

The Valuation Difference of A+H Share Dual-Listed Companies—An Empirical Analysis Based on Turnover Rate, Return, and Firm Size

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Abstract. A sample of Chinese dual-listed A+H share companies has been taken in this paper, and the panel data from 2018 to 2023 is used to construct a two-way fixed-effects model. Based on the above data, determine how much turnover speed, a single stock's return and size of the company are associated with the difference in valuation of A-shares and H-shares. According to the above results, both the turnover rate and the individual stock return have a positive impact on the A-H premium; that is to say, when the trading activity in the A-share market is higher and the return performance of individual stocks is better, the valuation premium of A-shares compared with H-shares will be relatively larger. Conversely, the negative effect of firm size on the A-H premium did not pass the significance test, and therefore it cannot be assumed that it suppresses valuation asymmetry. The results of this study have added to the collection of research on the micro-level factors determining differences in cross-market valuations and provided new empirical evidence to help the researchers better understand the origins of pricing anomalies in the background of cross-market connectivity mechanisms. The above results can provide a reference for the relevant departments to improve the cross-market trading system and cultivate good investment habits.

Keywords: A+H shares, Turnover rate, Stock returns, Firm size

1. Introduction

With the continuous progress of China's two-way opening up of the capital market, the dual listing of A-shares and H-shares has begun to serve as an effective means to connect the domestic and foreign markets. However, the anomaly of "same stock, different prices" has always existed and, despite the improvement of cross-market connectivity mechanisms, has not been fully eliminated to date. The traditional theories of finance are based on market segmentation, liquidity differences and exchange rate risk; however, they cannot fully explain the reasons behind this phenomenon now. A few differences have been noted between A-shares and H-shares in terms of investor structure, trading activity, return performance and corporate characteristics, and turnover rates, individual stock returns and firm size have been found to be key micro-level factors affecting the valuation difference of the two markets. Therefore, the research still need to conduct experiments to see how

these factors affect the company. Most of the previous research has been at the level of macro-institutional environment or individuals, and has not conducted a comprehensive study of the interactions among liquidity, returns and firm size. Therefore, the A-H share premium will be the main object of study in this paper. A two-way fixed-effect panel model will be employed to study how changes in the turnover rate, stock price, etc., are associated with an increase in the A-H premium of a company. This paper will present some data from cross-market valuations and expand the empirical research system in this area to support the improvement of investor decision-making and strengthen the market mechanism under the regulatory system.

2. Literature review

Most studies on the valuation gap between A-shares and H-shares fall into two categories: the first is traditional theory, and the latter is micro-level factors. Theories on market division, liquidity premium and information asymmetry are the foundation of the above studies. Karolyi and Wu have used a global sample of cross-listed companies to find that market segmentation and different risk attitudes of investors are reasons for different valuations of companies [1]. Amihud et al. extended the theory of premium liquidity to find that differences in trading activity and liquidity also affect the efficiency of cross-border pricing [2]. Bae et al. have also found that information asymmetry, that is, the information disadvantage of foreign investors, can lower the valuation of listed foreign stocks significantly [3]. Zhang also believes that the extent of market integration in the Stock Connect system is directly related to the convergence of A-share and Hong Kong stock prices; at the same time, the explanation power of the old single-factor model is gradually declining, and attention has begun to shift towards micro-level trading and firm-specific features [4].

Brennan et al. and Lou found that, in the study of micro-level factors, the turnover rate is a typical index for liquidity; therefore, they observed that a high turnover rate and active trading generally lead to an increase in asset values and expand the price spread of segmented markets [5, 6]. Fama and French found that individual stock returns differ; thus, there is an unequal allocation of capital and relative valuation, and an increase in returns will generally lead to an expansion of the price range in all markets [7]. According to Chan and Kwok, the larger the size of a company, the more open its information is, and arbitrage is relatively easy; thus, firm size is negatively associated with valuation premiums [8]. ILiu et al. and Liu et al. have conducted domestic studies on A-H shares to find that liquidity, returns and firm size are all positively associated with the valuation premium [9, 10]. In short, the micro-level factors' results are as follows: Turnover rate is an indicator of liquidity, and it has been confirmed that an increase in liquidity will raise a company's asset value; Differences in individual stock returns directly affect capital allocation and relative valuation; and for the size of the firm, large-capitalization companies generally have better information transparency and are usually not valued highly.

In short, most of the current research in many places has focused on individual categories of micro-level factors, and these have not been placed in a single framework or tested for robustness in the new era of market interconnectedness. Taking this as the starting point, a fixed-effects model will be used in this paper to conduct an empirical analysis of the joint effect of the three factors on the A-H premium and address the deficiency in current research. Based on the above theoretical analysis and literature review, the following research hypotheses are put forward in this paper: Hypothesis 1: The turnover rate of A-shares is positively correlated with the A-H premium. Hypothesis 2: The stock return of an individual is positively correlated with the A-H premium. Hypothesis 3: There is a negative correlation between the size of the firm and the A-H premium; that is to say, larger firms will have lower premiums.

