

PART

Five

Trading and Investing Psychology and Strategies

The Psychology of Trading and Investing

Julia Pitters

Assistant Professor of Psychology, Webster University, Vienna

Thomas Oberlechner

Chief Science Officer, iMATCHATIVE

INTRODUCTION

“Then up he got with a light heart, free from all his troubles, and walked on until he reached his mother’s house, and told her how very easy the road to good luck was.”

Grimm and Grimm (2012, p. 12)

This quote from a Grimm fairy tale describes the experience of Hans in Luck after he had traded a piece of gold the size of his head for a horse, the horse for a cow, the cow for a pig, the pig for a goose, and the goose for a grindstone that finally fell into the water. This series of transactions shows how trading behavior may objectively be unsuccessful but subjectively still be rewarding and valuable. The traditional finance approach, which is based on rational expectations and profit maximization, fails to provide an explanation for this behavior because it is not economically rational. However, not only in fairy tales but also in real world markets seemingly irrational trading decisions take place, as the recent financial crises have amply demonstrated around the globe.

New approaches are needed to describe, explain, and predict trading and investing decisions. These approaches should not only take into account the dynamics between different market forces and human actors but also consider the plethora of nonrational aspects that occur when humans form decisions. This chapter explores the role of psychology in trading and investment decisions in financial markets.

The tension between traditional finance and the psychological perspectives of these markets reflects the difference between the outcome-based outside appearance and the inner decision-making dynamics of financial markets. The normative model of traditional finance suggests how market participants should behave and assumes that participants process information fully rationally. By contrast, the descriptive approach of decision making used in psychology explains how market participants actually form their decisions both in experimental situations and real-life markets.

This latter approach demonstrates how humans fail to be rational when making decisions in the markets (Katona 1975; Shapira 1986; Frey 1990; Jagric et al. 2010).

Psychologists emphasize that all trading decisions represent a form of human behavior. Comparable to decision outcomes in other walks of life, market outcomes also are the result of affective, cognitive, and social processes. Instead of presenting market behavior in abstract models, psychologists search for accurate descriptions of how people actually make decisions and how participants have limitations processing information rationally (Slovic 1986; Zeckhauser, Patel, and Hendricks 1991). The research methodologies for achieving these descriptions are based on making observations, asking study participants to choose between preformulated investment scenarios, analyzing the introspection of decision makers, and conducting representative surveys and experiments in controlled laboratory settings. The combination of these empirical methods leads to valid descriptive insights about trading and investing decision making.

To introduce the psychological factors discussed and to understand the complex dynamics of trading in markets, consider the following example of a simple purchase in a fruit market. A tourist wants to buy a specific product such as a pineapple that is offered in the market. For her purchase, she is looking for the best balance between quality and price. In the market, she faces many retailers who sell pineapples. One of the many psychological factors that come into play in her decision making is her personality by considering questions including:

- Is she easy to please or a perfectionist?
- Does she like to trade and communicate with the sellers?
- Is she convincing?
- **Her** purchase decision may further depend on her mood and emotions.
- Is she tired or is she in a good mood? Both may enable sellers to convince her to buy their product.
- Is she angry or depressed and thus more critical?
- Further, does she like the seller because she finds him sympathetic and wants to support him or does she dislike him?

Various cognitive aspects will also influence what she considers rational, including:

- Does she know all the facts about what makes a good quality pineapple?
- Is she informed about changing price levels?
- Does she have experience buying pineapples?
- What are the influences on her decision **time** pressure, the selective availability of information, her “anchoring” to the first suggested price she hears, and her implicit notion of what pineapples should cost?
- **Moreover**, social norms and cultural differences influence her decision, such as:
- Does she consider fairness considerations when trading?
- Which ethical principles and ideals does she follow? Does she know about the cultural norms?

Finally, rumors and the impact of media shape her judgment, including:

- Has she learned in a biased travel guide about the best pineapples in town?
- Has she heard from other tourists what they would pay?

As the example of the pineapple purchaser shows, psychological variables on the individual, social, and macro level influence financial decision-making processes. Exhibit 25.1 provides an overview of the psychological variables such as personality, affect, cognition, norms, and news discussed in the remainder of this chapter.

