Providing an Index to Measure the Sentiment Investor in the Iranian Capital Market[1]

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INTRODUCTION

Investors do not always make rational decisions and often allow emotions to influence their choices, leading to occasional errors. Therefore, it is necessary to evaluate investors' performance and forecast market trends to gauge their emotional tendencies. Market sentiment, also known as investor sentiment, represents the collective perception of investors toward specific securities or the broader financial market. While investors' emotions are recognized as crucial factors affecting stock prices, measuring these emotions poses challenges due to the complexities of human behavior. Consequently, the primary objective of this research is to develop a quantitative index to measure investors' emotional tendencies in the Tehran Stock Exchange. To achieve this goal, a thorough examination of existing research in this field was conducted. Subsequently, various components and criteria were identified from scientific literature to be used in measuring emotional tendencies. Utilizing established methodologies, scientists then began designing the aforementioned index.

MATERIALS AND METHODS

From a practical perspective and in terms of methodology, this research employs correlation analysis methods as a subset to determine the relationship and select variables influencing the trend of investors' sentiments. The principal component analysis (PCA) model is utilized to identify effective variables. Additionally, regression analysis is employed to

investigate how investors' sentiment impacts the performance of the total index and the occurrence of price bubbles. To extract the components used in the index, structured and targeted literature reviews are conducted, along with gathering information from the stock exchange organization and financial information processing databases such as Amin Innovations. It's worth mentioning that EViews 12 and SPSS 22 software are utilized to conduct the factor analysis process. Moreover, the principal components method is employed for factor analysis.

RESULTS AND DISCUSSION

In this research, a total of 14 components were evaluated, out of which 8 were selected for inclusion in the final model. These components include: APF, ATR, BSI, CEFD, PE, PSY, RSI, and Tv. The principal component analysis (PCA) method was employed to extract an index measuring the emotional tendency of Tehran Stock Exchange investors. Monthly data from the period 2014 to 2020 was utilized for this analysis. After identifying the desired components and gathering relevant data from reliable databases reflecting investors' emotional tendencies, the data was input into software for factor analysis using the principal component method (PCA).

Based on the mentioned cases, finally, the relationship between the index and the ready hand is as follows:

$$Sentiment = 0.738APFi + 0.817 ATRi + 0.573 BSIi + 0.532CEFDi + 0.704 PEi + 0.867 PSYi + 0.787 RSIi + 0.682TVi$$

CONCLUSION

The findings of this research indicate that the developed index effectively measures investors' emotions. Consequently, traders, capital market analysts, portfolio managers, retail investors, and institutional investors can utilize the index to assess investors' emotional behaviors and enhance decision-making in their transactions. Internal studies reviewed thus far have primarily focused on evaluating the impact of investors' sentiments in specific cases, with only one study addressing the measurement of sentiments among active investors in the Iranian capital market through an index. However, this study distinguishes itself by designing an index based on three components, differing in both quantity and type of variables from previous research. Additionally, while some foreign studies have introduced indices, the key distinctions lie in the target population and the inclusion of limited and somewhat different variables. This research, on the other hand, incorporates various factors into the index design process, setting it apart from previous endeavors.
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Keywords: Investor Sentiment, Market Sentiment, Stock Market, Principal Component Analysis, PCA.

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