Accounting Quality and Household Stock Market Participation

by

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ABSTRACT

Recent research finds that there is significant variation in stock market participation by state and suggests that there might be state-specific factors that determine household stock market participation in the United States. Using household survey data, I examine how accounting quality of public companies at the state level affects households' stock market participation decisions. I find that households residing in states where local public companies have better accounting quality are more likely to invest in stocks. Moreover, those households invest greater amounts of their wealth in the stock market. Cross-sectional tests find that the effect of accounting quality on stock market participation is more pronounced for less affluent and less educated households, consistent with prior findings that lacking familiarity with and trust in the stock market is an important factor deterring those types of households from stock investments. In state-level tests, I find that these household outcomes affect income inequality, which is less severe in states where high public-firm accounting quality spurs more stock market participation by poorer households. Conversely, in states where public firms have lower accounting quality, stock market participation among poorer households is less common, and a larger share of high equity returns accrues to richer households, exacerbating income inequality.

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CHAPTER 1

INTRODUCTION

A recent report by the Federal Reserve Bank of St. Louis (Chien and Morris, 2017) notes that U.S. household stock market participation rate varies widely by state. For example, the stock market participation rate was 10.5 percent in Mississippi but 26.6 percent in Connecticut in 2014. Interestingly, the report finds that the stock market participation rate differs significantly by state even after controlling for household income levels. The stock market participation rate for households with incomes between $100,000 and $200,000 was 31.5 percent in Mississippi but 45.7 percent in Connecticut. The report concludes that there might be some regional factors that affect stock market participation in addition to household-specific factors. In this study, I extend this line of research by investigating whether better state-level accounting quality promotes household stock market participation by providing potential investors with greater assurance as to the reliability and fairness of the stock market.

A lack of trust in the stock market is an important factor emphasized by extent research in explaining lower-than-expected stock market participation. Guiso, Sapienza, and Zingales (2008) argue that investors factor in the risk of being cheated in deciding whether to buy stocks. They further point out that to people unfamiliar with finance, investing in the stock market is not intrinsically different from gambling. Households need to have trust in the fairness of the game and in the reliability of the numbers in order to invest in it.

Accounting quality plays an important role in shaping trust in the capital market. Corporate misconduct, such as the Enron debacle, not only wipes out the market value of

firms that are discovered to be fraudulent (Karpoff, Lee, and Martin, 2008) but also undermines fundamental trust in the stock market, thus decreasing stock market participation (Giannetti and Wang, 2016). High-quality accounting information should increase investors' trust that (1) financial data are reliable, and (2) investors will receive fair treatment when investing in public companies. With a higher level of trust in the stock market, households are more likely to participate in the stock market and enjoy capital gains.

To empirically measure cross-sectional and time-series variation in households' exposure to financial reporting quality, I assume that households face greater exposure to accounting practices of local firms through local news coverage and personal interactions.[1] To be specific, I compute the state-level medians of various accrual measures of local public companies to proxy for statewide accounting quality.[2] Using household survey data (the Panel Study of Income Dynamics), I show that households residing in states where local public companies have better accounting quality are more likely to invest in stocks and are, in fact, investing more of their wealth in the stock market. Specifically, a one-standard-deviation improvement in statewide public company

[1] See Grinblatt and Keloharju (2001), Ivkovic and Weisbenner (2005), Brown, Ivkovic, Smith, and Weisbenner (2004), Brown, Ivkovic, Smith, and Weisbenner (2008), and Seasholes and Zhu (2010) for evidence on how local news coverage and personal interactions affect individual investors.

[2] These accrual measures are widely used in the literature to infer the quality of financial reporting practices of public firms. Jones, Krishnan, and Melendrez (2008) show that the accrual measures can predict both small and large accounting frauds. I expect that these accrual measures capture not only managerial commitment to providing better quality information but also monitoring by information intermediaries such as media press (Miller, 2006) and analysts (Yu, 2008). In robustness tests, I also use, as alternative measures of state-level accounting quality, the proportion of public firms that restate their financial statements, and the proportion of public firms reporting material weaknesses in disclosure controls in each state, and obtain the same inferences (see section 7.2).

accounting quality is associated with (1) an increase in the stock market participation rate by about five percent, and (2) an increase in the proportion of wealth held in stocks by about one fifth, relative to unconditional baseline sample averages.

One empirical concern is that there may be reverse causality affecting the relation between accounting quality and stock market participation. To mitigate this concern, I employ two-stage least squares models (2SLS) and use state-level audit market size as an instrument. I calculate state-level audit market size as the sum of audit fees of public companies in a state scaled by the state's GDP. According to the audit literature, audit fees are associated with audit risk and internal control weaknesses (Abbott, Parker and Peters, 2006; Hogan and Wilkins, 2008), which makes state-level audit market size a relevant instrument for state-level accounting quality. Moreover, state-level audit market size may be correlated with stock market participation but only through financial reporting quality. This feature satisfies the exclusion restriction condition for instrument variables. Using 2SLS, I find that better state-level accounting quality increases households' stock market participation.

Next, I conduct several cross-sectional tests to further evaluate the effect of accounting quality on stock market participation. Favilukis (2013) suggests that lowering stock market participation barriers will have a stronger effect on poorer households, as rich households that already have access to financial services and to the stock market will not likely be affected by the reduction in stock market participation costs. Moreover, Guiso et al. (2008) find that the effect of trust on stock market participation is stronger for households with lower-level education. They attribute their findings to the notion that households with high levels of education are often rational investors investing in stock

markets to diversify their portfolios regardless of their trust in the stock market. Consistent with these findings, I show that the effect of accounting quality on stock market participation is more pronounced for less affluent and less educated households.

Next, I examine whether the use of the internet affects the relation between accounting quality and stock market participation. According to Barber and Odean (2001), the advent of the internet has changed both how information is delivered to individual investors and the ways investors can act on that information. Moreover, some recent studies find evidence that individual investors' investment decisions rely on information from social media outlets such as Seeking Alpha (Chen, De, Hu, and Hwang, 2014; Farrell, Green, Jame, and Markov, 2018). The benefits of high-quality accounting may thus be amplified through the use of the internet, where outlets like Seeking Alpha can help communicate underlying public-firm accounting quality to individual investors. Consistent with this prediction, I provide evidence that the effect of accounting quality on stock market participation is stronger for households that use the internet.

According to the economics and finance literature, the lower-than-expected level of stock market participation among middle- and low-income households is one of the main drivers of income and wealth inequality in the United States (Mankiw and Zeldes, 1991; Nau, 2013; Favilukis, 2013).[3] This stems from the fact that rich households are the most common demographic participating in equity markets, in which historical equity returns have been higher than those of most other asset classes (Fama and French, 2002).

[3] Cable News Network (CNN), in 2017, also expressed its concern about lower stock market participation rates among U.S. middle-income households. It pointed out that income and wealth inequality had been widening because most Americans (except for wealthy households) were not benefiting from the stock market boom.

If better accounting quality encourages more middle- and low-income household participation in stock markets, then the resulting better exposure of these households to high equity returns may reduce income inequality by narrowing the income gap in capital gains. I test this prediction in an extended analysis and find that better accounting quality is associated with lower income inequality and that this effect is stronger among the states where local firms experience higher average buy and hold stock returns and for states with higher internet usage.

To provide further causal evidence, I examine an exogenous shock that potentially decreases statewide accounting quality in certain states. After the collapse of Arthur Andersen (AA) in 2002, all of AA's clients had to switch to new auditors. Statewide accounting quality might have been temporarily compromised for states with a large share of AA's clients because there were more involuntary auditor switches. According to Hansen, Kumar, and Sullivan (2008), those states experienced severe audit capacity problems because audit resources were limited. Moreover, as Big N auditors rebalanced their client portfolios (Landsman, Nelson, and Rountree, 2009), clients that were dropped by Big N auditors experienced significant decreases in earnings quality (Carver, Hollingsworth, and Stanley, 2011). Using this negative shock to accounting quality, I show that after the Arthur Andersen collapse, (1) households located in states with a larger share of AA's clients reduce their stock market participation, and (2) income inequality of those states increases. Finally, I conduct a series of robustness tests and find that my results are robust to measuring state-level accounting quality using historical averages and other alternative proxies such as the fraction of local public firms that restate their financial statements.

This paper makes several important contributions to the literature. First, my study complements the stock market participation literature. Finance and economics researchers have identified several determinants of stock market participation by households. More recently, Liu and Sun (2018) theorize that managerial manipulation might be one of the main drivers of lower-than-expected stock market participation. Using U.S. household survey data, my paper adds to this line of research and provides empirical evidence that accounting quality may enhance stock market participation. Moreover, Brown, Ivkovic, Smith, and Weisbenner (2004), Giannetti and Wang (2016), and Chien and Morris (2017) suggest that there might be regional characteristics that determine stock market participation by individual investors. This study complements this line of research by showing that local accounting quality could be such a regional characteristic.

In addition, this paper contributes to the literature on the value of high-quality accounting. Most prior research focuses on the benefits of high-quality accounting to companies or sophisticated investors. However, there is only limited evidence on how high-quality financial reporting benefits individual investors. This paper extends Lawrence (2013) by providing empirical evidence that high-quality accounting benefits individual investors by bolstering their trust in the stock market and promoting more household participation in stock markets.

Lastly, this study contributes to the income inequality literature. Prior studies have pointed out that the lower-than-expected stock market participation rate among middle- and low-income households is one of the main drivers of income inequality, as rich households accrue most of the (relatively) high returns offered by stock markets as a function of their high stock market participation rates (e.g., Mankiw and Zeldes, 1991;

Guo, 2001; Clarke, Xu, and Zou, 2006 and Beck; Demirgüç-Kunt, and Levine, 2007; Favilukis, 2013). This paper provides evidence that high accounting quality can mitigate widening income inequality by encouraging more middle- and low-income households to invest in stocks.

The paper is organized as follows. Section 2 reviews related literature and develops a hypothesis. Section 3 describes my research design and section 4 presents results. Supplemental analyses are presented in sections 5, 6 and 7, and section 8 concludes my study.

CHAPTER 2

RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1. Stock Market Participation Literature

According to the economics and finance literature, the U.S. stock market participation rate is lower than expected (e.g., Mankiw and Zeldes, 1991; Guo. 2001). Chien and Morris (2017), for example, observe that about 70 percent of households earning between $75,000 and $100,000 annually are not investing in stocks at all. To provide explanations for the low U.S. stock market participation rate by individuals—the "stock market participation puzzle"—the financial economics literature has examined various barriers that deter individuals from investing in the stock market.

Haliassos and Bertaut (1995) suggest that in addition to transaction costs such as brokerage fees, information acquisition costs and misperceptions about stock markets may discourage individuals from investing in the stock market. These authors argue that free acquisition of information is important for overcoming barriers to stock market participation. Guiso et al. (2008) further contend that a lack of trust in the stock market can deter individuals from owning stocks because investors are afraid of being cheated. Guiso et al. (2008) find that the effect of trust is stronger for individuals with lower levels of education because individuals with higher education are less likely to have a biased perception of the stock market. Building on Guiso et al. (2008), Giannetti and Wang (2016) show that residents in states with more corporate scandals reduce their stock market participation as they lose trust in the fairness of the stock market.[4]

[4] Building on Guiso et al. (2008), both Gianetti and Wang (2016) and my study show how households' trust in the stock market can be reinforced (or undermined) by corporate behaviors. My study focuses on how the overall quality of accounting practices affects households' stock market participation decisions, while

In a similar spirit, Liu and Sun (2018) theorize that the prevalence of earnings management can reduce stock market participation because people who are relatively pessimistic about financial reporting quality will withdraw from the stock market because they interpret large accruals as a signal of managerial manipulation. While the focus of Liu and Sun (2018) is on theoretically modeling stock market participation as a function of managerial manipulation, the authors also use international data to empirically document a negative association between national stock market participation rates and a measure of nationwide public-firm accounting quality (an Accounting Index computed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1998).[5]

Prior research also examines regional heterogeneity in stock market participation. Recent work by the Federal Reserve Bank of St. Louis (Chien and Morris, 2017) documents that household participation in the stock market varies widely by state. Chien and Morris (2017) find that stock market participation differs significantly by state even after controlling for household income level, and conclude that there might be some regional factors that affect stock market participation in addition to individual participation costs. Furthermore, Brown et al. (2004) document the "local firm effect" in stock market participation. That is, an individual's likelihood of stock ownership is positively influenced by the presence of local, publicly traded firms close to the individual's residence. They argue that the "local firm effect" could be driven by either

Gianetti and Wang (2016) pay attention to the effect of extreme cases of corporate frauds on stock market participation.

[5] The primary purpose of Liu and Sun (2018) is to build a theoretical model of stock market participation as a function of managerial manipulation. They use 26 country-level observations to validate their theoretical prediction. My study builds on the theoretical arguments of Liu and Sun (2018) and provides more comprehensive empirical evidence using U.S. household-level data.

simple familiarity or by local informational advantage. This finding is extended in Ivkovic and Weisbenner (2005) who show that individual U.S. investors exhibit a strong preference for local stocks. According to their research, the average share of local stock investments (defined as investments in companies headquartered within 250 miles of the investor) is around 30 percent of both the number and investment value of stocks in the household portfolio. Building on this literature, Giannetti and Wang (2016) exploit state-level variations in the number of corporate scandals to explain the stock market participation decisions of state residents.

2.2. Hypothesis Development

In this study, I posit that high accounting quality will promote stock market participation by lowering the psychological and information costs of participating in the stock market. As discussed previously, individual investors—unsophisticated investors in particular—need trust to invest in stocks. Firms can build reputations for credibility among investors by demonstrating transparent accounting practices (Liu and Sun 2018). For example, *Forbes* annually announces "the 100 Most Trustworthy Companies in America" based on the Accounting and Governance Risk (AGR) ratings. *Forbes* explicitly mentions that the evaluation criteria include accounting practices such as revenue and expense recognition methods as well as earnings quality metrics (Strauss, 2017; Forbes staff, 2006).[6] It is important to note that I assume households face greater exposure to the reputation of accounting practices of local firms (relative to non-local firms). This assumption is realistic not only because households are more likely to be

[6] On the other hand, *Business Insider*, in 2012, announced "The 27 Companies Most Likely to Have an Accounting Scandal" using firms with a poor AGR rating (Kaplan, 2012).

aware of local firms, but also because local news coverage and personal interactions increase local investors' exposure to accounting practices by local firms.[7] Transparent accounting practices should therefore help mitigate psychological barriers to stock market participation by providing trust in the fairness of the market and the reliability of public companies' accounting numbers.

