

Investor Sentiment and Assets Valuation

Hu Changsheng^a, Wang Yongfeng^{b,*,**}

^{a,b} Wuhan University, Wuhan(430072), China

Abstract

Using the Chinese stock market data as sample, this paper investigates the impact of investor sentiment on the assets valuation. In order to classify stocks objectively, our sample stocks are sorted by double indicators (B/M and PE). In the portfolio, we find stocks with low B/M and high PE are sensitive to investor sentiment, which are considered to be costly to arbitrage. Investor sentiment has incremental power to explain stock return co-movements, which indicates that these stocks would perform higher (lower) excess returns when investors are bullish (bearish). Our findings support a role for investor sentiment in the formation of return and the change of investor sentiment should be taken as an important systemic risk in asset pricing and portfolio management.

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Keywords: Investor sentiment, asset valuation, co-movement, stock market volatility, arbitrage cost

1. Introduction

We investigate the effect of investor sentiment on cross-section of stock returns by using samples of Chinese stock market. Our investigation is motivated by the debate between traditional rational theories and behavior theories. The former posits that the underlying value of a stock closely reflects the present value of its future cash flows, so correlations between the returns of two assets rising from their fundamental values are affected by the same fundamental risk factors. Traditional theory hypothesizes that the individual irrational behaviors are random and can counterbalance to each other, the rational arbitrageurs would render prices unaffected by the demand shocks and changes in investor sentiment even if systematic noise trading exists.

However, according to some recent empirical results, correlations in asset returns with no common fundamental risk are significant (e.g. Lee, Shleifer and Thaler (1991)^[1]; Barberis, Shleifer and Wurgler (2005)^[2]). Tradition rational theory cannot give a convincing explanation to this phenomenon. Behavior theories argues that asset prices are established by the dynamic interplay between irrational investors and rational arbitrageurs (e.g., Shiller (1984)^[3], Shleifer and Summers (1990)^[4]), for the real market is not without frictions. According to this view, factors such as the irrational investment decisions affected by investor sentiment also induce co-movements and arbitrage forces may not fully absorb these correlated demand shocks.

* Corresponding author: Wang Yongfeng, Tel:8615802790428; E-mail address: wangxiayu2@126.com

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The findings of many experimental psychology provide a theoretical basis for the behavior finance, scholars established lots of behavior models to explain market anomalies based on the bias of individual investors psychology (overconfidence, representativeness and conservatism), e.g., BSV (Barberis et al, 1998), DHS (Daniel et al. 1998)^[5] and the HS (Hong and Stein, 1999), which reflect investors under-react or over-react to market information on different perspectives. Though these models are useful to explain the momentum effect or values reversion of stock returns, some only reflect one or a few psychology characteristics of irrational investors while their investment decisions are affected by many psychology factors, so these theory models cannot explain all financial anomalies. Therefore, some scholars assume investor sentiments are exogenous and construct a comprehensive sentiment index to reflect the change of investor sentiment and analysis the role of investor sentiment to the stock returns. Baker and Wurgler (2006, 2007) develop an investor sentiment analysis approach named "top-down" and a macroeconomic process^[6,7]. Because the real market and investor characteristics are too complicated to be described by a few realized biases, they choose a series of indirect variables to construct a comprehensive sentiment index to measure the change of investor sentiment. Their approach focuses on the measurement of the aggregate investor sentiment and calculating its effects to market returns and individual stocks, but not point out the level of stock price depends on sentiment.

To examine whether investors' sentiment has the power in explaining cross-sectional stock returns, we estimate them in a multifactor time-series model in which we use investor sentiment as one of the explanatory variables besides the market excess return, the size factor (*SMB*), the book-to-market (*B/M*) factor (*HML*) and the momentum factor (*UMD*). According to the regression results, we find that the investor sentiment factor has a significant ability to explain the return co-movement in the portfolio with low *B/M* and high *PE*.

Our research is not the first one to explore the role of investor sentiment in the stock market. A series of papers has proved closed-end fund discounts to be a measure of sentiment, e.g., Lee et al. (1991)^[1], Neal and Wheatley (1998). Clarke and Statman (1998)^[8], and Fisher and Statman (2000)^[9] examine the efficient of a variety of variables in predicting the short-horizon market return. Brown and Cliff (2004)^[10] find many indirect variables used to measure investor sentiment are related to direct measures of sentiment (e.g., surveys or questionnaires), and these indirect measures are strongly correlated with contemporaneous market returns while they have little predictive power for near-term future stock returns. Brown and Cliff (2005)^[11] use survey data of American Association of Individual Investors Association to establish an individual investor sentiment index, and find that investor sentiment has predictive power of long-term stock returns and the extent of assets mispricing is positive correlated to investor sentiment. Baker and Stein (2004)^[12] proposed a market liquidity model in which market liquidity indicator can be used as a measure of investor sentiment, for market trade volume is higher than average rate only when irrational investors are more optimistic than institutional investors, and the assets are overvalued by the irrational investors. Zhang Qiang and Yang Shu'e (2008)^[13] use the increasing rate of new stocks accounts as investor sentiment index, and find investor sentiment is an explanatory variable for the cross-section of stock returns. Kumar and Lee (2006)^[14] uses trade data of investors to construct the investor sentiment (Buy-Sell-Imbalance Index) and find investor sentiment has a significant incremental ability to explain the return comovements, especially for those stocks associated with strong retail concentrations and difficult to arbitrage (e.g., small firms, low priced firms, high *B/M* firms). Baker and Wurgler (2006, 2007)^[6,7] analysis the impact of investor sentiment on the cross-section of stock returns, and find the stocks returns are negative related to investor sentiment.

Our paper is organized as follows: In the next section, we former investor sentiment by several indirect variables and the multifactor time-series model. In section 4, we examine the sentiment-return relation. Section 5 concludes with a brief summary and discussion.

2. Measuring Changes in Investor Sentiment

In this paper, investor sentiment represents common investors' optimistic or pessimistic attitude (or expectation) of stock market (seen by Brown and Cliff (2004), Baker and Wurgler (2006)), reflecting investors aggregate investment intentions. For investor sentiment represents the changes of investors' psychology expectation, it is difficult to measure the changes of investor sentiment in the empirical process of behavioral finance theories. In this paper, we formulate a comprehensive investor sentiment index following the method introduced by Baker and Wurgler (2007). Using the principal component analysis method, we choose four substitution variables to measure the changes of investor sentiment: IPO first day return (*RIPO*), closed-end fund discount (*CEFD*), market turnover rate (*TRUN*) and the number of new stock accounts for each month (*NTA*).

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