

On Empirical Evidence Research of Target Price Forecast of Securities Analysts

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Abstract: Securities analysts play the role of information intermediary in the capital market, which can alleviate information asymmetry to a certain extent. The title of the best analyst is the honor that every analyst strives for, because it will not only enhance fame, but also bring about a rapid increase in salary and position. Theoretically, high-reputation analysts are superior to other analysts in earnings forecasting ability and professional ethics. With the maturity of the securities market and the steady improvement of analysts' ability, the comprehensive effect of the two factors has slightly improved the accuracy of analysts' earnings forecast. However, with the continuous emergence of estimation techniques and methods, the divergence of analysts' earnings forecast has slightly increased. As users of annual report information, securities analysts play an important role in the analysis and interpretation of annual report information. This paper uses the stock target price forecast issued by securities analysts to provide empirical evidence that can directly reflect psychological expectations for the nominal price illusion. Further research shows that the above findings are not because securities analysts accurately predicted that there would be different investment opportunities for low price stocks and high price stocks in the future, nor are they intended to cater to investors in order to maximize the interests of the securities companies they serve.

1. Introduction

Analysts' profit forecast is widely used in research fields such as evaluating enterprise value, explaining stock price volatility and testing market efficiency. With the global economic integration, China will continue to converge with the international accounting standards in order to meet the requirements of opening to the outside world. The gradual improvement of China's enterprise accounting standards will also enhance the comparability of accounting information in China [1]. At the same time, although China's capital market is becoming more and more mature, there are still many shortcomings compared with the western developed international mature capital markets. The financial statements must be audited by a legally established audit institution of the H party, and whether the financial statements are true and complete can be determined from the professional perspective of certified public accountants [2]. The specific publication form of the annual report of an enterprise is stipulated by the Accounting Standards for Enterprise, which is formally the transmission of information such as the specific profit figures of the enterprise. In essence, it is a powerful embodiment of the past and future business situation of the enterprise. Therefore, the interpretation of the annual report of the enterprise is endowed with more connotations, so that information users can not only know the current economic strength of the enterprise, but also draw a long-term business trend circle of listed companies by integrating investors' interpretation of the market macro environment, product market forecast and competitor analysis [3].

The trend and change of stock price can more and more reflect its profit forecast and the investment rating and target price determined thereby. At present, securities analysts have become an important carrier to link the price of securities and the intrinsic value of securities. But we know that there is information asymmetry between investors and company managers, and investors may not have enough professional knowledge and experience to analyze various information of the company to meet their needs [4]. Securities analysts have just solved this problem and become an important bridge connecting companies and investors, playing an intermediary role in the capital market. For example, securities analysts are employees of investment institutions such as securities

companies. They support and restrict each other with various stakeholders in their work, and the evaluation of analysts by institutional clients such as fund companies and their own business related departments has greatly affected the establishment of analysts' intangible reputation and the acquisition of tangible remuneration [5].

Therefore, analysts may be influenced by these interests when making earnings forecast and stock rating evaluation, thus reducing the objectivity of their reports. The diversification of investment banking business models also determines the possibility of various conflicts of interest among securities analysts [6]. Evaluating a company's future profitability is an indispensable part of valuation analysis. Analysts can convert public and private information into the forecast of future earnings, so as to promote the valuation process. However, a large number of international literatures across finance, economics and accounting have questioned this. Using these forecast results to make investment decisions will inevitably lead to a big incentive deviation between analysts and the end users of earnings forecast reports [7].

This paper uses the target price, a research scenario that can directly reflect the stock return forecast of securities analysts, to test the relationship between the stock return forecast made by securities analysts and the nominal stock price, and to provide empirical evidence that directly reflects the psychological expectation whether the nominal price illusion affects the judgment of securities analysts. Subsequent research shows that the stock return forecast made by securities analysts for low price stocks is significantly higher than that of high price stocks, which is indeed a true reflection of the psychological expectations of securities analysts, not because: (1) Low price stocks tracked by securities analysts do have better investment opportunities than high price stocks, and can achieve a greater price rise in the future; (2) Securities analysts intentionally speculate on the psychology of other investors and release target prices that cater to the psychology of investors to maximize the interests of their securities companies.

2. Research hypothesis

2.1. Influence of cash flow forecast on the accuracy of target price

Securities analysts play an important role in the capital market. They play an important role in transmitting information, and they are increasingly concerned by regulators and academics. In recent years, analysts have begun to add cash flow forecast to their analysis reports, and the usefulness of cash flow forecast has also aroused widespread concern in academic circles [8]. According to the new institutional economics, people's pursuit of their own reputation is a good ideology. Reputation can not only restrain the behavior of economic man, but also encourage him to make continuous efforts. Therefore, the existence of reputation constraint mechanism will restrict all participants in the whole securities market to keep their credit, and encourage securities analysts to strive to maintain and improve their reputation [9]. As a key participant in the market, securities analysts' earnings forecasts play an important role in the whole market. Among them, moral honesty and trustworthiness is the core link of reputation accumulation. Analysts with good moral quality can overcome conflicts of interest and publish independent and objective market information, and finally win honor and the whole market [10].

