Research on Quantitative Financial Strategies for Capital Markets

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Abstract: Under the construction of the new era development, with the rapid development of the financial industry, the Internet and big data added to the background, the quantitative financial products in the capital market is also becoming more and more abundant, quantitative investment has also entered the vision of more investors, and rapid development in the capital market, so the platform related to quantitative finance has also been rapidly popularized and applied change investment mainly through big data, cloud computing and artificial intelligence, etc., can be through Already available data for strategy mining, response simulation, so as to achieve the process of market realities, so that you can build a quantitative investment platform in the mainstream financial information vendors and corresponding enterprises through their own data and have the resources, so as to obtain more traffic entrance and market opportunities. Therefore, in view of the current situation of the development of quantitative finance in China's capital market, problems can be raised from it and further strategic research can be given.

Keywords: Capital Markets; Quantitative Finance; Strategy Research

1. Introduction

Quantitative finance is a financial investment method that relies on the technological advances in financial big data, financial technology and smart finance, and issues trading orders through quantitative methods and computer programs for the purpose of obtaining stable returns. Quantitative finance is mainly an emerging financial discipline involving quantitative investment.Quantitative investment is a way of trading in order to obtain stable returns by means of quantitative and computerized purchase and sale orders. Quantitative investment techniques cover almost the whole process of investment, including quantitative stock selection, quantitative timing, stock index futures arbitrage, commodity futures arbitrage, statistical arbitrage, algorithmic trading, asset allocation, risk control, etc.

In recent years, with the rise and development of domestic Internet finance, a large number of emerging financial science and technology have been applied and promoted, and more and more financial institutions have started to use quantitative investment methods to invest in the capital market. According to statistics, the current market size of domestic quantitative investment is estimated at 300 billion to 400 billion RMB, accounting for about 2% of the overall scale of securities funds; among them, 35% of public offerings account for about 120 billion; 65% of private placements account for about 200 billion; in addition, the number of private quantitative fund managers is 300, accounting for about 3% of all private securities managers of 8,857[1]. Compared with foreign quantitative funds accounting for more than 30% of the scale, the development space of quantitative investment in China is still huge .

Along with the application and development of quantitative investment in the capital market, domestic quantitative investment software has emerged like a spring. The more well-known ones include Wind's Wanmine quantitative platform, Tonglian Data's Youmin quantitative platform, Flush's Mindgo quantitative platform, as well as Jukuan quantitative platform and MiBasket quantitative platform, and so on. These software platforms collect a large amount of financial data and cloud computing technology to provide investors with one-stop quantitative investment research services.

2. Research Status

2.1 Current status of domestic and international research

Ajai Kumar Jain, Chaudhary Charan Singh (2017) found that marketing oriented software companies have a positive impact on business performance through survey data from 190 respondents from Indian software companies..

Fakhar Shahzad, GuoYi Xiu, Muhammad Shahbaz (2017) studied the relationship between organizational culture and organizational innovation performance from a sample of 215 software firms in Pakistan. The study concluded that there is a significant positive relationship between 5 elements of external orientation, support for innovation, organizational climate, teamwork and employee empowerment and organizational innovation performance, where 2 factors, organizational climate and support for innovation, are essential to improve innovation performance in Pakistani software companies.

2.2 Status of Quantitative Finance

Driven by the wave of BalancePay, many Internet companies and financial companies and other institutions have launched their own Internet financial wealth management products. In addition to the characteristics of high liquidity and high security of traditional financial management, Internet financial management products have characteristics that distinguish them from traditional financial management models, such as low threshold, complete payment function, wide coverage and high operational efficiency. At the same time, Internet financial products also have the double risks brought by traditional finance and the Internet, including business risks based on the business characteristics of Internet finance and technical risks based on Internet information technology.

3. Problems and Reasons of Quantitative Finance in Capital Market

The development of quantitative finance is a long-term and ever-changing process, and while the country introduces policies and protection guidelines, the policies introduced cannot guarantee the implementability of quantitative finance in a timely manner due to information differences and lags, so the overall support is less invested, which is also reflected in less capital investment and poorer introduction of some professional talents training. The main reasons and shortcomings of the problems of financial financing. Secondly, quantitative finance mainly refers to the problems that exist in quantitative trading, including external access system and trading strategy development, external access system mainly refers to investors through the release of the system interface to operate quantitative trading, so in such an environment and background, there is no way to dominate and monitor the quantitative trading system, which will lead to the overall quantitative process will exist in the external risk of artificially altered data, which is not conducive to The long-term healthy and sustainable development of the quantitative trading system, education strategy development lies in the existing quantitative financial development and information systems for comprehensive data evaluation, but the model does not necessarily fully meet the expectations of investors, if the trading orders in the trading before the defects already exist, then investors are likely to suffer a series of losses. Thirdly, the problems in quantitative finance are mainly reflected in the quantitative trading implementation risk.

4. Capital Markets Quantitative Finance Financing Strategies

With regard to the development objectives and strategies of quantitative finance in the capital market, financial quantification is mainly reflected in financial trading and has a wide range of applications in this area, such as stock selection, arbitrage strategy selection, trading frequency and trading portfolio application. Therefore, in view of the above problems, the study will make corresponding strategies from three aspects, such as government trading environment and risk estimation, so that the capital market can have more implementable strategies in quantitative finance. At the same time, the government should introduce the training of talents according to the actual situation of the local area and the development status of enterprises to ensure that more and more professionals can understand quantitative finance and promote the development and construction of the government and local enterprises through professional knowledge. Secondly, the government, in collaboration with enterprises and relevant departments of the society, should create a safe, green and reliable trading environment, and both external access and internal quantitative operations should be based on safety, fairness and transparency. In terms of external access, we should further combine the Internet and artificial intelligence technology such as big data to keep the existing external interface confidential, and at the same time, we can ensure that investors are the only ones who know the password of the interface through encrypted transmission to avoid secondary dissemination

and other illegal use. In terms of internal strategy development, we should build models and make predictions based on existing financial information and case sharing, so as to formulate reasonable strategies for the next development. The third quantitative financial risk analysis should be carried out for the stock market to achieve financial risk management, assist risk managers in developing plans, and further achieve portfolio optimization through professional skills, so as to be able to predict the development of financial and economic markets in the direction of capital flows in the market liquidity analysis. In this regard, quantification is very important for the development and construction of finance, especially in the promotion of the application of capital markets. The significance of quantification in the field of finance is that through the quantification of financial data and the analysis of data, it is possible to assess risk and provide more accurate data to support risk and assist investors in choosing the optimal portfolio.

5. Summary

The development of quantitative finance in the capital market requires more coordination between relevant government departments and their respective departments, the use of big data, the Internet and other technologies to further strengthen the accuracy of the data, so as to achieve the construction of models and the corresponding risk planning, so as to be able to develop a more detailed and long-term sustainable development strategy for the possible risks of quantitative finance, and promote the sustainable construction of quantitative finance in the capital market.

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