Investors' trading activity: A behavioural perspective and empirical results

Dimitrios Kourtidis [a,*], Željko Šević [a], Prodromos Chatzoglou [b]

[a] Glasgow Caledonian University, Business School, Glasgow, UK
[b] Democritus University of Thrace, Department of Production and Management Engineering, Xanthi, Greece

ARTICLE INFO

ABSTRACT

This study attempts to group investors (individuals and professionals) into different segments based on their psychological biases and personality traits and, then, to examine whether, and how, these biases and traits drive their investment behaviour. The behavioural finance literature suggests four main factors that influence investment behaviour: overconfidence, risk tolerance, self-monitoring and social influence. Adopting this approach, a cluster analysis of data from a representative survey of 345 investors in Greece identified three main segments of investors: high profile investors (a high degree of overconfidence, risk tolerance, self-monitoring and social influence), moderate profile investors (a moderate level of overconfidence, risk tolerance, self-monitoring and social influence) and low profile investors (a low degree of overconfidence, risk tolerance, self-monitoring and social influence). The major finding of the analysis shows that the higher the investors' profile, the higher the performance of these investors on stock trading. The results will expand investors' knowledge about the financial decision-making process and trading behaviour.

1. Introduction

Traditional finance theories such as Efficient Market Theory (Fama, 1965a,b) and Modern Portfolio Theory (Markowitz, 1952) support the hypotheses of rational investors and efficient markets. However, it is obvious that there are irrational investors in the market, making random transactions that cannot adequately be explained by traditional finance theories (Chang, 2008).

Many scholars, such as Kahneman and Tversky (1979), believe that the study of psychology and other social science theories can shed considerable light on the efficiency of financial markets, as well as explain many stock market anomalies, market bubbles and crashes. Thus, a relatively new theory, called behavioural finance, has emerged in an attempt to understand the human psychological biases that are related to the financial markets. In contrast to traditional finance, which examines how people should behave in order to maximize their wealth, behavioural finance investigates how people actually behave in a financial setting (Nofsinger, 2005a).

The behavioural finance literature has developed a number of behavioural concepts that explain investment behaviour. This paper reviews some of the most significant and reliably mea-

surable concepts to classify investors into profiles and, then, to compare their personal characteristics and their trading behaviour. The behavioural characteristics (concepts) that have been selected for classifying investors into profiles are: overconfidence (OV), risk tolerance (RT), self-monitoring (SM) and social influence (SI). Thus, this paper examines whether the different psychological and personal characteristics lead to differences in investment behaviour and trading performance among the group of investors with different profiles. This framework will, hopefully, help investors understand how biases and traits affect their investment decisions. The paper is organized as follows: first, the paper discusses selected psychological biases and personality traits that are involved in behavioural finance. Then, a brief description of the methodology design is presented and finally the results of the cluster analysis are presented.

2. Literature review

Although the relevant literature suggests that there are many factors affecting people's behaviour, the emphasis there was to explore the most important psychological biases and personality traits affecting investment behaviour. These are overconfidence, risk tolerance, self-monitoring and social influence. An analytic discussion follows in the next sections and an attempt is made to link them with investment behaviour.

* Corresponding author.
E-mail addresses: dkourt10@caledonian.ac.uk (D. Kourtidis),
Zeljko.Sevic@gcal.ac.uk (Ž. Šević), pchatzog@pme.duth.gr (P. Chatzoglou).

2.1. Overconfidence

Overconfidence causes investors to be too certain about their own abilities and not to weight the opinion of others sufficiently. Furthermore, overconfident investors underreact to new information, or overweight the value of information, but they also hold unrealistic beliefs about how high their returns will be (Barber and Odean, 2000). Chen et al. (2004) examined brokerage accounts in China and reported that individual investors exhibit overconfidence.

In spite of the fact that some studies have found no difference in overconfidence between men and women (Lundeberg et al., 2000; Deaves et al., 2003; Biais et al., 2005), the majority of the literature suggests that men are apparently more predisposed to overconfidence than women (Lundeberg et al., 1994; Barber and Odean, 2001a). Barber and Odean (2001a) have found that males trade 45% more actively than females, and earn lower returns, while Shu et al. (2004) have shown that, even though men trade more excessively than women, their performance is not dramatically lower than that of women.

This research assumes that overconfidence leads to higher trading frequency and volume. Deaves et al. (2003), and Grinblatt and Keloharju (2009) for example, have documented that overconfidence causes additional trading frequency. Glaser and Weber (2007) have concluded that "*The higher the degree of overconfidence of an investor the higher her or his trading volume*" (Glaser and Weber, 2007, 13). Additionally, Dow and Gorton (1997) have found that trading volume increases when individuals and insiders are overconfident. Moreover, Gervais and Odean (2001) have found that overconfident investors trade too aggressively and this increases the expected trading volume. A similar argument that overconfidence leads to greater trading activity is made by Daniel et al. (2001), Hirshleifer and Luo (2001), Wang (2001) and Scheinkman and Xiong (2003).

