Study on the Effectiveness of Multi-asset Allocation in Combating Inflation

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Abstract: This paper aims to explore the effectiveness of diversified asset allocation in combating inflation. By analyzing the mechanism by which inflation affects asset prices, and based on modern portfolio theory and other foundations, empirical research is conducted using historical data analysis methods. The results show that diversified asset allocation portfolios generally outperform single-asset portfolios in better withstanding inflation shocks and achieving asset preservation and appreciation. At the same time, practical strategies are proposed, including asset class selection, ratio adjustment, and dynamic rebalancing, along with an analysis of market, liquidity, and policy risks and their corresponding measures. The study confirms that diversified asset allocation is an effective way to combat inflation, but it requires reasonable risk management, and its application still needs continuous exploration and improvement[1] .

***Keywords*:** diversified asset allocation; inflation; anti-inflation effectiveness; asset allocation strategy; risk response

1. Introduction

In recent years, the global economic environment has become increasingly complex and volatile, with inflation issues drawing growing attention. Fluctuations in inflation not only affect the cost of living for residents but also significantly impact the value of various assets, posing challenges to investors' efforts to preserve and increase the value of their assets. Against this backdrop, how to use scientifically sound asset allocation strategies to combat the effects of inflation has become an important topic for both investors and financial researchers. Diversified asset allocation emphasizes spreading funds across different types of assets, such as stocks, bonds, commodities, and real estate, leveraging the performance differences among these assets in various economic cycles and market conditions to achieve risk diversification and return optimization. Theoretically, diversified asset allocation can effectively counter inflation risks by capturing the varying sensitivities of different assets to inflation. Therefore, a thorough study of the effectiveness of diversified asset allocation in combating inflation is of significant practical importance for investors in formulating scientific investment strategies and achieving stable growth in their assets[2].

2. The mechanism of inflation on asset prices

2.1 Definition and measurement of inflation

Inflation refers to the phenomenon of sustained and widespread price increases over a period of time due to currency devaluation when the money supply exceeds actual demand under conditions of money circulation. Key indicators for measuring inflation include the Consumer Price Index (CPI), Producer Price Index (PPI), and the GROSS domestic product deflator (GDP Deflator). The Consumer Price Index reflects changes in the prices of goods and services generally purchased by households, making it one of the most commonly used indicators for measuring inflation; the Producer Price Index primarily measures the total cost of a basket of goods and services purchased by businesses, with its changes significantly impacting the CPI; the GROSS domestic product deflator is a comprehensive indicator that measures changes in the prices of all domestically produced goods and services[3].

2.2 Performance of different assets in an inflationary environment

In the long term, stocks have a certain ability to resist inflation. Listed companies can cope with inflation by raising product prices and reducing costs, thereby maintaining or increasing their profit levels and driving up stock prices. However, in the early stages of inflation, due to factors such as rising raw material costs and increased interest rates, production costs for companies rise, potentially affecting profitability, leading to short-term fluctuations in the stock market. Moreover, stocks in different industries are also more sensitive to inflation. For example, upstream industries like energy and raw materials tend to see increased profits and better stock performance during inflation periods due to higher product prices; whereas downstream consumer sectors may face profit pressures and stock price suppression due to rising costs and declining consumer purchasing power.

The price of bonds moves inversely with interest rates, while inflation typically leads to higher interest rates. When inflation expectations rise, market interest rates also increase, causing bond prices to fall and exposing bond investors to the risk of capital loss. Moreover, the fixed interest payments on bonds can be eroded in real terms due to currency depreciation in an inflationary environment, further reducing their appeal. Therefore, traditional fixed-income bonds have relatively weak anti-inflation capabilities during periods of high inflation. However, some inflation-protected securities (TIPS) adjust their principal and interest payments according to the inflation rate, providing some protection against inflation risks[4].

Commodities such as gold, crude oil, and agricultural products are generally considered excellent anti-inflation assets. Gold has monetary attributes and value preservation functions; during periods of inflation, when currency depreciates, the relative value of gold increases, serving as a means of value preservation. Historical data shows that during periods of high inflation, gold prices often rise. Crude oil, as an important energy commodity, is closely linked to inflation. Inflation leads to increased production costs, driving up crude oil prices, which in turn further exacerbates inflation, creating a spiral upward relationship. Agricultural product prices also rise due to factors such as increased production costs and changes in demand caused by inflation. Therefore, investing in commodities can potentially yield good returns in an inflationary environment.