In addition to providing trust, high accounting quality can increase stock market participation by increasing local households' familiarity with stocks and companies. According to Bushee, Core, Guay, and Hamm (2010), greater accounting transparency directly leads to more press coverage. In addition, Healy, Hutton, and Palepu (1999) find that better disclosure quality leads to more analyst coverage, and Bushee et al. (2010) also show that more analyst coverage leads to more press coverage. That is, better accounting quality can indirectly lead to more press coverage by encouraging more analyst coverage. To the extent that individual investors have limited attention, extant research shows that individual investors are more likely to buy stocks that receive better press coverage (Engelberg and Parsons, 2011; Barber and Odean, 2008; Gurun and Butler, 2012; Nagy and Obenberger, 1994). In a similar vein, Brown et al. (2004) find that individuals purchase more local stocks just because they are more familiar with such

[7] For example, in 2014, Knight Transportation Inc, a public company headquartered in Arizona, was listed as the 100 Most Trustworthy Companies in America by Forbes. AZ Big Media, a local newspaper in Arizona, published an article that Knight Transportation was named one of America's 100 Most Trustworthy Companies by Forbes because of its' accounting transparency. As another example, Sacramento Business Journal, a local newspaper in Sacramento, published an article (Anderson, 2019) reporting that Spruce Point Capital, an activist investor, called out aggressive accounting practices of Aerojet Rocketdyne, a firm headquartered in Sacramento. See also Grinblatt and Keloharju (2001), Ivkovic and Weisbenner (2005), Brown et al. (2004), Brown et al. (2008) and Seasholes and Zhu (2010). These studies document how local media and personal interactions can impact the exposure of individual investors to local public companies.

stocks. It is thus plausible that individual investors are more willing to invest in these high-quality local companies just because of the familiarity caused by press coverage, even if these investors do not have private information or the ability to conduct financial statement analysis (Nofsinger and Varma, 2012; Seasholes and Zhu, 2010).

To summarize, if households are located in states with better accounting practices, they will have more confidence that (1) financial data are reliable, and (2) they will receive fair treatment when investing in public companies, resulting in increased stock market participation.[8] On the contrary, if households are exposed to poor accounting practices by nearby public companies, they will refrain from investing in the stock market as they lose trust in it. Furthermore, greater press coverage resulting from transparent accounting practices by local firms increases households' familiarity with local companies, facilitating greater investments in these companies' stocks. Together, this reasoning leads to my hypothesis stated in the alternative form:

H1. Households residing in states where local public companies have better accounting quality are more likely to participate in the stock market.

[8] In addition to traditional media, social media such as Seeking Alpha can give retail investors a sense or a signal of accounting quality. There are many free articles on Seeking Alpha that explicitly emphasize high accruals as a warning signal in stock recommendations. An article by Merriam (2011), for example, titled "Deckers Outdoor (NYSE:DECK): High Accruals Flash Warning Signal," reports that "the catalyst in our overvalued and short-sell thesis lies primarily in the accruals. We've seen lots of aggressive accounting by apparel makers over the years, but the +16.9 accrual ratio posted in Q3 is glaringly bearish." Another financial blogger on Seeking Alpha, Doyle Publishing Ltd., posted an article titled "Mobileye (NYSE:MBLY): Too Many Accruals, Not Enough Cash," in which he states, "Using the tools provided by professor Richard Sloan, our analysis suggests that Mobileye's earnings are made up of a dangerous level of accruals . . . Thus, investors need to be mindful not only of the high or low levels of earnings but also the quality of those earnings. It's with that in mind that we want to talk about Mobileye NV (NYSE:MBLY). The fact is that a high percentage of Mobileye's earnings are accruals."

CHAPTER 3

DATA AND RESEARCH DESIGN

3.1. Data

I obtain information on households' equity holding, income, wealth, and other demographics from the Panel Study of Income Dynamics (PSID), a longitudinal household survey study directed by the University of Michigan.[9] The data also include households' state of residence. The survey is performed every other year, beginning in 1968. As a function of control variable availability, my sample focuses on the years 2001–2015.[10] I collect state-level population and GDP related statistics from the Bureau of Economic Analysis. Unemployment statistics are from the Bureau of Labor Statistics. Data used to calculate the state-level accounting quality measures are obtained from the Compustat database.

3.2. Research design

3.2.1. Measurement of Stock Market Participation

Following prior literature (e.g., Guiso et al., 2008), my main proxy for household stock market participation, *STOCKHOLD*, is an indicator variable set equal to one if a household owns any stocks of publicly held companies, mutual funds, or investment trusts in a given year and zero otherwise. Consistent with prior research, stock holdings in

[9] While the sample closely resembles the national (U.S.) population as evidenced by descriptive statistics (see section 4.1.1), it is possible that the sample may under- or overrepresent certain states and there is a possibility that low-income households are oversampled by design. However, this is not a concern in my analysis because I include state fixed effects and family fixed effects and control for household income and wealth in my regression models, so that the error term is not related to the sampling criterion (Wooldridge, 1999; Solon, Haider, and Wooldridge, 2015).

[10] This study can be extended to an international setting, but I choose to focus on U.S. households in order to mitigate the effects of confounding factors such as cross-country regulatory and cultural differences.

individual retirement accounts are excluded from the analysis because investors rarely rebalance or trade their retirement investments and there are significant penalties involved when they have early withdrawals from retirement savings (Agnew, Balduzzi, and Sunden, 2003; Mitchell, Mottola, Utkus, and Yamaguchi, 2006; Benartzi and Thaler, 2007). Also, whether individuals participate in retirement plans to a large extent depends on whether their employers have automatic enrollment retirement plans by default (Beshears, Choi, Laibson, and Madrian, 2009). The second proxy for household stock market participation is *EQUITY2WEALTH*, which is the amount of a household's stock investment divided by the household's wealth.

3.2.2. Measurement of State-level Financial Reporting Quality

In this study, I exploit state-level variation in financial reporting quality in order to examine its impact on the stock market participation of U.S. households. To measure state-level accounting quality, I first compute three accounting quality measures (total accruals, performance-matched abnormal accruals, and working-capital accruals noise) for public firms in each state, and then use state medians of these accounting quality variables as the state-level accounting quality measures.[11] Jones, Krishnan, and Melendrez (2008) show that these accrual measures have the power to predict both small and large accounting frauds.[12] In addition, these accrual measures capture not only

[11] Performance matched abnormal accruals are defined as discretionary accruals and calculated based on Kothari, Leone, and Wasley (2005). Working capital accruals noise is defined as discretionary accruals and calculated based on Dechow and Dichev (2002).

[12] According to Jones et al. (2008), discretionary accrual measures are associated with both the likelihood and magnitude of fraudulent accounting events. Moreover, Jones et al. (2008) find that total accruals are efficient in detecting small accounting frauds while working-capital accruals noise (Dechow and Dichev, 2002) exhibits the highest probability of detecting larger accounting frauds. In robustness tests, I also use the proportion of public firms restating their financial statements in each state as an alternative measure of

managerial commitment to providing better information but also monitoring by information intermediaries, such as press and analysts.[13]

The first state-level financial reporting quality measure, *ST_TACC*, is the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets at the end of the previous year.

The second state-level accounting quality measure, *ST_ABACC*, is the state median of abnormal accruals calculated using the modified Jones model (Dechow, Sloan, and Sweeney, 1995) with an industry performance adjustment (Kothari, Leone, and Wasley, 2005). Specifically, I begin by estimating the following OLS regression:

$$TA_{it} = \alpha_0 + \alpha_1 \left(\frac{1}{Total\_Assets_{it-1}} \right) + \alpha_2 (\Delta Sales_{it} - \Delta AR_{it}) + \alpha_3 PPE_{it} + \varepsilon_{it} \quad (1)$$

where *TA* is net income before extraordinary items minus cash flows from operations. *Total_Assets* is the average of total assets at the end of year *t-1*. Δ*Sales* is the change in sales from year *t-1* to *t*. Δ*AR* is the change in accounts receivable from year *t-1* to *t*. *PPE* is net property, plant, and equipment at the end of year *t*. All variables except for the inverse of lagged total assets are scaled by lagged total assets. I estimate Equation (1) by each three-digit SIC industry and year. If there are fewer than 20 observations in an industry-year, I use the corresponding two- or one- digit SIC industry and year to re-

state-level accounting quality and obtain similar inferences (see section 7.2).

[13] Miller (2006) finds that more press coverage is associated with better accounting quality because the press serves as a "watchdog." Yu (2008) shows that greater analyst coverage is associated with less earnings management.

estimate Equation (1). Residuals estimated from Equation (1) serve as unadjusted abnormal accruals. Following Kothari et al. (2005), I adjust abnormal accruals by industry performance. Specifically, I rank firms within each industry group into deciles based on their return on assets (ROA) and calculate performance-adjusted abnormal accruals as the difference between a firm's abnormal accruals and the median abnormal accruals in the firm's corresponding industry and ROA decile. I then calculate state medians of abnormal accruals of public companies located in each state in a given year.

The last measure of state-level financial reporting quality is *ST_WCA_NOISE*, the state median of working-capital accruals noise. This measure captures the degree to which accruals fail to map into past, current, and future cash flows (Dechow and Dichev, 2002). Accrual noise is the standard deviation of the residuals estimated from the following regression:

$$WCA_{it} = \alpha_0 + \alpha_1 CFO_{it-1} + \alpha_2 CFO_{it} + \alpha_3 CFO_{it+1} + \varepsilon_{it} \quad (2)$$

where *WCA* is net income before extraordinary items plus depreciation and amortization minus cash flows from operations scaled by lagged total assets, and *CFO* is cash flows from operations scaled by lagged total assets. I estimate Equation (2) by each three-digit SIC industry and year. If there are fewer than 20 observations in an industry-year, I use the corresponding two- or one- digit SIC industry and year to re-estimate Equation (2). I then calculate the standard deviation of the firm-specific residuals using up to five years from the end of the current fiscal year. *ST_WCA_NOISE* is the state median of the firm-level standard deviations for firms headquartered in each state in a given year.

3.2.3. Regression Model

To test the effect of financial reporting quality on household stock market participation, I estimate the following equation:

$$
\begin{aligned}
&STOCKHOLD\ (EQUITY2WEALTH)_{h,s,t} \\
&\quad = \alpha_0 + \alpha_1 ST\_AQ_{h,s,t} + \alpha_2 NUM\_FAMILY_{h,s,t} + \alpha_3 HEAD\_AGE_{h,s,t} \\
&\quad + \alpha_4 COLLEGE_{h,s,t} + \alpha_5 FWEALTH_{h,s,t} + \alpha_6 FINCOME_{h,s,t} \\
&\quad + \alpha_7 BUSINESS_{h,s,t} + \alpha_8 ST\_GDPPC_{h,s,t} + \alpha_9 ST\_FINGDP_{h,s,t} \\
&\quad + \alpha_{10} ST\_GOVGDP_{h,s,t} + \alpha_{11} ST\_MILGDP_{h,s,t} + \alpha_{12} ST\_EDUGDP_{h,s,t} \\
&\quad + \alpha_{13} ST\_GDPGROWTH_{h,s,t} + \alpha_{14} ST\_POPGROWTH_{h,s,t} \\
&\quad + \alpha_{15} ST\_UR_{h,s,t} + FamilyFE + StateFE + YearFE + \varepsilon_{h,s,t}.
\end{aligned}
\tag{3}
$$

where the dependent variables are the stock market participation indicator (*STOCKHOLD*) and the amount of stock investment scaled by family wealth (*EQUITY2WEALTH*). In calculating *EQUITY2WEALTH*, I drop observations with negative family wealth. *ST_AQ* is state-level financial reporting quality measured using *ST_TACC*, *ST_ABACC*, or *ST_WCANOISE*, which are the medians of different accrual measures for each state-year, depending on household *h*'s state of residence (state *s*) for the year. I multiply all three accrual measures by negative one, so that larger numbers indicate higher accounting quality. If higher financial reporting quality of local companies increase households' confidence in investing stocks, I expect α_1 to be positive.

I control for household demographics and state-level economic characteristics in the model. *NUM_FAMILY* is the number of household members of household *h* at year *t*. *HEAD_AGE* is the age of household *h*'s head. *COLLEGE* is an indicator variable set equal to one if household *h*'s head has a college (or more advanced) degree and zero otherwise. *FWEALTH* is the total asset value minus the total debt value of household *h* at year *t*. *FINCOME* represents the total income of household *h* for year *t*. *BUSINESS* is an indicator variable set equal to one if household *h* owns a business (self-employed) at year *t* and zero otherwise. *ST_GDPPC* measures GDP per capita of state *s* where household *h* resides. *ST_FINGDP* is the financial sector share of GDP of state *s* for year *t*. *ST_GOVGDP* is state government spending as a percentage of GDP of state *s* for year *t*. *ST_MILGDP* is military spending as a percentage of GDP of state *s* for year *t*. *ST_EDUGDP* is the educational service sector share of GDP of state *s* for year *t*.[14] *ST_GDPGROWTH* is the percentage change in GDP between year *t* and year *t-1* for state *s*. *ST_UR* is the annual state unemployment rate. *ST_POPGROWTH* is state-level population growth rates calculated as the percentage change in the population of state *s* between year *t-1* and year *t*. Family fixed effects and state fixed effects are included to control for unobservable family-specific and state-specific characteristics. Year fixed effects are added to control for time-specific (macroeconomic) characteristics. Standard errors are clustered at the household level.

[14] Brown et al. (2004) suggest that the presence of educational institutions can impact the likelihood of stock market participation. Moreover, according to the economics literature, military spending and investments in the education sector affect macroeconomic outcomes such as unemployment rate, economic growth, and income distribution (e.g., Chester, 1978; Jorgenson and Fraumeni, 1992).

Following prior literature examining U.S. households' stock market participation decisions (e.g., Giannetti and Wang, 2016), I use ordinary least squares (OLS) to the estimate the effect of state-level accounting quality when stock market participation decision is measured using *STOCKHOLD* (a categorical variable), because my specification includes a large number of fixed effects.[15]

A potential concern is that there may be reverse causality affecting the relation between financial reporting quality and stock market participation. To alleviate this concern, I use two-stage least squares (2SLS) as an alternative approach to estimate Equation (3) with the audit market size of each state (*AUDITMKT_SIZE*) as an instrumental variable for state-level financial reporting quality. Specifically, I calculate the audit market size (*AUDITMKT_SIZE*) as the sum of audit fees for all public companies located in a state scaled by the state's GDP.[16] According to the audit literature, audit fees mainly capture audit risk or internal control deficiencies (Abbott et al., 2006; Hogan and Wilkins, 2008). Therefore, the sum of audit fees by state-year serves as a proxy for statewide audit risk. Statewide audit risk is a valid instrument, because it is correlated with state-level financial reporting quality (instrument relevance) but not related with the likelihood of stock market participation among individual investors *except* through state-level financial reporting quality (exclusion restriction).

