

The Effect of Brokerage Firm Size on Analysts' Earnings Forecast Accuracy: Evidence from the Culture Media Industry

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Abstract. The factors influencing analysts' earnings forecast accuracy are a popular research topic today. Some researchers have found that brokerage firm size affects analysts' earnings forecast accuracy. However, there is a research gap in the effect of brokerage firm size on analysts' earnings forecast accuracy in a particular industry. As a result, this study investigates the link between brokerage company size and analysts' earnings prediction accuracy by collecting and comparing analysts' earnings forecast data from major brokerage companies and analysts' earnings forecast data from small and medium-sized brokerage firms. It is found that the accuracy of analysts' earnings forecasts for the culture media industry is positively correlated with the size of brokerage firms. This indicates that analysts at large brokerage firms have a higher accuracy of earnings forecasts for the culture media industry.

Keywords: Brokerage Firm Size; Earnings Forecast Accuracy; Contrast Analysis Method; Cultural Media Industry.

1. Introduction

Analysts are an essential channel for companies to transmit information. Analysts employ their knowledge to study and interpret information and predict corporate value, which may successfully decrease information asymmetry in the capital market. Earnings forecasts in analysts' research reports play an essential role in helping investors to make decisions. Yi et al. conducted an empirical analysis of the association between brokerage firm size and analysts' earnings forecasting accuracy. They discovered that the size of brokerage firms is proportional to the accuracy of analysts' earnings forecasts. Analyst competence and company disclosure quality have a substitution effect on brokerage firm resources. The higher the analyst competence or company disclosure quality, the lower the analysts' dependence on brokerage firm resources [1].

However, no research has shown that analysts from different brokerage firm sizes affect the accuracy of earnings forecasts for a specific industry. Therefore, this paper will investigate whether brokerage firm size affects the accuracy of analysts' earnings forecasts for the culture media industry. This research has implications for expanding on the influence of brokerage company size on the accuracy of analysts' earnings forecasts. In this study, the analysis will be done utilizing a comparison analysis method. Earnings forecasts for ten companies in the culture media industry from large brokerage firms will be compared to earnings forecasts for ten companies in the culture media industry from small and medium-sized brokerage firms to determine the impact of brokerage firm size on the accuracy of analysts' earnings forecasts in the culture media industry.

The following is how this paper is organized. Section 2 is a study of the literature that will influence the research of this article. The third section outlines the research technique and procedure. Section 4 is the conclusion, which includes the obtained conclusions and the paper's contributions and shortcomings.

2. Literature Review

2.1 The impact of brokerage firms on the accuracy of earnings forecasts

2.1.1 Brokerage firm reputation

According to the study, there is a significant difference between analysts' forecast errors from highly reputable brokerage firms and those from ordinary brokerage firms. Analysts from high-reputation brokerage firms have higher accuracy and lower error in their surplus forecasts than analysts from ordinary brokerage firms. This research indicates that high-reputation brokerage firms have a stronger overall strength than regular brokerage firms and may give analysts more data and resources to assist analysts in making accurate company projections. High-reputation brokerage firms have information advantages, and the compensation mechanism and competition mechanism within the brokerage firms will be more conducive to producing excellent securities analysts [2].

2.1.2 Brokerage firm size

There is a positive relationship between brokerage firm size and analysts' earnings forecast accuracy. It is found that analysts' forecast accuracy increases after jumping from a small to a large brokerage firm, as opposed to the other way around. The impact of brokerage firm size on the forecast accuracy of non-star analysts is more significant than that of star analysts, as there is no significant change in the forecast accuracy of star analysts before and after jumping ship. This suggests that the ability of star analysts has a substitution effect on brokerage firm resources. When analysts are tracking companies with low disclosure quality, analysts rely more on brokerage firm resources, so brokerage firm size significantly impacts analyst' forecast accuracy [1].

Related research has found that forecast accuracy increases with experience and employer size and decreases with the number of companies and industries tracked. As a result, prediction accuracy is connected to analyst experience (analysis competencies and abilities) and employer size (available resources). This is because analysts' general abilities and expertise increase with time, and large brokerages may give more resources to help their analysts improve their prediction accuracy [3].