PERSONALITY VARIABLES

On the dispositional level of individual market participants, the question arises about how much the nature of their personality influences trading processes. Books about financial markets such as Carew and Slatyer (1989) often contend that personality is essential for becoming a good dealer and education cannot compensate for it. Accordingly, many practicing traders believe that their success is rooted in an individual’s personality traits and characteristics. According to these market practitioners, good traders are rare and specific traits play the key role in their trading performance (Oberlechner 2004). Thus, numerous personality tests for traders are available that promise profits based on their ability to identify the ideal trading personality. Some of these tests are based on Carl Jung’s theory of personality and the widely known Myers Briggs Type Indicator, which posits that trading success may depend on the individual’s level of introversion versus extroversion, sensation versus intuition, thinking versus feeling, and judgment versus perception (Tharp 2012).

Oberlechner’s (2004) comprehensive survey among European foreign exchange traders allows a deeper analysis of the question of what the best traders

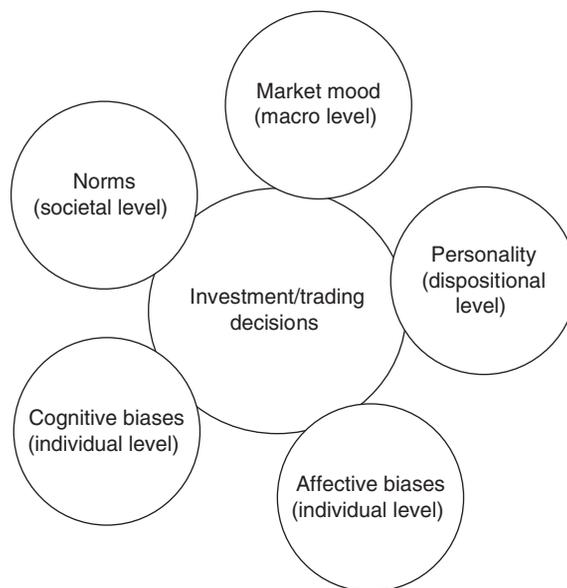


EXHIBIT 25.1 An Overview of Psychological Factors on the Dispositional, Individual, Societal, and Macro Level that Shape Investment and Trading Decisions

Note: This exhibit provides an overview of the psychological variables such as personality, affect, cognition, norms, and news that influence investment and trading decisions.

have in common. The survey established an initial list of potentially important characteristics for successful trading based on opinions and informal feedback of foreign exchange traders and other trading experts. This led to 25 personality-related traits, personal skills, and cognitive abilities. Then, hundreds of professional traders evaluated the importance of these characteristics and added any additional characteristics that they considered important for successful traders. Factor analysis of all the submitted answers reveals that traders based their ratings on the following eight comprehensive personality-related factors that define successful traders:

1. *Disciplined cooperation.* In market environments defined by sudden market swings and high degrees of unpredictability, trading discipline may be the only aspect that individual traders can actually control. Disciplined cooperation consists of three distinct components. First, it involves a strong motivational component that reinforces other success factors. Second, disciplined cooperation involves adhering to stop-loss order limits (i.e., selling a security when it reaches a certain predefined price) and avoiding such risk-taking biases as overconfidence and the illusion of control (Goldberg and Nitzsch 2001). Third, it involves cooperation with others in the trading team and in one's trading institution. For example, this is shown in traders who are disciplined in their reporting of trading losses and receive timely support from their colleagues and supervisors.
2. *Tackling decisions.* The factor called tackling describes traders' readiness for assertive and proactive decision making in a risky environment. Electronic dealing and matching systems make possible the buying and selling of hundreds of millions of dollars in the foreign exchange market in split seconds (Luca 2000). Thus, one main aspect of a tackling approach toward trading decision making is a trader's willingness to forge ahead by taking a risk. Moreover, because trading in a hectic market environment requires high degrees of concentration for extended periods of time, the ability to remain focused and to cope with stress are other important aspects of this tackling attitude toward one's trading decisions (Kahn and Cooper 1993, 1996).
3. *Market meaning making.* This factor represents individual traders' ability to quickly define a "view" of the market based on their personal judgment. Because the market is changing, this factor requires experience and intuition when rapidly anticipating possible market developments.
4. *Emotional stability.* This factor allows traders to focus on their strategy and to stay focused in difficult market environments.
5. *Information processing.* This factor combines both the ability to process information quickly and simultaneously and to have analytical thinking skills.
6. *Interested integrity.* This component is related to the characteristics curiosity and integrity.
7. *Autonomous organization.* This factor is associated with defining traders' ability to independently organize the work process of trading and to maintain a positive attitude toward it.
8. *Information handling.* This factor addresses how traders collect, handle, and pass on information to others, including the processing of information by mathematical means or using computers.

