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Does society benefit from investor overconfidence in the ability of financial market experts?☆

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Abstract

This paper develops a securities market model in which participants' beliefs diverge and prices are monotonic in beliefs. Relative to rational expectations (i.e., correct and unanimous beliefs), overconfidence among uninformed traders about the precision of experts' information leads to Pareto-superior equilibria. Efficiency-enhancing departures from rational expectations occur over a dense subset of parameter space, but only for one configuration of beliefs: uninformed traders must be more confident than informed experts. Overconfidence in the form of excessive trust in the predictive ability of experts sets off a virtuous cycle of increased trading that improves liquidity and reduces transaction costs for everyone.

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1. Introduction

This article describes a financial market in which systematically errant perceptions about the world can benefit all market participants. Extending Spiegel and Subrahmanyam's (1992) equilibrium model to allow for incorrect beliefs about risk, the paper illustrates the potential for a symbiotic relationship to emerge between risk-averse hedgers and risk-neutral insiders, analogous to the respective roles of the trading public and professional traders on Wall Street. Underlying this phenomenon is a beneficial liquidity externality caused and reinforced by excessive trading.[2] The way this works is as follows.

When non-experts perceive experts to be highly skilled at forecasting the future, they believe that current prices (which reflect the demand of experts) are highly correlated with future prices. This makes securities traded in financial markets seem more effective as an instrument for hedging risk than would otherwise be the case. Therefore, inflated perceptions of the degree to which expert information can predict the future translate into inflated perceptions of the hedging opportunities afforded by securities trading.

Perceiving securities as a more effective risk-reduction mechanism than is truly the case, hedgers who are overconfident in the ability of experts wind up hedging too much. A surprising consequence of overconfidence-induced over-trading is that the market shifts to a new equilibrium that is objectively less risky and where trading is objectively less costly. To understand this, it is helpful to think of the phenomenon of too much hedging as an outward shift in the demand curve for insurance. In response to greater demand, speculators (who are suppliers of insurance) sell a greater quantity and enjoy higher profits. At the new equilibrium generated by overconfident beliefs, the quantity traded (i.e., trading volume, or order-flow) is based more on noise than on information and therefore has a lower signal-to-noise ratio. Relying on this noisier signal (overconfident-demand-driven order-flow), market-makers set price according to a price function that is less sensitive to the order-flow signal. That is, market-makers flatten the function they use to price securities. Flatter, more competitive pricing reduces execution-price uncertainty and lowers the average cost of a trade. Ultimately, overconfidence reduces the objective transaction costs that all traders face without changing the expected losses of market-makers, therefore leading to a Pareto improvement.

It is worth emphasizing that the efficiency gains resulting from misperceived probabilities in this model are not tautological as they would be in a fallacious chain of logic asserting that "Everyone believes they are better off, therefore they *are* better off." In fact, as measured by expected utility evaluated with respect to the true probability distribution, overconfident traders subject themselves to a penalty for being irrational.[3] Irrational types in this model fail

[2] Many studies on the topic of overconfidence have appeared in the last 15 years, establishing its importance in the area of empirical finance (Rabin and Schrag, 1999; Daigler and Wiley, 1999; Barberis et al., 1998; DeBondt and Thaler, 1987), its validity in the experimental laboratory (Bloomfield et al., 2000, 1999; Rabin, 1998; Camerer, 1997), and its relevance to economic theory (Rabin, 2002; Daniel et al., 2001; Gervais and Odean, 2001; Bernardo and Welch, 2001; Hong and Stein, 1999).

[3] In this paper, the term irrationality is a synonym for misperception. This follows the convention of authors such as Richard Thaler, Matthew Rabin and Daniel Kahneman who use the word rational to denote correctly perceived probabilities, similar to John Muth and Robert Lucas' notion of rational expectations. Using terminology in this way has the unfortunate consequence of glossing over the more traditional meaning of rationality as choosing the best feasible alternative. Nonetheless, the remainder of the article uses the words irrationality and misperceptions interchangeably, with the preceding caveat in mind.