Applying Stock Market Image Theory in China:
Antecedents, Dimensions, and Consequences in the Middle Kingdom

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This empirical study explores Chinese Mainland investors' stock market image, as well as its antecedents and consequences. Stock market image theory, proposed by Dobni and Racine (2015, 2016), argues that personality, cognitive, and demographic variables impact investors' image of the stock market, consequently impacting their investing motives and behaviors. This study asks the question: What factors influence Chinese investors' image of the stock market? This quantitative study, based on surveys of 171 respondents, finds a strong relationship between Chinese investors' inclinations to invest and to save for retirement and their perception of the stock market's wealth-creating capacity.

Keywords: Stock Market Image, Investor Perceptions, Chinese Stock Market, China

INTRODUCTION

Few studies examine the relationship between subjective opinions of the stock market and market behaviors. It is unclear how views of the stock market influence participation, investing strategies, as well as the overall health of a market. Despite recent scholarly interest, little can be concluded regarding the role stock market opinions play as only a handful of studies investigate this topic. Stock market image theory, proposed by Dobni and Racine (2015, 2016), argues that personality, cognitive, and demographic variables impact investors' image of the stock market, consequently impacting their investing motives and behaviors. These scholars find evidence that antecedent variables significantly impact one's image of the stock market, which in turn affects their intention to accumulate wealth, invest as a hobby, or speculate. Understanding how stock market image affects investing behaviors is important as many investors rely primarily on their subjective impressions of the market due to their inability to process available objective data (MacGregor, 2002). This may be especially true in developing markets such as China where the majority of trading is done by retail investors.

In this paper, the Shanghai Stock Exchange and the Shenzhen Stock Exchange are collectively referred to as the Chinese stock market. China's stock market, now the world's second largest by market

capitalization (Carpenter & Whitelaw, 2017), continues to attract large amounts of capital from international investors. Global index provider, MSCI, recently quadrupled the weighting of Mainland Chinese stocks within its benchmarks, representing an $80 billion inflow of new international capital to Chinese stocks (CNBC, 2019).

Little is known about the subjective images the Chinese hold of their stock market, nor the effects of these images on investors' behavior. Understanding Chinese Mainlanders' perceptions regarding the Chinese stock market's function and credibility is valuable for scholars, policymakers, and investment management practitioners. Accordingly, this study empirically tests Dobni and Racine's (2015, 2016) stock market image theory in Mainland China. No previous study has offered empirical evidence regarding Chinese stock market image. This paper contributes to the literature by identifying several specific factors that shape Chinese Mainlanders' stock market image, and documents how image impacts these investors' motives. Dobni and Racine posit that "stock market image may well be an important correlate of individual investing expectations, intentions, activities, and experiences" (2015, p. 130). Therefore, understanding Chinese investors' motives can provide important information to market organizers, financial institutions, and others who serve both individual investors and Chinese markets.

The remainder of this study is organized as follows. First, a brief discussion of investors' stock market behaviors is presented, including an overview of Dobni and Racine's (2015) stock market image theory. This overview is followed by hypotheses related to the antecedents, dimensions, and consequences of Chinese Mainlander's stock market image. Next, the research methodology used in this study is described, followed by a discussion of the findings. Finally, implications, limitations, and future research opportunities are offered.

LITERATURE REVIEW

Many have undertaken the challenge of describing the stock market behaviors of investors (Calcagno & Monticone, 2015; Dobni & Racine, 2016; MacGregor, 2002; Lavelle, 2019). In 2015 Dobni and Racine introduced the concept of stock market image; following a consumer behavior tradition, they identified many attributes of the market. This model, employed in the context of more mature economies (Dobni & Racine, 2016; Lavelle, 2019), may provide a deeper understanding of the emerging Chinese economy (Lavelle, 2019). Such an understanding provides an important perspective in regard to the Chinese stock market. Carpenter and Whitelaw (2017) state: "One of the challenges in financial economics research on China is that the setting there is so different than that in most finance studies, there is a risk of over-applying existing paradigms and oversimplifying conclusions" (p. 234). To that end, this literature review provides an overview of Dobni and Racine's 2015 Stock Market Image Model so that it can be applied in the context of the Chinese stock market.