[15] Most studies using the PSID data with family fixed effects use linear probability models (LPM) such as OLS instead of logit or probit models. This is because, under conditional or fixed effect logit and probit models, any families that have no variation in outcomes will be dropped from the estimation which induces a selection bias towards larger families (Miller, Shenhav, and Grosz, 2018). Moreover, according to Kwak, Martin, and Wooldridge (2018), when dependent variables are serially correlated, it violates a key assumption of logit estimation, Fixed-Effect OLS is preferred to either conditional or unconditional logit.

[16] In an untabulated analysis, I scale the sum of audit fees by state-level market capitalization of public companies, which does not change my inferences.

CHAPTER 4

RESULTS

4.1. Main Results

4.1.1 Descriptive Statistics

Table 1 provides descriptive statistics for the PSID sample. About 15 percent of households in the sample own stocks, consistent with the stock market participation rate (15.1 percent in 2010 and 13.8 percent in 2013) documented in the Survey of Consumer Finance (SCF) conducted by the Federal Reserve Board (Bricker et al., 2014). On average, equity holdings add up to about 0.2 percent of household wealth.[17] The average age of the household head is 45, and about 30 percent of household heads have a college degree. On average, household wealth measured by assets is $112,461 and household annual income is $61,273.[18]

4.1.2. The Likelihood of Stock Market Participation

Panel A of Table 2 presents the OLS estimates of Equation (3) where the dependent variable is the stock market participation indicator (*STOCKHOLD*) and the independent variable of interest is the state-level accounting quality measures. The coefficients on *ST_TACC* and *ST_WCANOISE* are both positive and significant, suggesting that households residing in states with higher accounting quality are more likely to invest in stocks. In terms of economic significance, a one-standard-deviation improvement in state-level accounting quality increases the rate of stock market

[17] Among the households with equity investments, the proportion of the amount of equity holdings to household wealth is about 3 percent on average.

[18] According to the U.S. Census Bureau, U.S. middle-class annual income ranged from $24,626 to $121,116 in 2017.

participation by about five percent as compared to the baseline average stock market participation rate.

As for the control variables, household characteristics are generally significantly associated with the likelihood of stock market participation. While households with more family members are less likely to invest in stocks, households with more wealth or income are more likely to participate in the stock market. Moreover, households whose head is better educated or older are more likely to invest in stocks, as well.

Panel B of Table 2 reports 2SLS estimation results. Consistent with findings in the audit literature indicating that audit fees reflect audit risks (Abbott et al., 2006; Hogan and Wilkins, 2008), the audit market size (*AUDITMKT_SIZE*) is negatively associated with state-level financial reporting quality in the first-stage estimation. In the second-stage estimation (Columns (2), (3), and (6)), the coefficients on all three state-level accounting quality measures are positive and significant.[19] To be specific, a one-standard-deviation improvement in state-level accounting quality, measured using the state median of total accruals (*ST_TACC*), raises the rate of stock market participation from 15 to 20 percent. The 2SLS estimation results confirm the previous OLS results, suggesting that high financial reporting quality increases the likelihood of stock market participation among households residing in those states.

4.1.3. The Level of Equity Investments

Panel A of Table 3 presents the OLS estimates where the dependent variable is the equity-to-wealth ratio (*EQUITY2WEALTH*), which measures the amount of equity

[19] The number of observations drops to 65,899 from 65,967 in the 2SLS analysis because singleton observations are dropped in the 2SLS estimation (Correia, 2015).

investment relative to household wealth.[20] Coefficients on *ST_TACC*, *ST_ABACC*, and *ST_WCANOISE* are significant and positive, suggesting that households residing in states with higher accounting quality invest more of their wealth in corporate stocks. As for economic significance, a one-standard-deviation improvement in state-level accounting quality increases equity investment relative to household wealth by about one-fifth as compared to the sample average equity investments.

Panel B of Table 3 reports the 2SLS estimation results. The coefficients on all three state-level accounting quality measures are positive and significant, confirming that the OLS results are not affected by endogeneity. When state-level accounting quality is proxied using the state median of total accruals (*ST_TACC*), a one-standard-deviation improvement in the state-level accounting quality increases equity investment relative to household wealth from 0.2 percent to 0.4 percent. Given that the average equity-to-wealth ratio of the sample households is 0.2 percent, the effect of accounting quality on household stock market investment is economically significant. Overall, the results presented in Tables 2 and 3 show that households residing in states with higher accounting quality have greater trust in the stock market, as indicated by a greater likelihood to invest in stocks and a greater proportion of household wealth invested in stocks.

[20] In this analysis, the number of observations drops to 48,029 from 65,967 because households with negative family wealth are excluded from the estimation. The inferences about the likelihood of stock market participation remain unchanged using this reduced sample.

4.2. Cross-sectional Tests

4.2.1. Household-level Economic and Educational Characteristics

In this section, I conduct several cross-sectional tests based on household characteristics. One may expect that the effect of financial reporting quality will be stronger for richer or better educated households as they are better able to exploit transparent accounting information. However, it is also possible that the effect of high-quality financial reporting will be more pronounced for less affluent or less educated households. First, according to Favilukis (2013), any drop in stock market participation costs will benefit poor households, because rich households already have access to the stock market. In other words, the marginal impact of accounting quality on stock market participation is greater for poorer or less-educated households. In addition, Guiso et al. (2008) find that the effect of trust is stronger for less-educated individuals because those individuals are more sensitive to the fairness concern related to the stock market.

Moreover, Lawrence (2013) shows that individual investors invest more in companies with more transparent financial disclosures, with the effect being stronger for less-sophisticated individuals. The author attributes the findings to the assurance role of high-quality accounting. That is, transparent accounting practices provide an assurance to investors that they are less uninformed relative to other investors. In addition, according to Lawrence (2013), sophisticated individual investors prefer stocks with opaque disclosures where they can exploit their informational advantage and generate abnormal returns. Lastly, Nofsinger and Varma (2012) suggest that the effect of familiarity on stock investment can be more pronounced for less affluent households as households with better resources are less susceptible to familiarity biases. Thus, it is an empirical question

as to which types of households are most likely to increase stock market participation as a function of transparent reporting.

To explore how the effect of accounting quality on stock market participation varies with household characteristics, I focus on household income, household wealth, and household education level. I first construct an indicator variable, *LowIncome (LowWealth)*, which is set equal to one for households with income (wealth) lower than the median income (wealth) of sample households in each year and zero otherwise. I then interact *LowIncome* (*LowWealth*) with state-level financial reporting quality measures to test whether the effect of accounting quality is stronger or weaker for poorer households. Table 4 presents the estimation results. Panel A (Panel B) reports the sample split based on household income (wealth). Coefficients on the interaction terms are positive and significant, suggesting that the effect of financial reporting quality on stock market participation is more pronounced for poorer households.

Next, I separate the sample based on the level of household education. I construct an indicator variable, *LowEdu*, which is set equal to one if the household head does not have a college degree and zero otherwise. I interact *LowEdu* with state-level accounting quality measures to examine whether the effect of accounting quality on stock market participation is more or less pronounced for less-educated households. Table 5 reports the estimation results. The coefficients on *LowEdu*ST_TACC* and *LowEdu*ST_ABACC* are both positive and significant, indicating that better accounting quality spurs more equity investments among less-educated households than among more-educated households. Overall, these findings are consistent with the argument that the marginal impact of better financial reporting quality on stock market participation is likely to be limited for rich

and well-educated households, as they already have higher levels of stock market participation.

4.2.2. Household-level Internet Use

In this section, I examine whether the effect of accounting quality on stock market participation is more pronounced for households that have access to the internet. According to Barber and Odean (2001), the advent of the internet has changed how information is delivered to individual investors and has changed the ways investors can act on that information. Recent studies find, moreover, that individual investors' investment decisions are often influenced by online media and social media (Chen et al., 2014; Farrell et al., 2018). Accordingly, the use of the internet may amplify the effect of financial reporting quality on stock market participation, as households with the internet can easily access press articles and social media related to stock investments. Also, prior research shows that firms with a reputation for transparent accounting practices receive greater press and social media coverage. To test this prediction, I construct an indicator variable, *Internet*, which is set equal to one if the household head indicates that he or she uses the internet and zero otherwise. I then interact *Internet* with state-level financial reporting quality measures in the model specifications.

Table 6 presents the estimation results. The coefficients on *Internet*ST_TACC* and *Internet*ST_ABACC* are positive and significant when the dependent variable is *STOCKHOLD*. However, when the dependent variable is *EQUITY2WEALTH*, the coefficients are not statistically significant. These results suggest that the use of the internet affects the tendency of households to invest in equity but not the level of their equity investments.

CHAPTER 5

SUPPLEMENTAL ANALYSIS: THE EFFECT OF ACCOUNTING QUALITY ON INCOME INEQUALITY

5.1. Background and Related Literature

Increasing income inequality is a serious concern in advanced economies, and some recent studies on income inequality suggest that U.S. income and wealth inequality are reaching levels unseen since the era of robber barons (Piketty and Saez 2003; Piketty 2014; Zucman 2019). Given the increased public attention to this issue, researchers have been trying to identify factors contributing to income inequality. One strand of literature points out that the widening income gap is partly due to the fact that many low- and middle-income U.S. households fail to reap equity returns in the stock market because of their limited stock market participation.

Mankiw and Zeldes (1991) was the first paper to suggest that income inequality can be driven (partially) by limited stock market participation. They empirically show that the consumption of stockholders substantially differs from the consumption of non-stockholders. Guo (2001) theorizes that limited stock market participation among middle- and low-income households causes increasing income inequality, as only rich households have been enjoying stock price appreciation. Clarke et al. (2006) and Beck et al. (2007) document that financial market development is associated with lower income inequality because it helps poorer individuals exploit new investment opportunities and benefit from improved returns from new financial products. More recently, Nau (2013) empirically

documents that U.S. income inequality is increasing because elites have been better able to reap capital gains from equity investments.[21]

Favilukis (2013), the study most closely related to mine, suggests that an increase in stock market participation caused by a drop in any type of stock market participation costs will reduce wealth inequality, as poor households will have better access to equity investments, which have higher average returns. Based on this reasoning, I expect that widening income inequality will be mitigated in states with better accounting quality, as high accounting quality improves middle- and low-income households' trust in the stock market and encourages them to participate in stock markets (which affords them access to high average equity returns).

5.2. Data and Research Design

5.2.1. Measurement of Income Inequality

The income inequality measure used in this study is the Gini coefficient (*ST_GINI*), which is one of the most commonly used measures in the income inequality literature (Paglin, 1975). The Gini coefficient represents the average distance between the actual cumulative income distribution (Lorenz curve) and the hypothetical income distribution of perfect equality. Following Frank (2009), I construct the Gini coefficient using individual tax filing data available from the Internal Revenue Service (IRS).[22] Detailed definitions of the Gini coefficient are provided in Appendix B.

[21] In Netflix's documentary series "Explained: Billionaires," Abigail Disney (granddaughter of Roy Disney) says, "Ownership is what creates wealth. Money just makes money. It's like you put it in a room, close the door, and it has sex, and then more money babies grow."

[22] I thank Mark W. Frank for providing me with U.S. state-level income inequality data.

5.2.2. Research Design

To test the association between state-level financial reporting quality and income inequality, I estimate the following regression:

$$\begin{aligned} ST\_GINI_{s,t} = {} & \alpha_0 + \alpha_1 ST\_AQ_{s,t} + \alpha_2 ST\_UR_{s,t} + \alpha_3 ST\_POPGROWTH_{s,t} \\ & + \alpha_4 ST\_GDPPC_{s,t} + \alpha_5 ST\_GOVGDP_{s,t} + \alpha_6 ST\_FINGDP_{s,t} \\ & + \alpha_7 ST\_MILGDP_{s,t} + \alpha_8 ST\_EDUGDP_{s,t} + \alpha_9 ST\_GDPGROWTH_{s,t} \\ & + \alpha_{10} ST\_COLLEGE\_ATTN_{s,t} + StateFE + YearFE + \varepsilon_{s,t} \end{aligned} \quad (4)$$

where the dependent variable is the Gini coefficient (*ST_GINI*) of state *s* for year *t*, and the variable of interest is *ST_AQ*. *ST_AQ* is state-level financial reporting quality measured using *ST_TACC*, *ST_ABACC*, and *ST_WCANOISE*, as previously defined. Given that larger Gini coefficients correspond to greater income inequality, I expect α_1 to be negative if increased stock market participation as a result of better financial reporting quality reduces income inequality.

I include the same set of state-level control variables as in my previous models that capture state-level economic characteristics. Following prior literature, I also include a variable to capture the education level of each state in a given year. *ST_COLLEGE_ATTN* is the college-degree attainment rate for state *s* in a given year. I include state fixed effects and year fixed effects to control for unobservable state-specific and time-specific (macroeconomic) characteristics. Standard errors are clustered at the state level.

5.3. Empirical Results

5.3.1. Descriptive Statistics

Table 7 presents descriptive statistics. The average Gini coefficient (*ST_GINI*) is 0.587. The mean values of state-level accounting quality measures (*ST_TACC*, *ST_ABACC*, and *ST_WCANOISE*) range between 0.041 and 0.068.

5.3.2. Regression Results

Table 8 presents the regression results. In Columns (1) – (2), *ST_TACC* is the dependent variable; Columns (3) – (4) report the results for the models using *ST_ABACC* as the dependent variable; and Columns (5) – (6) show the results in which *ST_WCANOISE* is the dependent variable. In addition, Columns (1), (3), and (5) present results without state fixed effects, while Columns (2), (4), and (6) report results with state fixed effects.

The coefficients on all three state-level financial reporting quality measures are negative and significant in all columns, suggesting that higher financial reporting quality is associated with lower income inequality.[23] In terms of economic significance, a one-standard-deviation increase in state-level financial reporting quality reduces the Gini coefficient by 0.3–0.4 percentage points. This magnitude is comparable to the effect of a one-percentage-point decrease in the unemployment rate on income inequality, suggesting that the impact of financial reporting quality is economically significant. Turning to control variables, income inequality tends to be significantly higher when

[23] I obtain similar inferences using alternative measures of income inequality, including the Atkinson Index (Atkinson, 1970), Relative Mean Deviation (Bresciani-Turroni, 1910), and Theil Index (Theil, 1967).

states have high unemployment rates. States with higher population growth and higher GDP per capita exhibit higher income inequality, as well.