Although all eight personality-related factors are important for a successful trader, traders perceive the first five factors as comparatively more important. Detailed analyses of traders' ratings reveal a strong consensus on the importance of these eight factors. Interestingly, demographic aspects such as the traders' family status, age, and gender do not influence how respondents perceive the importance of the success factors.

Hedge fund manager Lex van Dam, a former Goldman Sachs trader who is known for his participation in the BBC series *Million Dollar Traders*, conducted a telling experiment on whether someone can be trained to become a good trader. Van Dam gave eight novices about \$1 million of his money with the assignment to trade in the stock market for a period of two months. At the beginning of the experiment, the novices received two weeks of training. Although the experiment took place during an extremely turbulent trading period in financial history, the novices outperformed professional traders. Van Dam (2012) concludes that by learning a few fundamentals even those without professional backgrounds or knowledge can become successful traders.

Because female traders conduct only 5 percent of trading activity worldwide (Coates 2012), a question is whether women make better traders than men. In general, evidence does not show that gender differences account for successful trading but may affect the previously defined personality factors. For instance, although men are generally more risk-seeking (factor 2), they also show the tendency to be more overconfident (factor 1) (Barber and Odean 2001).

Oberlechner, Pitters, and Baillie (2010) investigate the levels of confidence among spectators of an international sports event in their ability to correctly predict the outcomes of games and to generate positive returns in an online trading contest. The study finds that when women are confident of their predictions and their ability to make betting profits, they base their belief that they would succeed on luck. By contrast, men base their confidence in their predictions and profits on subjectively perceived expertise and skills. This phenomenon is relevant to predictions in financial markets. Traders and other market participants regularly overestimate the accuracy of their predictions and their trading skills. The following section discusses overconfidence in trading behavior as a widespread affective individual bias among investors.

AFFECT AND COGNITION

The majority of economic approaches to financial markets relies on a cognitive understanding of decision making and views feelings as irrational. Because such approaches perceive feelings as harming the interests of market participants striving for profits, they do not assume that feeling have any (lasting) influence on the market level (Pieters and Van Raaij 1988).

In contrast, a psychological approach acknowledges the importance of affect to market participants and may even consider affect to be essential for market decisions. Here affect refers to an overall term for emotions, feelings, and mood, but many authors differentiate between affect and emotion (Shouse 2005).

Affect

Affective reactions have the power to influence trading decisions in multiple ways. Psychological research shows that information and stimuli that are compatible with a

person's mood are learned better than stimuli that are incompatible with current mood (Bower 1981; Forgas and Bower 1988). Likewise, moods influence the kind of material that one can retrieve from memory. If a person is happy, he can recall positive stimuli more easily, and if a person is sad, he can remember negative stimuli (Bower and Forgas 2000). The same principle of mood-congruent information processing applies to expectations of the future. For example, such peripheral cues from the environment as the weather can influence peoples' mood and their subsequent evaluation of life satisfaction (Schwarz and Clore 1988). According to the mood maintenance hypothesis (Isen and Simmonds 1978), people tend to maintain positive mood states and positive mood is associated with reduced information processing and less critical thinking. Applying the hypothesis to financial markets, Kliger and Kudryavtsev (2013) investigate the role of mood in investors' reactions to revisions in analyst recommendations. They find that negative stock price reactions to recommended downgrades are significantly stronger during periods in which daylight is increasing than during periods in which daylight is decreasing.

Distinguishing between decision-making effects, which can be attributed to pure affective and cognitive reactions, is difficult because affect and cognition interact. However, for a clearer arrangement, the chapter presents them separately.

Status Quo Tendency and the Endowment Effect The *status quo tendency* explains a phenomenon that observers note among traders who pursue a losing strategy even when the strategy has already caused losses for an extended period. This tendency is especially visible in general trading styles and preferences. Traders often base their approach on their previous trading experience. This is known as *anchoring bias* in which traders use a past decision as a reference point. They are unlikely to change this approach even after following an unsuccessful strategy (Oberlechner 2004). Strategies used by taxpayers also reflect the tendency of following an initial (unsuccessful) behavior (Kastlunger, Kirchler, Mittone, and Pitters 2009).