Stock Market Image

Image research is not new, though application to the stock market and investor behavior is (Lavelle, 2019). Stock market image considers the mental images, impressions, and the feelings they elicit about the stock market as a whole and investor participation based on those impressions are of great interest (Dobni & Racine, 2015). Several studies have identified investors' impressions and feelings related to stock markets:

- **Trustworthiness:** The potential of being cheated (Guiso, Sapienza, & Zingales, 2008).
- **Risk:** The stock market as a casino (Keller & Siegrist, 2006).
- **Knowledge:** The ability of individual investors to process available market information (MacGregor, 2002).

Building on the findings within these studies, Dobni and Racine (2015) developed a model to measure stock market image and how investors act based on their images of the market (Calcagno & Monticone, 2015; Lavelle, 2019). Their theory identifies both antecedents and consequence factors of stock market image. These factors, measured across several dimensions, help us understand the influence of stock market image on investors' decision to invest, as well as how they invest (Dobni & Racine, 2015,

2016). Antecedents important to investors' stock market image include financial literacy, ability to trust, and sociability; consequences of stock market image comprise investing motives, risk reduction efforts, emotional responses, and the degree of satisfaction associated with investing (Hanna, Hill, & Perdue, 2010; Lavelle, 2019).

Application of this model to Chinese Mainland investors provides valuable insights into the rapidly developing Chinese economy and its stock markets (Carpenter & Whitelaw, 2017; Lavelle, 2019). Figure 1 presents the theoretical framework of antecedents to investors' stock market image used in this study.

FIGURE 1
ANTECEDENTS AND CONSEQUENCES OF STOCK MARKET IMAGE

Stock Market Image Dimensions

Dobni and Racine identified six market dimensions by which market image attributes can be measured (2015, p. 133). These dimensions are defined as follows in Table 1:

TABLE 1
SIX ATTRIBUTES OF INVESTORS' STOCK MARKET IMAGE

Attribute	Explanation
Immorality	The extent to which the stock market is perceived to be unethical, corrupt and gambling-like
Facilitators and Regulators	The perceived competency, effectiveness and trustworthiness of stock market facilitators (e.g., investment advisory services and regulators)
Economic Bellwether	The extent to which the stock market is perceived to contribute to and fore- shadow economic growth or malaise
Wealth Creating Capacity	The extent to which the stock market is viewed as a dependable and lucrative vehicle for lay investors to build financial assets
Fast Money	The extent to which the stock market is viewed as a venue for making quick gains
Tilted Playing Field	The extent to which the stock market is perceived to favor large, sophisticated investors at the expense of lay investors

Note: Adapted from "Stock Market Image: The Good, the Bad, and the Ugly" by Dawn Dobni and Marie Racine, 2015, Journal of Behavioral Finance, 16(2), pp. 130-139. Copyright 2015 Routledge/Taylor & Francis Group.

Antecedents

Image theory defines three categories of impression formation agents: "personal and subjective characteristics of the perceivers, determinants related to image management efforts, like the marketing practices of stock market supply chain members, and external uncontrollable factors, such as the media hype surrounding the stock market" (Dobni & Racine 2016, p. 4). This study of Chinese Mainlanders'

stock market image draws upon antecedents and hypotheses from Dobni and Racine (2016), described below.

Trust and Sociability

Trust is generally defined as the ability to believe and rely on the goodness of others (Bernerth & Walker, 2009; Dobni & Racine, 2016). From the perspective of the stock market, trust can be defined as "the subjective probability individuals attribute to the possibility of being cheated" (Guiso et al., 2008, p. 2557). Individuals with a trusting nature tend to look for positive information that confirms the trust they place in the market. Conversely, those with a negative outlook on the market tend to focus on negative information that confirms their distrust. Investors who possess a positive market image perceive lower levels of market risk (Dobni & Racine, 2016). Investors' stock market image is further influenced by their connectedness to others, via sharing of information (Dobni & Racine, 2016; Hong, Kubik, and Stein, 2004) and gauging others' reactions and opinions (Baker & Nofsinger, 2002; Dobni & Racine, 2016).