2.2 The impact of differences in analysts' characteristics on the accuracy of earnings forecasts

2.2.1 Overseas study experience

Based on an empirical study of analysts with study abroad experience as the subject of the study. It can be concluded that overseas study abroad analysts have a relatively lower quality of earnings forecasts compared to non-study abroad analysts at the beginning of their career and when they do not have social relationships with corporate executives. The reason for this conclusion is the disadvantage in private information acquisition and information interpretation caused by the lack of classmate relationships in China and the lack of knowledge and understanding of the domestic society, culture, and environment of overseas study abroad analysts. Furthermore, further research shows that the earlier and longer the analysts study abroad, the relatively lower their prediction accuracy. However, the relative disadvantage in prediction accuracy between overseas study analysts and non-study analysts disappears when the quality of public information about the firm is higher [4].

2.2.2 Practice experience

Through an empirical study of the impact of securities analysts' practice experience on the quality of practice generated by the extension of practice years, it can be concluded that the accumulation of analysts' experience does not help analysts to improve their forecasting accuracy. The longer the analyst's practice experience, the lower the forecast accuracy and the greater the optimism bias of the forecast. This finding is since China is currently in a transition phase, and the economic situation and industry conditions are constantly changing. Analysts with more years of practice will rely on their long-accumulated experience to make judgments, leading to a decrease in the quality of their practice as their thinking becomes solidified. Another reason experienced analysts have lower forecast

accuracy than less experienced analysts is that analysts with long experience are under relatively less professional pressure [5].

2.2.3 Gender differences

By conducting an empirical study on the effect of gender of stock analysts on the bias of earnings forecasts, it can be concluded that analysts have a positive bias in earnings forecasts. Male analysts have a higher degree of positive bias, indicating a higher tendency to be optimistic. Male analysts have a greater bias in their surplus forecasts than female analysts but are more likely to correct forecast bias than female analysts. Female analysts have less bias in their earnings forecasts for companies with shorter tracking times. In comparison, male analysts have less bias in their earnings forecasts for companies with longer tracking time. This finding arises because of the differences in the physiological, psychological, and information utilization patterns between males and females [6].

2.2.4 Analyst industry expertise

Analyst industry expertise is measured by the number of companies in an industry tracked by an analyst as a proportion of the number of head offices tracked by that analyst. A positive relationship between analyst industry expertise and forecast accuracy is found through empirical studies. As firms disclose high-quality information, the impact of analyst industry expertise and analyst access to information on forecast accuracy decreases [7].

2.3 Corporate impact on the accuracy of earnings forecasts

2.3.1 Overseas study experience

According to the study, there is a positive relationship between analysts' earnings forecast accuracy and disclosure quality in management's discussion and analysis. The quality of disclosure of forward-looking information has a more significant impact on analysts' earnings forecasts accuracy than the historical information in MD&A. This finding is because forward-looking information has a greater impact on the future development of the firm, and high quality of disclosure can reduce information asymmetry and help analysts make better earnings forecasts for the firm [8].

2.3.2 Financial independent director career background

According to the study, it is found that listed companies with financial sole directors from accounting firm backgrounds can improve the accuracy of analysts' forecasts of their earnings. Due to their particular work background, independent directors will better perform their monitoring and advisory functions to maintain their reputation and brand image, which can improve the quality of corporate disclosure. Further research found that the reputation of the financial sole director's firm also impacts the accuracy of analysts' forecasts. The higher the ranking of the financial sole director's firm, the higher the analysts' prediction accuracy [9].

