Explanation of Valuation Variance Between A-shares and Hshares Perspective from Behavioral Finance

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Abstract: A-shares and H-shares are important components of China's capital market. Although they are geographically close, there are great differences in valuation between the two markets for similar types of stocks and even for stocks of the same company. To clarify the valuation differences and their underlying reasons and to help investors and policy decision-makers better understand the characteristics of China's capital market, based on the perspective of behavioral finance, I attempt to explain the valuation performance differences between the two stock markets. Specifically, this paper points out the existence of such differences through a literature review from three aspects: overall market differences, differences in stocks across industries, and differences in individual stock prices. Then, from the three behavioral finance perspectives of investor structure differences, herd effect, and investor sentiment, it summarizes the explanations of the academic community for these differences. The results show that, except for the explanatory power of investor structure for the differences remaining controversial, the other two behavioral finance perspectives have certain explanatory power for these differences. This study has broadened the research scope of behavioral finance in the financial field and provided a basis for investors to conduct effective transactions.

Keywords: Behavioral finance, investor structure, herd effect, investor sentiment

1. Introduction

In China's capital market, the A-share market (the domestic stock market in the Chinese mainland) and the H-share market (Hong Kong stock market) are the two most representative markets. Although both the two markets mainly serve Chinese enterprises, and the two markets are geographically adjacent, and with the acceleration of the opening-up process of China's capital market in recent years, the two markets have achieved interconnection through mechanisms such as the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect, significantly enhancing the flow of funds and information transmission between the two markets. However, for A+H dual-listed companies (companies listed simultaneously on the A-share market and the H-share market), there are long-term systematic differences in valuations between the two markets. Data shows that the price-earnings ratio of A-share market is generally higher than that of the same type of enterprises in the Hong Kong stock market, and the valuation difference in some industries even exceeds 50%. Understanding the reasons for this difference is of great significance for optimizing cross-market asset allocation, preventing systemic risks, and improving the cross-market interconnection mechanism. Traditional financial theory explains this phenomenon from the perspectives of capital

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control and liquidity premium, but its insufficient attention to investors' irrational behavior has led to a gradual weakening of its explanatory power in the context of deepening cross-market integration. However, the research on market irrational factors in behavioral finance provides a new perspective for this difference. Theories in behavioral finance such as investor sentiment and herd behavior all demonstrate strong explanatory power for this difference. Therefore, this article will explain the reasons for the valuation variance between the two markets from the emerging field of behavioral finance. Specifically, this thesis will analyze the reasons for this difference from three behavioral finance perspectives, namely, how the difference in investor structure, with individual investors dominating the A-share market and institutional investors dominating the H-share market, causes the price difference between the A-share market and the H-share market; how the difference in the degree of herd behavior between the A-share market and the H-share market causes the price difference of the same company's stocks in the A-share market and the H-share market (AH price difference); and how the investor sentiment in the A-share market and the H-share market causes the AH price difference. Theoretically, this paper summarizes various research results in the academic field to provide inspiration and a theoretical basis for subsequent related research. Practically, the conclusions of this paper can provide a basis for policy-making departments to optimize relevant capital market rules such as the interconnection, and at the same time provide investors with a more comprehensive market analysis framework to help them make wiser investment decisions, conduct more effective cross-market asset allocation and risk management, and understand the operation rules and mechanisms of the China stock market in the context of globalization. In addition, the behavioral comparison of the "retail-oriented" feature of the A-share market and the "institutional-oriented" feature of the H-share market can also provide a typical case in the Chinese context for the study of investor structure in global emerging markets.

2. Empirical Evidences on the Existence of Price Differences Between Two Stock Markets

According to the research conducted by Wang Shujie and Wang Junwen, since 2015, the majority of Chinese-funded A-shares have shown a premium compared to H-shares. Meanwhile, there are 125 public companies that issue both A and H shares. As of August 11, 2020, the average ratio of A-share prices to H-share prices of these 125 listed companies is 3.36. The average premium rate of A/H shares for these 125 listed companies is 236.44%, meaning that the average A-share price of these listed companies is 3.36 times the average H-share price. The two also specifically listed the specific situations of 12 A-share and H-share joint-listed companies' stocks, as shown in the table [1]. This disparity not only manifests at the overall market level but also at the specific industry level.