Stock market image theory tests found correlations between investor trust and five of the six dimensions listed and explained in Table 1 above. A positive correlation exists between investor trust and two of these dimensions: facilitators and regulators, and economic bellwether. By contrast, a negative correlation exists between investor trust and the dimensions of immorality, fast money, and tilted playing field (Dobni & Racine, 2016). We hypothesize:

Hypothesis 1: *Investor trust will be a significant predictor of Chinese investors' stock market image.*

Investors' sociability plays an important role in their investment behavior. It shapes how investors obtain information, as well as how they interpret it through comparison with and feedback from others. Dobni and Racine (2016) found that three dimensions support investor sociability: facilitators and regulators, wealth creation, and fast money. We therefore hypothesize the following:

Hypothesis 2: *Investor sociability will be a significant predictor of Chinese investors' stock market image.*

Financial Knowledge and Experience

Several studies have shown that financial literacy affects the way investors approach the stock market (Calcagno & Monticone, 2015; Hanna et al., 2010; Van Rooij, Lusardi, & Alessie, 2011). Some studies have concluded that investors with lower levels of financial knowledge are less likely to invest in stocks and other investment vehicles (Calcagno & Monticone, 2015), simply because they neither understand nor trust them (Van Rooij et al., 2011). Less experienced and knowledgeable investors process information much differently from those with more experience; for instance, less-experienced investors place greater weight on negative information (Calcagno & Monticone, 2015; Maheswaran, 1994).

Dobni and Racine's (2016) study correlations indicate that the financially literate investor perceives the stock market as an economic bellwether or a tool for wealth creation, and less as an immoral instrument for fast money in a tilted playing field. We hypothesize:

Hypothesis 3: *Investor financial knowledge will be a significant predictor of Chinese investors' stock market image.*

Stock market image theory tests found correlations between investing experience four dimensions: immorality, economic bellwether, wealth creation, and fast money (Dobni & Racine, 2016). We therefore hypothesize the following:

Hypothesis 4: *Investor experience will be a significant predictor of Chinese investors' stock market image.*

Gender

Some studies have shown that financial knowledge varies significantly based on age and gender (Dobni & Racine, 2016; Hanna et al., 2010; Van Rooij et al., 2011). Research has shown that men tend to be more opportunistic towards the market, while women tend to be intimidated and view the market as uncertain and uncontrollable (Dobni & Racine, 2016). Studies have also found that women tend to be less knowledgeable about investments (Hanna et al., 2010).

Dobni and Racine (2016) found little support for gender differences. They reported that gender differences only impact investors' perceptions regarding the market's wealth creation potential. In particular, these scholars found that females tend to not view the market as a vehicle for wealth creation. We therefore hypothesize the following:

Hypothesis 5: *Investor gender will be a significant predictor of Chinese investors' stock market image.*

Consequences

The image investors have of the stock market will influence their reasons for participation (Dobni & Racine, 2016). For instance, investors' perception of the stock market as a casino, a hobby for entertainment, or a vehicle to speculate may influence their motivation to invest (Dobni & Racine, 2016; Keller & Siegrist, 2006; Kumar, 2009). By contrast, if investors perceive the market to be knowable, safe, and as an opportunity (what word is missing here?), wealth creation and saving for retirement may be their motivation (Dobni & Racine, 2016; Van Rooij et al., 2011).

Dobni and Racine (2016) hypothesized that stock market image would be a significant predictor of investing motives; the authors found strong support for the posited relationships between the dimensions of stock market image and investing motives. In this study, we propose several hypotheses that address four investment motives: wealth accumulation, hobby and entertainment, saving for retirement, and speculation:

Hypothesis 6a: *Stock market image will be a significant predictor of Chinese investors' wealth accumulation motive.*

Hypothesis 6b: *Stock market image will be a significant predictor of Chinese investors' hobby and entertainment motive.*

Hypothesis 6c: *Stock market image will be a significant predictor of Chinese investors' saving for retirement motive.*

Hypothesis 6d: *Stock market image will be a significant predictor of Chinese investors' speculation motive.*

Application to the Chinese Stock Market

Applying Dobni and Racine's (2015, 2016) theory to the Chinese market furnishes several opportunities. First, it can provide much-needed understanding of Chinese investor behavior. Second, it may offer insights into the use of western tools in this emerging economy. The creation of China-specific paradigms is imperative; nearly all past studies rely on frameworks developed in Western stock markets – these frameworks are likely inappropriate when analyzing Chinese markets (Carpenter & Whitelaw, 2016). To understand the Chinese stock market scholars must both identify new paradigms that account for China's unique investor psychology or properly apply existing paradigms developed outside of China (Carpenter & Whitelaw, 2016; Lavelle, 2019). Such research is emerging. Lavelle (2019) explored the stock market image of Chinese U.S. Dollar millionaire investors in a quantitative study, using semi-structured, open-ended interview questions. His findings, which support Dobni and Racine's (2015, 2016), documented that Chinese investors' stock market image, antecedents, dimensions, and consequences all play key roles in those individuals' investment-related motives and behaviors.