In market economic activities, different people have different understanding of the same information. Generally speaking, the seller has a deeper understanding of the traded goods and has more sufficient information, so the seller is in a favorable position; Compared with the seller, the buyer has insufficient information about the traded goods, so it is at a disadvantage. The seller in a favorable position can transfer information to the buyer to achieve profits. Its main function is to use its professional knowledge to widely collect and sort out information, reflect the price information of the true value of securities to the market through analysis, prediction and release of reports, thus reducing the disadvantages of investors and other stakeholders caused by information asymmetry, making the price of the securities market approach its true value, and enhancing the effectiveness of resource allocation in the market.

This indicator mainly involves the data of the earnings forecast of securities analysts and the

actual earnings in financial reports before the end of this year. Its measurement formula is also related to the mathematical means adopted by different scholars for different reasons, such as the more commonly used method of taking the absolute value of the difference between the average predicted earnings per share and the actual earnings per share as the numerator and the absolute value of the actual earnings per share as the denominator, and the resulting variant: taking the absolute value of the difference between the median predicted earnings per share and the actual earnings per share as the numerator and the closing price of the stock at the beginning of that year as the denominator. Analysts think that stocks with higher value-added space will have lower future returns instead, which indicates that securities analysts, like ordinary investors, are easily influenced by some dazzling characteristics of stocks. Therefore, this paper predicts that the target price will be more accurate if star analysts also provide cash flow forecast. The frequency of providing cash flow forecast by analysts will also affect the accuracy of their target price. When analysts provide cash flow forecast more frequently, the accuracy of their target price will be higher.

2.2. Institutional background

With the rapid development of capital markets around the world, securities analysts are increasingly playing an indispensable role in the market, and they are divided into different categories according to their different identities and functions. The seller's analyst refers to the research department employed by the securities company, which usually publishes the research report of the industry or company it tracks in specific media or professional journals. These research reports are usually provided to the company's customers, and often include the analyst's earnings forecast and recommendation rating of the corresponding company. Buyers' analysts generally refer to those who work for large investment institutions, which often manage a large amount of funds, such as mutual funds, hedge funds, etc. Its main business is to buy and sell securities for itself or on behalf of others. The company's choice of audit institution is a kind of independent choice behavior. Some enterprises prefer to choose audit institutions with large scale, strong ability and good reputation, while some enterprises have no preference for seed selection. The choice differences between the two enterprises convey different motivations. The information asymmetry among investors is due to the fact that the risk that investors bear is inversely proportional to the amount of information they have, that is, the more information they have, the less risk they will bear. Therefore, some investors will collect private information at a cost, so that they can become a party with information advantages and trade with investors with less information by virtue of this advantage, making the relationship between investors negative and game, This in turn leads to a slump in market transactions. Therefore, information disclosure has become the most effective tool to regulate the capital market.

As far as information asymmetry among investors is concerned, information disclosure can avoid costly private information collection and reduce or even eliminate the gap between investors' information strengths and weaknesses. The author speculates that this is because listed companies will continuously release new information about the company's operation and management throughout the year, and major economic events such as mergers and acquisitions will impact the profitability of individual companies. In the process of forecasting, analysts will absorb new useful information and constantly revise their own forecasts, so as to update the forecasts and improve the forecasting accuracy. At the same time, in the process of analysts' revision of earnings forecast, if the actual earnings per share of the past year is used as the anchor value for forecast, then with the continuous addition of new information, its influence on analysts' earnings forecast will also increase, and analysts' dependence on the previous anchor value will be weakened. For companies with high risks and large fluctuations in earnings, the uncertainty of information disclosure will also increase. Analysts need to fully understand the company's operating status, financial status and other information in advance when making predictions. However, for companies with high risks and large fluctuations in earnings, it is difficult for analysts to fully understand their information, which will lead to the improvement of analysts' target price prediction error. However, when making cash flow forecast, analysts need to make a detailed analysis of the company's operating

conditions and cash flow information, and spend more energy to collect more information. As the key information about earnings forecast and stock recommendation rating of the seller's analysts can be obtained and made public free of charge, which has the greatest impact on investors, especially small and medium investors, the securities analysts in this paper mainly refer to the seller's analysts.