5.4. Cross-sectional Tests

5.4.1. Stock Returns of Local Firms

The underlying assumption for the negative relation between accounting quality and income inequality is that higher accounting quality encourages more households to participate in the stock market, where they can earn high equity returns. However, if households lose money in the stock market, income inequality might not be reduced. I therefore expect the effect of financial reporting quality on income inequality to be stronger when households experience higher stock returns. Because portfolio returns of each household are not directly observable, I rely on prior literature that has found that household portfolios are biased toward local stocks (Ivkovic and Weisbener, 2005), and test whether the effect of accounting quality on income inequality is more pronounced for states with higher stock returns from their local firms.

To examine this prediction, I first calculate the average stock returns of local public companies by state and year. I then construct an indicator variable, *HighReturn*, which is set equal to one if the average stock return of a state is higher than the median value of all states' average stock returns in year *t* and zero otherwise. I interact *HighReturn* with the state-level financial reporting quality measures. A negative coefficient on the interaction term would support the argument that financial reporting quality reduces income inequality more in states with higher equity returns.

Table 9 reports the regression results. The coefficients on *HighReturn* ST_ABACC* and *HighReturn* ST_WCANOISE* are significantly negative, suggesting that

the effect of accounting quality on income inequality is stronger for states with higher local stock returns. This finding is consistent with the prediction of Favilukis (2013) that income inequality can be reduced when more households participate in the stock market and earn higher stock returns.

5.4.2. Internet Usage

As discussed previously, the internet has changed how information is delivered to individual investors and the ways through which investors can act on that information. Therefore, the use of the internet may amplify the effect of financial reporting quality on income inequality, as more households can use the internet and gain easy access to press articles and social media that cover their local firms.

To test the prediction, I construct an indicator variable, *HighInternet*, to capture the states with higher internet usage rates. The variable equals one for states with an internet usage rate higher than the median internet usage rate among all states in year *t* and zero otherwise. I obtain internet usage data from the U.S. Census Bureau. Table 10 presents the regression results. The interaction terms, *HighInternet*ST_TACC* and *HighInternet*ST_ABACC*, are negative and significant in the models with state fixed effects. This finding suggests that the effect of high financial reporting quality on reducing income inequality is bolstered by internet connectivity.

CHAPTER 6

IDENTIFICATION USING AN EXOGENOUS SHOCK

To provide further causal evidence, I use the collapse of Arthur Andersen (AA) following the Enron scandal as an exogenous shock to financial reporting quality. In October 2001, Enron announced that it had to restate its financial statements for the years 1997–2000. Enron's external auditor, Arthur Andersen, was indicted in March 2002 and convicted in June 2002. After the collapse of AA, all of its clients had to switch their external auditors. According to the audit literature, mandatory auditor switches are generally associated with lower audit quality since auditors have limited capacity and need a significant amount of time to learn about new clients (Myers, Myers, and Omer, 2003).

Indeed, studies examining the consequences of the Arthur Andersen collapse document negative audit outcomes caused by auditors' capacity constraints and Big-N auditor client rebalancing. Hansen et al. (2008) find that successor auditors of former AA clients experience severe audit capacity stress. Furthermore, Landsman et al. (2009) document that Big N auditors drop clients that expose them to unacceptable levels of risk. Consequently, Carver et al. (2011) show that clients dropped by Big N auditors exhibit decreased earnings quality, while Blouin, Grein, and Rountree (2007) fail to find improvements in financial reporting quality for former AA clients.

To the extent that deterioration in audit quality caused by the AA collapse negatively impacts financial reporting quality, I posit that households in states with more former AA clients will decrease their stock market participation after 2002. I also predict that those states with more former AA clients will face increasing income inequality if

households in those states reduce their investments in the stock market after 2002. To test these predictions, I use states with a larger fraction of Arthur Anderson clients in 2001 as treatment states (i.e., states likely experiencing a negative shock to financial reporting quality). Specifically, I construct an indicator variable, *HighAA*, which equals one if a state's percentage of AA clients is higher than the median percentage of AA clients of the 50 states and the District of Columbia in 2001, and equals zero otherwise. The interaction term between *HighAA* and *Post*, an indicator variable for the observations after 2002, is the variable of interest.[24] I expect the coefficient on *HighAA*Post* to be negative when the dependent variable is *STOCKHOLD* or *EQUITY2WEALTH*, as households residing in states with more AA clients are more likely to lose their trust in the reliability of accounting numbers after the AA collapse. In addition, I predict the coefficient on *HighAA*Post* to be positive when the dependent variable is *ST_GINI*. Income inequality should increase in those states with a larger fraction of AA clients subsequent to the AA collapse, as households may pull out of the stock market due to concerns about public company accounting quality.

Table 11 reports the results of the difference-in-difference tests. In Panel A, the coefficient on *HighAA*Post* is negative and significant when the dependent variable is *STOCKHOLD*, suggesting that residents in states with a larger fraction of AA clients are less likely to hold stocks after the AA collapse. However, when the dependent variable is *EQUITY2WEALTH*, the difference-in-difference coefficient is not statistically significant, indicating that the AA collapse did not affect the proportion of equity investments in the

[24] In this analysis, I focus on five years before- and after- the AA collapse (2002).

portfolios of households residing in states with a larger fraction of AA clients. However, this insignificant effect on *EQUITY2WEALTH* might be caused by the overall asset value drop after the burst of the Dot-Com bubble.

Panel B presents the effect of the AA collapse on income inequality. The coefficients on *HighAA*Post* are positive and significant, indicating that income inequality increases for states with a larger fraction of AA clients after 2002. The results of these difference-in-difference tests support my previous finding that higher financial reporting quality promotes stock market participation and thus reduces income inequality.

CHAPTER 7

ROBUSTNESS TESTS

7.1. Historical Averages of Accounting Quality

In this section, I examine the effect of historical accounting quality on households' stock market participation decisions and income inequality. For each state-level accounting quality measure, I calculate historical averages using past years' accounting quality. To be specific, *ST_TACC2*, *ST_TACC3*, and *ST_TACC4* are historical averages of *ST_TACC* over the last two, three, and four years, respectively. Similarly, *ST_ABACC2*, *ST_ABACC3*, and *ST_ABACC4* are historical averages of *ST_ABACC* over the last two, three, and four years, respectively. *ST_WCANOISE2*, *ST_WCANOISE3*, and *ST_WCANOISE4* are historical averages of *ST_WCANOISE* over the last two, three, and four years, respectively. I re-estimate Equations (3) and (4) using the historical averages of accounting quality measures.

Table 12 reports the estimation results. The coefficients on the historical averages of *ST_TACC*, *ST_ABACC*, and *ST_WCANOISE* are presented in Panel A, B, and C, respectively. When the dependent variable is *STOCKHOLD* or *EQUITY2WEALTH*, the coefficients on the historical averages of accounting quality measures are positive and significant, suggesting that households living in states where public companies have better reputation of accounting quality in the past are more likely to invest in stocks and invest a larger portion of their wealth in stocks.[25] When the dependent variable is

[25] I present 2SLS estimation results in Table 12, My inferences do not change with OLS estimation.

ST_GINI, the coefficients are negative and significant, confirming that historical accounting quality is negatively associated with income inequality.

7.2. Alternative Measures of Accounting Information Environment

To alleviate the concerns that accruals may not be a good signal of accounting quality to individual investors, I replicate previous results with four alternative measures of state-level accounting information environment using accounting restatements, material weaknesses in disclosure controls, press releases, and conference calls. To be specific, *ST_REST* is the fraction of public firms that restate financial statements in each state in a given year. *ST_DCW* is the fraction of public firms that report material weaknesses in disclosure controls in each state in a given year.[26] I multiply all these measures (*ST_REST* and *ST_DCW*) by negative one, so that larger values represent higher accounting quality. In addition, *ST_PRESS* (*ST_CFC*) is the fraction of public firms that file at least one press release (one conference call transcript) with the SEC in each state in a given year. I also compute the historical averages of these alternative measures of the accounting information environment over the last two, three, and four years. Lastly, I construct a composite measure of the accounting information environment, *ST_COMP*, based on rankings of all the accounting and disclosure measures used in this study. I rank *ST_TACC*, *ST_ABACC*, *ST_WCANOISE*, *ST_REST*, *ST_DCW*, *ST_PRESS*, and *ST_CFC* in each year so that higher ranking scores (larger numbers) represent more transparent accounting practices, and I then calculate the

[26] According to the SEC, there is substantial overlap between a company's disclosure controls and procedures and its internal control over financial reporting. I focus on weaknesses in disclosure controls because the data are available for earlier years, whereas the internal control data only start from 2003.

average of the rankings by each state and year to construct *ST_COMP*. I also construct *ST_COMP2, ST_COMP3,* and *ST_COMP4* to measure the historical averages of *ST_COMP* in the last two, three and four years.

Panel A of Table 13 reports the estimation results when accounting restatements (*ST_REST*) are used as the proxy for state-level accounting quality. In the stock market participation test (i.e., where the dependent variable is *STOCKHOLD* or *EQUITY2WEALTH*), the coefficients on *ST_REST* and the historical averages of *ST_REST* are positive and significant, indicating that households are more likely to participate in the stock market when there is a low percentage of local firms restating financial statements in the state of residence. Moreover, the coefficients on the historical averages of *ST_REST* are mostly negative and significant when the dependent variable is income inequality, suggesting that a state's income inequality decreases when a low percentage of public firms in the state are restating their financial statements. In Panel B, material weaknesses (*ST_DCW*) is used as the measure for financial reporting quality. Confirming my prior findings, in states where fewer local public firms report material weaknesses in disclosure controls, households are more likely to invest in stocks, which contributes to decreasing income inequality.

In Panels C and D, the fraction of public firms that file press releases (Panel C) and conference call transcripts (Panel D) with the SEC are used as alternative measures of the accounting information environment. The coefficients on *ST_PRESS* and *ST_CFC* are generally positive and significant, suggesting that when a large percentage of local firms are providing more disclosure in a state, residents in the state are more likely to participate in the stock market. However, the coefficients on *ST_PRESS* and *ST_CFC* and

their historical averages are not significant when the dependent variable is *ST_GINI*. Lastly, as presented in Panel E, the coefficients on *ST_COMP* and its historical averages are significantly positive when stock market participation is measured using either *STOCKHOLD* or *EQUITY2WEALTH* and significantly negative in general when the dependent variable is *ST_GINI*, consistent with my prior findings.

7.4. Controlling for Corporate Governance

To address the concern that my stock market participation results are driven by corporate governance rather than accounting quality, I control for the state-level corporate governance in my regression model. To be specific, I calculate the Entrenchment Index (Bebchuk, Cohen, and Ferrell, 2009) for each company and construct *ST_EINDEX*, which is the state-level median of the Entrenchment Index.[27] Then, I include *ST_EINDEX* into Equation (3) as a control variable. Table 14 presents the estimation results. I find that the coefficients on the state-level accounting quality measures continue to be significant and positive, suggesting that my results are not driven by corporate governance.

7.5. Controlling for Stock Performance

Stock market participation could also be driven by the high stock returns of local firms. To address the concern, I include the state-level average of stock returns of local companies (*ST_RETURN*) as a control in Equation (3). In Table 15, I find that coefficients on the state-level accounting quality measures are positive and significant

[27] The Entrenchment Index (E-index) is a count of six corporate governance charter and bylaw provisions that entrench top managers a: (1) staggered boards, (2) poison pills, (3) golden parachutes, (4) supermajority voting requirements, and limits on shareholders' ability to make (5) charter, and (6) bylaw amendments (Bebchuk et al., 2009).

after controlling for the state-level average of stock returns of local companies. This indicates that my stock market participation results are not driven by firm performance or stock returns.

CHAPTER 8

CONCLUSION

Historically, U.S. stock market returns have been higher than the returns of most other assets (Fama and French, 2002). Yet the U.S. stock market participation rate is still lower than optimal (e.g., Haliassos and Bertaut, 1995), and the participation rate is lower for middle- and low-income households than for high-income households (Guo, 2001; Chien and Morris, 2017). Many researchers have explored the reasons behind the low stock market participation rate and the ways participation can be promoted. In this study, I predict and document that transparent accounting practices encourage households to invest in stocks by reducing psychological and informational barriers to investing in the stock market. I also show that the effect of transparent financial reporting on stock market participation is stronger for less-wealthy and less-educated households, consistent with the findings in prior literature indicating that the barriers to stock market participation are higher for those types of households (Guiso et al., 2008; Favilukis, 2013). Moreover, I find that the use of the internet amplifies the effect of transparent financial reporting on stock market participation, which supports recent findings indicative of individual investors' investment decisions being influenced by media access (Chen et al., 2014; Farrell et al., 2018). Finally, I provide evidence that transparent financial reporting mitigates income inequality by promoting households to participate in stock markets where they can reap high equity returns.

This study adds to the literature on the importance of transparent accounting practices by providing evidence that accounting quality affects not only sophisticated investors but also retail investors by increasing their trust in the stock market. This study

complements the literature on stock market participation by documenting another determinant of the stock market participation rate, accounting quality. My findings should be of interest to regulators, researchers, and investors concerned with the role accounting quality plays in motivating investors to participate in the stock market.

REFERENCES

Abbott, L. J., Parker, S., & Peters, G. F. (2006). Earnings Management, Litigation Risk, and Asymmetric Audit Fee Responses. *AUDITING: A Journal of Practice & Theory*, *25*(1), 85–98.

Agnew, J., Balduzzi, P., & Sundén, A. (2003). Portfolio Choice and Trading in a Large 401(k) Plan. *American Economic Review*, *93*(1), 193–215.

Anderson, M. (2019). *Short seller targets Aerojet Rocketdyne*. Sacramento Business Journal. https://www.bizjournals.com/sacramento/news/2019/04/09/short-seller-goes-after-aerojet-citing-valuation.html

Atkinson, A. B. (1970). On the measurement of inequality. *Journal of Economic Theory*, *2*(3), 244–263.

Barber, B. M., & Odean, T. (2001). The Internet and the Investor. *Journal of Economic Perspectives*, *15*(1), 41–54.

Barber, B. M., & Odean, T. (2008). All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors. *Review of Financial Studies*, *21*(2), 785–818.

Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance?. *The Review of financial studies*, 22(2), 783-827.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth*, *12*(1), 27–49.