3. Contrast Analysis Method

3.1 Sample

This paper uses comparative analysis to compare the accuracy of companies' earnings forecasts in the culture media industry between analysts at large brokerage firms and analysts at small and medium-sized brokerage firms. In this paper, 10 A-share listed companies in the culture and media industry in 2021 are selected as the research sample, namely Hangzhou Onechance Tech Corp, Mango Excellent Media, Wanda Cinemas, IReader Technology Co Ltd, Beijing Career International Co Ltd, Focus Media, Shanghai Fengyuzhu Culture and Technology Co Ltd, BlueFocus, CITIC Press Group, Guangdong South New Media Co Ltd. This article manually collects data on the earnings forecasts of the ten companies from brokerages of different sizes on the Oriental Wealth Network. Because the length of the forecast period affects the analysts' earnings forecast accuracy, i.e., the closer to the actual earnings reporting date, the higher the analysts' earnings forecast accuracy.

Therefore, this paper refers to Clement (1999), if an analyst has made multiple earnings forecasts for the same company in that year, only the last earnings forecast data is selected. It is shown in Figure 1.

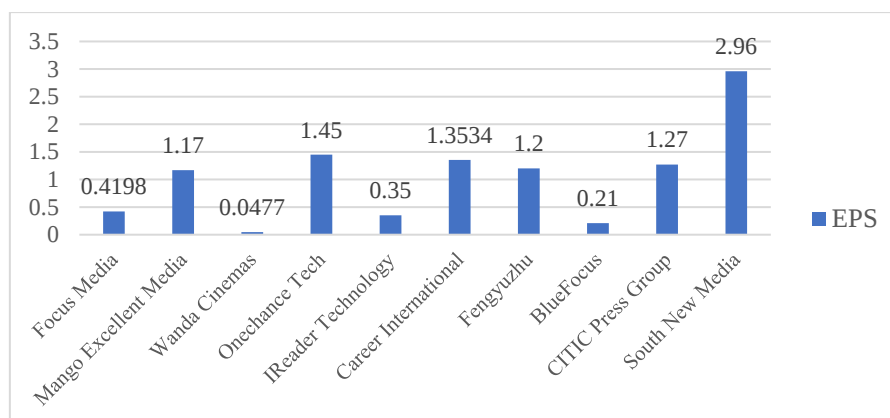


Fig. 1 Actual earnings data of ten companies in the culture media industry in 2021

3.2 The division of brokerage size

The classification of brokerage firm size refers to Yi et al. (2016), which classify the size of brokerage firms according to the number of analysts employed by the brokerage firms in that year. The division criterion is that the number of analysts at large brokerage firms is more than two times that of analysts at small brokerage firms in the same year. Based on the above classification of brokerage firm size, this paper refines the process. The number of analysts employed by small brokerage firms is less than 25. Medium-sized brokerage firms employ more than 25 and less than 50 analysts. The number of analysts employed by large brokerage firms is more than 50. The data of analysts employed by brokerage firms are obtained from the basic information disclosure of the China Securities Association practitioners.

3.3 Large brokerage analysts' earnings forecast accuracy

Table 1. Different large brokerage firms analysts earning forecasts for ten companies in the culture media industry

	Large brokerage analyst 1 EPS forecast	Large brokerage analyst 2 EPS forecast	Large brokerage analyst 3 EPS forecast	Large brokerage analyst' average EPS forecast
Focus Media	0.42	0.42	0.41	0.42
Mango Excellent Media	1.31	1.13	1.13	1.19
Wanda Cinemas	0.05	0.20	0.69	0.31
Hangzhou Onechance Tech Corp	1.69	1.69	1.74	1.71
IReader Technology Co Ltd	0.72	0.67	0.66	0.68
Beijing Career International Co Ltd	1.27	1.27	1.26	1.27
Shanghai Fengyuzhu Culture and Technology Co Ltd	1.08	1.07	1.16	1.10
BlueFocus	0.26	0.26	0.26	0.26
CITIC Press Group	1.61	1.74	1.40	1.58
Guangdong South New Media Co Ltd	2.92	3.09	2.89	2.97

This article manually collects data from analysts of different major brokerage firms on the earnings forecasts of 10 companies in the culture media industry. The data were obtained from the Oriental Fortune website. Three earnings forecasts from analysts of different large brokerage firms were collected for each company. Next, by finding the average of the three large brokerage firm analysts' earnings forecast data, the average value of large brokerage firm analysts' earnings forecast can be obtained. By calculating the relationship between the mean value of the analyst earnings forecast data and the actual earnings, the accuracy rate of the analysts of large brokerage firms can be obtained. Earnings forecast accuracy rates above 90% for analysts of large brokerage firms account for more than half of the study sample. It is shown in Table 1 and Figure 2.