3. Sample selection and research design

3.1. Sample selection and data sources

Since 2002, analysts have provided cash flow forecasts in China. Therefore, this paper mainly selects the data of A-share listed companies from 2002 to 2017 as samples to study the relationship between analysts' cash flow forecasts and the accuracy of target prices. In this paper, the tendency matching method is used to test hypothesis 1, hypothesis 1a, hypothesis 1b and hypothesis 3a by using the matched samples. In addition, the sample of analysts issuing cash flow forecast and target price forecast at the same time is divided into a sub-sample, which is used to test hypothesis 2 and hypothesis 3b. The processing after obtaining the original data includes: first, taking the arithmetic average of all the profit forecast values of the same sample company; Second, calculate the standard deviation of all profit forecasts of each sample company; First, calculate the difference between the predicted arithmetic average of each sample company and the actual EPS, and then take the absolute value after standardization. In addition, accounting information is one of the important bases for securities analysts to analyze and forecast the listed companies they track.

When listed companies are willing to disclose relevant information to the outside world, this not only means that securities analysts can improve the accuracy of their earnings forecasts by obtaining more comprehensive information, but also can perfectly prove their professional ability and demonstrate the reliability of their forecast reports, thus attracting a large number of customers. From the perspective of information sources used by securities analysts, they are mainly divided into public market information and private channel information, and their proportion is affected by the operating conditions of listed companies. Generally speaking, companies with good operating conditions usually have higher comparability of accounting information, because they are willing to release more real information to the public, which also makes the public information on the market more comprehensive. When all securities analysts use almost identical information to forecast earnings, the differences in forecast results will be less. Analysts will simultaneously forecast the earnings of the same listed company for multiple years in the future. Due to the long interval and small reference value, they will be eliminated.

3.2. Main empirical results

Descriptive statistics of each research variable are shown in Table 1. It can be seen from the table that the mean value of reputation is 0.22, indicating that the best analysts are scarce and limited in number. The average accuracy of earnings forecast of a single analyst is 0.157, and the accuracy of consensus earnings forecast is 0.134, which shows that both individual analysts and analysts in general show positive deviation in earnings forecast, and there is an optimistic tendency. The average of the degree of conflict of interest is 14.9, which indicates that institutional investors generally hold a high proportion of shares, and analysts generally face large conflicts of interest.

Table 1 Variable description statistics

Variable	Number of samples	Minimal value	Max	Average	Standard value
Opyimistic	4001	0	1	0.420	0.4922
Accuracy	4001	0.000	0.859	0.152	0.3261
Reputation	4001	0	0.255	0.220	0.5156
Instiute	4001	0.000	40.562	0.113	0.4223
Roe	4001	0.5	62	0.512	1.2863
Coptimistic	4001	0.263	30.263	28.366	0.1482
Caccuracy	4001	-0.032	1	8.132	0.5486
Size	4001	0.00	0.824	0.1398	0.1354

It can be seen from the table that over time, the error and standard deviation of analysts' earnings forecasts have gradually decreased, indicating that the accuracy of forecasts has been improved, the volatility has decreased and the forecast results have become stable in the process of constantly revising their own earnings forecasts. In addition, there are large differences in the number of analysts tracking and predicting different companies, and the distribution of the number is relatively scattered, indicating that China's securities market is not perfect. Most analysts' forecasts are concentrated on individual companies, but lack of attention to other companies; The size, growth and earnings volatility indicators of the sample companies are also quite different, indicating that the sample type of this study is relatively comprehensive, covering most of the company types in the market, and there is no possible error caused by sample selection, which improves the reliability of the test results. The correlation coefficient between the asset liability ratio (lev) and the analyst's cash flow forecast (CFF) is 0.038, which is significantly positive at the level of 1%, initially proving that the asset liability ratio will affect the analyst's release of cash flow forecast. It preliminarily shows that the prediction of the factors influencing analysts' cash flow forecasts in the probit regression model of the propensity score matching method (PSM) is correct. It shows that in all earnings forecasts made by the best analysts, the greater the shareholding ratio of institutional investors, the higher the accuracy level of earnings forecasts made by the best analysts, and the reputation constraint mechanism is ineffective. That is to say, when analysts weigh their reputation against the conflict of interests, most of their energy will be spent on tracking the stocks with heavy positions in the fund. Analysts will choose to publish accurate earnings forecast information to cater to institutional investors, while the accuracy of other stock forecasts will be greatly reduced, thus damaging the interests of small and medium investors. The accuracy of consensus forecast will also have a positive impact on analysts' personal accuracy, which is influenced by analysts' herd behavior. The greater the consensus forecast accuracy, the smaller the error of analysts' personal earnings forecast and the higher the accuracy. The herd behavior here is rational "pseudo-herd behavior". The bigger the Number, the higher the accuracy of the forecast. Maybe the stock tracked by the analyst represents a larger company, and the analyst will put more energy into searching for information, thus making the forecast result more accurate.