3. Model building and data foundation

Based on the theory of market segmentation, liquidity premium theory and information asymmetry theory, Chinese A+H dual-listed companies have been selected as the objects of this study. The Range of the panel data is 2018-2023. To guarantee the reliability and accuracy of the empirical results, most of the data are taken from the CSMAR database; therefore, abnormal and missing observations have been excluded to maintain the quality of the data, and finally, 610 valid observations have been obtained. The Model is as follows:

$$YAHpremium_{it} = \beta_0 + \beta_1 YAHpremium_{it} + \beta_2 Return_{it} + \sum \gamma Control_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (1)$$

Where $Y_AH_premium_{it}$ is the AH premium rate; $Turnover_{it}$ is the turnover rate; $Return_{it}$ is the individual stock return; $Size_{it}$ is the firm size; $Control_{it}$ is the control variable; μ_i is the individual fixed effect; λ_t is the time fixed effect; and ϵ_{it} is the random disturbance term. This model can be used to study the impact mechanism of micro-factors on the price difference of A-shares and H-shares empirically, and it will take into account individual heterogeneity and changes over time.

The dependent variable is the AH premium, which indicates how much higher the value of A-shares and H-shares is compared to each other. Turnover rate, individual stock returns and firm size are the main explanatory variables, and some control variables are added to rule out the impact of other factors. Turnover is a measure of the trading activity and liquidity in the A-share market; Return is the return performance of the sample stocks over a certain period; Size is a proxy variable for the total assets or market capitalization of the sample companies. Based on the above analysis, a two-way fixed-effects panel model will be employed to solve the problems of individual fixed effects and time fixed effects. Based on this, the research will empirically explore how different levels of liquidity, earnings performance and size vary may affect the valuation gap between A-shares and H-shares in the model, and robustness tests will be conducted to verify the consistency of the results.

4. Empirical analysis

4.1. Descriptive statistics

Table 1. Descriptive statistics

VarName	Obs	SD	Mean	Min	Median	Max
Y_AH_premium	610	70.147	91.944	3.870	71.225	367.760
Turnover	610	1.625	1.871	0.154	1.441	9.346
Return	610	0.304	0.016	-0.510	-0.016	1.711
Size	610	2.754	24.047	15.160	24.906	27.442

As shown in Table 1, a sample of 610 observations is used in this study for the descriptive statistics of the variables Y_AH_premium, Turnover, Return and Size. According to the above results, it can be seen that the mean of AH premium ratio is 91.944, the standard deviation is 70.147, the minimum value is 3.870, the maximum value is 367.760, and the median is 71.225; that is to say, generally speaking, the level of AH premiums in the sample is relatively high, but there are

significant differences in premiums among different securities, and some companies have exceptionally high premium levels. As for the turnover rate, the mean is 1.871, the standard deviation is 1.625, the extreme values are from 0.154 to 9.346, and the median is 1.441; that is to say, the overall trading activity of the sample stocks is relatively small, but some stocks have extremely high trading frequency and are thus quite liquid. The average return is only 0.016; thus, the overall level of return is relatively low, with a standard deviation of 0.304, extreme values between -0.510 and 1.711, and a negative median; it can be seen that there is considerable fluctuation in individual stock returns over the sample period, and most stocks have performed poorly. Finally, for the size of the firm, the mean is 24.047, the standard deviation is 2.754, the values are distributed in the range of 15.160 to 27.442, and the median is 24.906; therefore, most of the sampled enterprises are relatively large and their distribution is somewhat concentrated, with a higher proportion of large-market-capitalization enterprises.

4.2. Correlation analysis

Table 2. Correlation analysis

	Y_AH_premium	Turnover	Return	Size
Y_AH_premium	1			
Turnover	0.272***	1		
Return	0.150***	0.037	1	
Size	-0.162***	-0.253***	0.097**	1

As shown in Table 2, the Pearson correlation coefficients show that the correlations among the variables are in line with the theory and statistically significant. Specifically, the correlation coefficient between the AH premium rate and the turnover rate is 0.272, which is positive and significant at the 1% level; that is to say, when stock trading activity is high and liquidity is greater, the level of the AH premium is also higher, suggesting that investor trading behaviour drives up the premium. The correlation coefficient between the AH premium rate and the rate of return is 0.150; it is positive at the 1% significance level, indicating that an increase in stock returns tends to lead to a widening of the AH premium and suggesting that the performance of the two markets is related to the price spread. The correlation coefficient between the AH premium rate and firm size is -0.162, and it is significantly negative at the 1% level; that is to say, the larger the size of the firm - and thus the higher its market capitalization - the lower the level of the AH premium is, indicating that large-cap companies have more efficient pricing and the premium tends to converge. Among the control variables, the turnover rate is negatively correlated with firm size, the rate of return is positively correlated with firm size, and there is no high multicollinearity; thus, it meets the requirements for regression analysis.