Research has shown that overconfidence leads not only to increased trading activity but also to increased probabilities of taking wrong decisions (e.g. buying the wrong stocks). For example, Odean (1998) supports that an overconfident trader makes biased judgements that may lead to lower returns. Similarly, Fenton-O'Creevy et al. (2003) and Philip (2007) have documented that overconfidence has a negative impact on trading performance. On the other hand, De Long et al. (1990) and Wang (2001) support that overconfident investors earn higher returns than less confident investors.

Overconfident investors believe they can achieve high returns, thus they trade often and they underestimate the associated risks (Benos, 1998; Odean, 1998; Wang, 2001). Barber and Odean (2001a) and Chuang and Lee (2006) argue that overconfident investors underestimate risk and trade more in riskier securities.

Last, the trend of using online brokerage accounts is making investors more overconfident than ever before. Barber and Odean (2001b) have provided evidence that investors, after going online, tend to trade more actively and their performance drops. On the other hand, Choi et al. (2002) have investigated the performance of online investors and found no significant difference in the performance of Web traders and phone traders.

2.2. Risk tolerance

Financial risk tolerance, defined as "*the maximum amount of uncertainty that someone is willing to accept when making a financial decision, reaches into almost every part of economic and social life*" (Grable, 2000, 625).

This study supports the hypothesis that demographics influence risk tolerance behaviour. This claim is supported by the following authors. Schooley and Worden (2003) have found that "Gen Xers" (defined as being born in 1964–1980) generally have a low propensity for risk taking. Hira et al. (2007) have found that higher age decreases risk tolerance, while higher income increases risk tolerance. Cicchetti and Dubin (1994) and Grable et al. (2004) have also found that people with high incomes have higher risk tolerance than people with lower incomes.

Roszkowski (1998) and Hartog et al. (2002) assume that single, rather than married, individuals tend to be more risk tolerant. Similarly, Yao and Hanna (2005) have documented that risk tolerance is higher for single males, followed by married males, then unmarried females and then married females. Furthermore, Hariharan et al. (2000) have investigated the behaviour of investors who are about to retire and they have found that women are more likely to invest in risk-free securities than men. Grable et al. (2004) and Weber et al. (2002) have also found that men are more risk tolerant than women.

Additionally, the level of formal education is found to influence risk tolerance. Grable and Lytton (1998) and Sung and Hanna (1996) suggest that greater levels of attained education are associated with increased risk tolerance. Hallahan et al. (2003) considered education and marital status but they have not found evidence to support that they are significant determinants of individuals' attitude towards risk.

Moreover, Keller and Siergist (2006) argue that financial risk tolerance is a significant positive predictor of willingness to invest in stocks. Specifically, they have found that highly risk-tolerant investors have high-value portfolios and they trade securities frequently (Keller and Siergist, 2006). Further, Dorn and Huberman (2005) have investigated the determinants of portfolio diversification and turnover and found that risk-tolerant investors and trade more aggressively. Additionally, a number of research studies have found that people who are risk tolerant trade more often than less risk-tolerant people (Tigges et al., 2000; Wärneryd, 2001; Clark-Murphy and Soutar, 2004; Wood and Zaichkowsky, 2004; Durand et al., 2008).

2.3. Social influence

A concept that also explains behavioural dispositions is social influence. Social attitude has played an important role in these attempts to predict and explain human behaviour (Campbell, 1963; Sherman and Fazio, 1983; Ajzen, 1988). This research supports that social influence has an impact on investors' trading behaviour. This claim is also supported by Nofsinger's (2005b) findings. Individual investors discuss with, and are affected by (to an extent), their family members, neighbors, colleagues and friends, as far as their investment decisions are concerned (Nofsinger, 2005b). In addition, investors in financial markets imitate each other. This phenomenon is referred to as herding (Hirshleifer and Teoh, 2003). Evidence of herding behaviour among stock-market participants is "Wall Street", which shares aspects of a crowd (Prechter, 2001). When a large number of investors make similar decisions, it is a possible cause of market booms and bursts. This is the reason why the popular press often holds investors' tendency to herd as responsible.

Hong et al. (2004) have investigated the participation of households in the stock market and they have concluded that social households are 4% more likely to invest in the stock market than nonsocial households. Along the same line, De Marzo et al. (2003) suggest that individuals form their opinions by interacting with others and an obvious example is that investors' decisions are usually affected by the recommendations made by friends and/or analysts. Whereas some studies confirm the existence of herding in financial markets (Guedj and Bouchaud, 2005), others do not (Drehmann et al., 2005).

Furthermore, technological advancements have made the production, retrieval and distribution of information much easier,