Benartzi, S., & Thaler, R. (2007). Heuristics and Biases in Retirement Savings Behavior. *Journal of Economic Perspectives*, *21*(3), 81–104.

Beshears, J., Choi, J. J., Laibson, D., & Madrian, B. C. (2006). *The Importance of Default Options for Retirement Savings Outcomes: Evidence from the United States* (Working Paper No. 12009). National Bureau of Economic Research.

Blouin, J., Grein, B. M., & Rountree, B. R. (2007). An Analysis of Forced Auditor Change: The Case of Former Arthur Andersen Clients. *The Accounting Review*, *82*(3), 621–650.

Bresciani-Turroni, C. (1910). Di un indice misuratore della disuguaglianza nella distribuzione della ricchezza. Stab. Ditta L. Gaipa.

Bricker, J., Dettling, L. J., Henriques, A., Hsu, J. W., Moore, K. B., Sabelhaus, J., & Thompson, J. (2014). *Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances*. 41.

Brown, J. R., Ivković, Z., Smith, P. A., & Weisbenner, S. (2008). Neighbors Matter: Causal Community Effects and Stock Market Participation. *The Journal of Finance*, *63*(3), 1509–1531.

Brown, J. R., Ivkovich, Z., Smith, P. A., & Weisbenner, S. (2004). *The Geography of Stock Market Participation: The Influence of Communities and Local Firms* (Working Paper No. 10235). National Bureau of Economic Research.

Bushee, B. J., Core, J. E., Guay, W., & Hamm, S. J. W. (2010). The Role of the Business Press as an Information Intermediary. *Journal of Accounting Research*, *48*(1), 1–19.

Carver, B. T., Hollingsworth, C. W., & Stanley, J. D. (2011). Recent Auditor Downgrade Activity and Changes in Clients' Discretionary Accruals. *AUDITING: A Journal of Practice & Theory*, *30*(3), 33–58.

Chen, H., De, P., Hu, Y. (Jeffrey), & Hwang, B.-H. (2014). Wisdom of Crowds: The Value of Stock Opinions Transmitted Through Social Media. *Review of Financial Studies*, *27*(5), 1367–1403.

Chien, Y., and P. Morris. (2017). Household Participation in Stock Market Varies Widely by State: *The Regional Economist, Federal Reserve Bank of St. Louis*, vol. 24(3).

Chester, E. (1978). Military spending and capitalist stability. *Cambridge Journal of Economics*, *2*(3), 293–298. JSTOR.

Clarke, G. R. G., Xu, L. C., & Zou, H. (2006). Finance and Income Inequality: What Do the Data Tell Us? *Southern Economic Journal*, *72*(3), 578–596. JSTOR.

Correia, S. (2015). Singletons, Cluster-Robust Standard Errors and Fixed Effects: A Bad Mix, Techinical Notes. *Duke University (Available at Http://Scorreia. Com/Research/Singletons. Pdf)*.

Dechow, P. M., & Dichev, I. D. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, *77*, 35–59. JSTOR.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, *70*(2), 193–225. JSTOR.

Doyle Publishing Ltd. (2015, October 20). *Mobileye: Too Many Accruals, Not Enough Cash*. Seeking Alpha. https://seekingalpha.com/article/3586156-mobileye-many-accruals-enough-cash

Engelberg, J. E., & Parsons, C. A. (n.d.). The Causal Impact of Media in Financial Markets. *The Journal of Finance*, 32.

Fama, E. F., & French, K. R. (2002). The equity premium. *The Journal of Finance*: *57*(2): 637-659.

Farrell, M., Green, T. C., Jame, R., & Markov, S. (2018). The Democratization of Investment Research: Implications for Retail Investor Profitability and Firm Liquidity. *SSRN Electronic Journal*.

Favilukis, J. (2013). Inequality, stock market participation, and the equity premium. *Journal of Financial Economics*, *107*(3), 740–759.

Forbes staff. (2006). *Methodology*. Forbes. Retrieved September 11, 2019, from

2006/12/19/biz_07platinum_management-methodology-cz_sd_1221meth

Frank, M. W. (2009). Inequality and Growth in the United States: Evidence from a New State-Level Panel of Income Inequality Measures. *Economic Inquiry*, *47*(1), 55–68.

Giannetti, M., & Wang, T. Y. (2016). Corporate Scandals and Household Stock Market Participation: Corporate Scandals and Household Stock Market Participation. *The Journal of Finance*, *71*(6), 2591–2636.

Grinblatt, M., & Keloharju, M. (n.d.). How Distance, Language, and Culture Influence Stockholdings and Trades. *The Journal of Finance*, 21.

Guiso, L., Sapienza, P., & Zingales, L. (2008). Trusting the Stock Market. *The Journal of Finance*, *63*(6), 2557–2600.

Guo, H. (2001). A simple model of limited stock market participation. *Review*, *May*, 37–47.

Gurun, U. G., & Butler, A. W. (2012). Don't Believe the Hype: Local Media Slant, Local Advertising, and Firm Value. *The Journal of Finance*, *67*(2), 561–598.

Haliassos, M., & Bertaut, C. C. (1995). Why do so Few Hold Stocks? *The Economic Journal*, *105*(432), 1110–1129. JSTOR.

Hansen, S. C., Kumar, K. R., & Sullivan, M. W. (2008). *Auditor Capacity Stress and Audit Quality: Market-Based Evidence from Andersen's Indictment* (SSRN Scholarly Paper ID 1092874). Social Science Research Network.

Healy, P. M., Hutton, A. P., & Palepu, K. G. (1999). Stock Performance and Intermediation Changes Surrounding Sustained Increases in Disclosure. *Contemporary Accounting Research*, *16*(3), 485–520.

Hogan, C. E., & Wilkins, M. S. (2008). Evidence on the Audit Risk Model: Do Auditors Increase Audit Fees in the Presence of Internal Control Deficiencies? *Contemporary Accounting Research*, *25*(1), 219–242.

Ivković, Z., & Weisbenner, S. (2005). Local Does as Local Is: Information Content of the Geography of Individual Investors' Common Stock Investments. *The Journal of Finance*, *60*(1), 267–306.

Jones, K. L., Krishnan, G. V., & Melendrez, K. D. (2008). Do Models of Discretionary Accruals Detect Actual Cases of Fraudulent and Restated Earnings? An Empirical Analysis. *Contemporary Accounting Research*, *25*(2), 499–531.

Jorgenson, D. W., & Fraumeni, B. M. (1992). Investment in Education and U.S. Economic Growth. *The Scandinavian Journal of Economics*, *94*, S51–S70. JSTOR.

Kaplan, J. A. (2012). *The 27 Companies Most Likely To Have An Accounting Scandal*. Business Insider. https://www.businessinsider.com/companies-at-risk-of-accounting-scandals-2012-7

Karpoff, J. M., Lee, D. S., & Martin, G. S. (2008). The Cost to Firms of Cooking the

Books. *Journal of Financial and Quantitative Analysis*, *43*(3), 581–611.

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, *39*(1), 163–197.

Kwak, D. W., Martin, R. S., & Wooldridge, J. M. (2018). *The robustness of conditional logit for binary response panel data models with serial correlation*. 54.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R W. Vishny. (1998). Law and Finance. *Journal of Political Economy* 106 (6): 1113–1155.

Landsman, W. R., Nelson, K. K., & Rountree, B. R. (2009). Auditor Switches in the Pre- and Post-Enron Eras: Risk or Realignment? *The Accounting Review*, *84*(2), 531–558.

Lawrence, A. (2013). Individual investors and financial disclosure. *Journal of Accounting and Economics*, *56*(1), 130–147.

Liu, Q., & Sun, B. (2018). Managerial manipulation, corporate governance, and limited market participation. *Journal of Economic Dynamics and Control*, *90*, 98–117.

Mankiw, N. G., & Zeldes, S. P. (1991). The consumption of stockholders and nonstockholders. *Journal of Financial Economics*, *29*(1), 97–112.

Merriam, J. (2011, January 27). *Deckers Outdoor: High Accruals Flash Warning Signal*. Seeking Alpha. https://seekingalpha.com/article/248964-deckers-outdoor-high-accruals-flash-warning-signal

Miller, D. L., Shenhav, N., & Grosz, M. Z. (2019). *Selection into Identification in Fixed Effects Models, with Application to Head Start* (Working Paper No. 26174). National Bureau of Economic Research.

Miller, G. S. (2006). The Press as a Watchdog for Accounting Fraud. *Journal of Accounting Research*, *44*(5), 1001–1033.

Mitchell, O. S., Mottola, G. R., Utkus, S. P., & Yamaguchi, T. (2006). *The Inattentive Participant: Portfolio Trading Behavior in 401(K) Plans* (SSRN Scholarly Paper ID 1094834). Social Science Research Network.

Myers, J. N., Myers, L. A., & Omer, T. C. (2003). Exploring the Term of the Auditor-Client Relationship and the Quality of Earnings: A Case for Mandatory Auditor Rotation? *The Accounting Review*, *78*(3), 779–799.

Nagy, R. A., & Obenberger, R. W. (1994). Factors Influencing Individual Investor Behavior. *Financial Analysts Journal*, *50*(4), 63–68.

Nau, M. (2013). Economic Elites, Investments, and Income Inequality. *Social Forces*, *92*(2), 437–461.

Nofsinger, J. R., & Varma, A. (2012). Individuals and Their Local Utility Stocks: Preference for the Familiar. *Financial Review*, *47*(3), 423–443.

Paglin, M. (1975). The Measurement and Trend of Inequality: A Basic Revision. *The*

American Economic Review, *65*(4), 598–609.

Piketty, T. (2014). *Capital in the Twenty-First Century*. Harvard University Press.

Piketty, T., & Saez, E. (2003). Income Inequality in the United States, 1913–1998. *The Quarterly Journal of Economics*, *118*(1), 1–41.

Seasholes, M. S., & Zhu, N. (2010). Individual Investors and Local Bias. *The Journal of Finance*, *65*(5), 1987–2010.

Solon, G., Haider, S. J., and Wooldridge, J. M. 2015. What are we weighting for?. *Journal of Human resources*:*50*(2): 301-316.

Strauss, K. (2017). *The 100 Most Trustworthy Companies In America, 2017*. Forbes. https://www.forbes.com/sites/karstenstrauss/2017/04/07/the-100-most-trustworthy-companies-in-america-2017/

Theil, H. (1967). *Economics and information theory*. North-Holland Pub. Co.

Yu, F. (Frank). (2008). Analyst coverage and earnings management. *Journal of Financial Economics*, *88*(2), 245–271.

Zucman, G. (2019). *Global Wealth Inequality* (Working Paper No. 25462). National Bureau of Economic Research.

APPENDIX A

VARIABLE DEFINITIONS

Variable	Definition
ST_GINI	State-level Gini coefficient, which measures the income inequality level of the state (further explanation provided in Appendix B).
ST_TACC	State median of total accruals (income before extraordinary items minus operating cash flows scaled by total assets). I multiply by negative one, so that higher numbers represent better accounting quality.
ST_ABACC	State median of abnormal accruals, where abnormal accruals are calculated using a modified Jones model (Dechow, Sloan, and Sweeney 1995) with performance adjustment (Kothari, Leone, and Wasley 2005). I multiply by negative one, so that higher numbers represent better accounting quality.
ST_WCANOISE	State median of working-capital accruals noise (Dechow and Dichev 2002). I multiply by negative one, so that higher numbers represent better accounting quality.
ST_UR	The annual unemployment rate of state *s* in year *t*. (Source: the Bureau of Labor Statistics (BLS))
ST_POPGROWTH	The percentage change in the population of state *s* between year *t* and year *t-1*. (Source: the Bureau of Economic Analysis (BEA))
ST_GDPPC	GDP per capita of state *s* in year *t*. (Source: BEA)
ST_GOVGDP	State government spending as a percentage of GDP of state *s* in year *t*. (Source: BEA)
ST_FINGDP	The financial sector share of GDP of state *s* in year *t*. (Source: BEA)
ST_MILGDP	State military spending as a percentage of GDP of state *s* in year *t*. (Source: BEA)
ST_EDUGDP	The educational service sector share of GDP of state *s* in year *t*. (Source: BEA)
ST_GDPGROWTH	The percentage change in GDP of state *s* between year *t* and year *t-1*. (Source: BEA)
ST_AUDITMKT_SIZE	Sum of audit fees of public firms located in state *s* in year *t* scaled by the state GDP. (Source: Audit Analytics)
STOCKHOLD	Set equal to one if household *h* owns any stocks of publicly held companies, mutual funds, or investment trusts during year *t* and zero otherwise. (Source: Panel Study of Income Dynamics (PSID))
EQUITY2WEALTH	The amount of stock investment of household *h* divided by the wealth of the household. (Source: PSID)
NUM_FAMILY	The number of members of household *h* in year *t*. (Source: PSID)
HEAD_AGE	The age of household *h*'s head. (Source: PSID)

HighAA	Set equal to 1 for states with higher than the median percentage of Arthur Andersen clients in 2001 and zero otherwise. (Source: Audit Analytics)
COLLEGE	Set equal to 1 if household *h*'s head has a college degree and zero otherwise. (Source: PSID)
FWEALTH	Household h's total wealth. (Source: PSID)
FINCOME	Household *h*'s total income. (Source: PSID)
BUSINESS	Set equal to 1 if household *h* owns a business and zero otherwise. (Source: PSID)
ST_REST	The fraction of public firms located in state *s* that restated financial statements in year *t*. (Source: Audit Analytics)
ST_DCW	The fraction of public firms located in state *s* that reported material weaknesses in disclosure control in year *t*. (Source: Audit Analytics)
ST_PRESS	The fraction of public firms located in state *s* that filed at least one press release to SEC in year *t*. (Source: SEC Edgar)
ST_CFC	The fraction of public firms located in state *s* that filed at least one conference call transcript to SEC in year *t*. (Source: SEC Edgar)
ST_TACC2(3)(4)	The historical average of *ST_TACC* over past two (three) (four) years
ST_ABACC2(3)(4)	The historical average of *ST_ABACC* over past two (three) (four) years
ST_WCANOISE2(3)(4)	The historical average of *ST_WCANOISE* over past two (three) (four) years
ST_REST2(3)(4)	The historical average of *ST_REST* over past two (three) (four) years
ST_DCW2(3)(4)	The historical average of *ST_DCW* over past two (three) (four) years
ST_PRESS2(3)(4)	The historical average of *ST_PRESS* over past two (three) (four) years
ST_CFC2(3)(4)	The historical average of *ST_CFC* over past two (three) (four) years
ST_EINDEX	State medians of the Entrenchment Index for year *t*.
ST_RETURN	The state-level average of stock returns of local companies in year *t*.