An especially strong form of the status quo tendency occurs when decisional escalations in trading decisions take place. When this situation occurs, affective processes tempt traders not only to keep their losing positions but also to expand them. This phenomenon of "throwing good money after bad money" is also known as the *sunk cost effect* (Arkes and Blumer 1985).

Closely related to the status quo bias is the *endowment effect*, which states that individuals value a good more when they already possess it than they are willing to pay in order to get it. In a well-known study, Kahneman, Knetsch, and Thaler (1990) give participants a mug and the chance to sell or trade it for an equally priced alternative good. The authors find that people's psychological threshold to accept a price for a mug they already own is about twice as high as the price they are willing to pay for the same mug in order to possess it. However, this endowment effect is not a stable entity. Using an experimental setting, Paolacci, Burson, and Rick (2011) show that participants could be trained to reduce the endowment effect.

From the perspective of economic utility maximization, the status quo tendency and endowment effect are irrational and lead to decisions that are clearly biased. Instead of focusing on future outcomes and objective investment returns, these two effects are based on subjective reasoning and experience.

Psychologically, three reasons explain the affective and psychological dynamics involved in these effects. First, sticking to one's decisions once they are made is

often based on emotional commitment (Etzioni 1988). Once people are emotionally invested in their beliefs, they may have difficulty changing them based only on information or other cognitive measures (Berelson and Steiner 1964). Second, regret theory postulates that people base their decisions on the likelihood of how much unpleasant regret they expect to experience (Bell 1982; Loomes and Sugden 1982). Because people do not like to feel regret, they attempt to estimate the extent of possible regret involved in each decision choice, compare the choices based on the amount of anticipated regret, and then decide in favor of the option that minimizes their expected regret. Third, decision makers seek to reduce their cognitive dissonance, a process first described by Festinger (1957). *Cognitive dissonance* is a feeling of unease that is generated by a discrepancy between actual behavior and individual beliefs that leads decision makers to find a way to reduce this emotional burden.

To summarize, the status quo bias and the endowment effect explain the psychological tendency of market participants to preserve and even reinforce an initial trading strategy instead of changing it in light of new and better information. The next section discusses overconfidence, which is one of the psychological keys to traders' difficulties when considering relevant information and experience.

Overconfidence When people are asked for self-evaluations of their health, driving skills, education, or workplace, most rate themselves as more successful than average (Dunning, Heath, and Suls 2004; Horswill, Waylen, and Tofield 2004). Behavioral economists now acknowledge the importance of this feature among economic agents in financial settings, often referring to it as "overconfidence bias" (Barber and Odean 2001; Larrick, Burson, and Soll 2007).

Of all possible arenas of human overconfidence, finance and investments are particularly important. When people overestimate their own financial abilities, this may affect their investment decision making and the consequences of these decisions. Overconfidence in financial investment abilities may lead to substantial losses, as suggested by many private and business insolvencies in Europe or debt overloads in the United States (Creditreform 2012). High failure rates and low average returns suggest that overconfidence tempts too many people to enter markets as entrepreneurs (Koellinger, Minniti, and Schade 2006). Overconfident capital investment in property by U.S. banks may be the source of the subprime crisis of 2008.

Overconfidence is not characteristic of all areas of human experience and not all people are overconfident. For example, people tend to overestimate their own abilities when solving simple tasks but usually underestimate their skills when confronted with difficult tasks (Moore and Cain 2007). Psychologists observe that overconfidence is usually present in those areas of experience where people feel competent. For example, Dunning (2005) finds that 94 percent of college professors regard themselves as more competent than other professors. Likewise, financial experts often overestimate their investing skills and therefore take high risks in their decisions. In a study of more than 400 North American professional foreign currency dealers, Oberlechner and Osler (2012) identify two different kinds of overconfidence. Dealers underestimate the uncertainty of forecasts and overestimate their own abilities. When asked how successful they rate themselves compared to other dealers, three quarters of the dealers rated themselves above average. The results of a Jordanian investor sample also show overconfidence about trading skills

and investment decisions. Alrabadi, Al-Gharaibeh, and Ziad (2011) report that overconfidence significantly increases based on the years of trading **experience**

According to the rational choice assumption held by traditional finance proponents, overconfident attitudes and behavior are unreasonable and should be avoided by agents who pursue maximum profits. Again, the following question arises. If overconfidence is irrational and counterproductive from the viewpoint of traditional finance, what explains the widespread existence of overconfidence?