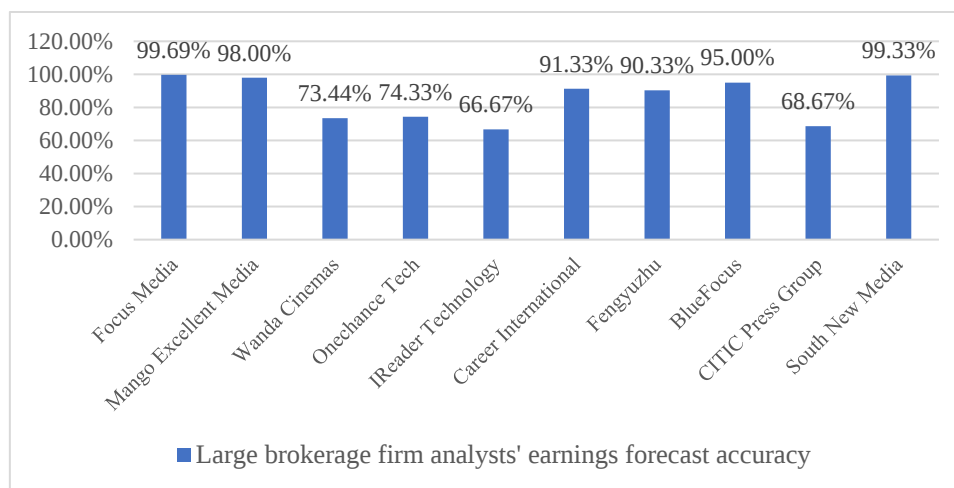


Fig. 2 Large brokerage firms analysts earning forecasts accuracy of ten companies in the culture media industry

3.4 Small and medium-sized brokerage analysts' earnings forecast accuracy

Table 2. Different small and medium-sized brokerage firms analysts earning forecasts for ten companies in the culture media industry

	Small and medium-sized brokerage analyst 1 EPS forecast	Small and medium-sized brokerage analyst 2 EPS forecast	Small and medium-sized brokerage analyst 3 EPS forecast	Small and medium-sized brokerage analyst average EPS forecast
Focus Media	0.43	0.43	0.42	0.43
Mango Excellent Media	1.17	1.12	1.16	1.15
Wanda Cinemas	0.66	0.69	0.69	0.68
Hangzhou Onechance Tech Corp	1.66	1.66	1.70	1.64
IReader Technology Co Ltd	0.82	0.87	0.90	0.86
Beijing Career International Co Ltd	1.38	1.10	1.37	1.28
Shanghai Fengyuzhu Culture and Technology Co Ltd	1.08	1.08	1.54	1.23
BlueFocus	0.27	0.26	0.36	0.30
CITIC Press Group	1.59	1.70	1.78	1.69
Guangdong South New Media Co Ltd	2.92	2.88	3.07	2.96

This article manually collects data from different small and medium-sized brokerage firms' analysts' earnings forecasts for ten companies in the culture and media industry from the Oriental Fortune website. Three earnings forecasts from different small and medium-sized brokerage firms were collected for each company. By calculating the relationship between the mean value of the small and medium-sized brokerage analysts' earnings forecast data and the actual earnings, the accuracy rate of small and medium-sized brokerage analysts can be derived. The accuracy of small and medium-sized brokerage analysts' earnings forecasts was higher than 90% for more than half of the total study sample. However, the accuracy of small and medium-sized brokerage analysts' earnings was lower than 50% for 1/5 of the total sample. It is shown in Table 2 and Figure 3.