Numerical order	Company name	H-share code	latest price (HKD)	The rise and fall of stock prices (H share)	A-share code	latest price (RMB)	The rise and fall of stock prices (A share)	The ratio of A share price to H share price	Premiu m ratio (A/H) %
1	Ping An Insurance	2318	82.4	0.49%	601318	76.77	-0.31%	1.04	3.95
2	Tigermed	3347	109.6	-0.63%	300347	103	-2.42%	1.05	4.85
3	China Merchants Bank	3968	38.9	4.57%	600036	37.54	1.46%	1.08	7.67
4	WuXi AppTec	2359	117	-2.66%	603259	113.25	0.04%	1.08	7.99

Table 1: A/H Share Price Ratio and premium of 12 Listed Companies [1].

5	Weichai Power	2338	16.54	-2.13%	338	16.05	-1.83%	1.08	8.26
6	Anhui Conch Cement	914	59.75	0.08%	600585	60.55	-1.70%	1.13	13.06
120	China Suntien Green Energy	956	2.34	2.63%	600956	10.61	-3.28%	5.06	405.88
121	CSC Financial	6066	11.8	-5.30%	601066	55.08	-7.07%	5.21	420.79
122	Zhejiang Shibao	1057	1	0.00%	2703	5.04	-3.45%	5.62	462.31
123	Shandong Molong Petroleum Machinery	568	0.71	2.90%	2490	3.59	-2.71%	5.64	464.13
124	Shanghai Fudan- Zhangjiang Bio- Pharmaceu tical	1349	5.66	-2.41%	688505	30.16	-2.62%	5.95	494.51
125	Luoyang Glass	1108	2.93	-1.68%	600876	16.91	-0.12%	6.44	543.91
Average								3.36	236.44

Table 1: (continued).

According to the statistics by Bai et al., as shown in the figure, all the stocks of the listed companies in the nine major industries on both A-share and H-share markets exhibited a positive premium of A-share over H-share [2]. As for individual stocks, taking Midea as an example, the issue price of its H-share on the first day of listing was 54.8 HKD, while the A-share price of Midea was 63.51 RMB during the same period.





3. Explanation of AH Stock Price Differences from the Perspective of Behavioral Finance

3.1. Differences in Investor Structure

Firstly, the academic community explains the price differences between the two markets by the differences in the composition of investors. According to the research of China International Capital Corporation (CICC), as a market dominated by retail investors, in the free float market value of Ashares, the proportion of institutional investors' holdings is only 19%, while the proportion of individual investors' holdings is as high as 81%; and the proportion of retail trading volume to the total trading volume exceeds 80%. In contrast, in the H-share market, overseas and institutional investors play a dominant role. In terms of trading volume, the proportion of institutional investors' trading is about 77%, far higher than the 23% proportion of individual investors [3]. Generally speaking, individual investors are not very rational. They tend to be overconfident and speculative, overly pursue the maximization of short-term investment returns, and focus more on concept speculation. Therefore, individual investors often make frequent investment decisions based on noise, which often leads to significant asset bubbles. Institutional investors, on the other hand, are often more rational, pursuing the maximization of long-term investment returns, and frequently use value investment and fundamental analysis methods to make investment decisions. Therefore, the bubbles are often smaller. Thus, the significant differences in investor composition have led to the price differences between A-shares market and H-shares market [1]. However, Hu Zhanghong and Wang Xiaokun, when conducting a regression analysis on the two variables of the price difference between A-shares market and H-shares market and the average shareholding ratio of A-share accounts (the higher the average shareholding ratio, the closer it can be approximated to the proportion of institutional investors), found that the two variables were weakly correlated statistically, meaning that the investor structure had no significant impact on the price difference between A-shares and H-shares [4]. Wang Yu and He Enyuan also conducted a similar study. They used the proportion of institutional investors' holdings among the top ten shareholders of companies listed simultaneously on A-shares and H-shares as a variable to reflect the investor structure and regressed it with the price difference between the two markets. They found that the regression coefficient was positive, meaning that as the proportion of institutional investors' holdings in A-shares increased, the premium of A-shares over H-shares actually rose [5]. Both experiments stated that since they used substitute variables to represent the investor structure, which could not accurately represent the investor structure, it might objectively affect the experimental results. However, the two experiments still indicate that the impact of the investor structure on the price difference between the two markets remains a controversial topic.

