8-10-2020

Beauty Contest and Social Value of Fintech: An Economic Analysis

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TREO Talk Paper

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Abstract

The past decade has witnessed a financial technology (Fintech) revolution. With the advent of Fintech in trading markets, many technology startups are using social media to gauge investors' sentiment, as well as to detect events quickly, which in turn could impact stock prices and affect the efficiency of financial markets. Another example of Fintech that is enabled by the aggregation of opinions is social trading platforms. These platforms are financial counterparts of social networks where people can create an online profile and share information about investments and trading in financial instruments such as stocks and cryptocurrencies with other members of the platform. Online platforms like Sharewise and Estimize specialize in aggregating the opinions and predictions of all its users to come up with a target price for a stock, thus enabling the users to gain market insights from public opinion.

This shift in trading has led to the emergence of a new class of investors who trade not only based on their own knowledge (or beliefs) about the market but also on that of the crowd's opinion. Investors who follow public information about the fundamental price and their own private information are classified as first-order-beliefs traders while investors who use private information along with information gained from using such Fintech product are classified as higher-order-beliefs traders. The Fintech product captures the sentiment of other investors and experts by aggregating their opinions and predictions expressed on various social media platforms. Following the insight of Keynes (1936) on financial markets being akin to a beauty contest, where some people grade contestants based on who they think will be attractive to others, we model the market where a certain fraction of traders is employing the beauty-contest paradigm, using the services offered by Fintech firms, to form higher-order beliefs. We then establish the equilibrium in the market and examine its different properties. We also analyze how higher-order beliefs affect market efficiency and social welfare of investors. In the process, we answer the following research questions: is this shift beneficial for the market (in terms of efficiency) and the individual investors? And, if so, under what conditions and circumstances? Further, is there any limit to the number of Fintech investors (as a fraction of all investors) in the market so that social welfare is maximized?

We find that higher-order beliefs tend to reduce market efficiency because public information is over-weighted. Increased precision of private information always enhances market efficiency; however, when public information is relatively noisy, increased precision of public information is detrimental to market efficiency. We also examine the effect of relative precision of public information to private information and fraction of Fintech investors in the market on ex-ante wealth of investors. Since accounting disclosure is a main source of public information, our results highlight that the use of Fintech in financial trading can dramatically affect the optimal level of accounting disclosure (i.e., transparency).

References

Keynes, J. M. (1936). *The General Theory of Employment, Interest and money*. Springer.