APPENDIX B

GINI COEFFICIENT

The income inequality measure used in this study is the Gini coefficient, which is the most commonly used measure in income inequality literature (Paglin, 1975). The Gini coefficient represents the average distance between the actual cumulative income distribution (the Lorenz curve) and the hypothetical income distribution of perfect equality. The measure varies between zero and one with higher values indicating greater income inequality. For example, in a hypothetical economy with only two agents, one agent (agent 1) earns 20% of the total output of the economy, and the second agent (agent 2) keeps the rest of the output (80%). The Lorenz curve then connects points (0,0), (50,20), and (100,100) as presented in Figure 1. While the Lorenz curve shows the actual cumulative income distribution of the economy, the point (50,20) represents agent 1's share in the distribution, and the point (100,100) indicates income share for both agent 1 and 2. The Gini index can then be calculated as the area between 45º line (the line of equality) and the Lorenz curve (Area A) divided by the area of the triangular region that lies below the line of equality (Area A + Area B).

Table 1 Descriptive Statistics of the Stock Market Participation Sample

	# of obs	Mean	Std dev	Q1	Median	Q3
STOCKHOLD	65,967	0.154	0.361	0.000	0.000	0.000
EQUITY2WEALTH	48,029	0.002	0.009	0.000	0.000	0.000
ST_TACC	65,967	0.064	0.024	0.045	0.061	0.081
ST_ABACC	65,967	0.040	0.022	0.022	0.036	0.056
ST_WCANOISE	65,967	0.078	0.039	0.050	0.073	0.105
NUM_FAMILY	65,967	2.639	1.445	2.000	2.000	4.000
HEAD_AGE	65,967	45.076	16.220	32.000	43.000	56.000
COLLEGE	65,967	0.272	0.445	0.000	0.000	1.000
FWEALTH	65,967	112461	318728	0.000	10000	63400
FINCOME	65,967	61273	55667	23176	45883	81000
BUSINESS	65,967	0.108	0.311	0.000	0.000	0.000
ST_GDPPC	65,967	48591	8056	43758	47616	54828
ST_GOVGDP	65,967	0.132	0.027	0.114	0.125	0.141
ST_FINGDP	65,967	0.190	0.039	0.162	0.188	0.215
ST_MILGDP	65,967	0.014	0.009	0.005	0.012	0.020
ST_EDUGDP	65,967	0.011	0.005	0.008	0.009	0.012
ST_GDPGROWTH	65,967	0.034	0.031	0.022	0.036	0.054
ST_POPGROWTH	65,967	0.827	0.614	0.400	0.700	1.200
ST_UR	65,967	6.559	2.096	5.000	6.000	7.800
ST_AUDITMKT_SIZE	65,967	0.048	0.024	0.030	0.046	0.062

Table 1 presents descriptive statistics for the sample used for stock market participation analysis. The number of observations, mean, standard deviation, the first quartile, median, and the third quartile are reported. Variable definitions are provided in Appendix A.

Table 2 The Effect of Accounting Quality on Stock Holdings

Table 2 Panel A: OLS Estimates

DV	***STOCKHOLD***		
	(1)	(2)	(3)
ST_TACC	0.270 **		
	(0.13)		
ST_ABACC		0.024	
		(0.14)	
ST_WCANOISE			0.227 **
			(0.11)
NUM_FAMILY	-0.003 **	-0.003 **	-0.003 **
	(0.00)	(0.00)	(0.00)
HEAD_AGE	0.001 ***	0.001 ***	0.001 ***
	(0.00)	(0.00)	(0.00)
COLLEGE	0.057 ***	0.057 ***	0.057 ***
	(0.01)	(0.01)	(0.01)
FWEALTH	0.237 ***	0.237 ***	0.237 ***
	(0.01)	(0.01)	(0.01)
FINCOME	0.702 ***	0.702 ***	0.702 ***
	(0.06)	(0.06)	(0.06)
BUSINESS	0.009	0.009	0.009
	(0.01)	(0.01)	(0.01)
ST_GDPPC	-2.759 ***	-3.072 ***	-2.811 ***
	(0.98)	(0.97)	(0.98)
ST_FINGDP	0.164	0.207	0.164
	(0.19)	(0.18)	(0.19)
ST_GOVGDP	-0.426	-0.485	-0.543
	(0.44)	(0.44)	(0.43)
ST_MILGDP	-0.116	-0.169	-0.139
	(1.16)	(1.18)	(1.17)
ST_EDUGDP	-1.502	-1.725	-1.132
	(2.11)	(2.10)	(2.12)
ST_GDPGROWTH	-0.077	-0.074	-0.069
	(0.06)	(0.06)	(0.06)
ST_POPGROWTH	0.006	0.007	0.006
	(0.00)	(0.00)	(0.00)
ST_UR	-0.003	-0.002	-0.003
	(0.00)	(0.00)	(0.00)
Year Fixed Effect	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes
Observations	65,967	65,967	65,967
Adj R-squared	0.373	0.373	0.373

Table 2 (Continued)

Table 2 Panel B: 2SLS Estimates

DV	*STOCKHOLD*					
	1st-stage	***2nd-stage***	***1st-stage***	***2nd-stage***	***1st-stage***	***2nd-stage***
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC		1.950 ***				
		(0.69)				
ST_ABACC				8.469 ***		
				(3.28)		
ST_WCANOISE						1.816 ***
						(0.65)
AUDITMKT_SIZE	-33.377 ***		-7.683 ***		-35.838 ***	
	(2.06)		(1.19)		(2.29)	
NUM_FAMILY	0.000	-0.003 **	0.000	-0.003 **	0.000	-0.003 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
HEAD_AGE	0.000	0.001 ***	0.000	0.001 ***	0.000	0.001 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
COLLEGE	0.000	0.056 ***	0.000	0.057 ***	0.000	0.056 ***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)
FWEALTH	0.000	0.237 ***	0.000	0.238 ***	0.000 *	0.238 ***
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)
FINCOME	0.000	0.702 ***	-0.001	0.710 ***	-0.001	0.703 ***
	(0.00)	(0.05)	(0.00)	(0.05)	(0.00)	(0.05)
BUSINESS	0.000	0.009	0.000 *	0.007	0.000	0.009
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)
ST_GDPPC	-1.120 ***	-0.793	0.076	-3.622 ***	-1.084 ***	-1.008
	(0.06)	(1.13)	(0.05)	(1.05)	(0.08)	(1.10)
ST_FINGDP	0.138 ***	-0.108	-0.010	0.247	0.164 ***	-0.137
	(0.01)	(0.20)	(0.01)	(0.21)	(0.02)	(0.21)

Table 2 (Continued)

Table 2 Panel B: 2SLS Estimates

ST_GOVGDP	-0.139	***	-0.077		0.312	***	-2.992	***	0.315	***	-0.920	**
	(0.02)		(0.45)		(0.02)		(1.06)		(0.04)		(0.45)	
ST_MILGDP	-0.654	***	0.466		-1.255	***	9.817	**	-0.487	***	0.075	
	(0.09)		(1.17)		(0.06)		(4.03)		(0.11)		(1.18)	
ST_EDUGDP	-0.218	*	-0.785		-0.258	***	0.970		-1.845	***	2.139	
	(0.13)		(2.10)		(0.10)		(2.36)		(0.18)		(2.48)	
ST_GDPGROWTH	0.008		-0.096	*	-0.024	***	0.125		-0.026	***	-0.033	
	(0.01)		(0.06)		(0.00)		(0.10)		(0.01)		(0.06)	
ST_POPGROWTH	0.001	***	0.002		-0.002	***	0.019	***	0.002	***	0.000	
	(0.00)		(0.00)		(0.00)		(0.01)		(0.00)		(0.00)	
ST_UR	0.001	***	-0.006	**	0.000	*	-0.005	**	0.001	***	-0.005	**
	(0.00)		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)	
Cragg-Donald Wald F Stat			2835.52				172.68				2035.20	
Kleibergen-Paap LM Stat			179.41				38.99				164.14	
Year Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
State Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
Family Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
Observations	65,899		65,899		65,899		65,899		65,899		65,899	
Adj R-squared	0.878		0.092		0.870		0.044		0.922		0.091	

Table 2 reports the results of the stock market participation likelihood analysis. Panel A presents the OLS estimation results, where the dependent variable is *STOCKHOLD* and the independent variable of interest is the state median of different accrual measures. *STOCKHOLD* is an indicator variable set equal to one for the households holding stocks and zero otherwise. Panel B reports the two-stage least squares (2SLS) estimation results, where *AUDITMKT_SIZE* is used as an instrument variable. *AUDITMKT_SIZE* is calculated as the sum of audit fees for all public companies in each state in a given year scaled by the state GDP. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002) in a given year. All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 3 The Effect of Accounting Quality on the Equity to Wealth Ratio

Table 3 Panel A: OLS Estimates

DV	***EQUITY2WEALTH***		
	(1)	(2)	(3)
ST_TACC	0.007 *		
	(0.00)		
ST_ABACC		0.011 **	
		(0.01)	
ST_WCANOISE			0.009 ***
			(0.00)
NUM_FAMILY	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)
HEAD_AGE	0.000 ***	0.000 ***	0.000 ***
	(0.00)	(0.00)	(0.00)
COLLEGE	0.001 ***	0.001 ***	0.001 ***
	(0.00)	(0.00)	(0.00)
FWEALTH	-0.001 ***	-0.001 ***	-0.001 ***
	(0.00)	(0.00)	(0.00)
FINCOME	0.012 ***	0.012 ***	0.012 ***
	(0.00)	(0.00)	(0.00)
BUSINESS	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)
ST_GDPPC	0.022	0.013	0.024
	(0.04)	(0.03)	(0.03)
ST_FINGDP	0.009	0.010	0.008
	(0.01)	(0.01)	(0.01)
ST_GOVGDP	0.010	0.005	0.006
	(0.02)	(0.02)	(0.02)
ST_MILGDP	0.007	0.018	0.007
	(0.04)	(0.04)	(0.04)
ST_EDUGDP	-0.018	-0.019	-0.001
	(0.07)	(0.07)	(0.07)
ST_GDPGROWTH	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)
ST_POPGROWTH	0.000 *	0.000 *	0.000
	(0.00)	(0.00)	(0.00)
ST_UR	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)
Year Fixed Effect	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes
Observations	48,029	48,029	48,029
Adj R-squared	0.058	0.058	0.058

Table 3 (Continued)

Table 3 Panel B: 2SLS Estimates

DV	*EQUITY2WEALTH*					
	1st-stage	***2nd-stage***	***1st-stage***	***2nd-stage***	***1st-stage***	***2nd-stage***
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC		0.094 ***				
		(0.02)				
ST_ABACC				0.424 ***		
				(0.13)		
ST_WCANOISE						0.091 ***
						(0.02)
AUDITMKT_SIZE	-33.446 ***		-7.376 ***		-34.413 ***	
	(2.06)		(1.28)		(2.42)	
NUM_FAMILY	0.000 *	0.000	0.000	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
HEAD_AGE	0.000	0.000 ***	0.000 **	0.000 ***	0.000	0.000 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
COLLEGE	0.000	0.001 ***	0.000 *	0.001 ***	0.000	0.001 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FWEALTH	0.000	-0.001 ***	0.000	-0.001 ***	0.000	-0.001 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FINCOME	0.000	0.012 ***	-0.001	0.013 ***	-0.002	0.012 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
BUSINESS	0.000	0.000	0.000 **	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ST_GDPPC	-1.058 ***	0.119 ***	0.141 ***	-0.040	-1.070 ***	0.117 ***
	(0.06)	(0.04)	(0.05)	(0.04)	(0.08)	(0.04)
ST_FINGDP	0.132 ***	-0.005	-0.011	0.012	0.156 ***	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)

Table 3 (Continued)

Table 3 Panel B: 2SLS Estimates

ST_GOVGDP	-0.105	***	0.025		0.335	***	-0.127	***	0.339	***	-0.016	
	(0.03)		(0.02)		(0.03)		(0.04)		(0.04)		(0.02)	
ST_MILGDP	-0.732	***	0.042		-1.284	***	0.518	***	-0.506	***	0.020	
	(0.10)		(0.04)		(0.06)		(0.16)		(0.11)		(0.04)	
ST_EDUGDP	-0.323	**	0.039		-0.340	***	0.153	*	-1.979	***	0.189	**
	(0.14)		(0.07)		(0.10)		(0.09)		(0.20)		(0.09)	
ST_GDPGROWTH	0.007		-0.001		-0.023	***	0.010	**	-0.024	***	0.002	
	(0.01)		(0.00)		(0.00)		(0.00)		(0.01)		(0.00)	
ST_POPGROWTH	0.001	*	0.000		-0.002	***	0.001	***	0.002	***	0.000	
	(0.00)		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)	
ST_UR	0.002	***	0.000	**	0.000	***	0.000	*	0.001	***	0.000	*
	(0.00)		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)	
Cragg-Donald Wald F Stat			2097.82				116.10				1361.59	
Kleibergen-Paap LM Stat			183.46				31.92				144.11	
Year Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
State Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
Family Fixed Effect	Yes		Yes		Yes		Yes		Yes		Yes	
Observations	47,934		47,934		47,934		47,934		47,934		47,934	
Adj R-squared	0.877		0.007		0.869		-0.145		0.920		0.003	

Table 3 reports the results of the equity investment amount (equity-to-wealth ratio) analysis. Panel A presents the OLS estimation results, where the dependent variable is *EQUITY2WEALTH* and the independent variable of interest is the state median of different accrual measures. *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of the household's wealth. Panel B reports the two-stage least squares (2SLS) estimation results, where *AUDITMKT_SIZE* is used as an instrument. *AUDITMKT_SIZE* is calculated as the sum of audit fees for all public companies in each state in a given year scaled by the state GDP. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002) in a given year. All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. Household-level characteristics and state-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 4 Cross-sectional Analysis: Household Economic Characteristics

Table 4 Panel A: Household Income

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
LowIncome*ST_TACC	0.824 ***			0.019 ***		
	(0.13)			(0.00)		
LowIncome*ST_ABACC		0.731 ***			0.015 ***	
		(0.15)			(0.00)	
LowIncome*ST_WCANOISE			0.290 ***			0.005 **
			(0.09)			(0.00)
ST_TACC	-0.181			-0.002		
	(0.15)			(0.01)		
ST_ABACC		-0.347 **			0.004	
		(0.17)			(0.01)	
ST_WCANOISE			0.079			0.006 *
			(0.12)			(0.00)
LowIncome	-0.002	-0.026 ***	-0.032 ***	0.000	0.000 **	-0.001 ***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,967	65,967	65,967	48,029	48,029	48,029
Adj R-squared	0.372	0.371	0.371	0.057	0.056	0.056

Table 4 (Continued)

Table 4 Panel B: Household Wealth

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
LowWealth*ST_TACC	1.264 ***			0.017 ***		
	(0.13)			(0.00)		
LowWealth*ST_ABACC		1.549 ***			0.018 ***	
		(0.16)			(0.00)	
LowWealth*ST_WCANOISE			0.740 ***			0.007 ***
			(0.10)			(0.00)
ST_TACC	-0.402 **			0.002		
	(0.16)			(0.00)		
ST_ABACC		-0.756 ***			0.006	
		(0.17)			(0.01)	
ST_WCANOISE			-0.137			0.008 **
			(0.12)			(0.00)
LowWealth	-0.014	-0.033 ***	-0.037 ***	0.001 **	0.000	0.000
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,967	65,967	65,967	48,029	48,029	48,029
Adj R-squared	0.361	0.362	0.361	0.057	0.057	0.056

Table 4 reports the results of the cross-sectional tests based on household economic characteristics. Panel A presents the estimation results when household income is used to split the sample, and Panel B reports the results when household wealth is used to divide the sample. In Panel A, *LowIncome* is interacted with the state-level accounting quality measures. *LowIncome* is set equal to one for the households with lower-than-median household income in a given year and zero otherwise. In Panel B, *LowWealth* is interacted with the state-level accounting quality measures. *LowWealth* is set equal to one for the households with household wealth that is lower than median in a given year and zero otherwise. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. *STOCKHOLD* is an indicator variable set equal to one for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of the household's wealth. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels.