3.2. Analysis from the Conformity Effect

The herd effect or the conformity effect is another explanation for the differences in AH stock prices. As an important concept in behavioral finance, the herd or conformity effect refers to the phenomenon where individuals ignore their own valuable private information and choose to follow the majority, eventually making their own decision-making behavior homogenized with that of the group [6]. The herd effect causes investors to blindly follow the majority and buy stocks when the stock prices are rising, thus making the stock prices significantly higher than the fundamentals and forming a bubble; when the stock prices are falling, they blindly follow the majority and sell stocks, thus making the stock prices significantly lower than the fundamentals and causing a crash. In summary, the herd effect amplifies the fluctuations in stock prices. Therefore, analyzing the herd effect of A shares and H shares is a prerequisite for explaining the differences in AH stock prices, and there have been many related studies in the academic field. Yih-Wenn Lai quantified the herd effect of the two markets when the stock prices rise and fall using the generalized CKK model. His research shows that A

shares exhibit herd behavior during both the rise and fall of the market, while H shares show an opposite pattern to the herd behavior throughout the entire period [7]. This difference in herd behavior between A shares market and H shares market also provides a relatively reasonable explanation for the differences in AH stock prices.

3.3. Analysis from the Investor Sentiment

Apart from the influence of differences in investor structure and the herd effect on the price differences of A-share and H-share, the influence of differences in investor sentiment on the price differences of the two markets is also a key research object in the academic community. In traditional finance, investors are regarded as completely rational individuals, and they will value stocks based on the discount of future cash flows. However, the repeated stock bubbles and crashes in reality have proved the fact that investors are not rational. Therefore, behavioral finance has proposed the argument that investor sentiment has a significant impact on stock prices. Lu Jing and Zhou Yuan chose securities investment funds as the data source for constructing the investor sentiment index of the two markets. They constructed the index according to the asymmetric perception of losses and gains by investors (the psychological impact of suffering losses by stock investors is greater than that of obtaining gains), and further adjusted the index based on the phenomenon of the attenuation of the emotion impact index in behavioral finance (the psychological feeling of investors for recent gains and losses will be given greater weight), and ensured that the index satisfied the positive feedback effect. The two authors conducted regressions of this index with the monthly returns of A-share and H-share of cross-listed companies in A-share and H-share respectively, and found that for cross-listed A-share or H-share, investor sentiment has a significant pricing effect, that is, investor sentiment is one of the factors that cannot be ignored in stock pricing [8]. After confirming this point, Zhang Xiaotao et al. constructed a mainland China investor sentiment index using six indicators: new investor accounts, market turnover rate, trading volume, number of new IPOs, market trading value, and consumer confidence index. When conducting regression analysis between this index and AH share price differences, they found a significant positive correlation between domestic investor sentiment and AH stock price difference, meaning higher comprehensive investor sentiment in the mainland market corresponds to greater price differences between the two markets [9]. Bai et al. used the premium rates of ETFs in both markets to represent investor sentiment in each market. By regressing these two variables against the A-share premium over H-shares separately, they discovered that H-share investor sentiment shows a significant positive correlation with the A-share premium over H-shares [2]. Li and Ran conducted similar research by selecting H-share total market capitalization-weighted turnover rate, total IPO scale, and price-earnings ratio as indicators to construct an overall H-share sentiment index. For the A-share sentiment index, they utilized A-share total market capitalization-weighted turnover rate, the number of new individual investor accounts opened on the Shanghai Stock Exchange, mainland China stock market P/E ratio, and mainland consumer confidence index. They employed both Principal Component Analysis and Partial Least Squares Regression to comprehensively evaluate these indicators and construct investor sentiment indices for both the two markets. Their analysis of the relationship between cross-market sentiment index differences and AH share price difference from 2003 to 2019 revealed a strong positive correlation between the sentiment index divergence across markets and the price differences of crosslisted AH companies. Taking a dual-listed AH company as an example, as shown in the figure, they demonstrated that the A-share premium over H-shares fluctuates with sentiment divergence, indicating a clear leading-following relationship between the two variables [10].