RESEARCH METHODOLOGY

This study used a quantitative research design to test the hypotheses. The stock market image instrumentation created by Dobni and Racine (2015, 2016) was used to collect data. The sample of the study consisted of Chinese students studying at Mainland Chinese universities or foreign universities. This cohort was chosen due to convenience. A total of 171 participants correctly completed the survey, out of 195 participants who attempted (87% completion rate). The majority of participants (77%) were students at Nanchang Hangkong University in the researcher's finance course, while others attended Jiangnan University (10%), University of New England (3%), University of New South Wales (2%), or another university (8%).

The survey was translated and modified for the Chinese participants. Modifications to Dobni and Racine's instrument included the following: The language in Question 4 of the investor sociability section ("Attending a church event") was changed to "Attending an event." Question 5 of the investor sociability section was omitted. Finally, in the investor experience section, a practice investing account was added as an acceptable form of experience to accommodate students. Instrument reliability is reported in the results section. The four categories of investing motives (wealth accumulation, hobby and entertainment, saving for retirement, speculation) were the only consequence factors of interest in this study; therefore affective states, investor satisfaction, portfolio diversification, risk proneness, level of optimism, and information search were omitted from the survey. This decision was made based on the lack of investing experience among participants and the length of the survey.

The survey was distributed online using E-mail and WeChat. Current and former students of the researcher were emailed a link to the survey. Participants were encouraged to share the survey with current Chinese university students using their WeChat account. Data regarding age, education, and income were not collected as it was assumed Chinese university students are relatively homogeneous in these areas. The sample was 58% male and 42% female. Table 2 presents descriptive statistics for the study's variables.

TABLE 2
DESCRIPTIVE STATISTICS FOR VARIABLES USED IN STOCK MARKET IMAGE REGRESSIONS

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Antecedents				
Trust	4.638	1.214	-0.210	0.032
Investor Sociability	4.313	0.971	-0.016	0.495
Financial Literacy	4.585	2.206	-0.389	-0.432
Investor Experience	1.035	0.781	3.457	15.46
Gender: M = 0, F = 1	58% male, 42% female	0.495	-0.322	-1.918
Stock Market Image Dimensions				
Immorality	3.599	0.916	0.367	0.196
Facilitators and Regulators	4.302	0.995	0.011	0.108
Economic Bellwether	4.344	0.832	0.006	-0.336
Wealth Creating Capacity	3.989	0.967	-0.010	0.126
Fast Money	3.875	1.125	-0.052	0.383
Tilted Playing Field	4.472	1.138	-0.490	0.374
Consequences				
Wealth Accumulation	3.965	1.121	-0.917	0.652
Hobby and Entertainment	3.509	1.113	-0.151	-0.389
Savings for Retirement	3.152	1.495	0.057	-1.093
Speculation	3.731	1.332	-0.552	-0.602

Data Analysis

The relationships between antecedent factors and each stock market image dimension was tested using linear regression. These regression models test the impact of antecedent factors on participant's image of the Chinese stock market. The equation (1) below presents the structure of the linear regression model used.

$$Y_j = \alpha + \sum_{i=1}^{5} \beta_i \chi_i + \varepsilon_j \tag{1}$$

where Y_j represents one of the six stock market image dimensions, [Y_1 = immorality, Y_2 = facilitators and regulators, Y_3 = economic bellwether, Y_4 = wealth creating capacity, Y_5 = fast money, Y_6 = tilted playing field], α represents the regression intercept, χ_i represents one of the five antecedent factors, [χ_1 = trust, χ_2 = investor sociability, χ_3 = financial literacy, χ_4 = investor experience, χ_5 = gender], and ε_j refers to the error term.

The relationships between dimensions of stock market image and each of the four consequence factors was similarly tested using linear regression. These models quantify the influence of Chinese stock market image on participant's investing motives using the Chinese stock markets, including their willingness to accumulate wealth, invest for hobby or entertainment, save for retirement, or to speculate. Next, equation (2) presents the structure of the linear model used.

$$C_j = \alpha + \sum_{i=1}^{6} \gamma_i Y_i + \varepsilon_j \tag{2}$$

where C_j represents one of the four investing motive consequence factors [C_1 = wealth accumulation, C_2 = hobby and entertainment, C_3 = saving for retirement, C_4 = speculation], α represents the regression intercept, Y_i represents one of the six stock market image dimensions presented above, and ε_j refers to the error term.