Table 5 Cross-sectional Analysis: Household Education Level

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
LowEdu*ST_TACC	0.683 ***			0.012 **		
	(0.19)			(0.01)		
LowEdu*ST_ABACC		0.598 **			0.012 *	
		(0.23)			(0.01)	
LowEdu*ST_WCANOISE			0.189			-0.001
			(0.15)			(0.00)
ST_TACC	-0.235			-0.001		
	(0.20)			(0.01)		
ST_ABACC		-0.418 *			0.003	
		(0.23)			(0.01)	
ST_WCANOISE			0.105			0.010 **
			(0.15)			(0.00)
LowEdu	-0.012	-0.032 ***	-0.041 ***	0.000	0.000	-0.001 ***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,967	65,967	65,967	48,029	48,029	48,029
Adj R-squared	0.373	0.373	0.373	0.058	0.058	0.058

Table 5 reports the results of the cross-sectional tests based on the level of household education. In this table, *LowEdu* is interacted with the state-level accounting quality measures. *LowEdu* is set equal to one for the households where the household head does not have a college degree and zero otherwise. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. *STOCKHOLD* is an indicator variable set equal to one for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of the household's wealth. Household-level characteristics and state-level economic characteristics are included as control variables. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels.

Table 6 Cross-sectional Analysis: Household Internet Usage

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
Internet*ST_TACC	0.314 **			-0.004		
	(0.15)			(0.00)		
Internet*ST_ABACC		0.372 **			-0.002	
		(0.17)			(0.00)	
Internet*ST_WCANOISE			0.096			-0.002
			(0.09)			(0.00)
ST_TACC	0.038			0.004		
	(0.17)			(0.01)		
ST_ABACC		-0.158			0.016 ***	
		(0.18)			(0.01)	
ST_WCANOISE			0.016			0.005
			(0.14)			(0.00)
Internet	0.037 ***	0.032 ***	0.026 ***	0.000	0.000	0.000
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	49,846	49,846	49,846	36,306	36,306	36,306
Adj R-squared	0.376	0.376	0.376	0.051	0.051	0.051

Table 6 reports the results of the cross-sectional tests based on a household's use of the internet. In this table, *Internet* is interacted with the state-level accounting quality measures. *Internet* is set equal to one for the household's use the internet and zero otherwise. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. *STOCKHOLD* is an indicator variable set equal to one for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of the household's wealth. Household-level characteristics and state-level economic characteristics are included as control variables. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels.

Table 7 Descriptive Statistics for the Income Inequality Sample

	# of obs	Mean	Std dev	Q1	Median	Q3
ST_GINI	1,377	0.587	0.035	0.560	0.581	0.606
ST_TACC	1,377	0.068	0.027	0.050	0.065	0.083
ST_ABACC	1,377	0.041	0.024	0.024	0.037	0.053
ST_WCANOISE	1,377	0.066	0.038	0.039	0.057	0.083
ST_UR	1,377	5.681	1.816	4.400	5.400	6.700
ST_POPGROWTH	1,377	0.977	0.845	0.400	0.800	1.400
ST_GDPPC	1,377	43253	18459	31216	42400	50342
ST_GOVGDP	1,377	0.142	0.043	0.115	0.133	0.156
ST_FINGDP	1,377	0.180	0.054	0.142	0.175	0.207
ST_MILGDP	1,377	0.016	0.013	0.006	0.013	0.020
ST_EDUGDP	1,377	0.009	0.007	0.005	0.007	0.011
ST_GDPGROWTH	1,377	0.049	0.032	0.032	0.048	0.067
ST_COLLEGE_ATTN	1,377	16.610	2.913	14.800	16.500	18.700

Table 7 presents descriptive statistics for the income inequality analysis sample. Panel A reports the number of observations, mean, standard deviation, the first quartile, median, and the third quartile. Variable definitions are provided in Appendix A.

Table 8 The Effect of Accounting Quality on Income Inequality

DV	***ST_GINI***					
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC	-0.386 ***	-0.124 **				
	(0.08)	(0.07)				
ST_ABACC			-0.348 ***	-0.110 **		
			(0.08)	(0.05)		
ST_WCANOISE					-0.284 ***	-0.093 **
					(0.07)	(0.05)
ST_UR	0.005 ***	0.003 **	0.005 ***	0.003 **	0.005 **	0.003 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ST_POPGROWTH	0.003	0.006 *	0.004	0.006 *	0.003	0.006 *
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ST_GDPPC	0.345	-0.683 **	0.431 *	-0.566 **	0.438 **	-0.627 **
	(0.22)	(0.28)	(0.24)	(0.26)	(0.22)	(0.28)
ST_GOVGDP	-0.021	0.167	-0.026	0.197	-0.021	0.211 *
	(0.10)	(0.12)	(0.10)	(0.12)	(0.10)	(0.12)
ST_FINGDP	0.015	0.051	-0.012	0.047	0.002	0.059
	(0.10)	(0.09)	(0.10)	(0.09)	(0.10)	(0.09)
ST_MILGDP	-0.135	0.074	-0.110	0.052	-0.044	0.056
	(0.21)	(0.39)	(0.22)	(0.42)	(0.23)	(0.40)
ST_EDUGDP	0.121	1.476	-0.098	1.449	-0.202	1.185
	(0.50)	(1.16)	(0.51)	(1.16)	(0.48)	(1.08)
ST_GDPGROWTH	0.046	0.057	0.042	0.057	0.047	0.060 *
	(0.05)	(0.04)	(0.04)	(0.03)	(0.05)	(0.03)
ST_COLLEGE_ATTN	-0.001	0.002	-0.001	0.002	-0.001	0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	No	Yes	No	Yes	No	Yes
Observations	1,377	1,377	1,377	1,377	1,377	1,377
Adj R-squared	0.435	0.765	0.412	0.764	0.426	0.764

Table 8 presents the results of the OLS estimations, where the dependent variable is the state-level Gini coefficient (*ST_GINI*) and the independent variable of interest is the state-level median of different accrual measures. *ST_GINI* measures the extent of income inequality, and the greater values represent higher income inequality. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. Columns 1, 3, and 5 present the estimation results without state fixed effects. Columns 2, 4, and 6 report the estimation results with state fixed effects. State-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by state-level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 9 Cross-sectional Analysis: State-Level Stock Returns

DV	*ST_GINI*					
	(1)	(2)	(3)	(4)	(5)	(6)
HighReturn*ST_TACC	-0.013	-0.057				
	(0.05)	(0.04)				
HighReturn*ST_ABACC			-0.114 *	-0.082 *		
			(0.06)	(0.05)		
HighReturn*ST_WCANOISE					-0.041	-0.053 **
					(0.03)	(0.02)
ST_TACC	-0.380 ***	-0.098				
	(0.08)	(0.07)				
ST_ABACC			-0.291 ***	-0.068		
			(0.08)	(0.06)		
ST_WCANOISE					-0.264 ***	-0.068
					(0.07)	(0.05)
HighReturn	0.001	-0.002	-0.004	-0.002	-0.001	-0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	No	Yes	No	Yes	No	Yes
Observations	1,377	1,377	1,377	1,377	1,377	1,377
Adj R-squared	0.435	0.766	0.413	0.765	0.426	0.765

Table 9 presents the results of the cross-sectional tests based on state-level local stock returns. *HighReturn* is set equal to one if the average stock return of a state is higher than the median value of all states' average stock returns in a given year and zero otherwise. *HighReturn* is interacted with the state-level accounting quality measures. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. Columns 1, 3, and 5 present the estimation results without state fixed effects. Columns 2, 4, and 6 report the estimation results with state fixed effects. State-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by state-level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 10 Cross-sectional Analysis: State-Level Internet Usage

DV	*ST_GINI*					
	(1)	(2)	(3)	(4)	(5)	(6)
HighInternet*ST_TACC	-0.176	-0.273 **				
	(0.14)	(0.13)				
HighInternet*ST_ABACC			-0.002	-0.247 ***		
			(0.15)	(0.09)		
HighInternet*ST_WCANOISE					0.089	0.039
					(0.09)	(0.04)
ST_TACC	-0.306 ***	0.007				
	(0.09)	(0.07)				
ST_ABACC			-0.365 ***	0.050		
			(0.13)	(0.07)		
ST_WCANOISE					-0.354 ***	-0.119 *
					(0.09)	(0.07)
HighInternet	-0.018	-0.012 *	-0.006	-0.005	-0.001	0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	No	Yes	No	Yes	No	Yes
Observations	1,377	1,377	1,377	1,377	1,377	1,377
Adj R-squared	0.442	0.772	0.416	0.768	0.432	0.765

Table 10 presents the results of the cross-sectional tests based on the state-level internet usage rate. *HighInternet* is set equal to one for states where the internet usage rate is higher than the median internet usage rate among all states in a given year and zero otherwise. *HighInternet* is interacted with the state-level accounting quality measures. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of the absolute values of performance-matched abnormal accruals (Kothari et al., 2005). *ST_WCANOISE* is the state median of working-capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one, so that larger values represent higher financial reporting quality. Columns 1, 3, and 5 present the estimation results without state fixed effects. Columns 2, 4, and 6 report the estimation results with state fixed effects. State-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by state-level. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 11 The Effect of a Negative Accounting Quality Shock on Stock Market Participation and Income Inequality

Table 11 Panel A: The Effect of the Arthur Andersen collapse on Stock Market Participation

DV	*STOCKHOLD*		*EQUITY2WEALTH*	
	(1)		(2)	
HighAA*Post	-0.010	*	0.000	
	(0.01)		(0.00)	
HighAA	0.015		0.010	*
	(0.11)		(0.01)	
Post	-0.035	***	-0.005	***
	(0.01)		(0.00)	
Controls	Yes		Yes	
Year Fixed Effect	Yes		Yes	
Family Fixed Effect	Yes		Yes	
State Fixed Effect	Yes		Yes	
Observations	75,526		58,088	
Adj R-squared	0.400		0.090	

Table 11 Panel B: The Effect of the Arthur Andersen collapse on Income Inequality

DV	*ST_GINI*			
	(1)		(2)	
HighAA*Post	0.016	**	0.014	**
	(0.01)		(0.01)	
HighAA	0.000			
	(0.01)			
Post	0.041	***	0.058	***
	(0.01)		(0.01)	
Controls	Yes		Yes	
Year Fixed Effect	Yes		Yes	
State Fixed Effect	No		Yes	
Observations	510		510	
Adj R-squared	0.323		0.794	

Table 11 reports the results of the difference-in-difference tests that examine the effect of the Arthur Andersen collapse on stock market participation and income inequality. Panel A reports the effect of the Arthur Andersen collapse on stock market participation, and Panel B presents the effect of the Arthur Andersen collapse on income inequality. The independent variable of interest is the interaction of *HighAA* and *Post*. *HighAA* is set equal to one for states with a larger (above median) fraction of public companies audited by Arthur Andersen in 2001. *Post* is set equal to one for the observations after the collapse of Arthur Andersen (2002). *STOCKHOLD* is an indicator variable set equal to one for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of the household's wealth. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level in Panel A and state-level in Panel B. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 12 The Effect of Past Accounting Quality on Stock Market Participation and Income Inequality

Table 12 Panel A: Past Average Total Accruals

Outcome Variable	Reference Model	Accounting Quality Measures		
STOCKHOLD		***ST_TACC2***	***ST_TACC3***	***ST_TACC4***
Coefficient	Equation (3) Table 2	2.363 ***	3.796 ***	3.697 ***
S.E.		(0.84)	(1.39)	(1.35)
EQUITY2WEALTH				
Coefficient	Equation (3) Table 3	0.115 ***	0.188 ***	0.182 ***
S.E.		(0.03)	(0.05)	(0.05)
ST_GINI				
Coefficient	Equation (4) Table 8	-0.196 **	-0.275 **	-0.322 **
S.E.		(0.11)	(0.14)	(0.15)

Table 12 Panel B: Past Average Abnormal Accruals

Outcome Variable	Reference Model	Accounting Quality Measures		
STOCKHOLD		***ST_ABACC2***	***ST_ABACC3***	***ST_ABACC4***
Coefficient	Equation (3) Table 2	8.058 ***	17.933 **	13.725 **
S.E.		(3.00)	(7.95)	(5.60)
EQUITY2WEALTH				
Coefficient	Equation (3) Table 3	0.402 ***	0.937 **	0.748 ***
S.E.		(0.12)	(0.38)	(0.26)
ST_GINI				
Coefficient	Equation (4) Table 8	-0.195 **	-0.251 **	-0.283 ***
S.E.		(0.09)	(0.11)	(0.12)