Psychological research provides several possible explanations for the overconfidence phenomenon. Part of this research focuses on what has been termed the “better-than-average effect” (Alicke and Govorun 2005; Larrick et al. 2007). Psychologists explain this disposition to overestimate one’s own skills and abilities with a basic human need for self-esteem. From a clinical perspective, the bias to regard oneself unrealistically above average is psychologically healthy and a lack of it may be connected to low self-esteem (American Psychiatric Association 1994). In stark contrast to the traditional finance view that overconfidence is irrational, psychologists find that among the people experiencing an identical amount of positive and negative events, depressed people see the world more realistically while people who are not depressed use optimistic interpretations as a coping strategy (Seligman 1990; Wills 1997). As the theory of self-esteem suggests (Aronson, Wilson, and Akert 2010), people have a strong need to see themselves as good and competent. They develop a self-concept containing values and traits that need to be fulfilled in order to maintain their self-esteem (Pyszczynski, Solomon, Greenberg, and Stewart-Fouts 1995). Traits that are relevant for the self-concept thus need to be protected.

Terror Management and Investment Starting with the observation that individuals try to maintain their self-esteem, Solomon, Greenberg, and Pyszczynski (1991, 2004) raise the central question of why people strive for self-esteem. They offer a psychological explanation inspired by Becker (1974) and his concept of denial of death. According to Becker, people have to cope with an uncomfortable situation and their knowledge that they will ultimately die. Employing a strategy that involves coping, orientation, and distraction, they attribute a deeper meaning to life by believing in defined values and by attempting to be valuable members of society. However, whenever they are reminded of their own death (which can experimentally be achieved by asking participants to write down thoughts that come to mind when they think of death), people are prone to defend their personal values by expressing even more extreme attitudes than usual, or by degrading any perceived opposition to their personal value system more harshly than usual.

A meta-analysis of more than 250 controlled experiments conducted in the field shows an effect between so-called mortality salience (MS) and an increase in defense of one’s worldview and self-esteem (Burke, Martens, and Faucher 2010). Some studies show that MS also influences investment decisions. Psychologists report that MS generally increases materialism (Arndt, Solomon, Kasser and Sheldon 2004) and that MS on television increases the attraction of advertised products (Dar-Nimrod 2012). These psychological insights are striking and show that *terror management theory* (i.e., the social psychological field that studies the effects of mortality salience) provides a basis for further research on the psychology of trading and investment.

Empathy and Altruism Empathy is another important phenomenon that is missing in the traditional finance understanding of trading and investing. Making a purchase from a kind old woman with a small retail store after a shared smile (despite the fact that her products are overpriced and of poor quality) makes little sense from the viewpoint of economic rationality. Likewise, giving a generous tip to a waiter in a restaurant that will never be visited again may seem economically irrational. In contrast, psychologists readily acknowledge that the likelihood that people invest in specific goods, people, and companies depends on their level of empathy. From a social psychological perspective, the empathy-altruism theory offers an explanation (Batson 1991). According to this theory, altruistic behavior depends on the empathy experienced toward another person. If empathy is high, altruistic behavior is probable; if empathy is low, people will only support others when doing so is worthwhile financially.

Cognition

Even if traders prefer to make optimal decisions based on a price-value balance, they cannot always process all relevant information needed because they are easily distracted and influenced by available information.

Cognitive Biases Instead, traders unconsciously use so-called decision-making *heuristics* (i.e., rules of thumb that enable people to make decisions within a limited time frame). The concept of heuristics as human biases can be traced to Francis Bacon's list of idols. Bacon described how these phantoms of the human mind distract humans from reasonable decisions. For example, when Bacon defines the idols of the tribe as the human tendency to lazily generalize by exaggerating and disproportionately weighting available information instead of responding to the actual cases or elements that can be observed (Spedding 1861), his reasoning comes close to the modern formulation of the representativeness heuristic explained later in this section.

Although heuristics may have such profitable and functional aspects as speeding up and simplifying the decision-making process, they often lead to systematic and predictable mistakes (Tversky and Kahneman 1974). Thus, their use in trading decisions can lead to collective market outcomes that are at odds with rationality as defined by traditional finance.

