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Are individual stock investors overconfident? Evidence from an emerging market

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ABSTRACT

This paper investigates overconfidence among individual stock investors. We focus on Turkey in order to use a unique nationwide dataset and study how common overconfidence is, what factors affect overconfidence and how overconfidence relates to investor return performance. Our findings show that overconfident behavior is common among individual stock investors. Male, younger investors, investors with a lower portfolio value, and investors in low income and low education regions exhibit more overconfident behavior. Moreover, we find that overconfidence has a negative effect on portfolio wealth. To the best of our knowledge, our study is one of the few studies in the literature and the first in Turkey focusing on nationwide data to analyze overconfidence. We extend the findings of the behavioral finance literature to the Turkish market based on this dataset.

1. Introduction

Empirical evidence in the behavioral finance literature shows that individuals do not behave rationally. Barberis and Thaler (2003) provide a summary of models that try to explain the equity premium puzzle, excess volatility, excessive trading, and stock return predictability using both the Prospect Theory of Kahneman and Tversky (1979) and beliefs. Daniel et al. (2002) support the view that markets are not efficient and investor biases affect security prices substantially. There are numerous studies[2] showing that investors are not rational or markets may not be efficient and hence prices may significantly deviate from fundamental values due to the existence of irrational investors.

One of the most important deviations from rationality is overconfidence which has a significant impact on markets. It affects level of trading volume as well as price formation in the stock markets. Overconfidence results in aggressive trading behavior which may lead investors to pay a significant amount of commissions. In addition, overconfident investors may hold riskier portfolios than they should tolerate due to their underestimation of risk. Overconfidence not only affects financial markets and prices, but also individuals as they may make suboptimal investments resulting in deterioration of their wealth. Hence, it is important to examine the prevalence of overconfidence in addition to its determinants and consequences.

Unfortunately, due to data availability, most of the research in the behavioral finance literature depends on the data that is restricted to the subsamples of overall investor groups in the countries of focus which limits us from generalizing the findings of these studies. To the best of our knowledge this is one of the few studies to focus on nationwide data to analyze overconfidence. Studies specific to Turkey are also limited, Korkmaz and Çelik (2007) to name one.

Overconfidence may depend on many factors including individual characteristics. For example, Vissing-Jorgensen (2004) uses the investor optimism survey data conducted by UBS and Gallup from 1998 to 2002 and finds that irrational behavior is weaker for more sophisticated investors.

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2 Black (1986), De Long et al. (1990), Shleifer and Vishny (1997), Barberis et al. (2001), Hirshleifer (2001), Daniel et al. (2002), and Subrahmanyam (2007) to name a few.

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The author uses wealth and investor experience as proxies for investor sophistication. Moreover, overconfidence may depend on cultural differences. Fan and Xiao (2005) and Statman (2010) show that individuals in different societies and cultures may have different behavioral biases which may affect their financial decisions. For example, individualism is a more evident trait in western countries, such as the USA and the UK, as collectivism is in eastern countries like China and India. Hofstede (2001) finds that Turkish people are more collectivist compared to the USA, the UK and Western Europe. Fan and Xiao (2005) and Statman (2010) argue that individuals in collectivist societies tend to be more risk tolerant, therefore, we may expect collectivism to have an effect on overconfident behavior, as well. In this study, our dataset allows us to look at the effect of different demographic factors, namely age, gender, portfolio wealth, experience and region of residence on overconfidence. Besides, the collectivistic nature of the Turkish culture will help us examine how culture affects overconfidence.

