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Social interaction, Internet access and stock market participation—An empirical study in China ☆

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ABSTRACT

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Social interaction plays an important role in transmitting relevant information to potential investors. However, the informational role of social interaction might be affected by other information channels, which is to a large extent ignored in previous studies. Using a national representative household finance survey data covering more than 8000 Chinese households, we demonstrate that social interaction alone positively affects household stock market participation, but Internet access mitigates the influence of social interaction. In particular, among households with the access to Internet, sociable households in effect are associated with a 6 percentage-point *decrease* in the probability to participate in the stock market. This finding supports the substitution between Internet access and social interaction as information channels. Moreover, we also identify the *social multiplier effect* of social interaction: sociable households living in the communities with higher stock market participation rate are more likely to invest in stocks. *Journal of Comparative Economics* **xxx** (xx) (2015) xxx–xxx. Research Institute of Economics and Management, Southwestern University of Finance and Economics, China.

1. Introduction

Information is key for decision-making. Individuals usually rely on their social networks, e.g., relatives, friendships, neighborhood, etc., to acquire information for making important decisions, such as searching for jobs (Granovetter, 1973), participating in criminal activities (Glaeser et al., 1996), voting (Katz and Lazarsfeld, 1955), and entering the stock market (Cohen et al., 2008). On the one hand, there is evidence that a stock market with wide participation improves the efficiency of resource allocation, facilitates financial development, and consequently causes economic growth (Levine, 1997, 2005). On

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the other hand, Mankiw and Zeldes (1991), and Vissing-Jorgensen (2002) demonstrate that limited stock market participation is also closely linked to the equity premium puzzle (Mehra and Prescott, 1985): the observed long-run returns on stocks are much higher than returns on risk-free assets. Hence, the potential reliance of household financial decisions on information acquisition from the interaction with others might influence important aggregate outcomes.

As many researchers observe (Shiller, 1989; Hong et al., 2004; Ivkovic and Weisbenner, 2007; Brown et al., 2008; Li, 2014), social interaction might serve as a channel to disseminate market-related information, consequently affecting household stock market participation. However, since the information transmitted by social interaction is usually biased (Shiller, 1984, 1990; Kaustia and Knupfer, 2012), making financial decisions based on information from social interaction might result in investors' heterogeneous beliefs, consequently contributing to asset price bubbles (Scheinkman and Xiong, 2004; Hong and Stein, 2007) and large fluctuations of financial markets. Therefore, understanding how stock market participation decisions are affected by social interaction has important implications for macroeconomics and finance.

Social interaction might exhibit two effects in affecting household financial decisions: *informational effect* and *social multiplier effect*. It is well-acknowledged that social interaction may serve as a mechanism for information exchange by means of word-of-mouth communication or "observational learning" (Ellison and Fudenberg, 1995). Specifically, word-of-mouth communication makes it easy and convenient for potential investors to learn about opening accounts, making transactions, etc., and to obtain relevant information by talking with experienced friends and neighbors. This is referred to as the *informational effect* of social interaction on stock market participations, which reflects an individual's *active* use of information. On the other hand, if an individual's behavior is affected by the behavior of neighbors, then a more sociable person would be influenced more by peers. Consequently, a sociable person in a high stock market participation community is more likely to participate in the stock market. In other words, social interaction increases the correlation between community-level stock market participation rates and individual participation. We call it the *social multiplier effect* of social interaction, which reflects that individuals are *passively* influenced by the average behavior (characteristics) of the community they live in.

A novel point is that we explore the substitution between social interaction as an information channel and other information channels, e.g., Internet access. This also helps us to identify the informational effect of social interaction. We now live in an age of information explosion. Therefore, we need to allocate our limited attention and information-processing capacities to different information channels (Sims, 2003; Veldkamp, 2011). As an information channel, the Internet substantively changes our way of learning and acquiring information. If individual investors rely more on Internet to acquire information for participating the stock market, they have to reduce using the information from social interaction, e.g., word-of-mouth communication through channels other than the Internet. Therefore, social interaction and Internet access should substitute with each other in affecting stock market participation decisions.

To examine the impacts of social interaction on stock market participation, we need the proxies for social interaction which do not cover the possible Internet social network. Therefore, we are interested in the face-to-face interaction and telephone interaction. China Household Finance Survey (CHFS) 2011, a national representative survey data designed for collecting detailed household financial information, enables us to fulfill this task. We use the amount spent on gifts to non-family members, as well as the expenditure on telephone communication, to measure the household sociability, respectively. Conditional on whether the level of sociability measured by gifts or communication expenditure is in the upper 50% or not, households are categorized into two types, "sociable" and "non-sociable", respectively. Moreover, we employ the community interview refusal rate to proxy for the community-level degree of social interaction.

Our paper makes four contributions. First, our empirical results find support for the substitution between social interaction and Internet access as information channels. More specifically, among households without the Internet access, sociable households are 1.6% more likely to enter the stock market than those non-sociable ones. However, for households with access to the Internet, being sociable in effect is associated with a 6 percentage-point *decrease* in the probability to participate in the stock market. Therefore, the access of Internet mitigates the informational effect of social interaction. We think this result might shed light on the weakening informational effect of social interaction in the Internet Age in general.

Second, after controlling for the informational effect of social interaction, we also demonstrate that for a household with the average Internet access level (22%), sociability does not significantly increase stock market participation. Hence, in contrast with Kaustia and Knupfer (2012), we support the view that negative returns might discourage market participation.

Third, we provide evidence for the social multiplier effect of social interaction. We show that the effect of the community-average stock market participation rate on households' stock market participation is influenced by the level of households' sociability, i.e., sociable households are more likely to be associated with stock market participation if the neighbors participate in the stock market. Active social interaction (having above the median level sociability) raises the probability to participate in the stock market by 5.13% for the household living in high participation communities, but by only 0.67% for those living in low participation communities.

Fourth, our paper also contributes to the understanding of stock market participation in China, the second largest economy in the world. By the end of 2011, Shanghai Stock Exchange, one of the two stock exchanges in China, became the world's 6th largest stock market by market capitalization at US$2.3 trillion.[1] With more than 140 million investor accounts, the stock market has become an important way for Chinese households to allocate financial assets and diversify risks. However, due to

[1] http://en.wikipedia.org/wiki/Shanghai_Stock_Exchange.

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