The hypotheses were tested using Pearson's r and the standardized regression coefficients of each linear model. All statistical tests were done at both the 5% and 1% significance level. Robustness of the models were evaluated using the adjusted coefficient of multiple determination (R^2_{adj}), and the F Test was used to determine the significance of the models. Multicollinearity was analyzed using pairwise correlations, tolerance, and the Variance Inflation Factors (VIF).

RESULTS AND DISCUSSION

Antecedents

Antecedent factors that influence stock market image were tested. Table 3 presents the correlation analysis while Table 4 presents the regression analysis for the five antecedents and the six stock market image dimensions. Several significant relationships were found. The most influential antecedents in terms of frequency of significance are financial literacy and gender, each with eight total significant relationships across the correlation and regression analyses. The most influential relationship in terms of coefficient magnitude is the disposition to trust – tilted playing field dynamic (b = .307). Perhaps not surprising, the more unwilling an individual is to trust another the more he/she feels the Chinese stock market is stacked against him or her. Tables 3 and 4 present findings and correlations; discussions about these data follow.

TABLE 3
CORRELATIONS BETWEEN ANTECEDENTS AND STOCK MARKET IMAGE DIMENSIONS

Variable	Immorality	Facilitators and Regulators	Economic Bellwether	Wealth Creating Capacity	Fast Money	Tilted Playing Field
Trust	0.261 **	-0.148	-0.001	-0.042	0.214 **	0.281 **
Investor Sociability	0.104	0.187 *	0.179 *	0.213 **	0.085	0.014
Financial Literacy	-0.118	-0.201 **	-0.163 *	-0.206 **	-0.263 **	-0.047
Investor Experience	0.021	-0.050	-0.021	-0.079	-0.149	0.054
Gender: Male = 0, Female =1	-0.228 **	0.221 **	0.175 *	0.160 *	0.057	-0.150

* $p < .05$, ** $p < .01$

TABLE 4
ANTECEDENTS AND STOCK MARKET IMAGE: STANDARDIZED REGRESSION COEFFICIENTS AND MODEL SUMMARY, EQUATION (1)

Variable	Immorality	Facilitators and Regulators	Economic Bellweather	Wealth Creating Capacity	Fast Money	Tilted Playing Field
Intercept	0.000 **	0.000 **	0.000 **	0.000 **	0.000 **	0.000 **
Trust	0.296 **	-0.170 *	-0.017	-0.056	0.235 **	0.307 **
Investor Sociability	0.105	0.150 *	0.141	0.178 *	0.036	0.007
Financial Literacy	-0.127	-0.170 *	-0.146 *	-0.179 *	-0.274 *	-0.071
Investor Experience	-0.005	0.027	-0.006	-0.065	-0.142 *	0.037
Gender: M = 0, F = 1	-0.275 **	0.220 **	0.158 *	0.139	0.015	0.182 *
R^2_{adj}	0.140	0.111	0.049	0.078	0.121	0.092
Significance F	6.550 **	5.260 **	2.749 *	3.861 **	5.700 **	4.459 **
N	171	171	171	171	171	171

* $p < .05$, ** $p < .01$

Hypothesis 1 states investor trust will be a significant predictor of stock market image. The evidence supports this hypothesis. The less trusting an investor is, the more he or she considers the Chinese stock market immoral ($r = 0.261$, $b = 0.296$), an environment for fast money ($r = 0.214$, $b = 0.235$), an unequal playing field ($r = 0.281$, $b = 0.307$), and poorly managed by financial professionals and regulators ($b = -0.170$). Hypothesis 2 states investor sociability will be a significant predictor of stock market image. This hypothesis is supported. The more social an individual is, the more positive the person's view that facilitators and regulators protect one's interests ($r = 0.187$, $b = 0.150$), that the stock market supports the growth of the economy ($r = 0.179$), and that the stock market provides wealth creating opportunities ($r =$

0.213, b = 0.178). Hypothesis 3 states investor financial knowledge will be a significant predictor of stock market image.

The evidence suggests that financial knowledge improves investor understanding of the Chinese stock market, which supports Hypothesis 3. In general, the more knowledgeable one is about finance, the less they perceive the Chinese stock market as safely regulated (r = -0.201, b = -0.170), representative of the overall economy (r = -0.163, b = -0.146), a vehicle to accumulate wealth (r = -0.206, b = -0.179), or attractive for making fast money (r = -0.263, b = -0.274). In other words, students that have a better understanding of finance theory and financial markets seem to be aware of China's stock market inefficiencies. These empirical results match the qualitative statements among Chinese U.S. Dollar millionaires presented in an earlier study (Lavelle, 2019).