Proceedings of the 3rd International Conference on Management Research and Economic Development DOI: 10.54254/2754-1169/178/2025.22615



Figure 2: Case Analysis of Huaneng Power International, Inc. [10]

Note: The upper curve represents the premium ratio of A-share compared to H-share, while the lower curve indicates the difference in market sentiment between the two markets. The horizontal line signifies a premium ratio of 1. When the upper curve is above the horizontal line, A-share market has a premium compared to H-share market.

4. Conclusion

To sum up, the significant valuation disparity between the A-share and H-share markets, especially the widespread premium of A-shares over H-shares, is the result of the combined effect of multiple factors. This article, by reviewing existing literature and from the perspective of behavioral finance, explores the reasons behind this disparity from three aspects: investor structure, herd effect, and investor sentiment. Firstly, the A-share market is dominated by retail investors, whose behavior tends to be short-term speculative and concept-driven, while the H-share market is mainly composed of institutional investors, who focus more on long-term value investment and fundamental analysis. This investor structure difference leads to greater volatility in the A-share market, which is prone to deviate from fundamentals, thus forming a higher premium. However, some academic research has also reached conclusions that are unrelated or even contrary to this, so the influence of investor structure on the AH stock price differences remains controversial. Secondly, the A-share market has a notable herd effect, where investors tend to follow the masses when the stock price rises or falls, further amplifying the stock price fluctuations. In contrast, the herd effect in the H-share market is weaker, and market behavior is relatively rational. This difference in herd effect is also one of the reasons for the AH stock price differences. Finally, whether investor sentiment in both the two markets has a significant impact on the premium rate of A-shares over H-shares or whether the emotional differences between the two markets and the obvious leadership and follower relationship between AH stock prices reflect the strong explanatory power of investor sentiment on the AH stock price differences. All these reflect the strong explanatory power of investor sentiment on the AH stock price differences.

Based on the above three perspectives of behavioral finance in explaining the differences in AH stock prices, it is suggested that investors, especially individual investors, participate in the market calmly and rationally. They should make decisions based on their own judgment and personal or public information rather than following the crowd blindly. Moreover, investors should control their emotions and participate in stock market transactions with an objective and rational mindset as much

as possible to avoid excessive emotionalism. On the one hand, this can help investors reduce unnecessary losses caused by irrationality. On the other hand, it is conducive to building a healthier and more standardized stock market, and helps to realize the modernization of China's capital market.

Although this paper summarizes the explanations of the three behavioral finance perspectives on the AH stock price differences by reviewing previous literature, it is still not comprehensive. Other behavioral finance perspectives that are not included in this paper, such as the anchoring effect, etc., have not been covered. Whether they also have good explanatory power for the AH stock price differences. In addition, this paper does not cite enough research papers on the studies of whether the investor structures, herd effect, and investor sentiment in the two markets gradually converge after the opening of the Shanghai-Hong Kong Stock Connect/Shenzhen-Hong Kong Stock Connect. This may lead to a one-sided conclusion.

Finally, it is hoped that future research can build upon this foundation and further integrate factors such as the macroeconomic environment, policy changes, and market microstructure to construct a more comprehensive analytical framework. This will help investors make more informed investment decisions in the global context, conduct more effective cross-market asset allocation and risk management, and provide theoretical support for China's financial policymakers. By continuously deepening the understanding of the differences between A-share and H-share markets, it is believed that global investors will better grasp the unique characteristics and development trends of China's capital market, and obtain more comprehensive market analysis tools. This will also facilitate the implementation of market reform and opening-up policies.

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