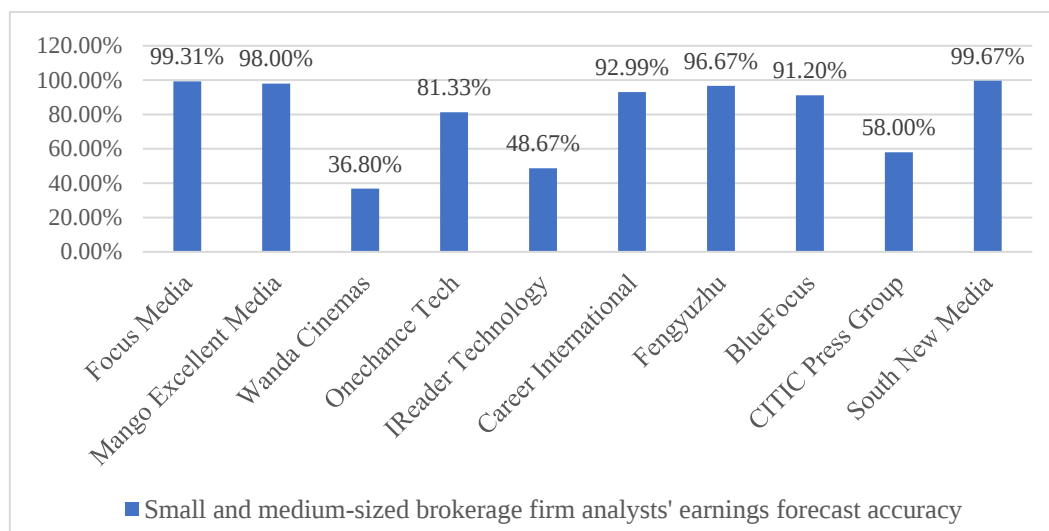


Fig. 3 Large brokerage firms analysts earning forecasts accuracy of ten companies in the culture media industry

3.5 Comparing the accuracy of earning forecast of different brokerage firms' size

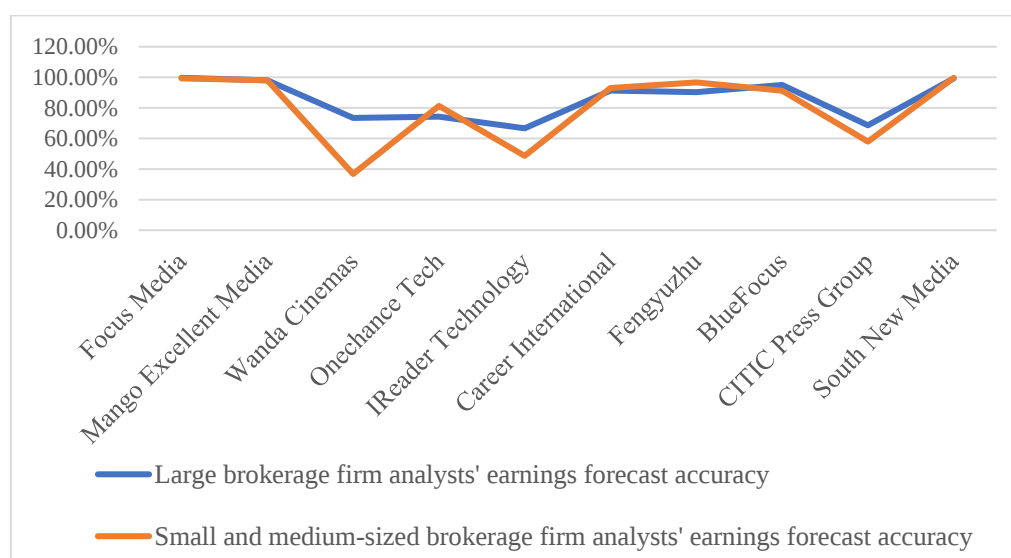


Fig. 4 Earnings forecast accuracy of ten companies in the culture and media industry by analysts of different brokerage sizes