Figure 1 very intuitively shows that there are significant differences in the psychological expectations of security analysts on the future returns of high-low price stocks. In most months of the sample period, the stock returns of security analysts on low price stocks are significantly higher than those on high-price stocks. The research findings in Figure 1 preliminarily show that even securities analysts with rich financial knowledge and strong professional ability will still be affected by the illusion of nominal price. They overestimate the rising space of low-cost stocks and give them more optimistic target prices.

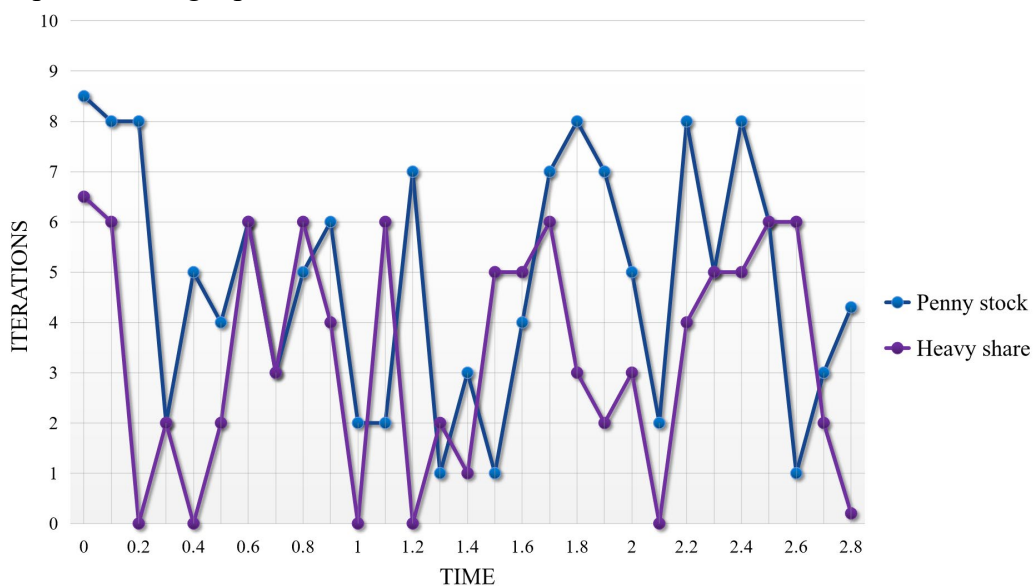


Figure 1 Stock return forecast of low price stocks and high price stocks by securities analysts

It shows that for challenging companies, analysts' release of cash flow forecast will reduce the error of target price forecast and promote the accuracy of target price. At the same time, it also proves that compared with non challenging companies, this kind of promotion will be more obvious in challenging companies. It supports the hypothesis 3a of this paper. Under other conditions unchanged, for more challenging companies, the role of analyst cash flow forecast in improving the accuracy of target price is more obvious and tenable. At the same time, it can be seen from observation that compared with the unmodified group, the modified group has a lower dependence on the static anchor and a stronger dependence on the dynamic anchor, which indicates that the analysts have made insufficient adjustments around the dynamic anchor in the earnings forecast, further proving Hypothesis 4, that is, the analysts are more likely to adjust their own expectations according to the dynamic anchor, and have a certain role in accepting and digesting market information. Finally, the company's earnings characteristics will also affect the analysts' prediction accuracy. However, unlike previous studies, the empirical results of this paper show that when the company has losses and earnings decline, the analysts' prediction may be more cautious and the error will be reduced.

4. Conclusions

This paper uses the target price forecast issued by securities analysts to empirically test whether the nominal stock price affects the psychological expectation of securities analysts on the future return of stocks. Study the relationship between analysts' cash flow forecasts and the accuracy of target prices. Through empirical research to test whether the analyst's target price is more accurate when issuing cash flow forecast than when not. At the same time, further test whether the accuracy of the target price will be further improved when the analysts issue more accurate cash flow forecasts. That is to say, analysts with high reputation, like other ordinary analysts, have an optimistic earnings forecast tendency. In the whirlpool of interests, cautious earnings forecast information was not released in order to protect one's reputation. On the contrary, in order to cater to institutional investors, the stock returns are overestimated and the interests of small and medium investors are harmed. Based on the above conclusions, it can be seen that although the profit forecast of China securities analysts has some deviation due to anchoring psychology, with the advancement of the forecast and the accumulation of their own experience, the accuracy of the forecast will be continuously improved, thus providing effective profit forecast data for market investors.

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