According to the *representativeness heuristic*, market participants simply base their judgments on the apparent resemblance between two situations and neglect other important information such as statistical and historical base rates. The representativeness heuristic provides a convincing explanation for asset price overreactions due to new information (Luo 2012). Further, according to the *availability heuristic*, people judge the likelihood of an event simply based on the availability of information about the event. People judge events that are easily accessible (e.g., market events recently reported in the news) as more likely and more frequent than events that are more difficult to imagine (Tversky and Kahneman 1973).

Another example for a psychological heuristic is the anchoring and adjustment heuristic, which is based on a mental process of anchoring and adjusting information to available cues, no matter how unrealistic these cues are. Decision makers often use the anchoring and adjustment heuristic in the bargaining or negotiating process. For example, sellers usually start by suggesting a much higher price than the actual value

of their product. Early anchors can influence even seasoned experts. For example, real estate agents may adjust their independent estimations of how much a property is worth in the direction of previously provided made-up listing prices (Northcraft and Neale 1987).

A final cognitive bias discussed here is *hindsight bias*, which is a decision-making phenomenon colloquially known as the “I knew it all along” effect. This bias describes people’s tendency to express a priori subjective certainty about specific outcomes when asked a posteriori. In other words, once they know the answer to a certain question or the outcome of an uncertain development, people think that they knew it all along. The phenomenon is evident, for example, when people watch quiz shows and blame the contestants for their ignorance after the host reveals the correct answers. As this example shows, the effect may be harmless in daily life but it can be costly in financial settings. For example, hindsight bias may provide traders with a wrong sense of security when making their decisions, which can lead to excessive risk-taking behavior. Further, this bias may impede traders’ learning from experience by distorting their memory of what actually was a bad trading decision with negative outcomes into a harmless or even successful experience (Cavillo 2012). Researchers show that this kind of hindsight bias affects economic expectations on Euro-related attitudes towards the currency (Hoelzl, Kirchler, and Rodler 2002).

Prospect Theory and Framing Kahneman and Tversky’s (1979) prospect theory provides a comprehensive psychological explanation for human decision making under uncertainty. While expected utility theory (EUT) assumes that people are generally risk-averse, prospect theory holds that a basic difference exists between situations involving gains and losses. When people make risky decisions in gain situations, they tend to be risk-averse; when the alternatives of a risky choice involve losses, people are risk-seeking. The S-shaped function of prospect theory entails a subjectively defined reference point that decides whether people perceive a decision in terms of possible gains or possible losses. For losses the curve is steeper, suggesting that losses loom larger than gains. As demonstrated by the concavity and convexity of the curve, people perceive the difference between the reference point and, say, \$50 as stronger than the difference between \$300 and \$350.

Whether someone perceives a decision as involving losses or gains depends on subjective framing processes. Framing can be explained by looking at an event from different viewpoints, such as the same glass of water being seen as half full or as half empty. Researchers have successfully applied prospect theory to diverse fields of decision making. For instance, Pitters, Kirchler, and Witte (2007) show that an amount of money gained through a salary increase (i.e., gain framing) is less likely to be invested than when the same amount money is available due to a tax reduction (i.e., loss framing). Prospect theory also explains the widespread tendency of market participants to close winning trading positions too early and to let losing trading positions continue too long (Shefrin and Statman 1985).

Herding, Norms, and Ethics

Decision makers are influenced not only by perceptions on the individual level but also by information on a societal level. What other people do, think, or expect may have a further impact on trading and investment decisions.

Herding and Psychological Conformity Whether people choose the restaurant that is most frequented by others, pay for a chair on a crowded section of the beach that is surrounded by empty beach and chairs, or find a place in the back of the lecture hall although many free seats are available in the front, herding or social proof is a common behavior (Cialdini et al., 1999).

In financial markets, herding behavior can be explained by *conformity*, which is a psychological phenomenon that exists even in small groups. As the Asch (1956) study demonstrates, participants adjust simple evaluations of the length of lines to the incorrect judgment of others in the group. Although the participants in Asch's experiment had the clearly defined task of matching the length of lines, subjects in the market consistently face the more ambiguous challenge of turning highly complex market information into trading decisions. In such ambiguous situations as financial markets, herding provides a helpful strategy of psychological orientation. The psychological tendency of human decision makers to overweigh readily available information may reinforce herding.