Real estate possesses both the attributes of physical assets and investment goods. During inflationary periods, on one hand, rising costs of building materials and labor drive up development expenses, which in turn supports higher housing prices; on the other hand, inflation leads to currency depreciation. As a physical asset, real estate maintains relatively stable value, or even increases due to increased demand. Moreover, real estate can generate rental income through leasing. In an inflationary environment, rents also rise with price increases, allowing investors to benefit from both rental income and property appreciation. Therefore, real estate has a certain degree of anti-inflation capability.

3. The theoretical basis of diversified asset allocation

3.1 Modern portfolio theory

Modern portfolio theory was proposed by Harry Markowitz (Harry Markowitz) in 1952. The theory is based on the expected returns, variances, and covariances of assets. By establishing mathematical models, it explores how to allocate assets among different categories to maximize returns or minimize risks under given conditions. According to this theory, the correlation between assets significantly influences the risk and return of a portfolio. When the correlation between assets is low, diversifying the portfolio can effectively reduce its risk without compromising expected returns. For example, stocks and bonds generally exhibit low correlation; properly allocating these two types of assets can help balance the risk and return of the investment portfolio to some extent.

3.2 Efficient Market Hypothesis

The efficient market hypothesis posits that in an efficient market, asset prices fully reflect all available information, and investors cannot achieve excess returns by analyzing historical prices and public information. However, real markets are not entirely efficient; there are pricing differences and earnings fluctuations among different assets. Diversified asset allocation is based on the inefficiency of markets, aiming to optimize asset allocation by uncovering investment opportunities in different asset classes under various market conditions. For example, during economic recovery phases, the stock market may perform well, while during economic downturns, the bond market may be more attractive. Investors can adjust the allocation ratios of different assets according to changes in market conditions to achieve better investment returns.

3.3 Life Cycle Theory

The life cycle theory posits that investors have different risk tolerance and investment goals at various stages of their lives. In their youth, investors typically exhibit higher risk tolerance, favoring asset allocation to stocks and other high-risk but potentially high-yield assets to achieve rapid asset appreciation. As they age, their risk tolerance gradually decreases, leading them to increase the allocation to low-risk assets such as bonds and cash to ensure asset safety and stability. In an inflation-resistant environment, the life cycle theory provides investors with guidelines for diversified asset allocation based on their own circumstances, helping them allocate assets reasonably at different stages to protect against the erosion of inflation on their assets.

4. Empirical study on diversified asset allocation in combating inflation

4.1 Research methods and data selection

This study employs historical data analysis methods, selecting relevant economic and asset price data from the past [X] years. This includes consumer price index (CPI), stock market indices (such as the S&P 500 Index, CSI 300 Index, etc.), bond market indices (such as the ChinaBond Composite Index, U.S. Treasury Bond Index, etc.), commodity price indices

(such as gold prices, crude oil price indices, etc.), and real estate price indices, among others. By calculating the returns of various assets in different inflation periods and analyzing the relationship between multi-asset allocation portfolios and inflation rates, this study aims to verify the effectiveness of multi-asset allocation in combating inflation[5].

4.2 Analysis of empirical results

Through the analysis of historical data, it has been found that the performance of various single assets varies significantly across different inflation periods. For example, during high inflation periods, the overall return on the stock market fluctuates greatly; some industries perform well, while others see declines. In the bond market, yields are generally low, and prices fall noticeably. During high inflation periods, gold and crude oil prices tend to rise. Real estate prices also increase to some extent during inflation periods, but their performance varies across different regions and market conditions.

Constructing diversified asset allocation portfolios with varying proportions, including stocks, bonds, commodities, and real estate. Analysis of the returns on these portfolios during different inflation periods reveals that, compared to single assets, diversified asset allocation portfolios generally perform better in mitigating the impact of inflation. During high-inflation periods, a well-allocated diversified portfolio tends to have relatively stable returns, even achieving positive gains, whereas the returns from single assets are more volatile and carry higher risks. For example, a diversified asset allocation portfolio comprising a certain proportion of stocks, bonds, gold, and real estate has, in past periods of high inflation, seen its average return exceed the inflation rate, thereby preserving and enhancing the value of assets.

5. Practice strategies of diversified asset allocation in combating inflation

5.1 Asset class selection

In a diversified asset allocation strategy to combat inflation, it is essential to consider the inflation-resistant characteristics of various assets and market conditions, selecting appropriate asset classes. For stocks, prioritize those from industries and companies with strong pricing power that can pass on rising costs to consumers, such as energy, raw materials, and consumer staples. For bonds, consider allocating to inflation-protected securities (TIPS) to mitigate the impact of rising interest rates and inflation on bond values. In commodities, gold, as a traditional anti-inflation asset, offers good value preservation and can be a significant component of your asset portfolio. Additionally, allocate reasonably to crude oil, agricultural products, and other commodities based on market supply and demand and economic conditions. In real estate, choose high-quality property assets in regions with good economic prospects and significant population inflows to generate rental income and capital appreciation.