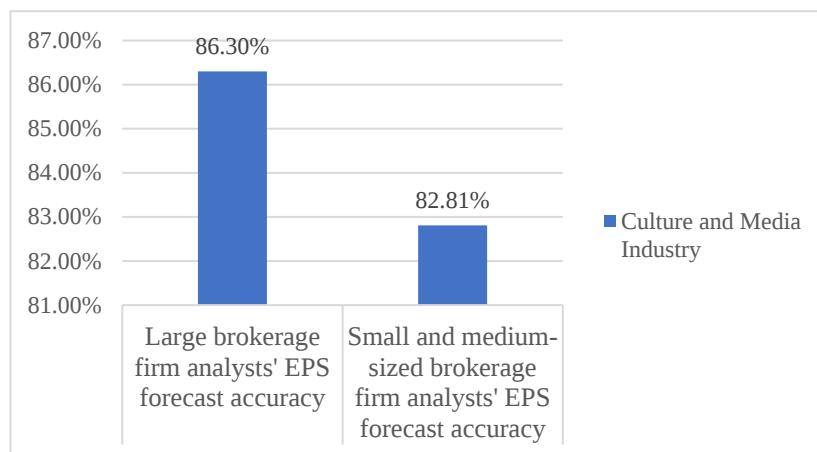


Fig. 5 Accuracy of earnings forecasts for the cultural media industry by analysts of different brokerage sizes

Figure 4 shows the accuracy of earnings forecasts for ten cultural media companies by different brokerage firm sizes. The profit forecast accuracy of analysts from small and medium-sized brokerage firms is generally lower than that of analysts from large brokerage firms. After excluding the maximum and minimum values of the two sets of data, the accuracy of earnings forecasts of different brokerage firms' sizes for the culture media industry can be obtained by finding the mean value, as shown in Figure 5. Compared with the accuracy of analysts' earnings forecasts of large brokerage firms, the accuracy of analysts' earnings forecasts of small and medium-sized brokerage firms is lower.

The above comparative analysis shows that the difference between analysts' earnings forecast accuracy of large brokerage firms and small and medium-sized brokerage firms is not significant. The accuracy rate of both is generally higher. However, analysts at major brokerage companies have a greater accuracy rate than those at small and medium-sized brokerage companies. Therefore, it is concluded that analysts' earnings forecast accuracy is positively correlated with the size of brokerage firms. Stickel (1995) demonstrates that since major brokerage companies have more sophisticated distribution networks, capital market players are more attentive to purchase and sell suggestions from analysts. The distribution network enables them to transmit analyst recommendations to capital markets effectively. Large brokerage companies may provide greater resources for analysts to analyze if they give superior resources for spreading buy and sell recommendations [10].

4. Conclusion

This paper concludes that there is a correlation between the accuracy of analysts' earnings forecasts for the culture and media industry and the size of brokerage firms. The larger the size of the brokerage firm, the higher the accuracy of analysts' earnings forecasts for the culture and media industry. Therefore, the size of brokerage firms is directly proportional to the accuracy of analysts' earnings forecasts for the culture and media industry. This conclusion may be because large brokerage firms can provide analysts with richer resources to help in their analysis. Wang et al. (2020) show that high-quality corporate disclosure can reduce information asymmetry and help analysts to make better earnings forecasts for firms. Large brokerage firms have some access to information that firms do not disclose, and this undisclosed information can help analysts improve the accuracy of their earnings forecasts.

The main contribution of this paper is to specify the effect of brokerage firm size on analysts' earnings forecast accuracy in a particular industry, which helps understand whether there are differences in brokerage firm size on analysts' earnings forecast accuracy across industries. Due to the limitation of research capacity and resources, this paper does not consider the influence of both analyst and firm factors on this paper's research. Furthermore, there are shortcomings in comparing

the earnings forecast data of two groups of analysts of large brokerage firms with those of small and medium-sized brokerage firms. The paper does not control variables and collects a large amount of comparative data, so the conclusions drawn may be biased. Future research should control for variables that affect the conclusions and go deeper to understand whether brokerage firm size affects the accuracy of analysts' earnings forecasts differently across industries and the reasons for the differences.

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