The herding process can explain many processes in financial markets such as extreme exchange rate volatility. Participants who imitate the behavior of others instead of processing market information independently endorse existing market trends (Scharfstein and Stein 1990). Kremer and Nautz (2013) offer new evidence on the causes and consequences of herding by institutional investors. Based on a comprehensive database of every transaction made by financial institutions in the German stock market, the authors show that institutions engage in herding behavior on a daily basis. Chinese and Indian stock markets also show evidence of herding behavior resulting from culturally different market conditions. In the Chinese market, herding is greater during a falling market with high trading volumes. In contrast, in India herding occurs mainly during upswings (Lao and Singh 2011).

New trading and information technologies may also fuel herding behavior in the financial markets. As these technologies provide participants with real-time market information and make virtually the same information available to all market participants, they enable participants to constantly adjust their own decision making to collective market behavior. According to Oberlechner (2004), the application of computer-aided trading decision systems enables large parts of the market to react simultaneously and similarly and thus intensify herding.

Social and Cultural Norms Social norms defining how members of a group or collective should behave in a certain context influence trading behavior. Corporate trading governance as an ethical norm can provide a fair basis for trading and reduce unfair practices such as insider trading. Yet, breaking social norms can provide an individual trading advantage for individual traders' efforts to maximize their profits (Kumar and Page 2013).

Given the global dimension of trading in today's markets, understanding cultural norms may be a key to market success. For example, based on their shared past under the Habsburg Empire and the mutual cultural understanding created by this past, Austria benefits from its close trading relations with the Eastern European states. Moreover, a cross-cultural study by Weber and Hsee (1998) finds that participants from China are less risk averse, as measured by buying prices for risky financial options, than their American counterparts. The authors identify marked cultural differences in their perceptions of the extent of risk but show that the attitudes

toward dealing with risk are equal. This finding may have a practical impact for cross-cultural negotiation and commerce. Kim and Wei (2002) find that foreign investors outside Korea are more likely to engage in positive feedback trading strategies and in herding than the branches/subsidiaries of foreign institutions in Korea or foreign individuals living in Korea.

Ethics The topic of ethical investment is more relevant today than ever. An increasing number of investors choose goods, stocks, and entire portfolios based on whether these investments make an ethical contribution to society. These ethical attitudes can be conscious but they also can be implicit. As Pitters and Oberlechner (2011) show, when people are asked for their reasons for a specific evaluation or opinion, their reasoning usually contains a strong ethical component such as utilitarian thinking (i.e., efforts to maximize the benefit of all or of the majority of people) or deontological thinking (i.e., evoking rules and fairness principles). In the aftermath of the ethical dilemma posed by the financial crisis in 2009, these researchers ask experts (i.e., economic journalists) and the public whether they consider state interventions to rescue ailing companies as justified and to give the reason for their opinion. Pitters and Oberlechner interpret and classify the explanations provided according to their underlying ethical school of thought. Although the majority of experts tend to support state interventions and justify these interventions based on a utilitarian ethical perspective, most laypersons oppose state interventions and base their opinions on deontological reasoning. Such implicit ethical positions play an important role in trading and investment decisions (Oberlechner 2007). Ethics plays a leading role on various individual, organizational, and cultural levels of investment decision makers.

NEWS, RUMORS, AND MARKET MOOD

For their decision making, market participants use countless market information sources ranging from casual conversations with colleagues to economic reports of market analysts and global news services. Because of time and attention limitations, they cannot fully integrate the information of all these sources in an unbiased manner. Instead, they must choose and reduce available information, weigh the importance of news and news sources, and focus on some news while neglecting other choices. Because no explicit guidelines are available for how to choose and filter the best information, traders emphasize that each trader needs to develop a personal system of filtering news (Oberlechner 2004). Thus, the basis for their selections and biases is psychological rather than economic and rational.

Moreover, market participants usually cannot easily differentiate objectively between trustworthy and rumor-based information. *Rumors* are accusations that are passed along based on doubt rather than on evidence (Allport and Postman 1947; DiFonzo, Bordia, and Rosnow 1994). Rumors bear a close resemblance to news because they also explain meaningful events and similarly are perceived as positive or negative by the receiver. Rumors play a decisive role in news reporting on financial markets. For example, Osterberg and Wetmore-Humes (1993) compare daily press reports on U.S. central bank intervention with actual intervention data. Their evidence shows that interventions reported by the *Wall Street Journal* may not have occurred, whether reported as facts or pure rumors.