Hypothesis 4 states investor experience will be a significant predictor of stock market image. This hypothesis is supported; however, the evidence is limited to a single significant relationship. Investors who accumulate more investing experience are less likely to perceive the stock market as a way to make money easily and quickly (b = -0.142). The lack of experience investing among the sample of students likely accounted for the lack of significant relationships with the stock market image dimensions.

Hypothesis 5 states gender will be a significant predictor of stock market image. The evidence supports this hypothesis. On average, females are less likely to see the stock market as immoral (r = -0.228, b = -0.275) or unfair for small investors (b = -0.182). Further, females are more likely to view the market as properly regulated (r = 0.221, b = 0.220) and an economic bellwether (r = 0.175, b = 0.158), compared with their male counterparts. These findings suggest males in China are generally less optimistic, and believe the Chinese stock market is more corrupt; this disagrees with previous western researchers' findings that men are more optimistic about stock market performance (Ford & Kent, 2010; Dobni & Racine, 2016). Overall, the evidence supports hypotheses one through five, with the disposition to trust appearing to be the most important influential. Next consequences of stock market image are presented and discussed.

Consequences

The impact of stock market image on investing motives were tested. Table 5 presents the correlation analysis while Table 6 presents the regression analysis for the six stock market image dimensions and the four investing motive consequence factors. Several significant relationships were found, however many faded in the multivariate results. The investing motive most influenced, in terms of frequency of significance, is the saving for retirement factor, which had six total significant relationships across the correlation and regression analyses. The most influential relationship in terms of coefficient magnitude is between the image of the stock market as a wealth creator and its consequences to save for retirement (γ = 0.391). A possible explanation for these findings may be that students associate stock market investing with saving for retirement before they do other motives such as accumulating wealth, hobby, or speculation. Table 5 illustrates correlations between stock market image and investing motive consequences. Note that the strongest relationship is between wealth creating capacity and savings for retirement; this indicates that the more one believes the stock market can be used to create wealth, the more that investor feels that the stock market is useful to save for retirement.

TABLE 5
CORRELATIONS BETWEEN STOCK MARKET IMAGE AND INVESTING
MOTIVE CONSEQUENCES

Variable	Wealth Accumulation	Hobby and Entertainment	Savings for Retirement	Speculation
Immorality	0.147	0.060	0.235 **	0.055
Facilitators and Regulators	0.028	0.058	0.055	0.115
Economic Bellwether	0.218 **	0.174 *	0.206 **	0.186 *
Wealth Creating Capacity	0.195 *	0.283 **	0.369 **	0.188 *
Fast Money	0.205 **	0.186 *	0.311 **	0.270 **
Tilted Playing Field	0.085	0.102	0.185 *	0.034

* $p < .05$, ** $p < .01$

Table 6 illustrates regressions between stock market image and investing motive consequences, using Equation Two. Note that wealth creating capacity evidences the strongest relationship, out of the eight dimensions.

TABLE 6
STOCK MARKET IMAGE AND INVESTING MOTIVE CONSEQUENCES:
STANDARDIZED REGRESSION COEFFICIENTS AND MODEL SUMMARY, EQ. (2)

Variable	Wealth Accumulation	Hobby and Entertainment	Savings for Retirement	Speculation	
Intercept	0.000 **	0.000 **	0.000	0.000 **	
Immorality	0.105	-0.023	0.143	0.043	
Facilitators and Regulators	-0.148	-0.131	-0.128	-0.022	
Economic Bellwether	0.210 *	0.031	-0.008	0.100	
Wealth Creating Capacity	0.092	0.312 **	0.391 **	0.038	
Fast Money	0.124	0.056	0.137	0.236	**
Tilted Playing Field	-0.021	0.106	0.099	-0.060	
R^2_{adj}	0.066	0.072	0.202	0.054	
Significance F	2.988 **	3.240 **	8.153 **	2.611	*
N	171	171	171	171	

