

When greed and fear take over: A triangular study of financial decision making and information processing featuring economics, psychology and neuroscience

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Financial crises and collapses of leading financial institutions tell stories of greed and fear. A greedy rogue trader commits fraud or takes on extreme risks attempting to raise higher payoffs and rolling a major investment corporation off the cliff when things go astray. Occasionally, such a corporation drags along the other companies and institutions it is intertwined with, giving rise to a financial crisis. Fear is the consequent emotion in the markets: investors who realize large losses stop investing because they are afraid of losing more; and the effects of the crisis spill over to the entire economy and prevail longer. Studying the effects of greed and fear on investment decisions is therefore essential to gain a deeper understanding of financial crises and develop policy tools and regulations to prevent further crises from happening. In this project, we investigate how certain mechanisms and environmental factors give rise to certain emotional states, fear and greed in particular, and how these emotional states influence financial decision making through a series of experiments.

Each financial decision is the product of the retrieval and processing of certain information. This requires firstly picking and collecting specific information from an available information set, and subsequently interpreting and analyzing the collected information. There are numerous cognitive biases that interfere with these processes. To name a few, people may prefer local investment opportunities over foreign ones as they appear to be more familiar, regardless of how they compare (see e.g. Huberman, 1999); conform to self-imposed rules just because of habit (Thaler and Shefrin, 1981, Shefrin and Statman, 1984); or tend to accept a statement as true if it is easier to process (Robert and Schwarz, 1999). Since these biases are more influential in intense emotional states such as greed and fear, any event or situation that triggers such emotions is likely to have an impact on financial decisions. Coherent with this view, Lo et al. (2005) establish a clear link between emotional reactivity and trading performance, documenting that emotional reactivity is negatively correlated with successful trading. Effects of emotional states on financial information processing is therefore the central theme of this project.

The first stage of the project concerns the effects of nonlinear bonus schemes, which came under fire particularly after the recent financial crisis, on trading behavior and performance. Critics of bonus schemes have argued that because of their nonlinear payoff structures offering higher bonuses to traders for higher returns they generate, bonus schemes instigate greed in traders and financial managers, which provokes excessive risk taking. In the first stage experiments, we will address this issue and manipulate the bonus schemes to find out if nonlinearities indeed elevate the greed level and consequently lead to suboptimal investment decisions. In the second stage, we look into the effects of economic conditions and events, such as bubbles, crashes and recessions, on investment decisions. We will simulate these events and conditions through price processes to see whether they affect the risk attitude or cause significant deviations in the trading behavior of the subjects. The aim of the third and final stage experiments is to find out if and how quickly traders/investors can learn about the changes in the environment and modify their behavior accordingly.