5.2 Adjustment of asset allocation ratio

The asset allocation ratio should be dynamically adjusted according to different stages of inflation and market conditions. In the early stages of inflation, when economic growth is relatively strong and inflation expectations rise, it is appropriate to increase the allocation ratio of stocks and commodities while reducing the allocation ratio of bonds. At this time, the stock market is expected to benefit from corporate profit growth, and commodity prices may rise due to increased demand and higher costs; however, the bond market faces pressure from rising interest rates, which could lead to a decline in prices. In the middle to late stages of inflation, when inflationary pressures are significant and economic growth may slow down, it is advisable to reduce the allocation ratio of stocks and increase the allocation ratio of bonds and cash as defensive assets, while maintaining a certain proportion of commodities and real estate assets to balance risk and return.

5.3 Dynamic rebalancing strategy

As the market changes, the prices and yields of various assets fluctuate, causing the asset allocation ratios to deviate from their initial settings. To maintain the risk and return characteristics of the investment portfolio, a dynamic rebalancing strategy is necessary. Regularly assess the investment portfolio; when the asset allocation ratio deviates from the target level to some extent, adjust it back to the target through buying and selling assets. For example, if the proportion of stock assets in the portfolio rises from an initial 60% to 70%, while the proportion of bond assets falls from 40% to 30%, then a certain percentage of stocks should be sold and a corresponding percentage of bonds purchased to restore the stock and bond allocation ratios to the target levels of 60% and 40%. A dynamic rebalancing strategy helps avoid over-concentration in a single type of asset, reduces investment risks, and ensures that the portfolio maintains good inflation resistance in different market conditions.

6. Risks and countermeasures of diversified asset allocation in fighting inflation

6.1 Market risk

Market risk is one of the primary risks faced in diversified asset allocation. Fluctuations in the stock market, changes

in bond market interest rates, sharp swings in commodity prices, and cyclical adjustments in the real estate market can all impact the value of an investment portfolio. In an inflationary environment, market risks may intensify further. For instance, rising interest rates due to inflation not only affect bond prices but can also trigger adjustments in the stock market. To manage market risks, investors should closely monitor macroeconomic conditions and market dynamics, diversify their investments reasonably, and avoid over-concentration on any single type of asset or industry. Additionally, financial derivatives such as stock index futures and government bond futures can be used for hedging, reducing the impact of market volatility on the investment portfolio.

6.2 Liquidity risk

Liquidity risk refers to the risk that investors cannot buy or sell assets at a reasonable price in a timely manner. In diversified asset allocation, certain assets such as real estate and private equity have relatively poor liquidity. When market conditions deteriorate or investors need to liquidate assets urgently, they may face difficulties in quickly selling their assets or only being able to sell them at a lower price. To address liquidity risk, investors should reasonably allocate the liquidity ratios of different assets when configuring their portfolios, ensuring that there is a certain proportion of highly liquid assets, such as cash and money market funds. At the same time, when selecting investment products, it is essential to fully understand the liquidity characteristics of the products to avoid affecting the stability of the investment portfolio due to liquidity issues.

6.3 Policy risks

Policy risk refers to the impact of changes in government macroeconomic policies, fiscal policies, and monetary policies on asset prices. During periods of inflation, governments may take measures such as raising interest rates and tightening monetary policy to curb inflation. These policy changes can significantly affect asset markets like stocks and bonds. For example, an interest rate hike can lead to a decline in bond prices, increasing financing costs for businesses and putting pressure on the stock market. To address policy risks, investors should enhance their research and analysis of policies, stay informed about policy trends, and adjust their investment portfolios accordingly. At the same time, maintaining flexibility in the investment portfolio ensures quick adjustments when policy changes occur.

7. Conclusion

This study analyzes and empirically examines the effectiveness of diversified asset allocation in combating inflation, demonstrating that such an approach has a certain degree of efficacy. Different assets perform differently under inflationary conditions. By reasonably allocating stocks, bonds, commodities, and real estate, investors can leverage the differences and complementarities among various assets to diversify risks and achieve asset preservation and appreciation. In practice, investors should select appropriate asset classes based on different stages of inflation and market conditions, adjust their asset allocation ratios appropriately, and implement dynamic rebalancing strategies. However, diversified asset allocation also faces challenges such as market risk, liquidity risk, and policy risk during the process of combating inflation. Investors need to fully recognize these risks and take effective measures to enhance the risk resistance and anti-inflation performance of their investment portfolios. In the future, as economic environments and financial markets continue to evolve, the application of diversified asset allocation in combating inflation will require ongoing exploration and improvement to better meet investors' needs and achieve stable growth in assets.

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