* $p < .05$, ** $p < .01$

Hypothesis 7a states stock market image will be a significant predictor of the wealth accumulation motive. This hypothesis is supported. The evidence suggests the perception of the stock market as an economic bellwether positively influences the wealth accumulation motive (= 0.210). Hypothesis 7b states stock market image will be a significant predictor of the hobby and entertainment motive. This hypothesis is supported. The significant relationship between wealth creating capacity and the hobby and entertainment motive (= 0.312) represents the view that wealth creation contributes to the pursuit of investing out of personal interest. Participants of this study, especially those studying finance, may be motivated to learn about investing after discovering the wealth created in U.S. markets historically, which is typically taught in finance classes. Further, it is possible participants believe wealth can be made by investing in the stock market on a hobby or entertainment basis. Previous studies have documented

investor behavior in China related to lottery stocks, speculation and entertainment motives and found inclination for speculation (Raylu & Oei, 2004; Loo et al., 2008; Nartea et al., 2017; Liang & Zhang, 2016; Lavelle, 2019).

Hypothesis 7c states stock market image will be a significant predictor of the saving for retirement motive. This hypothesis is supported. As mentioned earlier, the significant relationship between wealth creating capacity and saving for retirement (= 0.391) indicates markets are an effective tool to motivate retirement savings. These results differ from a previous study where wealthy investors stated the Chinese stock market was not suitable for retirement savings. Perhaps students who have studied topics such as compound interest and the historical returns of U.S. markets are more optimistic about China's stock market as an investment to fund their retirement than previous generations. Hypothesis 7d states stock market image will be a significant predictor of the speculation motive. This hypothesis is supported. Perhaps not surprisingly there was a significant relationship between the fast money dimension and the speculation motive (= 0.236). On average, the more that individuals view the stock market as a place where money can be made easily and quickly, the more inclined they are to engage in speculation. These results corroborate information gathered in interviews of wealthy Chinese citizens on the popularity of fast money-speculation in the Chinese stock market (Lavelle, 2019). Overall, the evidence supports the theory that stock market image is a significant predictor of investing motives.

Robustness and Reliability

This section presents measurements of robustness and reliability. The adjusted coefficient of determination (R^2_{adj}) was used as a measurement of model robustness. These values ranged from 0.049 to 0.140. For comparison, the R^2 (non-adjusted) reported in Dobni and Racine (2016) ranged from 0.055 to 0.277. The F test was used to determine model significance. All regression models were significant, with eight of the ten models significant at the < 1% level. Pairwise correlations, tolerance, and the variance inflationary factor (VIF) were used to examine possible multicollinearity.

The pairwise correlations among independent variables for the antecedent and consequence regressions are presented in Tables 7 and 8. No significant relationships were found among independent variables in the antecedent regressions. The strongest significant relationship among the consequence regressions was between economic bellwether and wealth creating capacity ($r = 0.603$). According to Kennedy (2008), a pairwise correlation larger than 0.8 is considered high; therefore multicollinearity does not appear to be an issue. The VIF and tolerance measures were generated with each regression output. VIF values ranged from 1.010 to 1.041 for the antecedent regressions and from 1.400 to 1.958 for the consequence regressions. According to Kennedy (2008), values greater than 10 indicate problems related to multicollinearity; therefore multicollinearity does not appear to be an issue. Tolerance values ranged from 0.961 to 0.990 for the antecedent regressions and from 0.556 to 0.705 for the consequence regressions. Tolerance values below 0.2 are considered problematic (Hair et al., 2006). As a result, multicollinearity does not appear to affect the regression models of this study.

The stock market image scale created by Dobni and Racine (2015; 2016) was analyzed for reliability using Cronbach's Alpha, presented in Table 9. These values range from 0.445 to 0.876. Several scholars prefer Cronbach's alpha values of 0.7 or higher, however the 0.6 threshold can be considered acceptable in exploratory or cross-cultural studies (Nunnally, 1978; Hair et al., 2006; Aron & Aron, 1999; Spector, Liu, & Sanchez, 2015). Two Cronbach's alpha values fall below the 0.6 threshold, including economic bellwether (α = 0.445) and fast money (α = 0.589). Overall, Cronbach's alpha values are similar to those reported in Dobni and Racine (2015, 2016), with the exception of economic bellwether.