Because high levels of ambiguity generally characterize financial markets, they provide a fertile ground for rumors (Allport and Postman 1947; Rosnow, 1991). Rumors play a particularly important role in forecasts of the future and contribute to a collectively experienced market mood that serves as a heuristic and influences investment decisions.

The overall mood of a country due to the economic situation, which can also be perceived as a macrosocial threat (Scheffer and Witte 2004) may affect the prescribed variables relevant for trading success. In the beginning of 2012, when the rating agency Standard & Poor's decided that countries such as France would lose their triple A credit rating, this decision influenced not only the economic situation of creditworthiness but also the national pride of a whole nation.

Based on a representative survey of the Austrian population, Oberlechner and Pitters (2010) investigate whether perceptions of general market mood as portrayed in the media are relevant to self-ratings of individual investment success. The authors hypothesize that investors use perceptions of market mood as information for attributions of personal investment success. Oberlechner and Pitters find that people living in urban areas perceive market mood as portrayed in the media as more negative than do those people living in rural areas. However, the more rural participants perceive the market mood as negative, the more successful they consider their personal investment skills. Thus, market mood serves as information to evaluate personal investment skills.

SUMMARY

This chapter summarizes the role of psychology in trading and investing and discusses selected studies that show how researchers have systematically observed and investigated psychological factors in market decisions. This discussion demonstrates the presence of many relevant psychological processes in trading and investing. On the individual level, while personality in general does not necessarily predict investment success, specific traits may be beneficial for successful trading and investing. Moreover, individual variables on the affective and cognitive levels such as mood, empathy, mortality salience, and cognitive heuristics can lead to irrational trading decisions. On a collective level, social norms and herding influence market behavior. Finally, market rumors and investment mood are important psychological influences on trading and investing on the macro level. Besides more traditional methods of studying the role of psychology in trading and investing, novel approaches advance our knowledge of what matters in financial decision making. For example, the analysis of metaphors used by decision makers helps in understanding trading attitudes, investing intentions, and subjective market conceptualizations (Oberlechner, Sluneko, and Kronberger 2004; Christiandl, Oberlechner, and Pitters 2013). Financial markets and their participants provide a rich setting for testing psychological theories and insights.

DISCUSSION QUESTIONS

1. Explain the difference between the descriptive psychological perspective to trading and investing and the traditional finance approach.

2. Identify five personality traits that professional traders have defined to determine investment success and discuss the role of gender differences.
3. Discuss why some traders cannot make rational decisions and the impact of affective and cognitive biases.
4. Outline which phenomena on a societal level influence trading and investing behavior.
5. Discuss aspects on a macro level that may influence investment decisions.

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ABOUT THE AUTHORS

Julia Pitters is Assistant Professor of Psychology at Webster University in Vienna, Austria and also currently holds a guest professorship at Webster University Thailand. She is a guest lecturer at several other Austrian universities. Her major research interests are in the fields of tax psychology and financial decision making. Professor Pitters worked as consultant and project manager for a market and social research company and is now an associate partner of the independent consultancy Pitters Trendexpert. She studied psychology and sociology at the universities of Würzburg and Hamburg (Germany) and completed a PhD in economic psychology at the University of Vienna.

Thomas Oberlechner is Chief Science Officer at iMATCHATIVE, a San Francisco based company specializing in developing groundbreaking investment matching solutions through a combination of science, technology, and advanced analytics. He was Senior Research Professor and Psychology Department head at Webster University in Vienna, Austria, and visiting professor and researcher at Harvard University, Massachusetts Institute of Technology, University of Cologne, and other universities. His research on psychological factors of decision making in financial markets has led him into the trading floors of the world's leading banks and other market participants. Dr. Oberlechner has published in numerous academic and professional journals including the *British Journal of Social Psychology*, *Journal of Economic Psychology*, and *Journal of Financial and Quantitative Analysis*. He has also published a book (*The Psychology of the Foreign Exchange Market*) and a research monograph (*The Psychology of Ethics in the Finance and Investment Industry*). He attended the University of Vienna and Harvard University and holds a PhD in psychology and multiple master's degrees in psychology, counseling, consulting psychology, and law.