Table 12 Panel C: Past Average Working Capital Accruals Noise

Outcome Variable	Reference Model	Accounting Quality Measures		
STOCKHOLD		***ST_WCANOISE2***	***ST_WCANOISE3***	***ST_WCANOISE4***
Coefficient	Equation (3) Table 2	2.250 ***	2.495 ***	3.282 ***
S.E.		(0.81)	(0.90)	(1.22)
EQUITY2WEALTH				
Coefficient	Equation (3) Table 3	0.116 ***	0.129 ***	0.171 ***
S.E.		(0.03)	(0.04)	(0.05)
ST_GINI				
Coefficient	Equation (4) Table 8	-0.098 *	-0.112 *	-0.126 **
S.E.		(0.06)	(0.07)	(0.07)

Table 12 reports the estimation results when I replicate the previous analyses using historical averages of state-level accounting quality measures. Historical averages of *ST_TACC*, *ST_ABACC*, and *ST_WCANOISE* are used as the independent variable in Panels A, B, and C, respectively. *ST_TACC2*, *ST_TACC3*, and *ST_TACC4* are historical averages of *ST_TACC* over the last two, three, and four years. *ST_ABACC2*, *ST_ABACC3*, and *ST_ABACC4* are historical averages of *ST_ABACC* for the last two, three, and four years. *ST_WCANOISE2*, *ST_WCANOISE3*, and *ST_WCANOISE4* are historical averages of *ST_WCANOISE* over the last two, three, and four years. 2SLS estimates are presented for the stock market participation test. All of the historical accounting quality measures are multiplied by negative one, so that larger values represent higher financial reporting quality. All control variables and fixed effects are included following the referenced model. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level for the stock market participation test and by state level for the income inequality test. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 13 Alternative Accounting Information Environment Measures

Table 13 Panel A : Accounting Restatement

Outcome Variable	Reference Model	Accounting Quality Measures							
STOCKHOLD		***ST_REST***		***ST_REST2***		***ST_REST3***		***ST_REST4***	
Coefficient	Equation (3) Table 2	4.946	**	3.641	***	2.966	***	3.070	***
Standard Error		(2.27)		(1.38)		(1.09)		(1.11)	
EQUITY2WEALTH									
Coefficient	Equation (3) Table 3	0.252	***	0.182	***	0.144	***	0.152	***
Standard Error		(0.10)		(0.05)		(0.04)		(0.04)	
ST_GINI									
Coefficient	Equation (4) Table 8	-0.027		-0.064	*	-0.091	**	-0.114	**
Standard Error		(0.02)		(0.04)		(0.05)		(0.06)	

Table 13 Panel B : Material Weakness in Disclosure Control

Outcome Variable	Reference Model	Accounting Quality Measures							
STOCKHOLD		***ST_DCW***		***ST_DCW2***		***ST_DCW3***		***ST_DCW4***	
Coefficient	Equation (3) Table 2	0.446	***	0.463	***	0.471	***	0.509	***
Standard Error		(0.16)		(0.16)		(0.17)		(0.18)	
EQUITY2WEALTH									
Coefficient	Equation (3) Table 3	0.021	***	0.022	***	0.023	***	0.025	***
Standard Error		(0.01)		(0.01)		(0.01)		(0.01)	
ST_GINI									
Coefficient	Equation (4) Table 8	-0.036	**	-0.046	**	-0.054	**	-0.058	**
Standard Error		(0.02)		(0.03)		(0.03)		(0.03)	

Table 13 (Continued)

Table 13 Panel C : Proportion of Local Firms with Press Releases

Outcome Variable	Reference Model	Accounting Quality Measures			
STOCKHOLD		***ST_PRESS***	***ST_PRESS2***	***ST_PRESS3***	***ST_PRESS4***
Coefficient	Equation (3) Table 2	1.879 **	1.988 **	3.758 **	-10.382
Standard Error		(0.83)	(0.86)	(2.09)	(13.91)
EQUITY2WEALTH					
Coefficient	Equation (3) Table 3	0.097 ***	0.100 ***	0.187 **	-0.337
Standard Error		(0.04)	(0.04)	(0.10)	(0.32)
ST_GINI					
Coefficient	Equation (4) Table 8	-0.003	-0.010	-0.018	-0.027 *
Standard Error		(0.01)	(0.02)	(0.02)	(0.02)

Table 13 Panel D : Proportion of Local Firms with Conference Calls

Outcome Variable	Reference Model	Accounting Quality Measures			
STOCKHOLD		***ST_CFC***	***ST_CFC2***	***ST_CFC3***	***ST_CFC4***
Coefficient	Equation (3) Table 2	7.290 **	8.297 **	10.071 **	-17.403 *
Standard Error		(3.58)	(4.16)	(5.06)	(12.19)
EQUITY2WEALTH					
Coefficient	Equation (3) Table 3	0.308 ***	0.376 **	0.463 **	-1.056
Standard Error		(0.13)	(0.17)	(0.21)	(0.84)
ST_GINI					
Coefficient	Equation (4) Table 8	0.011	0.014	0.023	0.022
Standard Error		(0.03)	(0.04)	(0.05)	(0.07)

Table 13 (Continued)

Table 13 Panel E : Composite Measure of Disclosure Quality

Outcome Variable	Reference Model	Accounting Quality Measures							
STOCKHOLD		***ST_COMP***		***ST_COMP2***		***ST_COMP3***		***ST_COMP4***	
Coefficient	Equation (3) Table 2	0.462	***	0.432	***	0.454	***	0.547	***
Standard Error		(0.16)		(0.15)		(0.16)		(0.19)	
EQUITY2WEALTH									
Coefficient	Equation (3) Table 3	0.023	***	0.021	***	0.022	***	0.027	***
Standard Error		(0.01)		(0.01)		(0.01)		(0.01)	
ST_GINI									
Coefficient	Equation (4) Table 8	-0.024		-0.039	*	-0.049	**	-0.053	**
Standard Error		(0.02)		(0.02)		(0.03)		(0.03)	

Table 13 reports the estimation results when I replicate the previous analyses using alternative accounting information environment measures. In Panels A and B, the fraction of local public firms that restate financial statements (*ST_REST*) and the fraction of firms that report material weaknesses in disclosure controls (*ST_DCW*) in a given year are used as the state-level accounting information environment measure, respectively. *ST_REST2* (*ST_DCW2*), *ST_REST3* (*ST_DCW3*), and *ST_REST4* (*ST_DCW4*) are historical averages of *ST_REST* (*ST_DCW*) over the last two, three, and four years. All these measures are multiplied by negative one, so that larger values represent higher financial reporting quality. In Panels C and D, the fraction of public firms that file press releases (*ST_PRESS*) and conference call transcripts (*ST_CFC*) to SEC in a given year are used as the state-level accounting environment measure, respectively. *ST_PRESS2* (*ST_CFC2*), *ST_PRESS3* (*ST_CFC3*), and *ST_PRESS4* (*ST_CFC4*) are the historical averages of *ST_PRESS* (*ST_CFC*) over the last two, three, and four years. In Panel E, the average of rankings of all the alternative accounting information environment measures used in this study is used as the state-level accounting quality measure. To be specific, I rank all the state-level accounting information environment measures (*ST_TACC*, *ST_ABACC*, *ST_WCANOISE*, *ST_REST*, *ST_DCW*, *ST_PRESS*, and *ST_CFC*) by each year so that higher-ranking scores (larger numbers) represent the better accounting information environment. I then calculate the average of those ranking scores to create a composite measure of state-level accounting information environment (*ST_COMP*). *ST_COMP2*, *ST_COMP3*, and *ST_COMP4* are historical averages of *ST_COMP* over the last two, three, and four years. 2SLS estimates are presented for the stock market participation tests. All control variables and fixed effects are included following the referenced model. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family level for the stock market participation test and by state level for the income inequality test. ***, **, * denote significance at the 0.01, 0.05, 0.10 levels, respectively.

Table 14 Controlling for Corporate Governance

Table 14 Panel A: OLS Estimates

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC	0.308 ***			0.007 *		
	(0.13)			(0.00)		
ST_ABACC		0.008			0.012 **	
		(0.14)			(0.01)	
ST_WCANOISE			0.251 **			0.009 ***
			(0.11)			(0.00)
ST_EINDEX	0.001	0.001	0.000	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,877	65,877	65,877	47,963	47,963	47,963
Adj R-squared	0.373	0.373	0.373	0.058	0.058	0.058

Table 14 (Continued)

Table 14 Panel B: 2SLS Estimates

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC	2.001 ***			0.093 ***		
	(0.69)			(0.03)		
ST_ABACC		8.243 ***			0.391 ***	
		(3.15)			(0.12)	
ST_WCANOISE			1.849 ***			0.090 ***
			(0.65)			(0.02)
ST_EINDEX	0.003	-0.012 *	-0.006	0.000	-0.001 ***	-0.001 ***
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,809	65,809	65,809	47,868	47,868	47,868
Adj R-squared	0.092	0.047	0.091	0.007	-0.117	0.004

Table 14 reports estimation results when I replicate the stock market participation results after controlling for the state-level corporate governance of public firms. *ST_EINDEX*, the state-level median of the Entrenchment Index (Bebchuk, Cohen, and Ferrell, 2009), is added into Equation (3) as a control variable. Panel A presents OLS estimation results and Panel B reports 2SLS estimation results. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of absolute values of performance matched abnormal accruals (Kothari et al. 2005). *ST_WCANOISE* is the state median of working capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one so that larger values represent higher financial reporting quality. *STOCKHOLD* is an indicator variable set equal to 1 for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of wealth of the household. Household-level characteristics and state-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family-level. ***, **, * denote significant at the 0.01, 0.05, 0.10 levels, respectively.

Table 15 Controlling for Stock Returns

Table 15 Panel A: OLS Estimates

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC	0.279 **			0.007 *		
	(0.13)			(0.00)		
ST_ABACC		0.011			0.011 **	
		(0.14)			(0.01)	
ST_WCANOISE			0.226 **			0.009 **
			(0.11)			(0.00)
ST_RETURN	0.112	0.097	0.097	-0.005	-0.005	-0.005
	(0.13)	(0.13)	(0.13)	(0.00)	(0.00)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,945	65,945	65,945	48,015	48,015	48,015
Adj R-squared	0.373	0.373	0.373	0.058	0.058	0.058

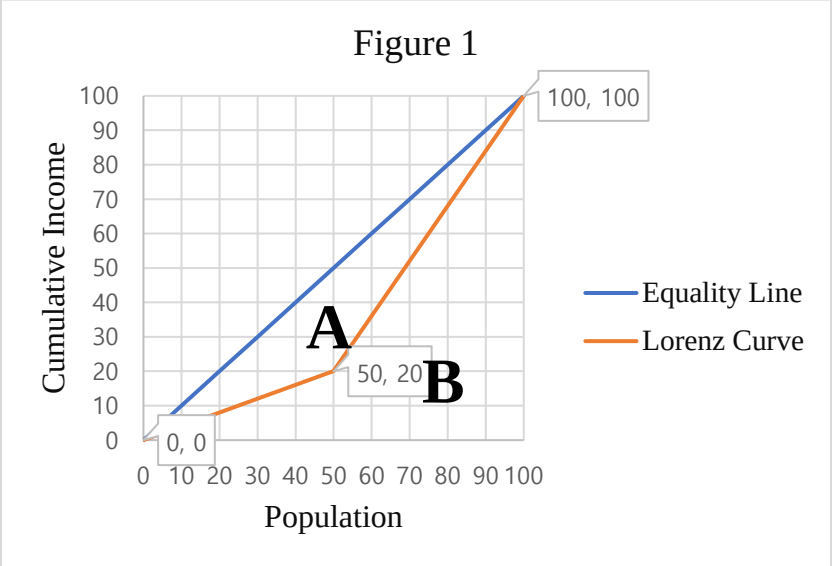
Table 15 (Continued)

Table 15 Panel B: 2SLS Estimates

DV	*STOCKHOLD*			*EQUITY2WEALTH*		
	(1)	(2)	(3)	(4)	(5)	(6)
ST_TACC	2.055 ***			0.093 ***		
	(0.70)			(0.03)		
ST_ABACC		9.385 ***			0.442 ***	
		(3.62)			(0.15)	
ST_WCANOISE			1.844 ***			0.087 ***
			(0.63)			(0.02)
ST_RETURN	0.211	0.219	0.099	0.000	0.002	-0.005 ***
	(0.13)	(0.19)	(0.12)	(0.01)	(0.01)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Family Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	65,877	65,877	65,877	47,920	47,920	47,920
Adj R-squared	0.091	0.033	0.090	0.007	-0.158	0.004

Table 15 reports estimation results when I replicate the stock market participation results after controlling for the state-level average stock returns. *ST_RETURN*, the state-level average of stock returns, is added into Equation (3) as a control variable. Panel A presents OLS estimation results and Panel B reports 2SLS estimation results. *ST_TACC* represents the median of total accruals of public companies headquartered in each state in a given year, where total accruals are calculated as income before extraordinary items minus cash flows from operations scaled by total assets of the previous year. *ST_ABACC* is the state median of absolute values of performance matched abnormal accruals (Kothari et al. 2005). *ST_WCANOISE* is the state median of working capital accruals noise (Dechow and Dichev, 2002). All state-level accrual measures are multiplied by negative one so that larger values represent higher financial reporting quality. *STOCKHOLD* is an indicator variable set equal to 1 for the households holding stocks and *EQUITY2WEALTH* is calculated as the amount of stock investment divided by the amount of wealth of the household. Household-level characteristics and state-level economic characteristics are included as control variables. Variable definitions are provided in Appendix A. The corresponding standard errors are reported in parentheses. Standard errors are clustered by family-level. ***, **, * denote significant at the 0.01, 0.05, 0.10 levels, respectively.

Figure 1 Gini Coefficient



The income inequality measure used in this study is the Gini coefficient, which is the most commonly used measure in income inequality literature (Paglin, 1975). The Gini coefficient represents the average distance between the actual cumulative income distribution (the Lorenz curve) and the hypothetical income distribution of perfect equality. The measure varies between zero and one, and higher values indicate greater income inequality. For example, in the hypothetical economy with only two agents, one agent (agent 1) earns 20% of the total output of the economy, and the second agent (agent 2) keeps the rest of the output (80%). The Lorenz curve then connects points (0,0), (50,20), and (100,100) as presented in Figure 1. While the Lorenz curve shows the actual cumulative income distribution of the economy, the point (50,20) represents agent 1's share in the distribution, and the point (100,100) indicates income share for both agent 1 and 2. The Gini index can then be calculated as the area between 45º line (the line of equality) and the Lorenz curve (Area A) divided by the area of the triangular region that lies below the line of equality (Area A + Area B).