The majority of the behavioral finance literature analyzes individual investors in developed markets such as the USA, the UK and Western Europe. However, Turkey as an emerging market, and the Istanbul Stock Exchange (ISE) in Turkey, have important characteristics that would appear to be worth analyzing.[3] ISE is a member of the World Federation of Exchanges (WFE) and the Federation of European Securities Exchanges (FESE). As a leading/advanced emerging market stock exchange, ISE is recognized as an investable market according to the US Securities and the Exchange Commission (SEC) and the Japan Financial Services Agency. Moreover, ISE has one of the highest turnover ratios among world stock markets, which may be related to the overconfidence among Turkish stock investors. According to the World Bank, in 2011, ISE ranked fifth in terms of turnover ratio after Italy, the Republic of Korea, China and the USA. Trading volume in ISE is relatively high and provides a liquid market for investors. Although foreign investors hold around 65% of free float in ISE, they constitute only around 15% of the trading volume.[4] Local individual investors trade more aggressively and hence, trading volume and liquidity is mostly provided by these investors. Our database helps us focus on Turkey and the Turkish stock market in order to have a better understanding of overconfidence in an emerging market.

We use transaction data for the year 2011 in order to analyze how prevalent overconfident is among investors, what factors affect overconfidence, and how it relates investor return performance. First, we find that overconfidence is common among Turkish individual investors. Overconfidence is higher among males, young investors, investors with low portfolio values and investors in less developed regions. Next, we analyze the trade performance of investors in order to understand whether overconfidence impacts return performance. Return calculations are based on matched sell transactions with one or more buy transactions within 2011. This methodology allows us to calculate realized returns taking into account the stocks chosen for sale. Our findings show that overconfidence is detrimental to portfolio wealth since mean return decreases with increasing turnover. Investment decisions of overconfident investors do not seem to be justified.

The findings of this paper contribute to the behavioral finance literature in a number of ways. First, we use a unique nationwide dataset unlike most of the studies in the literature which are limited to a subset of investors. We also focus on an emerging market with high collectivist attitudes as opposed to the widely studied developed countries which are markets with individualistic attitudes in order to have a better understanding of overconfidence of investors in such countries.

2. Literature review and hypothesis development

Overconfidence is the unmerited confidence in one's self judgments and abilities. Odean (1998) describes overconfidence as the belief that a trader's information is more precise than it actually is. This is equivalent to narrow confidence intervals in predictions. Daniel et al. (1998) define an overconfident investor as one who overestimates the precision of his private information signal, but not of information signals publicly received by all. Overconfidence may stem from different reasons. Miller and Ross (1975) and Kunda (1987) argue that self-attribution bias means attributing successful outcomes to one's own skill but blaming unsuccessful outcomes on bad luck. Langer (1975) states that the illusion of control is the tendency for people to overestimate their ability to control events that they have no influence over. Unrealistic optimism is the confidence about the future or successful outcome of an event. It is the tendency to take a favorable or hopeful view as discussed by Weinstein (1980) and Kunda (1987). Russo and Shoemaker (1992) define confirmation bias as the tendency of people to favor information that confirms their arguments, expectations or beliefs. Svenson (1981) discusses that better than average effect implies that people think that they have abilities superior than an average person. Hence, individuals tend to believe that they are in the best class among peers. Calibration refers to how individuals assess the correctness of their estimates. Deaves et al. (2010) argue that a miscalibrated agent assumes that s/he has made a lower level of mistakes than is true.

Different forms of overconfidence reveal that overconfident investors believe that their decisions will prove to be correct and they will expect higher than average returns. However, this is not necessarily the case. There are numerous examples in stock markets which prove that investors often make wrong decisions and deteriorate wealth. Barber and Odean (2000, 2001, 2002) argue that overconfidence can explain poor trading performance related to high trading levels and conclude that trading is hazardous to wealth. Hence, *we hypothesize that overconfidence diminishes trading performance of Turkish individual stock investors.*

ISE has one of the highest turnover ratios among world stock markets. Since trading volume in ISE is mostly provided by local individual investors, we may argue that

[3] Istanbul Stock Exchange became Borsa Istanbul in April 2012.

[4] Foreign investors have a different investment style. They mostly prefer ISE30 and ISE100 (a major benchmark) stocks, which have high market capitalization, high liquidity and are representative of the sectors they operate in. Moreover, Ülkü and İkizlerli (2012) argue that foreign investors may be more sophisticated and maybe rationally adjusting their investment styles.