4.3. Analysis of benchmark regression results

Table 3. Benchmark regression results

	(1)	(2)	(3)
	Y_AH_premium	Y_AH_premium	Y_AH_premium
Turnover	6.491***	6.209***	6.709***

Table 3. (continued)

	(5.61)	(5.35)	(4.57)
Return		8.385**	9.105**
		(1.97)	(2.04)
Size			-1.763
			(-0.56)
_cons	79.800***	80.196***	121.634
	(33.31)	(33.46)	(1.64)
Stked Fixed Effects	YES	YES	YES
Year Fixed Effects	YES	YES	YES
N	610	610	610
Adj. R ²	0.869	0.869	0.869

As shown in Table 3, A-H premium rate is the dependent variable, and after controlling for stock- and year-fixed effects, the turnover rate, return rate and firm size variables are added one by one; the baseline regression results are as follows: This shows the baseline regression results of a two-way fixed-effects model. Columns (1) to (3) are the turnover rate, the return rate and the size of the firm in order. Given the sample size of 610 observations, the adjusted R² for each column is 0.869, and the overall goodness-of-fit is good; thus, these variables can explain the A-H premium well.

Based on the regression results for the main variables, the turnover rate is positively correlated with all three regression models at the 1% level, and the corresponding coefficients are 6.491, 6.209, and 6.709. Therefore, a higher turnover rate, that is to say, more trading activity in A-shares, will increase the valuation premium of A-shares over H-shares, and in fact, this effect is still relatively pronounced after controlling for the return rate and firm size. The return rate is positively correlated at the 5% level in both Column (2) and Column (3), and the corresponding coefficients are 8.385 and 9.105, respectively. It can be seen from the above that an increase in individual stock returns will further widen the A-H valuation gap, and according to theory, a larger difference in returns will lead to an increase in cross-market price deviation. The regression coefficient for firm size is -1.763; although it is negative, it is not statistically significant. Therefore, after controlling for fixed effects, it can be concluded that the dampening effect of firm size on the A-H premium is due to individual and time-specific factors. Behaviorally, the fluctuations in the speed of turnover and individual stock returns are caused by people's trading behaviour, such as excessive confidence and the herd effect. For example, if investors are too confident, they may increase their trading frequency to boost the turnover rate and thus raise the A-H premium. It is to this end that the foundational idea of behavioural finance is that "bounded rationality causes market pricing errors".

Based on the empirical analysis results above, the following strategic suggestions for dual-listed A+H companies are put forward in this paper: First, strengthen the management of market liquidity and guide investors to invest in value rationally. According to the above experiments, the proportion of shareholders' shares in A-H is positively correlated with turnover rate. Therefore, it can be concluded that the extent of market activities and speculative behaviour in the A-share market is a reason for valuation deviation. The company will enhance its IRM to promptly release changes in the direction of its development. Therefore, they can reduce the irrational trading caused by information asymmetry and curb share price fluctuations due to high turnover to bring the valuation of A-shares and H-shares closer to a reasonable level.

Second, improve the financing of overseas operations and modify the valuation system. The difference in a person's stock returns is directly related to their level of premium. Companies that have performed well in terms of earnings and have had an unusually high premium in both domestic and foreign markets should be considered relatively high-risk of being involved in a valuation bubble of A-share stocks. In refinancing and equity incentive plans, the difference in prices between the two markets should be fully considered, and according to which area has a lower cost and better price efficiency, it should be chosen. At the same time, by improving the openness and stability of their dividend policies, the company can attract stable institutional investors from both regions, utilise the differences in risk tolerance among investors in the two different markets, and optimise the capital structure.

5. Conclusion

According to the theoretical system of behavioural finance, Chinese A+H-share listed companies are selected as the subjects of the study, and an empirical model is constructed. The above model can help the researchers better study how changes in the size of a company affect its speed of sales and the level of returns; at the same time, in light of behavioural finance, the research will explore the reasons why such changes occur. The robustness test shows that the results of the empirical study are stable. According to the above results, there is a positive correlation between the size of the firm, specifically among A+H-share listed companies, and both the stock turnover rate and the stock return; at the same time, different sizes of firms have different levels of stock turnover and return. This is to add that the factor of behavioural finance is also involved in this influence. Research application of behavioural finance in the context of the A+H-share cross-border capital market is carried out in this paper, and the intrinsic connections among firm size, turnover rate and returns are revealed. Given the current deficiencies in research on the size effect in cross-border capital markets, some empirical data will be introduced in this paper to guide scholars in their study of the trading and return characteristics of dual-listed markets. It also provides a practical way to improve the trading mechanism and rationalise the investment of capital by the capital market authority, promotes the enhancement of stock liquidity for listed companies of different sizes, and helps investors build cross-border investment strategies in an orderly manner based on firm size indicators. Given the deficiencies in the selection and measurement of control variables, in the future, one can extend the study period, add more behavioral finance indicators, and explore further how changes in firm size affect the turnover rate and returns of A+H shares over an extended period. Through continuous improvement of the research system, in the future, the research will be able to provide more specific theoretical and practical support for the stable and healthy development of China's A+H-share cross-border capital market.

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