TABLE 7
PAIRWISE CORRELATIONS FOR INDEPENDENT VARIABLES IN ANTECEDENT REGRESSIONS

	Trust	Investor Sociability	Financial Literacy	Investor Experience	Gender: M=0, F=1
Trust	1				
Investor Sociability	0.073	1			
Financial Literacy	0.084	-0.120	1		
Investor Experience	0.013	0.026	0.032	1	
Gender: M = 0, F = 1	0.117	0.134	0.011	-0.083	1

* $p < .05$, ** $p < .01$

TABLE 8
PAIRWISE CORRELATIONS FOR INDEPENDENT VARIABLES IN CONSEQUENCE REGRESSIONS

	Immorality	Facilitators and Regulators	Economic Bellweather	Wealth Creating Capacity	Fast Money	Tilted Playing Field
Immorality	1					
Facilitators and Regulators	-0.275**	1				
Economic Bellwether	-0.034	0.580**	1			
Wealth Creating Capacity	-0.028	0.500**	0.603**	1		
Fast Money	0.160*	0.287**	0.352**	0.417**	1	
Tilted Playing Field	0.459**	-0.073	0.088	-0.068	0.279**	1

* $p < .05$, ** $p < .01$

TABLE 9
STOCK MARKET IMAGE RELIABILITY

Dimension	Cronbach's α
Immorality	0.807
Facilitators and regulators	0.876
Economic bellwether	0.445
Wealth creating capacity	0.783
Fast money	0.589
Tilted playing field	0.656

Note: Single-question variables excluded.

CONCLUSION

Implications

Our understanding of Chinese stock market image is still in its infancy. The implications of this research are important in several areas. First, Chinese policymakers are recommended to take steps to transform the image of the Chinese stock market from how Chinese Mainlanders view the market today. The U.S. government took similar steps in U.S. markets after the crash of 1929 to improve its image and to promote people's trust in investing (Ott, 2004). Improving investors' image of the Chinese stock market could improve the overall health of the market and legitimize it as a credible place to invest. Such improvements could benefit both the Chinese investing public and international investors. Second, Chinese policymakers need to understand that failure to improve stock market image may result in capital outflows. This reversal would hinder the Chinese stock market and the Chinese economy, as local companies find increased difficulty accessing capital. Improving the image of the Chinese stock market provides opportunities to achieve continued economic development (Lavelle, 2019).

Third, international investors considering China should be cautious given that the Chinese people view their stock market as a corrupt casino not worthy of long-term capital (Lavelle, 2019). This study demonstrated that lack of trust results in images of the stock market being corrupt, speculative, and controlled by large institutions. Further, this study found the more one is knowledgeable in finance, the less likely they see the Chinese stock market connected to the actual economy and capable of creating wealth over time. Investors wishing to have exposure to China may tilt their portfolios toward non-Chinese listed companies with exposure to the Chinese economy, such as companies that earn a significant amount of their revenue in China.

Finally, this study has important implications for scholars of stock market image theory. The evidence substantiates the application of the theory in China as all hypotheses tested were supported. As a result, Dobni and Racine's theory has survived its first out-of-sample test. In the Chinese context, stock market image theory has demonstrated the disposition to trust to be an important influence, as well as stock market image's impact on investing motives. As the literature develops it will be interesting to observe if this result continues.

Limitations

This study had several limitations. Participants reported that the phrasing of survey questions was too direct for Chinese culture and as a result, Nanchang Hangkong University limited the number of participants the researcher could survey. For example, scaled statements such as "The Chinese stock market is corrupt" and "In general, people can't be trusted" provoked such high levels of discomfort that Chinese participants reported the survey to university administrators, resulting in administrators asking the researcher to refrain from further gathering data. Furthermore, several students mentioned the survey was time consuming. The length of time required to complete the survey likely limited the number of participants in the study. This study is also limited by students' investing knowledge and experience, which may have affected reported stock market image and investing motives.

Future Research

Future research should adapt this model to the Chinese culture and language with particular attention to questions that might offend Chinese participants. While future models need to strive for accuracy in translation, they should also be culturally literate. Surveys need to reflect respect for those perceived to be in authority and government leaders. Incorporating these cultural nuances would improve participation and willingness to respond to questions. More diverse and larger sample sizes would also improve the validity of research findings.

Future studies should target knowledgeable investors who are more likely to participate in the stock market. Wealthy individuals with higher levels of investable capital and investment management professionals are groups that should be targeted. A longitudinal study tracking possible changes in stock market image and investment behaviors would also provide insights. The relationship between stock

market image and stock market performance seems a logical next step as well. Further study of stock market image theory needs to be performed in other countries for comparison of findings. While we have some understanding of stock market image's impact on investors following the 1929 U.S. market crash, testing this model in China and other countries provide further model validation.

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