手整肃ICO背后：中国需要有价值的金融创新

The Economic Observer · Today 11:07

Open the foreign media to sing the empty intention of the line

Global Tiger Finance · Today 10:00

Pre-payment cancellation, convertible bonds to fight the new threshold drop! How is the new entry?

International Finance · Today 11:00

China's stock market to play new shares of the method has changed, and no…

Advertising · Today 16:53

Weekend story will be | blindly circle the daily limit, "silly" directors and unreasonable hot money

Market cap situation · Today 10:12

Tibetan Department of Advanced Buddhist Memorial Academy for 30 years

People's Daily · Today 15:44

Embarrassing, stock price collapse 61.17%, the company actually did not know what happened

Hong Kong stocks decoding · Today 08:06 3

China Building Materials Group opened 15 listed companies to integrate the curtain: China Building Materials to absorb the merger of Sinoma shares |

Beijing News · Today 10:47

Corolla double engine, enjoy the enjoyment of life.

Advertising · Today 16:53

load more

空间越级SUV
Close the ad